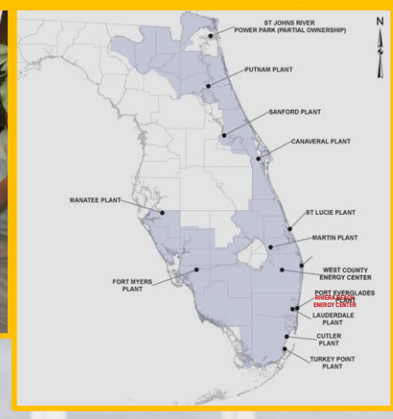
Riviera Beach

Energy Center



Modification of Site Certification for Riviera Beach Energy Center

August 2010

FPL

August 30, 2010

Cindy Mulkey
Office of Siting Coordination
Florida Department of Environmental Protection
3900 Commonwealth Blvd. MS 48
Tallahassee, FL 32399-3000

RE: Riviera Beach Energy Center
Petition for Modification of Site Certification

Dear Ms. Mulkey,

Florida Power & Light Company (FPL) submitted a Site Certification Application (SCA) to the Florida Department of Environmental Protection (FDEP) under the Florida Electrical Power Plant Siting Act (PPSA) for the Riviera Beach Next Generation Clean Energy Center (RBEC) on February 13, 2009 (PA-0954) and received its final order approving site certification on November 24, 2009 (Final Order No. 09-1245).

At the time of the initial filing of the SCA for RBEC, the fuel supply to the site was expected to be delivered in 2014 by a separately permitted, third party supplier. In order to meet this in service date it is now necessary to modify and update the fuel supply plan to allow for the addition of an FPL owned and operated natural gas pipeline lateral. Pursuant to Section 403.516, Florida Statute and Rule 62-17.211, Florida Administrative Code, FPL hereby petitions to modify the Site Certification for the FPL RBEC to obtain authorization to do the following: a) improve and extend a natural gas pipeline corridor (to be referred as the Riviera Beach Lateral or Riviera Beach Lateral corridor) and b) construct and operate a compressor station at an existing FPL facility.

The Riviera Beach Lateral corridor lies exclusively within Palm Beach County extending nearly 6 miles, all of which falls within existing transportation or utility rights of way (ROW), beginning at milepost (MP) 0 near Florida's Turnpike, traversing Palm Beach County and ending in the City of Riviera Beach at RBEC. At the beginning of the route, approximately 3 miles of the lateral are collocated with the existing CSX Rail line which runs along and adjacent to State Road 710. The remainder of the corridor traverses FPL property at the FPL 45th Street Terminal and then is collocated with FPL's existing transmission line ROW crossing Interstate 95 and the C-17 canal at approximately MP 3, and then continuing in the transmission line ROW to RBEC.

The compressor station will be installed at the existing FPL 45th Street Terminal in the City of Riviera Beach to maintain pressure on the lateral. The Riviera Beach Lateral will enable the new and efficient natural gas-fired combined-cycle RBEC power plant to be capable of producing enough electricity to power 250,000 homes and businesses, while using less fuel and producing fewer emissions than the units that have been at the site since the 1960s.

Thank you for your attention to and consideration of FPL's petition to modify the Site Certification for the FPL RBEC. If you have any questions regarding this submittal, please do not hesitate to contact me at (561) 691-7518 or Jackie Lorne at (561) 691-7063.

Sincerely,

Barbara P. Linkiewicz
Director of Environmental Licensing

Florida Power & Light Company

cc: See attached distribution list

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29. Tim Helms, CGC, Northern Palm Beach County Improvement District, 359 Hiatt Drive, Palm Beach Gardens, Florida, 33418 **(1 hardcopy / 1 CD)**

MODIFICATION OF SITE CERTIFICATION
RIVIERA BEACH ENERGY CENTER

Submitted by:

Florida Power & Light Company
700 Universe Boulevard
Juno Beach, Florida 33408

August 2010

0838-7633

Kennard F. Kosky, P.E.
Professional Registered Engineer No. 14996

Golder Associates Inc.*
6026 NW 1st Place
Gainesville, Florida 32607

* **Board of Professional Engineers**
Certificate of Authorization No. 00001670

SEAL:

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9.0 NATURAL GAS LATERAL PIPELINE

Florida Power & Light Company (FPL) is seeking modification of the Site Certification of the Riviera Beach Energy Center (RBEC) Project (Project) to construct and operate a natural gas pipeline lateral as an associated linear facility (referred to as the "Riviera Beach Lateral" or "Riviera Beach Lateral corridor") as well as construction and operation of a gas fired or electric powered natural gas compressor station at an existing FPL facility. FPL will own, and be the operator of record for, the natural gas lateral pipeline and compressor station. The pipeline corridor [located completely within existing transportation or utility rights of way (ROWs)] is approximately 6 miles in length, starting at a location near Florida's Turnpike and ending at RBEC as shown in Figure 9.0.0-1. Figure 9.0.0-2 presents the corridor on a recent aerial.

FPL submitted a Site Certification Application (SCA) to the Florida Department of Environmental Protection (FDEP) under the Florida Electrical Power Plant Siting Act (PPSA) for the RBEC on February 13, 2009 (PA-0954) and received its final order approving site certification on November 24, 2009 (Final Order No. 09-1245). At the time of the initial filing of the SCA for RBEC, the fuel supply to the site was expected to be delivered in 2014 by a separately permitted, third party pipeline. In order to meet the in service date it is now necessary to modify and update the fuel supply plan to allow for the addition of an FPL owned and operated lateral, which will interconnect to either the existing Martin South Lateral at the FPL 45th Street Terminal or from the Florida Gas Transmission (FGT) Martin South meter station at the intersection of the Florida Turnpike and State Road 710.

The location of the pipeline corridor which will interconnect RBEC to the third party pipeline will significantly minimize impacts to the environment and adjoining landowners by being located with existing linear facilities. These existing linear facilities include an FPL 230-kilovolt (kV) transmission corridor, an existing railroad right-of-way (ROW) and the State Road 710 ROW, all of which currently have easements for similar existing underground gas and fuel oil pipelines.

9.1 Maps

Maps providing information for the pipeline corridor, as required by FDEP's Application Instruction Guide for Electrical Power Plant Sites and Associated Facilities and Electrical Transmission Lines (Draft, June 27, 2007), the same Guide used for the RBEC SCA, are included at the end of this section (see Figures 9.0.0-1 through 9.3.7-2).

9.2 Project Description

The Riviera Beach Lateral corridor lies exclusively within Palm Beach County extending nearly 6 miles, all of which falls within existing transportation or utility ROWs , beginning at milepost (MP) 0 near Florida's Turnpike traversing Palm Beach County and ends in the City of Riviera Beach at RBEC (see Figures 9.0.0-1 and 9.0.0-2). At the beginning of the route, approximately 3 miles of the lateral are collocated with the existing CSX Rail line which runs along and adjacent to State Road 710 and is referred to as Segment A. The remainder of the corridor, referred to as Segment B, traverses FPL property at the FPL 45th Street Terminal and then is collocated with FPL's existing transmission line ROW crossing Interstate 95 and the C-17 Canal at approximately MP 3, and then continues in the transmission line ROW to RBEC. The pipeline would be up to 24-inches in diameter and would be installed a minimum of three feet below ground for its entire length except at the interconnection point near the Florida Turnpike, at the FPL 45th Street Terminal, and at RBEC.

A natural gas compressor station would be sited at the existing FPL 45th Street Terminal. The compressor station will either be gas fired or electric driven. FPL intends to certify both options because a final decision/selection cannot be made until detailed engineering design has been completed. The site is located in the City of Riviera Beach in Palm Beach County. Natural gas supply to RBEC would be sourced from either the existing Martin South Lateral originating at the FPL Martin Plant and terminating at the FPL 45th Street Terminal or from the FGT Martin South meter station at the intersection of the Florida Turnpike and State Road 710. Natural gas from the Martin South interconnect would be transported to the compressor station through the existing 18-inch pipeline. Natural gas from the FGT Martin South meter station would be transported to the compressor station at the FPL 45th Street Terminal via a pipeline consisting of up to 24-inch-diameter pipe in Segment A of the Riviera Beach Lateral.

The compressor station would consist of up to four gas compressors driven by either natural gas-fired lean-burn engines or electric motor drives (see Appendix A for the Air Construction Application). Each natural gas-fired engine is rated at approximately 3,550 horsepower and would be permitted to operate 8,760 hours per year (hr/yr) (refer to Subsection 9.5.5 for additional information). The plot plan of the compressor station layout for the natural gas-fired engine-driven compressors for the primary and alternate locations is provided in Figure 9.2.0-1.

The compressor station will be designed to meet all applicable noise standards at the FPL 45th Street Terminal property line.

The FPL 45th Street Terminal facility operates under a Synthetic, Non-Title V, Air Permit. Subsection 9.5.5 provides a discussion of air emissions associated with the proposed compressor station which is also presented in detail in Appendix A. The air construction permit application for the FPL 45th Street Terminal compressor station is also presented in Appendix A. FPL will comply with all applicable air regulations and the facility will remain a Synthetic, Non-Title V, facility with the addition of the proposed compression station.

If FPL constructs an electric compressor station, FPL will construct a new, unmanned substation near the compressor station at the FPL 45th Street Terminal. The substation will have a pre-fabricated relay vault to house protection and control equipment only. FPL will modify the existing transmission line facilities within the existing FPL transmission ROW in order to extend them to serve the new substation. FPL will install distribution lines on FPL property from the new substation and from Gramercy substation (located on FPL property approximately one-half mile from the FPL 45th Street Terminal) to provide permanent power to the gas compressor station. The proposed substation location for the electric option is shown in Figure 9.2.0-1.

The design of proposed changes to FPL's transmission system in the event of an electric compression option will be consistent with the applicable requirements of FDEP's rules regulating electric and magnetic fields [(Chapter 62-814, Florida Administrative Code (F.A.C.)] and the fields associated with the upgraded and modified facilities will comply with the applicable standards established in Rule 62-814.450, F.A.C.

The pipeline and aboveground facilities associated with the Project will be designed, constructed, operated, and maintained in accordance with the U.S. Department of Transportation (USDOT) Minimum Federal Safety Standards in 49 CFR 192 for transportation of natural gas by pipeline. The regulations exist to ensure adequate protection for the public and the prevention of natural gas facility accidents and failures. Part 192 specifies material selection and qualification, minimum design requirements, and protection from internal, external, and atmospheric corrosion. Part 192 also defines area classifications, based on population density in the vicinity of the pipeline, and specifies more rigorous safety requirements for populated areas.

Mainline block valves that are used to isolate portions of the pipeline, will be installed as necessary to meet USDOT regulations (49 CFR 192). The distance between mainline block valves would be equal to or less than the maximum allowed by USDOT pipeline safety regulations based on Class location.

The linear facility will also be designed and constructed to allow the use of pipeline testing, maintenance, and inspection devices known as pigs. Pigs are internal devices that can be moved (pushed under pressure) through the pipeline during testing, maintenance, or inspection. A pig launching facility may be installed at the FPL 45th Street Terminal shown in Figure 9.2.0-1. The existing pig launching facility onsite may also be used for the pipeline.

Typical post-construction ROW, mainline block valve, and pig launching facility are depicted in Figure 9.2.0-2.

9.3 Corridor

9.3.1 Corridor Selection

The corridor for the pipeline (approximately 6 miles in length) was selected to be collocated, to the greatest extent practicable, with existing infrastructure in order to minimize environmental impacts. Specifically, 2.7 miles, or 45 percent of the corridor, is within existing FPL-owned transmission ROWs and other FPL-owned property. FPL has easement rights for existing FPL facilities in the remaining 3.1 miles, or 55 percent, of the corridor. Easement, title, and agency works are discussed in Subsection 9.3.6.5.

9.3.2 Corridor Description

The Riviera Beach Lateral would consist of two approximately 3-mile segments for a total of approximately 6 miles within an existing pipeline and transmission line corridor width of approximately 400 ft. The first segment, Segment A, would consist of replacement of an existing 6-inch natural gas pipeline with up to a 24-inch diameter pipeline that would extend 3 miles east from an existing receipt point from the FGT pipeline system at the intersection of the Florida Turnpike and State Road 710, known as FGT Martin South meter station, to the FPL 45th Street Terminal. Alternatively, the existing 6-inch pipeline may be properly abandoned in place and the new up to 24-inch pipeline would be placed parallel to the existing 6-inch pipeline. Starting at the existing FGT Martin South meter station, the new pipeline would cross under State Road 710. On the south side of State Road 710, the existing 6-inch gas pipeline would be removed and a new pipeline installed in its place or alternatively, the 6-inch pipeline would be properly abandoned in place. This corridor also currently has an existing 18-inch operating fuel oil/natural gas pipeline (Martin South Lateral).

The second segment, Segment B, would extend via a new natural gas lateral running east from the FPL 45th Street Terminal for approximately 3 miles to RBEC in the City of Riviera Beach.

9.3.3 Alternate Corridors

No alternate corridors are proposed for the pipeline. The selection of this corridor for locating the pipeline to interconnect RBEC into the third party pipeline has been selected to significantly minimize impacts to the environment and adjoining landowners by being located within existing linear facility ROWs. These linear facilities include an existing FPL 230-kV transmission corridor along with an existing railroad ROW and the State Road 710 ROW, all of which currently have easements for similar existing underground gas and fuel oil pipelines.

9.3.4 Access Roads

The pipeline will be accessible from public roads, existing maintenance access roads, and the existing FPL transmission access road. No additional permanent access roads along the pipeline route will be required; however, new temporary access roads may be required during construction. Existing driveways are located at the pipeline's connection with FGT near the Florida Turnpike and within the FPL 45th Street Terminal for pipeline access.

9.3.5 Cost Projections

The costs of the Riviera Beach Lateral were incorporated into the anticipated Project costs of the RBEC which were estimated at $1,276 million: the power block (which included gas delivery infrastructure) costs of $997 million; transmission, interconnection, and integration of $132 million; and Allowance for Funds Used During Construction (AFUDC) of $147 million.

The exact location of the pipeline within a certified corridor will be determined following corridor certification and selection of the ROW within the corridor. The actual cost of the pipeline will depend on the final location of the ROW within the corridor, final design, mitigation costs, other location-specific conditions, and conditions of certification.

9.3.6 Social and Political Environment of the Corridor Area

9.3.6.1 Governmental Jurisdictions

The pipeline corridor proposed for certification is located entirely in Palm Beach County, Florida. Within the pipeline corridor and one-half mile on either side of the corridor, the following governmental jurisdictions have been identified, as presented in Figure 9.3.6-1: unincorporated Palm Beach County, City of Riviera Beach, Town of Mangonia Park, City of West Palm Beach, and the City of Palm Beach Gardens.

There are no known national parks, national forests, national seashores, national wildlife refuges, national wilderness areas, national memorials, national monuments, marine sanctuaries, estuarine sanctuaries, Roadless Area Review and Evaluation areas, national wild and scenic rivers, state parks, state forests, state game management areas, state areas of critical state concern, state conservation lands, Save Our Rivers lands, state archaeological landmark zones, aquatic preserves, Outstanding Florida Waters, Florida springs, Florida Wild & Scenic rivers, special management areas established by law, Indian Reservations, or military lands within the pipeline corridor or within the one-half mile radius around the pipeline corridor.

A portion of a County Managed Area/Strategic Habitat Conservation area, the Winding Waters Natural Area, is within one-half mile of the pipeline corridor. Lake Worth Lagoon is within one-half mile of the pipeline corridor. Portions of the Lagoon are part of the U.S. Fish and Wildlife Service's (USFWS) designated Critical Habitat for the threatened species, Johnson's seagrass (*Halophila johnsonii*), and the endangered Florida manatee (*Trichechus manatus latirostris*), a subspecies of the West Indian manatee. Two county parks are within one-half mile of the pipeline corridor: Dyer Park and Peanut Island Park (located on Peanut Island). Peanut Island is the only "estuarine habitat area of concern", as identified by Palm Beach County, within the one-half mile pipeline corridor (see Figure 9.3.6-1).

9.3.6.2 Zoning and Land Use Plans

The PPSA, Chapter 403, Part II, Florida Statutes (F.S.), is the process for licensing of certain electrical generating power plants and associated facilities. Pursuant to Section 403.503(7), F.S., associated facilities include those on- and off-site facilities that directly support an electric power plant including fueling unloading facilities, fuel transportation facilities, and pipelines necessary for the operation of the facility.

While most large-scale developments typically require permits and approvals from local, regional, and state agencies, certain power plants and associated facilities receive all necessary regulatory approvals through the PPSA process. Therefore, all procedures for the issuance of local, regional, and state permits and/or approvals are preempted by the PPSA, and only a certification is issued. Unless a variance, exemption, or exception is approved through the PPSA process, all applicable nonprocedural requirements of the agencies and local governments are applied to the certified pipeline corridor through the agency and governmental review and any appropriate conditions of certification.

Florida law excludes electrical transmission lines and certain other linear utility facilities (e.g., pipelines) from the definition of *development* that is subject to local government comprehensive land use plans, zoning ordinances, and land development regulations [see Sections 163.3164(6) and 380.04, F.S.]. Therefore, under Florida law, the pipeline corridor described herein does not require land use planning or zoning approvals (see also Section 403.50665, F.S.). The pipeline and aboveground facilities associated with the Project will be designed, constructed, operated, and maintained in accordance with the USDOT Minimum Federal Safety Standards in 49 CFR 192 for transportation of natural gas by pipeline. As stated earlier, the pipeline corridor location has been selected to significantly minimize impacts to the environment and adjoining landowners by being located within existing linear facility ROWs.

The compressor station that will be situated at the existing FPL 45th Street Terminal location is not excluded from the definition of development and, therefore, is subject to local government comprehensive land use plans, zoning ordinances, and land development regulations.

To characterize the areas through which the pipeline corridor will traverse and the location of the proposed compressor station, the following subsections describe relevant provisions of the State Comprehensive Plan, the Strategic Regional Policy Plan (SRPP) for the Treasure Coast Regional Planning Council, the Palm Beach County and the City of Riviera Beach Comprehensive Plans, and the associated land development regulations and Codes of Ordinances.

9.3.6.2.1 State Comprehensive Plan

The State Comprehensive Plan provides long range policy guidance for the orderly social, economic, and physical growth of the State. The Plan does not create regulatory authority that is not otherwise authorized by State law. The proposed pipeline and compressor station will be situated within an existing linear facility ROW. Collocating the proposed facilities with existing linear facility ROWs will minimize potential impacts. The proposed pipeline and compressor station will be consistent with the Plan, specifically, the applicable provisions in the Water Resources, Air Quality, Land Use, and Energy Sections of the Plan.

9.3.6.2.2 Strategic Regional Policy Plan for the Treasure Coast Region

The SRPP for the Treasure Coast Region (comprised of four counties including Palm Beach County) was adopted December 15, 1995. The SRPP is a long-range guide for the physical, economic, and social development of the region. The plan is described as a direction setting document and does not

create regulatory authority or authorize the adoption of agency rules, criteria, or standards not otherwise authorized by law.

The two policies under the SRPP Future of the Region section address the implementation of practices that minimize airborne dust and particulate emission. These regional goals are captured in Sections 9.1 (Decreasing vulnerability of the Region to fuel price increased and supply interruptions) and 13.1 (Maintenance of acceptable air quality levels). Strategy 9.1.1 espouses reducing the Region's reliance on fossil fuels. Regional Goal 13.1 (air quality) espouses the encouragement of patterns of development to minimize dependency on the automobile. Both of these are regional land development goals and are consistent with the goals of the RBEC Project, which will convert the existing fossil fuel-fired steam-generating units into a lower-emission, more fuel efficient next generation clean energy center utilizing primarily natural gas in place of residual fuel oil. The installation of the proposed pipeline and compressor station will allow for natural gas to be delivered to the site.

The Economic Development Element identifies important regional issues including the importance of public infrastructure and recognizes that electrical generation and transmission systems (interpreted to include pipelines) are a component of basic supporting structures. The ability to attract and sustain economic development is predicted on the quality of its public facilities. The proposed pipeline and compressor station will comply with the SRPP for the Treasure Coast Region.

On July 17, 2009, the Treasure Coast Regional Planning Council (TCRPC) issued its agency report for the RBEC Project recommending approval of the RBEC Project. The TCRPC strongly supports upgrading older less efficient and more polluting facilities before developing new power plants. The TCRPC concluded that the RBEC Project is not in conflict or inconsistent with the goals, strategies, and policies contained in the SRPP, provided that the Project is constructed and operated in compliance with the conditions of certification approved by the State of Florida.

9.3.6.3 Comprehensive Plans

Each Florida county and municipality is required to adopt a local comprehensive plan that meets the requirements of the Local Government Comprehensive Planning and Land Development Regulations Act of 1985 (also referred to as Florida's Growth Management Act), as presented in Chapter 163, Part II, F.S., and Chapter 9J-5, F.A.C. Palm Beach County and the City of Riviera Beach have adopted comprehensive plans that are in compliance with the state requirement.

9.3.6.3.1 Palm Beach County

The proposed pipeline corridor will traverse portions of Palm Beach County. Palm Beach County's Comprehensive Plan was adopted in August 31, 1989, and was last amended in January 2010. The Palm Beach County's Comprehensive Plan is comprised of 15 elements: Introduction/Administration Element; Land Use Element; Capital Improvement Element; Coastal Management Element; Conservation Element; Fire-Rescue Element, Health & Human Services Element; Historic Preservation Element; Housing Element, Intergovernmental Coordination Element; Library Services Element; Public School Facilities Element; Recreation and Open Space Element; Transportation Element; and Utility Element.

The purpose of Palm Beach County's Land Use Element is to delineate the County's vision of how the community is created, enhanced, and maintained. As identified in Figure 9.3.6-2 and stated in the Element, the proposed pipeline corridor will traverse the following future land use designations: parks and recreation (park) and utilities/transportation. As stated in Policy 2.2.9-d, utility uses are permitted in all future land use designations. Since the pipeline would be underground, the land uses within Palm Beach County will have minimal disturbance during construction and will be allowed to revert to their pre-existing condition following installation (see Subsection 9.4.1.1 for construction sequencing). Further, the up to 24-inch pipeline will replace an existing pipeline in the existing corridor.

9.3.6.3.2 City of Riviera Beach

The proposed compressor station will be situated within the City of Riviera Beach and the proposed pipeline corridor will traverse portions of the City of Riviera Beach. The City of Riviera Beach's Comprehensive Plan was last amended in April 2004. The plan is comprised of 10 elements: Future Land Use Element; Housing Element; Transportation Element; Infrastructure Element; Conservation Element; Coastal Management Element; Intergovernmental Coordination Element; Recreation and Open Space Element; Public School Facilities Element; Capital Improvements Element.

The objectives and policies of the City's Future Land Use Element reflect the long-term planning goals of the City. As identified in Figure 9.3.6-2 and stated in the Element, the proposed compressor station is situated within the future land use designation of Industrial and Utilities and the pipeline corridor will traverse the future land use designations of Industrial, Community Facility, Commercial, and Utilities. As stated in Policy 1.8.1, utilities are allowed in other land use designations (other than utilities) as regulated in the Land Development Code. Since the pipeline would be under ground, the

land uses within the City of Riviera Beach will have minimal disturbance during construction and will be allowed to revert to their pre-existing condition following installation (see Subsection 9.4.1.1 for construction sequencing). The compressor station will comply with the identified future land use designations. Further, the compressor station will be located at an existing industrial facility.

9.3.6.4 Land Development Code

Potentially relevant substantive provisions of the Unified Land Development Code of Palm Beach County and the Codes of Ordinances of the City of Riviera Beach are summarized and discussed in the following paragraphs. The proposed compressor station and the proposed pipeline will be consistent with the substantive provisions of these regulations.

9.3.6.4.1 Palm Beach County

The County Unified Land Development Code (ULDC) for Palm Beach County has been established to ensure that all development within unincorporated Palm Beach County is consistent with the comprehensive plan. The establishment of the districts and overlays ensure that proposed uses are compatible with their surrounding uses, are served by adequate public facilities, and are sensitive to the natural resources of the area. The County has established 18 Standard Zoning Districts, 14 Overlays, 6 Planned Development Districts, and 3 Traditional Development Districts. As identified in Figure 9.3.6-3 and stated in Article 3 of the County's ULDC, portions of the pipeline corridor that will be located in Palm Beach County are within the Public Ownership and Agricultural Residential zoning districts. As an associated facility to the operation of RBEC, the pipeline corridor is permitted within these zoning districts, as stated in Section 44-1 of Article 3.3 of the County's ULDC.

9.3.6.4.2 City of Riviera Beach

The official zoning plan for the City of Riviera Beach was established to ensure the health, safety, and general welfare of its residents and visitors and to ensure the most appropriate use of land throughout the City, in accordance with the comprehensive plan. In order to satisfy, regulate, and restrict the uses and activities within the City, the city area has been divided into 23 classes or districts. Each district has its own purpose and permitted uses and special exception uses and other regulations that control the use of land.

As identified in Figure 9.3.6-3 and stated in the Section 31-96 of the City's Land Development Code, portions of the pipeline corridor that will be located in the City of Riviera Beach are within the

General Industrial, Community Facility, General Commercial, Limited Industrial, Recreation/Open Space, Office Professional, and Utilities zoning districts. Although the FPL 45th Street Terminal site includes Recreation/Open Space and the General Industrial zoning districts, the proposed location of the proposed compressor station at the terminal will be situated within the General Industrial zoning district (see Figure 9.3.6-3). The compressor station is allowed as a permitted use within the General Industrial zoning district.

The existing FPL 45th Street Terminal was constructed under a Development of Regional Impact (DRI) in 1974 by Palm Beach County. This property was annexed to the City of Riviera Beach in 1985. For the compressor station to be constructed on this site, a Notice of Proposed Change (NOPC) to the DRI will be required from the Treasure Coast Regional Planning Council. Under a separate action, FPL will seek approval of the NOPC and site plan approval from the City of Riviera Beach for the proposed compressor station.

9.3.6.5 Easements, Title, Agency Works

FPL will own, and be the operator of record for, the natural gas lateral pipeline and compressor station.

Appendix B provides identification of the parcel location and ownership, according to the Palm Beach County Property Appraiser's Office, and the anticipated crossings of the pipeline corridor. Based on the proposed pipeline corridor location, the following describes the potential ROW use permits/Utility Approvals that may be required from governmental agencies in the area of the pipeline corridor:

- Palm Beach County Utility Approval: Haverhill Road North, North Congress Avenue, North Australian Avenue, County Road 811/Greenwood Avenue, and Old Dixie Highway.
- Florida Department of Transportation (FDOT) (District 4) Utility Permit: State Road 710/Bee Line Highway, State Road 708/Blue Heron Blvd, State Road 809/Military Trail, Interstate 95, and US Highway 1/Broadway Avenue.
- South Florida Water Management District ROW Approval: C-17 Canal.
- North Palm Beach County Improvement District Approval: Authorizing sub-aqueous crossing of waterbody

Authorization for collocating the pipeline within existing governmental linear ROWs and crossings for the pipeline are being requested under this modification to the RBEC Certification. FPL will work directly with non-governmental agency parcel owners to obtain the necessary licenses, easement, approvals, or easement modifications for pipeline crossings. At this time, only one non-governmental agency has been identified.

9.3.6.6 Vicinity Scenic, Cultural, and Natural Landmarks

Lake Worth Lagoon is a major estuarine water body in the State of Florida and is within one-half mile of the pipeline corridor. Lake Worth Lagoon encompasses over 450 square miles that drain to the Lake Worth and South Lake Worth (Boynton) Inlets. Portions of the lagoon are part of the USFWS-designated Critical Habitat for the threatened species, Johnson's seagrass, and the endangered Florida manatee.

The Winding Waters Natural Area is the only County Managed Areas/Conservation Lands located within one-half mile of the pipeline corridor. The Winding Waters Natural Area is a 550-acre natural area located west of the compressor station and south of MP0. The area includes many pine flatwoods, cypress forests, freshwater marshes, and wet prairies. This natural area is managed by Palm Beach County and is open to the public for environmental education, scientific research, and passive recreational activities, such as bird watching, nature walks, and photography.

Two county parks are located within one-half mile of the pipeline corridor (see Figure 9.3.6-1): Dyer Park and Peanut Island Park. Dyer Park, located to the south of MP0, is a 560-acre park that offers various recreational facilities.

Peanut Island Park is located within one-half mile of the pipeline corridor in Lake Worth Lagoon, and is an 80-acre island northeast of the corridor. The Florida Inland Navigation District (FIND) and the Port of Palm Beach are the primary land owners of the island and make the island available to the public as a park. Palm Beach County has a long-term arrangement with the Port of Palm Beach and FIND that allows the public to use the exterior portions of the island for recreational activities including fishing, snorkeling, camping, and swimming.

Peanut Island is the only estuarine habitat area of concern, as identified by Palm Beach County, located within one-half mile of the compressor station and pipeline corridor.

Peanut Island was created in 1918 from excavated material when Lake Worth Inlet was created. By the 1920s, the Port of Palm Beach used the island as a spoil site for the maintenance of the inlet and shipping channel. FIND became part owner of the island in 1991. Both owners continue to use part of the island as a spoil site.

9.3.6.7 Archaeological and Historical Sites

A literature and archival review, conducted by Archaeological and Historical Conservancy, Inc. in July 2010 identified that 15 cultural resource surveys have previously been conducted traversing or within the pipeline corridor (see Appendix C). These previously conducted surveys were comprehensive in that they collectively assessed historical and archaeological resources based on pedestrian survey, subsurface testing and historic assessment of standing historic structures.

The literature and archival review consisted of studying previous reports for sites in Palm Beach County and Riviera Beach area, reviewing information from the Florida Master Site File concerning nearby sites, and examining U.S. Geological Survey (USGS) maps of the area. A review of the Labins database of land surveys was conducted and color and black and white aerial photographs from the Project area which could aid in revealing anthropogenic changes to the topography and floral communities were reviewed and interpreted.

These surveys determined that no archaeological sites exist within the pipeline corridor and that no standing historic structures considered eligible for listing on the National Register of Historic Places occur in the pipeline corridor or buffer area (one-half mile from the edge of the pipeline corridor).

9.3.7 Biological and Physical Environment of the Corridor Area

Field reconnaissance was conducted from June 15 to 23, 2010, during which the entire pipeline corridor and FPL 45th Street Terminal were assessed for the presence of wetlands and threatened, endangered, and plant or animal species of special concern. Characteristic vegetative communities/ land uses were classified utilizing the Florida Land Use, Cover and Forms Classification System (FLUCFCS) Level III (FDOT, 1999).

9.3.7.1 Land Use/Vegetation

The pipeline corridor is located within existing roadway or transmission ROWs and industrial areas. Land use and vegetative communities within and adjacent to the corridor include: residential [(FLUCFCS) 111, 121, 131, 132, 133, and 134], commercial and services (FLUCFCS 140, 141, and

142), oil and gas storage (FLUCFCS 146), cemeteries (FLUCFCS 148), oil and gas processing (FLUCFCS 154), other light industrial (FLUCFCS 155), other heavy industrial (FLUCFCS 156), institutional (FLUCFCS 170), educational facilities (FLUCFCS 171), medical and health care (FLUCFCS 174), golf courses (FLUCFCS 182), parks and zoos (FLUCFCS 185), open land (FLUCFCS 190), herbaceous dry prairie (FLUCFCS 310), shrub and brushland (FLUCFCS 320), pine flatwoods (FLUCFCS 411), hardwood –conifer mixed forest (FLUCFCS 434), Australian pine (FLUCFCS 437), streams and waterways (FLUCFCS 510), ditches (FLUCFCS 511), canals (FLUCFCS 512), lakes (FLUCFCS 520), mixed wetland hardwoods (FLUCFCS 617), wetland shrub (FLUCFCS 631), freshwater marsh (FLUCFCS 641), wet prairie (FLUCFCS 643), disturbed land (FLUCFCS 740), railroads (FLUCFCS 812), roads and highways (FLUCFCS 814), electric power facilities (FLUCFCS 831), and transmission lines (FLUCFCS 832).

Figure 9.3.7-1 presents land use and land cover along the entire route of the pipeline corridor classified according to the FLUCFCS (FDOT, 1999). Land cover and land use are mapped at Level III; each vegetative community is described in more detail in Subsection 9.3.7.3.

9.3.7.2 Affected Waters and Wetlands

There are two canals present within the corridor: the EPB-10 Canal and the C-17 Canal. Horizontal Directional Drilling (HDD) is the proposed method for crossing the C-17 Canal at this time (see Subsection 9.4.1.13.2 for description of HDD). A method for crossing the EPB-10 Canal has not yet been determined. The final crossing methods cannot be determined until the final pipeline ROW is selected and surveyed and site-specific information is collected. Typical canal crossing construction detail and cross section drawings of subaqueous canal crossing are provided in Subsection 9.4.1.

Other surface water features in the pipeline corridor include drainage ditches, which typically occur on the borders of roadside and railroad ROWs. Wetland habitats within the corridor are limited to areas of wetland shrub, freshwater marsh, and wet prairie. Any impacts to wetlands associated with the pipeline will be addressed in accordance with FDEP and the U.S. Army Corps of Engineers (USACE) requirements and are discussed in detail in Appendix D. No permanent wetland impacts resulting from construction of the pipeline are anticipated for this Project. Best management practices (BMPs), such as silt fencing and floating turbidity curtains, will be used to prevent secondary impacts to surface waters or wetlands associated with pipeline installation. No significant adverse impacts to aquatic ecology are anticipated.

9.3.7.3 Ecology

9.3.7.3.1 Species–Environmental Relationships

The following subsections include descriptions of important flora and fauna within and surrounding the corridor. This discussion includes information related to the occurrence of important species found and the value of the habitats present. Details of threatened, endangered, and plant or animal species of special concern (listed species) observed or potentially occurring within the corridor, are provided below following the discussion of non-listed species.

No significant impacts to listed species are anticipated due to the lack of significant habitat within the corridor, and because the pipeline will be collocated with existing linear facility ROWs, requiring only a minimal amount of temporary disturbance of altered habitats during installation. No permanent disturbance of habitats is anticipated for this Project.

9.3.7.3.2 Terrestrial and Wetland Ecosystems–Flora

The following descriptions of flora within the corridor are categorized according to the FLUCFCS. Figure 9.3.7-1 shows land use and vegetative communities within the corridor and the one-half-mile area surrounding the corridor.

Developed Lands (FLUCFCS 111, 131, 132, 140, 154, 155, 156, 174, 812, 814, 831) – There are developed areas of mixed densities that occur within the corridor. These areas contain a variety of landscaping trees, shrubs, and sod. This land use provides limited habitat for wildlife or listed species of plants/animals.

Open Lands (FLUCFCS 190) – A small area of open land is located within the eastern end of the corridor. This area, which lies within an existing FPL transmission line ROW, contains large areas of bare ground and construction and household debris. Vegetation is limited to primarily ruderal species. This land use provides limited habitat for wildlife or listed species of plants/animals.

Shrub and Brushland (FLUCFCS 320) – Most of the corridor east of Interstate 95 lies within the existing transmission corridor owned by FPL. This area contains a variety of ruderal herbaceous and woody species, and is classified as shrub and brushland. Species present in this habitat type include Brazilian pepper (*Schinus terebinthifolius*), saw palmetto (*Serenoa repens*), blackberry (*Rubus* sp.), Caesar weed (*Urena lobata*), bracken fern (*Pteridium aquilinum*), ragweed (*Ambrosia artemisiifolia*), lantana (*Lantana* sp.), dogfennel (*Eupatorium capillifolium*), castor bean (*Ricinus communis*), cogon

grass (*Imperata cylindrica*), Virginia creeper (*Parthenocissus quinquefolia*), poison ivy (*Toxicodendron radicans*), and passionflower (*Passiflora incarnata)*. Only common species of wildlife typically utilize these areas, such as northern mockingbird (*Mimus polyglottos*), loggerhead shrike (*Lanius ludovicianus*), black vulture (*Coragyps atratus*), turkey vulture (*Cathartes aura*), mourning dove (*Zenaida macroura*), red-winged blackbird (*Agelaius phoeniceus*), cardinal (*Cardinalis cardinalis*), common ground dove (*Columbina passerina*), cattle egret (*Bubulcus ibis*), Eastern cottontail rabbit (*Sylvilagus floridanus*), and raccoon (*Procyon lotor*).

Hardwood-Coniferous Mixed (FLUCFCS 434) – Areas of hardwood-coniferous mixed forest occur adjacent to and along the edges of the corridor. An area of mixed hardwood coniferous forest also occurs on the FPL 45th Street Terminal site, however, this area will not be impacted by the Project. These areas are dominated by a mix of hardwood species including the exotic species Brazilian pepper, Australian pine (*Casuarina equisetifolia*), earleaf acacia (*Acacia auriculiformis*), and melaleuca (*Melaleuca quinquenervia*). Native species present include pines (*Pinus* spp.), live oak (*Quercus virginiana*), cabbage palm (*Sabal palmetto*), and saw palmetto. Only common species of wildlife typically utilize these densely vegetated areas, such as mockingbird, loggerhead shrike, black vulture, turkey vulture, mourning dove, red-winged blackbird, cardinal, ground dove, cattle egret, Eastern cottontail rabbit, and raccoon.

Ditches (FLUCFCS 511) - Drainage ditches of various widths occur within the corridor along roadsides and rail lines. In-stream vegetation is minimal within the ditches, but includes water lettuce (*Pistia stratioites*), spatterdock (*Nuphar luteum*), and duckweed (*Lemna* sp.). Brazilian pepper, Australian pine, cabbage palm, pines, live oak, muscadine (*Vitis* sp.), and passionflower are common along the banks of the drainage ditches. Protected species of wading birds may use these areas for foraging.

Canals (FLUCFCS 512) – The C-17 Canal bisects the corridor and the EPB-10 Canal runs parallel to the corridor to form the southern border of the FPL 45th Street Terminal area. In-stream vegetation is minimal within the man-made canals, due to the steep slopes and minimal littoral zone. Emergent and floating leaved species typical of the canals include spatterdock, water lettuce, and water hyacinth (*Eichhornia crassipes*). The banks of the C-17 Canal within the corridor are mowed, while the banks of EPB-10 contain beggarticks (*Bidens* sp.), primrose willow (*Ludwigia* sp.), cabbage palm, saw palmetto, Brazilian pepper, willow (*Salix caroliniana*), and ragweed. Protected species of wading birds and American alligators (*Alligator mississippiensis*) may utilize these areas for foraging.

Reservoirs (FLUCFCS 534) – There are numerous reservoirs within the corridor along State Road 710. These are stormwater treatment facilities for the adjacent developments, and these retention areas are maintained as required by the South Florida Water Management District (SFWMD) and FDEP. Due to the steep slopes, minimal littoral zone, and sodded banks, native vegetation is minimal in most of the retention areas. A few of the retention areas have an extended hydropoeriod and established native vegetative cover that includes sedges (*Cyperus* spp.), cattail (*Typha latifolia*), marsh pennywort (*Hydrocotyle umbellata*), torpedo grass (*Panicum repens*), and Peruvian primrose willow (*Ludwigia peruviana*). Protected species of wading birds may forage within these areas.

Wetland Shrub (FLUCFCS 631) – Two areas of wetland shrub exist within the corridor in the vicinity of Cheney Way Road. Dominant species in this habitat include Brazilian pepper, willow, melaleuca, royal fern (*Osmunda regalis*), white-top sedge (*Rhynchospora colorata*), Japanese climbing fern (*Lygodium japonicum*), and passionflower. Only common species of wildlife typically utilize these densely vegetated areas, which are dominated by exotic species.

Freshwater Marsh (FLUCFCS 641) – A small area of freshwater marsh is located on the east side of Cheney Way Road. Species present within this area include camphorweed (*Pluchea* sp.), royal fern, white-top sedge, beaksedge (*Rhyncosphora* sp.), and bulltongue arrowhead (*Sagittaria lancifolia*). Protected species of wading birds may forage within these areas.

Wet Prairie (FLUCFCS 643) – Wet prairie habitat is found in the corridor within roadside swales. Species present within these areas include flatsedges (*Cyperus* spp.), torpedo grass, marsh pennywort, coinwort (*Centella asiatica),* frogfruit (*Phyla nodiflora*), white-top sedge, bulltongue, and pickerel weed (*Pontedaria cordata*). Protected species of wading birds may forage within these areas when standing water is present.

9.3.7.3.3 Listed Species–Flora and Fauna

Listed species refers to those plant and animal species that are designated by the Florida Fish and Wildlife Conservation Commission (FFWCC), Florida Department of Agriculture and Consumer Services (FDACS), and/or USFWS as threatened, endangered, or species of special concern. Listed species known to occur in Palm Beach County and their probabilities of occurrence along the pipeline corridor are identified in Table 9.3.7-1 and discussed below. In addition, the Florida Natural Area

Inventory (FNAI) was consulted to identify known occurrences of any listed species in the vicinity of the pipeline corridor (see Appendix E).

No listed plant species were observed along the corridor during field reconnaissance activities, although based on existing habitat there is a moderate probability of occurrence for a small number of listed plants within the pipeline corridor (see Table 9.3.7-1), including golden leather fern (*Acrostichum aureum*), large-flowered rosemary (*Conradina grandiflora*), and coastal vervain (*Glandularia maritima*).

Large-flowered rosemary and coastal vervain can occur on disturbed, sandy uplands, and may occur in such habitats within the corridor. Golden leather fern grows in mangrove and other wetland areas in south and southwestern Florida, and may occur in wetlands within the corridor. The FNAI database did not indicate any occurrences of listed plants in the vicinity of the pipeline corridor.

Listed species of animals observed or likely to occur along the pipeline corridor include wading birds associated with ditches, canals and stormwater ponds. Listed wading birds observed or likely to forage within the corridor include white ibis (*Eudocimus albus*), little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), snowy egret (*Egretta thula*), roseate spoonbill (*Platalea ajaja*), limpkin (*Aramus guarauna*), and wood stork (*Mycteria americana*). Florida sandhill crane (*Grus canadensis pratensis*) may also forage within wet prairie habitat in roadside swales. In addition, the canals provide potential habitat for the American alligator. According to the FNAI database, there are no listed species documented within the pipeline corridor. There is a known manatee aggregation site at the Riviera Plant and a reported occurrence of large-flowered rosemary from 1988 in an area approximately one-quarter mile south of the corridor (Figure 9.3.7-2 and Appendix E).

Listed species observed or potentially utilizing habitats within and surrounding the pipeline corridor are described below.

White Ibis – SSC – The white ibis is listed as a species of special concern by the FFWCC, but is not federally listed by the USFWS. No white ibis were observed within the corridor, although white ibis are likely to forage within freshwater marsh habitats, wet prairie, wetland shrub, ditches, stormwater ponds, and along the banks of canals within and adjacent to the corridor.

Little Blue Heron – SSC – The little blue heron is listed as a species of special concern by the FFWCC, but is not federally listed by the USFWS. No little blue herons were observed within the corridor, although little blue herons are likely to forage on the edges of ditches, canals, and stormwater ponds within and adjacent to the corridor.

Tricolored Heron – SSC – The tricolored heron is listed as a species of special concern by the FFWCC, but is not federally listed by the USFWS. No tricolored herons were observed within the corridor, although it is likely that they occasionally utilize ditches, canals, and stormwater ponds for foraging.

Snowy Egret – SSC – The snowy egret is listed as a species of special concern by the FFWCC, but is not listed federally by the USFWS. A snowy egret was observed in a stormwater pond in the corridor along State Road 710.

Roseate Spoonbill – SSC – The roseate spoonbill is listed as a species of special concern by the FFWCC, but is not listed federally by the USFWS. Although no individuals were observed in the corridor, it is likely that they occasionally utilize stormwater ponds and freshwater marsh wetlands within and adjacent to the corridor for foraging.

Wood Stork – E – The wood stork is listed as endangered by the FFWCC and USFWS. Although no individuals were observed within the corridor, based on available habitat, it is probable that wood storks occasionally forage in stormwater ponds, shallow freshwater marsh, and shallow ditches adjacent to existing roadways.

Limpkin – SSC – The limpkin is classified as a species of special concern by the FFWCC, but is not listed federally by the USFWS. No individuals were observed; however, due to the presence of stormwater ponds and drainage canals, there is a moderate probability that the limpkin may forage within areas adjacent to the corridor.

Florida Manatee – E - The manatee is listed as endangered by the FFWCC and USFWS. Although no individuals were observed within the corridor, manatees are known to occur within C-17 Canal.

Florida Mouse (*Podomys floridanus*) – SSC –The Florida mouse is listed as a species of special concern by the FFWCC. Although no individuals were observed within the corridor, based on available habitat, it is possible that Florida mice may be present in sandy, ruderal areas within the corridor.

Gopher Frog (*Rana capito*) – SSC – The gopher frog is listed as a species of special concern by the FFWCC. No individuals were observed within the corridor, but gopher frogs may utilize sandy, ruderal areas and wetlands within the corridor.

American Alligator (*Alligator mississippiensis*) – SSC/T – The American alligator is listed as a species of special concern by the FFWCC, and is federally listed by the USFWS as threatened due to similarity of appearance with the endangered American crocodile (*Crocodylus acutus*). Alligators are likely to utilize the canals within the corridor. No individuals were observed within the corridor.

9.3.7.3.4 Aquatic Systems

The only significant aquatic systems along the pipeline corridor are drainage canals [refer to previous discussion on Canals (FLUCFCS 512) for more information]. The majority of the native vegetation along the banks of the canals has been cleared along C-17 and vegetation along EPB-10 is dominated by exotic and ruderal species.

9.3.7.4 Other Environmental Features

9.3.7.4.1 Baseline Noise Measurements

9.3.7.5 Introduction

Sound propagation involves three principal components: a noise source, a person or a group of people, and the transmission path. While two of these components, the noise source and the transmission path, are easily quantified (i.e., by direct measurements or through predictive calculations), the effect of noise on humans is the most difficult to determine due to the varying responses of humans to the same or similar noise patterns. The perception of sound (noise) by humans is very subjective and, just like odor and taste, it is very difficult to predict a response from any particular individual to another.

The magnitude of noise levels or loudness is referred to as sound pressure level (SPL) with units in decibels (dB). Decibels are calculated as a logarithmic function of SPL in air to a reference effective pressure, which is considered the hearing threshold, or:

$$SPL = 20 \log10 (Pe/Po)$$

where: Pe = measured effective pressure of sound wave in micropascals (µPa), and
Po = reference effective pressure of 20 µPa.

To account for the effect of how the human ear perceives sound pressure, at moderate to low levels, SPLs are adjusted for frequency (or pitch). One of the most commonly used frequency filters is the A weighting (dBA), which adjusts measurements for the approximated response of the human ear to low frequency SPLs [i.e., below 1,000 hertz (Hz)] and high-frequency SPLs (i.e., above 1,000 Hz).

9.3.7.6 Noise Regulations

Since the pipeline will be located at least 3ft underground, the pipeline will not make any noticeable noise during operation. As a result, the noise regulations are only applicable during construction of the pipeline and compressor station and during operation of the compressor station. Similar to the construction of RBEC, certain construction techniques (such as Horizontal Directional Drilling, see Subsection 9.4.1.13.2) will require the contractor to work continuously for the safety and integrity of the construction operation (i.e. up to 24 hours a day). During construction, FPL will meet all applicable noise standards.

There are no State of Florida noise regulations that are applicable to the area in which the compressor station and pipeline will be located.

The compressor station will be located within the FPL 45th Street Terminal site in the City of Riviera Beach. The City of Riviera Beach has adopted a noise ordinance with numerical standards depending on the zoning (Chapter 11: Nuisances, Article IV Noise). The Riviera Beach Noise Ordinance establishes noise limits for industrial, commercial and residential zoned properties within the City of Riviera Beach. For the purposes of the ordinance, "ambient noise" is defined as the noise level, in A-weighted decibels, dBA, which is exceeded 50 percent of the time during an observation period or L_{50}. The observations period must not be less than 7 minutes which must include at least 50 five-second readings.

The noise ordinance defines noise as "noise from any activity or from any permissible use of property within meaning of the applicable zoning district classifications of the city shall be deemed to be excessive, unnecessary, offensive and unusually loud if the total noise level as measured on the A-scale due to both ambient noise and the alleged source of the unnecessary, offensive or excessive noise exceeds the noise levels which are prescribed in Section 11-171". The noise levels are based upon A-weighted decibels, dBA, and measured during the times between 7:00 a.m. and 8:00 p.m. for daytime and between 8:00 p.m. and 7:00 a.m. for nighttime. The maximum allowable noise levels, as L_{50}, for the City of Riviera Beach are as follows:

Zoning Districts	Fixed Mechanical Equipment	All Other Noise Sources	
	Daytime and Nighttime	Daytime	Nighttime
Residential	55 dBA	50 dBA	45 dBA
Commercial	65 dBA	60 dBA	55 dBA
Industrial	65 dBA	65 dBA	60 dBA

For any source of sound which emits a discrete or pure tone, the sound pressure level limits set forth above shall be reduced by five dBA. A discrete or pure tone means a dominant or a single frequency sound.

While the majority of the pipeline and compressor station is within the City of Riviera Beach, the first mile of the pipeline is in unincorporated Palm Beach County. There are noise standards in the Palm Beach County Land Development Code (Article 5, Chapter E, Section 3, Subsection B) that prohibit noise levels from any source of sound above specified sound level limits applicable to noise sources in unincorporated Palm Beach County. Construction noise is exempt except for "excessive noise" (defined as noise that disturbs a reasonable person of normal sensitivity) between 10 p.m. and 7 a.m. These sound level limits are exceeded if measurements exceed the specified value for more than 10 percent of the measurement period, which shall not be less than 10 minutes. Measurements must be measured within the boundary of the receiving land use by a Type 2 or equivalent sound level meter. The maximum sound levels apply to the source of the sound.

9.3.7.7 Noise Monitoring Locations

Baseline noise measurements were obtained to assess the impacts of the compressor station to be located at the FPL 45th Street Terminal. Noise measurements were obtained at three locations in June

and July 2010 to assess the background noise levels within and near the location of the compressor station. Figure 9.3.7-3 shows the three baseline noise monitoring locations.

9.3.7.8 Noise Measurement Procedures

Noise measurements were made using a sound level meter that was set to the slow response mode to obtain consistent, integrated, A-weighted SPL. Concurrent one-third octave band frequencies were also measured at all sites. The octave band data from each monitoring site were measured and stored during each monitoring period. Both daytime and nighttime monitoring measurements were performed to accurately assess the baseline noise conditions.

Integrated SPL data consisting of the following noise parameters were collected at each location:

- L_{eq} - The sound pressure level averaged over the measurement period; this parameter is the continuous steady sound pressure level that would have the same total acoustic energy as the real fluctuating noise over the same time period.
- L_{max} - The maximum sound pressure level for the sampling period.
- L_{min} - The minimum sound pressure level for the sampling period.
- L_n - The sound pressure levels which were exceeded n percent of the time during sampling period. For example, L_{90} is the level exceeded 90 percent of the time.

The SPL data were analyzed and reported in both dB and dBA. The higher the decibel value, the louder the sound.

The SPL averages were calculated using the following formula:

$$\text{Average SPL} = 10 \text{ Log} \frac{\sum_{i=1}^{N} 10^{(SPL_i/10)}}{N}$$

where: N = number of observations, and

SPL_i = individual SPL in data set.

The SPLs and octave band data were collected during each monitoring event, using measurement techniques set forth by American National Standards Institute (ANSI) S12.9-1993/Part 3, 1993.

The noise monitoring equipment used during the study included:

- Larson Davis Model 824 Precision Integrating Sound Level Meter with Real Time Frequency Analyzer;
- Larson Davis Model PRM902 Microphone Preamplifier;
- Larson Davis Model 2560 Prepolarized ½-inch Condenser Microphone;
- Windscreen, tripod, and various cables;
- Sound Level Meter Calibration Unit; and
- Larson Davis Model CAL200 Sound Level Calibrator, 94/114 dB at 1,000 Hz.

Monitoring was conducted using the sound level meter mounted on a tripod at a height of 1.5 meters [5 feet (ft)] above grade. A windscreen was used because all measurements were taken outdoors. The microphone was positioned so that a random incidence response was achieved. The sound level meter and octave band analyzer were calibrated immediately prior to and just after the sampling period to provide a quality control check of the sound level meter's operation during monitoring.

Local meteorological conditions (wind speed, wind direction, temperature, and relative humidity) were measured during the monitoring periods. The operator recorded detailed field notes during monitoring and included major noise sources in the area. The Larson Davis sound level meter complies with Type I - Precision requirements set forth for sound level meters and for one-third octave filters.

9.3.7.9 Measured Ambient Baseline Sound Pressure Levels

Baseline noise measurements were collected in June and July 2010 at three locations adjacent to the FPL 45th Street Terminal boundary. Site 1 was located along the western property boundary; Site 2 was located to the south; and Site 3 was located to the southeast, just east of Interstate 95. The baseline noise results are presented Table 9.3.7-2 and include the L_{50}, L_{90}, L_{max}, and L_{min} sound levels.

The monitoring results indicate that the major noise sources in the area are due to the constant traffic noise on Interstate 95 during the daytime and nighttime and, to a lesser extent, insects during the nighttime. The daytime L_{50} noise measurements ranged from a low of 53 dBA at Site 3 to a high of

62 dBA at Site 1. The nighttime L_{50} noise measurements ranged from a low of 48 dBA at Site 2 to a high of 55 dBA at Site 1. Even with the traffic noise from Interstate 95, the measured baseline noise levels are within the numerical standards set forth for industrial zoned districts in the City of Riviera Beach noise ordinance.

9.3.7.9.1 Air Quality

The Riviera Beach Lateral corridor is located in Palm Beach County, which has been designated by EPA and FDEP as an attainment area (includes unclassifiable) for all criteria pollutants. Therefore, the current air quality is in compliance with National Ambient Air Quality Standards (NAAQS) and Florida AAQS.

9.4 Effects of ROW Preparation and Construction

9.4.1 Construction Techniques

Typically, pipeline installation takes place by excavation and backfill techniques. Before any excavation occurs, underground utilities in the area will be located and clearly marked by Florida State One Call. Minimum ground cover will be maintained. Following construction, the ROW would be reestablished to its pre-existing contours to the extent practicable, and the temporary construction ROW would be allowed to revert to natural conditions.

Most of the pipeline corridor has been previously cleared, remains disturbed, and only minimal additional clearing will be required for the pipeline. The majority of the FPL 45th Street Terminal has also been cleared and disturbed and only minimal clearing will be required to construct the compressor station and substation (if electric motor drives are selected).

The compressor station will be located at the FPL 45th Street Terminal. Typical construction activities include, but are not limited to, clearing and grading, site-preparation activities, foundation work, delivery and installation equipment and systems, building construction, testing, and startup. Disturbed areas that would not be required for installation and operation of the compressors would be restored, as soon as practicable, following construction. Wastes would be disposed of in an approved manner.

9.4.1.1 General Methods

FPL will work with appropriate regulatory agencies and local landowners to facilitate construction in a manner compatible with current land uses and the landowners' management objectives. FPL will

oversee construction activities for compliance with applicable regulations and the conditions of certification.

The pipeline would be constructed of high-strength carbon steel and manufactured in accordance with the USDOT pipeline regulations. The entire pipeline would be coated with a corrosion resistant, non-conductive coating that forms a waterproof barrier on the pipe. Prior to backfilling the trench, the coating on the entire pipe would be electronically tested to ensure there are no anomalies in the coating. Where pipe would be located beneath roads, railroads, and major water bodies, an abrasion resistance coating would be applied to prevent damage to the pipe when it is pulled beneath these obstacles.

Approximately 200,000 gallons of water are required for miscellaneous uses during construction (not including hydrostatic testing which is addressed in Subsection 9.4.1.12) and would either be withdrawn from the C-17 Canal or potable water would be purchased from the City of Riviera Beach. If no chemicals are added, construction water will be disposed of according to applicable regulations which may include being routed to a nearby canal or allowed to percolate and/or evaporate onsite. If chemicals are added, water will be disposed of according to applicable regulations.

The proposed pipeline would be installed by the conventional buried method and will conform to applicable regulations. The pipeline would be buried with at least 3 feet of cover. Construction would be completed in approximately twelve months and involve up to approximately 50 workers. Installation would involve the completion of various activities, including corridor clearing and grading; pipeline stringing, bending, welding, and joint coating; trenching; lowering-in; backfilling; hydrostatic testing; and cleanup. These activities are described in the following sections and shown in Figure 9.4.1-1.

The compressor station would be constructed by contractors, requiring about 12 months. The installation of the compressor station would require an average work force of approximately 50 personnel.

Contractor mobilization for the pipeline lateral would occur several months prior to construction. Before construction begins, the ROW would be surveyed and staked. Utility lines along the construction ROW would be located and marked to ensure safety during pipeline construction.

Several plans will be developed or revised post certification; these include but are not limited to the following: HDD Contingency Plan; Wetland and Water body Crossing Plan; Erosion, Control, Restoration, and Maintenance Plan; Invasive Species Management Plan; Protected Species Specific Plans; and Spill Prevention, Control, and Countermeasures Plan. These plans will be developed in accordance with the conditions of certification, once detailed engineering design has been completed. These detailed plans will be used by the construction contractor to minimize impacts associated with construction.

After construction is complete, the pipeline ROW may be used for other purposes compatible with the operation and maintenance of the pipelines. Multiple uses of a pipeline ROW typically include grazing, row-crop farming, some agricultural operations, controlled landscaping, recreational uses such as hiking/biking trails, and other compatible activities that do not interfere with FPL's full use of the ROW and the function of the pipeline facilities. Deeply rooted vegetation and structures would not be allowed in the permanent ROW.

9.4.1.2 Clearing

Clearing consists of the removal of trees, vegetation, and other obstructions from the construction ROW. Underground pipes previously abandoned in place may also need to be removed during construction. Permission would be obtained from landowners to access the ROW on private roads and for cutting trees and erecting temporary gates, where necessary. Various clearing methods would be employed, and would depend upon tree size, contour of the land, and the ability of the ground to support clearing equipment. Non-merchantable timber would be chipped, burned, or disposed in a landfill, in accordance with applicable local, county, and state regulations.

9.4.1.3 Grading

When rock outcroppings, ridges, boulders, and tree stumps are encountered, they would be removed from work areas. Sharp topographical irregularities would be graded to ensure safe passage of the work crews. Topsoil may be stripped from the trench and spoil-stockpile area and preserved for later restoration of the ROW.

9.4.1.4 Stringing

Trucks, rail transports, and/or barges would be used to haul the pipes from pipe mills to laydown areas at the FPL 45th Street Terminal or along the pipeline route within the temporary work corridor.

Pipes would be transported from this area and placed along the ROW on the working side of the trench. The pipe joints would be laid with ends staggered to allow for work on the exposed ends.

9.4.1.5 Bending

Pipe would be bent by a hydraulic bending machine to fit the contour of the trench bottom. All activities would be supervised by qualified, specialized, bending technicians.

9.4.1.6 Welding

The pipe joints would be welded together using either the Manual Shielded Metal-Arc process or automatic welding. All processes utilized would meet applicable welding regulations. Welding procedures would be conducted in accordance with federal regulations, and the applicable code. These procedures would determine process, particular type of filler metal and number of welding beads (passes), electrical characteristics, position and direction of welding, time lapse between passes, line-up clamp removal, cleaning, preheating, and speed of travel. All welders used on the Project would be qualified to perform these procedures, and test welds would be completed and then evaluated visually and by radiography and/or by destructively testing.

9.4.1.7 Joint Coating

All line pipes would be pre-coated prior to stringing. Field welds may be covered with an "over the trench" bond coating. A fusion type or epoxy coating would be applied. Following application of the coating, the quality of the coating would be inspected for any holidays (holes in the coating).

9.4.1.8 Trenching

Following completion of grading, the trench centerline would be staked. The trench would be excavated to a depth sufficient to provide a minimum cover of 3 feet, which would meet or exceed USDOT specifications. The method used to excavate the trench would depend upon the soil conditions encountered. Blasting is not anticipated to be necessary given the known geologic conditions in Florida. However, should localized blasting be necessary to fracture bedrock to create a trench, a controlled Blasting Plan will be developed by qualified professionals in compliance with applicable nonprocedural standards. Trench line breakers, usually composed of sandbags or sprayed foam, may be installed on steep slopes or at the boundaries of wetlands and water bodies to prevent drainage from becoming channelized along the buried pipeline.

9.4.1.9 Lowering-in

Prior to lowering-in, the trench would be cleaned of all debris and the bottom smoothed. The pipe string would be lifted from the skid supports and lowered directly into the trench using a sufficient number of side-boom tractors equipped with rubber cradles and/or slings and belts to prevent damage to the pipe and pipe coating.

Padding materials may be required in areas where the trench bottom is irregularly shaped due to consolidated rock and/or where the excavated spoil materials are unacceptable for backfilling around the pipe. Sand or gravel, crushed rock, screened spoil material from the trench excavation, or a combination of each may be used for padding. This padding material would be placed to a depth of approximately 6 inches in the bottom of the trench prior to lowering-in the pipe. Before backfilling begins, a final inspection would be conducted to ensure that all debris has been removed from the trench and that the pipe and pipe coating are undamaged. Where rock, gravel, or other materials that are of a size or shape that could cause damage to the pipe or pipe coating are encountered, select padding material would be placed around the pipe. Trench-line breakers, consisting of sand, gravel, cement, or cement-filled sacks, may be installed in the trench over and around the pipe to provide protection against erosion.

9.4.1.10 Backfill

The trench would be backfilled using material either excavated from the pipeline trench or imported as padding. To compensate for settling, topsoil stripped from the trench line in the grading operation would be used to form a crown over the trench centerline. Openings would be left in the completed crown to restore lateral surface drainage to preconstruction conditions. Typically, this crown is not apparent on the surface contours after 1 to 2 years, once natural settlement has occurred, and does not interfere with normal agricultural activities. However, a crown generally would not be left in wetlands in order to prevent interference with natural drainage patterns.

9.4.1.11 Cleanup and Restoration

When backfilling is completed, excess rock and similar materials would be removed from the ROW, along with any accumulated construction debris. Drainage trenches, drainage tiles, terraces, roads, and fences would be restored to their pre-construction conditions. Potholes, ruts, and depressions caused by construction would be filled and the pipeline ROW would be returned to the approximate original contours. Detailed erosion control and revegetation measures would be developed after field surveys are completed and a ROW is identified and incorporated into the Project's detailed Erosion

Control, Restoration, and Maintenance Plan to be developed post-certification. Permanent pipeline markers and warning signs would be erected at roads, water bodies, and other points where line awareness is required and in accordance with applicable USDOT regulations. All surplus materials and construction equipment would be removed.

9.4.1.12 Hydrostatic Testing

Before any segment of new pipeline is placed in service, it would be hydrostatically tested according to USDOT specifications. Approximately 950,000 gallons of water are required for hydrostatic testing and would be either withdrawn from the C-17 Canal or potable water would be purchased from the City of Riviera Beach (assumes no reuse of water for test sections). Test water would be pumped into the test section behind a fill pig, an internal device that can be moved through the pipeline. A high-pressure pump would be used to bring the test section to specified test pressure. The test pressure would be maintained in accordance with applicable requirements. The test section would be depressurized, and the water would be discharged either back to its source, discharged at another location, or pumped into another test section for reuse as approved post-certification. By running one or more drying pigs through the pipe to remove the test water followed by drying with air, the test section would have the water removed and made ready for service. If no chemicals are added, construction water will be disposed of according to applicable regulations which may include being routed to a nearby canal or allowed to percolate and/or evaporate onsite. If chemicals are added, water will be disposed of according to applicable regulations.

9.4.1.13 Special Construction Techniques

Various field conditions that may occur along the ROW, such as railway and roadway crossings and wetland and water body crossings, may require special construction techniques. Typical special construction techniques that may be used during the construction of the Riviera Beach Lateral are discussed below. The specific construction methods to be used at particular locations would be determined based on site-specific field data and after thorough evaluation of the engineering, environmental, and economic factors.

9.4.1.13.1 Railway Crossings and Major Roadways

Railway crossings and major roadway crossings require special construction techniques such as boring. These crossings are normally constructed independently by separate construction crews and later tied into the rest of the pipeline. Typically, a jack-and-bore technique is used to install the pipeline under transportation features. This method involves the excavation of pits on either side of

the transportation feature and the placement of a bore machine within one of the pits. This device would bore under the transportation feature and install the pipeline segment. Once the bore has reached the other pit, the pipeline segment would be tied in with the pipeline installed on the other side. Excavation in watercourses would be scheduled so that the trenches are cut just prior to pipe installation operations and flow would be maintained at all trench and water crossings. Where fluming or other similar measures are used, the crossing would be designed to pass high flows and prevent excessive scouring. In addition, trenching across water bodies would be conducted in accordance with applicable federal and state requirements.

9.4.1.13.2 Water Body Crossings

The construction of the pipeline would employ one of four major types of construction methods for water body crossings, as described below. HDD is the proposed method for crossing the C-17 Canal at this time. A method for crossing the EPB-10 Canal has not yet been determined. Other water body crossings are expected to be wet crossings, however final construction techniques will be selected post-certification based on site-specific information.

The four major types of construction methods are:

- The open-cut method, which is a wet-crossing method; or
- Three dry-crossing methods:
  - Flume pipe,
  - Dam-and-pump, and
  - HDD.

In some cases, a temporary floating or flume bridge may be used on many of the larger water features to provide equipment access. Specific techniques are described below.

Wet Crossings –*Open-Cut Method.* Trenching and filling operations for this type of crossing will be constructed within 24 hours for water bodies less than 10 feet in width and within 48 hours for crossings greater than 10 feet, unless site-specific conditions dictate otherwise or unforeseen conditions arise. This construction method involves installing the pipeline directly in the water. Depending on water body size, the trench would be excavated with either land-, amphibious-, or marine-based equipment. The entire pipeline segment would be placed in the trench using draglines

to pull it across the water body. The pipe would be buried at least 3 feet deep. Figure 9.4.1-2 shows a typical cross-section of this method.

Spoils would be placed upland from the water body bank edge. BMPs such as silt fence and/or straw bales would be installed to minimize the potential for sediment to flow off the construction ROW or back into the water body. Once the pipeline is installed, the trench would be backfilled. Based on field conditions, trench plugs may be placed on either side of the crossing so that the water body does not divert into the upland trench and to keep accumulated water in the upland trench from flowing into the water body.

Dry Crossings – Dry crossing methods are anticipated to be used on a limited basis. Dry trench crossing methods may be used for water bodies up to 30 feet in width or greater where turbidity associated with construction activities may be a potentially significant problem (i.e., water bodies with naturally low turbidity, fine-grained substrate, and significant downstream biological resources). Three types of dry crossing methods are described below.

Flume-Pipe Crossing. The flume-pipe crossing method may be used for minor water bodies. Prior to any excavation, a flume pipe(s) of sufficient size would be placed into the water body across flume to divert the water through the flume. Any water left in the crossing would be pumped out to the downstream side. Once the water has been diverted and the crossing is dry, a land-based backhoe or similar type of equipment would be used to excavate a trench under the flume and across the water body. The excavated material would be temporarily stored and then used to backfill the trench once the pipeline segment has been placed. The flume pipes and associated dams would be removed once the pipeline segment is installed. Restoration of the water body crossing would then be completed. Figure 9.4.1-3 shows a typical view of this method.

This method is usually limited to water bodies with flows (including anticipated flood stages) that can be transported by a maximum of three 36-inch-diameter flume pipes (approximately 40 cubic feet per second or less) and in water bodies that are relatively free of large rocks and bedrock at the trenchline. This method is not suitable for larger crossings, high flow velocities, or deeper water bodies.

Dam and Pump Crossing. The dam and pump method may be used for smaller water bodies with low flows, and meandering channels. In this method, dams would be placed across the water body both upstream and downstream of the crossing. Water upstream of the crossing would be pumped through

hoses downstream. This method is limited by the pump capacity since the pumps must convey the water flow during construction activities. Pumps would be sized to be greater than the anticipated water flow at the water body crossing. Intake screens would be placed to prevent entrainment of fish or other debris into the pumps. Once the water has been successfully diverted, the trench would be excavated and the pipeline installed. Best management practices such as silt fence would be used to contain spoil materials and prevent downstream sedimentation from upland areas. Prior to backfilling and removal of the dams, the trench would be dewatered using best management practices to prevent erosion and sedimentation. Upon installation of the pipeline, the trench would be backfilled and re-stabilized. The dams would then be removed and the water body would be allowed to return to its natural condition. Figure 9.4.1-4 shows a typical view of this method.

Horizontal Directional Drilling. The HDD method, which avoids disturbances to the streambed and banks, is more complex than other methods. Use of HDD is very limited and is dependent on the crossing length, burial depth, subsurface conditions, sediment composition, bank conditions, and access. This method requires large additional temporary workspaces (ATWS) for drilling equipment and for pipeline assembly. Figure 9.4.1-5 shows a typical cross-section for this method.

HDD consists of drilling a tunnel under the water body with multiple passes. The first pass (coming from the "drill side") of the drill is usually one-half the diameter of the pipe. During this first pass, the hole is charged with bentonite drilling mud in order to avoid a collapse or cave-in of the hole. Once this first drill has reached the opposite side of the water body, the original drill head is removed and a larger diameter drill head is installed. One or more reaming passes through the hole, with drill heads of increasing diameter, are performed until the hole is large enough for the pipeline segment to be pulled back through it. The pipeline segment would be assembled on the opposite side, or "laydown side", and after the final ream pass is completed the pipeline segment would be pulled back through the tunnel to complete the HDD crossing.

All proposed HDD crossings are subject to verification based on engineering and geologic review during post-certification.

9.4.1.13.3 Wetland Crossings

FPL may use four different types of wetland crossing methods to minimize potential impacts. After assessment of each wetland to be traversed and based on field conditions, a decision would be made

regarding which crossing method to implement at a given location. The following are summaries of each of the four wetland crossing methods:

- **Crossing Method 1**: Conventional wetlands construction in unsaturated soils. This method can be used in wetlands where the soils are dry and stable enough to support construction equipment without sinking. Topsoil would be segregated and timber mats or corduroy roads would generally not be required.
- **Crossing Method 2**: Conventional wetlands construction in saturated soils. This method can be used in wetlands where soils are too wet to support pipeline construction equipment, such as permanently or semi-permanently saturated soils. Topsoil would not be segregated and timber mats or corduroy roads would be used, as necessary.
- **Crossing Method 3**: Push/pull wetlands construction. This method would involve trenching within a saturated wetland and floating the pipeline segment using floats within the inundated trench. The floating pipeline segment would then be pushed or pulled into place for installation. This method can be used in wetlands where standing water is present at the time of construction. Topsoil would not be segregated and timber mats or corduroy roads would be used, as necessary.
- **Crossing Method 4**: HDD. This method can be used for the crossing of high quality, sensitive or special status wetlands dependent on favorable geologic conditions, available staging areas, and other site-specific considerations.

The excavated materials would then be used to backfill the trench, restoring sediment horizons, where practicable. To maintain flow patterns within the wetland, any excess soil would be removed from the wetland to prevent obstructing the water flow or altering the wetland hydrology. In general, excess soil material is not anticipated once cleanup and restoration are completed. Cleanup would include removal of any construction work pads. If they are used, log riprap and/or work floats would also be removed from the Project area. Natural topographic and hydrologic conditions would be restored, to the extent practicable.

9.4.1.14 Construction Plans

The following plans would be developed or revised post-certification: HDD Contingency Plan (if HDD is selected as a crossing method); Wetland and Water body Crossing Plan; Erosion Control, Restoration, and Maintenance Plan; Invasive Species Management Plan; Protected Species Specific Plans; Solid and Hazardous Waste Plan; Spill Prevention, Control, and Countermeasures Plan; Unanticipated Discoveries Plan; and any other plans deemed necessary.

Similar to RBEC, construction would generally be conducted 6 days a week (Monday through Saturday), 10 to 12 hours per day during daylight hours. However, in certain cases, various

construction crews would work on Sundays, before and/or after daylight hours, and up to 24 hours a day for short durations to complete critical phases of construction. For example, if an HDD pullback is in process, it is critical for the integrity of the hole to complete the pullback and avoid collapse of the hole. Similarly, timing restrictions may be associated with crossing a water body that would require work outside of daylight hours. In these cases, temporary lighting may be required. Construction stormwater discharges released into waters of the state will be addressed through compliance with Rule 62-621.300(4) (Generic Permit for Stormwater from Large and Small Construction Activities).

As discussed previously, once the construction is complete, the pipeline will be hydrostatically tested before any segment of new pipeline is placed in service according to USDOT specifications. FPL will provide a hydrostatic test plan based on detailed engineering and field surveys during the post-certification process. The plan will include the locations of the pipeline sections to be tested, the sources of the water, amounts of water to be used, the locations and method of discharge, and a description of turbidity control measures to be used.

Test water would be pumped into the test section behind a fill pig, an internal device that can be moved through the pipeline. A high-pressure pump would be used to bring the test section to specified test pressure. The test pressure would be maintained in accordance with applicable requirements. The test section would be depressurized, and the water would be discharged either back to its source, discharged at another location, or pumped into another test section for reuse as approved post-certification. By running one or more drying pigs through the pipe, the test section would be dried and made ready for service.

Additives are not expected to be used in the hydrotest water. However, dependent on site conditions, non-hazardous leak detection additives may be used. If being taken from a surface water source, the water would be screened on the intake side. On the discharge side, erosion control and dissipation devices would be used as appropriate.

The length of each pipeline section to be tested will be determined by the quantity of water available for that purpose in various locations. Some pipeline sections, such as the sections of pipe to be installed by horizontal directional drill at water feature crossings, may be hydrostatically tested before being installed to validate the integrity of the pipe section before it is installed. Once installed, these

sections of pipe will be hydrostatically tested again to validate their integrity in their final position, including the welds that incorporate these sections into the overall pipeline.

FPL will consult with SFWMD to determine the feasibility of one identified potential water source (C-17 Canal). The consultation will also include which actual locations may be appropriate for acquiring and discharging the water, as well as the methods to be used to avoid entrainment and impingement during acquisition, and scour, elevated turbidity, and other water quality concerns upon discharge of the hydrostatic test water. Because various sections of the pipeline will be tested multiple times, the overall volume of water needed may be greater than the overall volume of the pipe itself. If acceptable to SFWMD, hydrostatic test water may be re-used to test multiple sections of the pipeline in different locations in order to reduce the volume of water required for testing. The locations of pipeline sections to be tested, method of discharge, volumes and turbidity control measures cannot be determined until after the final pipeline ROW is selected and surveyed and final engineering is complete including selection of waterbody and roadway crossing methods.

As discussed previously, the majority of the FPL 45th Street Terminal has also been cleared and disturbed and only minimal clearing will be required to construct the compressor station and substation. Certain structures, such as the oil spill response equipment storage building, will be moved to accommodate the compressor station.

9.4.2 Environmental Resource Permit

Construction of the pipeline within certain areas of the existing FPL transmission ROWs and along alternate routes are anticipated to cause permanent and temporary wetland impacts. The information typically provided in an Environmental Resource Permit (ERP) application will be submitted to reviewing agencies for post-certification monitoring of compliance with the Conditions of Certification, as authorized Section 62-17.191, F.A.C. The ERP informational data submittal contained in Appendix D reflects an enveloping approach for the pipeline portion of the Project.

9.4.3 Solid Wastes

This section provides a general description of the solid and hazardous wastes that would be generated during ROW preparation, pipeline construction, operation and maintenance, and the methods that would be used for disposal of the wastes. A Project-specific Solid and Hazardous Waste Management Plan, developed by FPL post-certification, will specify procedures for the storage and

disposal of solid and hazardous wastes generated during construction of the pipeline facilities in accordance with applicable federal state and local regulations.

Solid waste generated by the clearing of areas for constructing the pipeline is anticipated to be minimal since most of the areas have already been cleared for the existing roadways and transmission lines. Solid wastes generated will typically consist of unsuitable soils, asphalt, minor amounts of vegetation and construction debris. All solid wastes will be collected and removed for disposal at a permitted disposal facility. No disposal of debris by burial within areas required for constructing the pipeline shall be performed.

During construction of the pipeline facilities, solid wastes that may be generated include stripped vegetation, scrap lumber, concrete, metal, plastic, and general trash from the construction crews and office trash and garbage from office trailers. All solid waste will be gathered, and disposed of properly in accordance with state and local regulations. It is possible that some local governments may allow for burning of stripped vegetation. In the event that burning becomes a disposal option for stripped vegetation for some areas of the proposed pipeline corridor, appropriate officials will be contacted to assure compliance with nonprocedural standards for such activities.

Hazardous materials that may be used during construction of the pipeline facilities include petroleum products such as diesel fuel, gasoline, hydraulic fluid, lubricating oils and greases, solvents; degreasers, antifreeze, herbicides, pesticides, and other substances. The specific types of substances to be used will be described in the Solid and Hazardous Waste Management Plan and applicable material safety data sheets will be included. Hazardous wastes that may be generated during construction of the pipeline facilities may include used lubricating oils and hydraulic fluids, used oil filters, and spent solvents and other hazardous material. All hazardous wastes generated during construction of the pipeline facilities will be stored, transported, and disposed of in accordance with applicable federal, state, and local regulations.

9.4.4 Changes to Vegetation, Wildlife, and Aquatic Life

No significant changes to the vegetation, wildlife, and aquatic systems in the pipeline ROW are anticipated. The pipeline will be collocated with existing linear facility ROWs, requiring only a minimal amount of temporary disturbance of altered habitats during installation. No permanent wetland impacts resulting from construction of the pipeline are anticipated for this Project.

The pipeline ROW will be located within the corridor to avoid traversing wetland areas to the extent practicable.

No impacts to threatened and endangered species are expected. Listed species observed along the pipeline corridor are limited to bird species that may relocate to similar habitat during construction activities. Manatees were not observed, but could occur within the canals along the corridor route. Since the pipeline will be located underground, no permanent loss of aquatic habitat for threatened and endangered species will occur.

9.4.5 Impacts to Human Populations

Construction of the pipeline will consist of a series of tasks performed by specialized crews. During the construction period, a particular crew's total time at any given location will be relatively brief. Use of construction equipment may result in temporary noise impacts. Impacts will be brief and intermittent due to the nature of pipeline construction and equipment use. Construction will be scheduled during daylight hours to the extent practicable to minimize disturbance. However, in certain cases, various construction crews would work on Sundays, before and/or after daylight hours, and up to 24 hours a day for short durations to complete critical phases of construction. Regardless, FPL will comply with all applicable noise standards during construction. Clearing is expected to be minimal because the pipeline corridor follows existing, predominantly cleared corridors (i.e., FPL transmission corridor and existing roads). Where construction is required within road ROWs, the construction contractor will follow State and/or Palm Beach County guidelines for maintenance of traffic, including flagging and use of barriers/warning lights for traffic control, where needed.

Because of the temporary nature of the construction process and the relatively short duration of each phase of construction at any given location, any effects experienced by individuals near the pipeline due to these activities, such as air emissions or noise for example, will be minimal.

9.4.6 Impact on Regional Scenic, Cultural, and Natural Landmarks

No significant impacts to regional scenic, cultural, or natural landmarks are anticipated from the construction of the pipeline. The pipeline will not impact these resources because the pipeline will be located outside their boundaries. No adverse surface water impacts will occur to these resources because of the use of BMPs previously described.

9.4.7 Impact on Archaeological and Historical Sites

The area lying within the pipeline corridor has been previously and adequately assessed by previous cultural resource surveys. An updated desktop cultural resource survey of the Riviera Beach Lateral corridor was also conducted in July 2010 (see Appendix C). The results of these surveys indicate that there are no significant archaeological or historic resources occurring within the pipeline corridor. The Florida Division of Historic Resources (DHR) has concurred with and approved the results of the various assessments.

The probability of impacts on undiscovered archaeological and historical sites is considered extremely low due to the fact that the area does not contain known sites and the pipeline will be constructed within or adjacent to previously disturbed areas. If unforeseen archaeological finds are discovered during construction, DHR will be notified in accordance with the Unanticipated Discoveries Plan to be developed post-certification. Following a determination of the importance of such finds, FPL will work with DHR to assess mitigation measures necessary to minimize adverse impacts.

9.4.8 Construction Emissions and Air Quality Impacts

Construction activities would result in air emissions due to construction equipment, off-road vehicles, and fugitive dust due to earthmoving and earthclearing and site grading and compaction activities. The construction activities at the compressor station and along the pipeline corridor would result in temporary, localized emissions that would last for the duration of the construction period in particular areas.

Compliance with the applicable standards is expected because of the temporary and mobile nature of construction activities. The construction emissions would be temporary and air quality is expected to return to its original levels once the construction of the pipeline is complete.

9.5 Post-construction Impacts and Effects of Maintenance

9.5.1 Maintenance Techniques

FPL will institute a comprehensive operations and maintenance program for the proposed facilities similar to other pipelines currently within the FPL system and in accordance with USDOT pipeline safety regulations. To the extent the final corridor is within the existing FPL electrical transmission ROW, the risk of unauthorized digging and other potential disturbances to the pipeline would be significantly reduced.

FPL's pipeline operations and maintenance program includes: a comprehensive corrosion control program utilizing state of the art inline inspection tools; leak inspection surveys that include regularly scheduled aerial and ground patrols of the pipeline ROW; and participation in the existing Sunshine State One-Call of Florida system. The One-Call of Florida system allows anyone planning excavation activities to call a single number to alert all utilities, and thus prevent unintentional contact with the pipeline. Additionally, FPL representatives will visit any construction site close to the pipeline and mark the location of FPL's underground facilities. They would also remain on-site during any excavation activity within the pipeline ROW.

9.5.2 Multiple Uses

Current uses of the pipeline corridor will continue following installation of pipeline. These uses include road travel, transmission of electricity from the RBEC to the FPL system, and water conveyance in the canals. FPL may allow other uses of the pipeline corridor from time to time that do not interfere with the operation or safety of the pipeline and are compatible with local regulations.

9.5.3 Changes in Species Populations

The current vegetative habitat and land uses along the pipeline corridor will not be significantly altered through installation of the underground pipeline; therefore, no significant changes in species populations are expected upon completion of construction. Post-construction maintenance may involve clearing of vegetation within those areas required for the pipeline. For such areas, unnecessary damage to vegetation in environmentally sensitive areas will be avoided. Therefore, no changes to available wildlife habitat are expected, and no changes in species populations will occur as a result of maintenance activities.

9.5.4 Effects of Public Access

There will be no limitation to currently accessible public areas as a result of the installation of the pipeline. The portion of the pipeline within existing roads will not be noticeable to the public. Access to areas within the existing FPL transmission ROWs in most locations will be controlled by locked gates used only by FPL, its contractors, leaseholders, or property owners. No change in public access is planned or anticipated to these areas when construction is complete.

9.5.5 Other Post-construction Effects

9.5.5.1 Air Quality

As part of the Riviera Beach Lateral installation, FPL proposes to construct and operate a gas-fired or electric-driven natural gas compressor station located at the FPL 45th Street Terminal located in the City of Riviera Beach, Florida, approximately 3 miles west of the RBEC location. The FPL 45th Street Terminal is located at the southwest corner of State Road 710 and I-95, Riviera Beach, Palm Beach County, Florida. The existing facility (site name: Martin Oil Storage Facility and Physical Distribution Center) is a synthetic, non-Title V, minor source and is authorized to operate as a source of air pollution under Air Pollution Operation Permit No. 099123-008-AO. The existing facility consists of four emission units associated with oil transfer and storage of No. 6 residual oil through a pipeline connected to the Riviera and Martin Plants and facilities to support FPL's electric transmission and distribution system.

One of the emission units, a wire reclaim furnace, has been removed from the facility. As indicated in the Air Construction Application (see Appendix A), FPL is requesting that the wire reclaim furnace be deleted as an emission unit for the facility.

The proposed compressor station may include four Caterpillar engines (Model G3612) with a 4-stroke lean-burn configuration that will operate on natural gas and will run continuously (8,760 hr/yr). The engines have a design rating of 3,550 horsepower (hp) and will have a heat input rate of 26.71 million British thermal units per hour (MMBtu/hr) each (see Appendix A for the Air Construction Application). The carbon monoxide (CO) and volatile organic compounds (VOC) emissions from the engines in the compressor station will be controlled by oxidation catalysts, providing a 93-percent reduction of carbon monoxide (CO) emissions, a 67-percent reduction of volatile organic compounds (VOC) emissions, and an 82-percent reduction of formaldehyde emissions.

The existing FPL 45th Street Terminal is classified as a synthetic, non-Title V, minor source. The proposed compressor station will increase emissions of nitrogen oxides (NO_x), CO, sulfur dioxide (SO_2), particulate matter (PM) emissions, particulate matter less than 10 microns (PM_{10}), and VOCs. The emissions from the Project together with the existing potential emissions of the existing facility will not change the classification of the facility, which will remain a synthetic, non-Title V, minor source. Appendix A of this SCA modification contains a copy of the minor source air construction permit application that is being submitted to the Palm Beach County Health Department. The Palm

Beach County Health Department is authorized by FDEP to issue minor source air construction permits for sources located in Palm Beach County in accordance with Section 403.182, F.S.

As part of the site certification of RBEC, natural gas compressors were included at the RBEC Site. A separate air construction permit was issued by FDEP for the RBEC Project that included a compressor station consisting of seven nominal 1,350 hp natural gas compressors [FDEP Air Construction Permit No. 0990042-006-AC, Section III, D. Compressor Station (EU 012)]. The RBEC compressor station is no longer anticipated to be necessary with the proposed compressor station located at the FPL 45th Street Terminal, however FPL would still like to preserve both options at this time. The FPL 45th Street Terminal is a separately managed facility from RBEC and located 3 miles from RBEC. For these reasons, FPL is seeking a separate air construction permit of the Riviera Beach Lateral natural gas compressor station as part of the FPL 45th Street Terminal as opposed to a modification to the RBEC air construction permit located approximately 3 miles east of the FPL 45th Street Terminal.

The RBEC natural gas compressor station was proposed as seven 1,340 hp engines for a total of 9,340 hp. The compressor station proposed for the FPL 45th Street Terminal will consist of four 3,550 hp engines for a total of 14,200 hp. Because of these differences, a comparison of the emission rates of the previously permitted RBEC compressor station and that proposed for the FPL 45th Street Terminal was developed and is presented in Table 9.5.5.1-1. As shown in Table 9.5.5.1-1, emission rates for PM/PM_{10} and SO_2 will increase slightly. Emission rates for CO and VOC will be higher for the proposed FPL 45th Street Terminal compressor station, while the NO_x emission rate is lower than the previously authorized emission rate for the RBEC compressor station. While there are minor increases in emissions of SO_2, PM/PM_{10}, CO, and VOC for the proposed FPL 45th Street Terminal compressor station, the overall emissions are about 30 tons per year (TPY) or about 18 percent lower than the emissions previously authorized for the compressor station located at RBEC.

9.5.5.2 Noise

The noise predictions for the natural gas compressor station operations at the primary and alternative locations were developed using the Computer Aided Noise Abatement (CadnaA version 3.72) computer model, a computer software program for calculation, presentation, assessment, and prediction of environmental noise (DataKustik, 2010). Predicted sound levels for the natural gas compressor station at both proposed locations are lower than the existing measured sound levels and

noise from the operations of the gas compressor station will not adversely affect wildlife in the vicinity.

CadnaA is an environmental noise propagation computer program that was developed to assist with noise propagation calculations for major noise sources and projects. Noise sources are entered as octave band sound power levels (L_w). Locations of the noise sources, buildings, and receptors are input directly on the base map and can be edited throughout the modeling process. All noise sources are assumed to be a point, line, area, or vertical area source, and can be specified by the user. Sound propagation is calculated by accounting for hemispherical spreading and three other user-identified attenuation options: atmospheric attenuation, path-specific attenuation, and barrier attenuation. Atmospheric attenuation is calculated using International Organization for Standards, ISO 9613-1 *Attenuation of Sound During Propagation Outdoors -- Part 1: Calculation of the Absorption of Sound by the Atmosphere*. The CadnaA path-specific attenuation can be specified to account for the effects of soil, vegetation, foliage, and wind shadow. Directional source characteristics and reflection can be simulated using path-specific attenuation. Barrier attenuation is calculated by assuming an infinitely long barrier perpendicular to the source-receptor path. Total and A-weighted SPLs are calculated.

The noise impacts of the natural gas compressor station operation were evaluated at both the primary and alternate locations using the sound power levels (L_w) for the various equipment associated with a natural gas compressor station. The sound power levels used in CadnaA represent either sound power levels or far-field sound pressure levels (SPLs) that have been provided by the vendors for other similar projects. The location of each noise source was based on its location in the site plan. The computer (AutoCAD) drawing was imported into the CadnaA model for the noise analysis. The heights of the major existing and proposed buildings were also input into CadnaA, developing a three-dimensional representation of the facility. Noise sources were input as point, line, area, and vertical area sources with the appropriate dimensions and acoustical data. Existing obstacles, such as buildings, tanks, and foliage were used in the model.

The design of the natural gas compressor station includes components that will reduce noise levels emitted to the surrounding environment. The majority of the noise sources associated with the gas compressor station, such as the gas compressor engines, engine exhaust, and engine air coolers are located within one or more acoustic enclosures or near buildings that act as barriers and therefore reduce, shield, and mitigate the sound levels.

The octave band data used in the analyses are presented in Table 9.5.5-2. A total of 9 point sources, 1 line source group, 4 area sources, and 8 vertical area sources were input to CadnaA. Noise sources such as the roof vents and engine exhaust were input as point sources. Sources that generate noise over a linear distance, such as the compressor engines, were input as line sources, but inside an enclosure with acoustical attenuation as needed. Large sources, such as the air coolers were input as area sources. The vertical area noise sources represent sides of structures or buildings from which noise can be emitted. The atmospheric attenuation was set at the CadnaA values of 25 degrees Celsius (°C) (77 degrees Fahrenheit [°F]) and 70-percent relative humidity. For Florida, these values would produce conservative results. The ground attenuation for the area was set to be equivalent to porous soil.

Tables 9.5.5-3 and 9.5.5-4 present the predicted noise impacts for the natural gas compressor station location for the primary and alternate locations, respectively, at each noise monitoring location. Figures 9.5.5-1 and 9.5.5-2 present the spatial distributions of predicted noise levels for the natural gas compressor station at the primary and alternate locations, respectively. The baseline ambient SPLs measured near the proposed natural gas compressor station location were presented in Table 9.3.7-2 and discussed in Subsection 9.3.7.4.1. In addition, because of the residential area to the north- northwest of the facility located in the unincorporated portion of Palm Beach County, noise impacts for both gas compressor station locations were predicted at that location, identified as Site 4 assuming baseline noise measurements from Site 3 (see Tables 9.5.5-3 and 9.5.5-4 and Figures 9.5.5-1 and 9.5.5-2). As shown in these tables and figures, the predicted sound levels for the primary and alternate site locations for the natural gas compressor station are lower than the existing measured sound levels. As indicated in Subsection 9.3.7.4.1, traffic on Interstate 95 contributes significantly to baseline ambient sound levels at locations near the Site.

There are no State of Florida noise regulations that are applicable to the operation of the natural gas compressor station. The maximum predicted sound levels from the natural gas compressor station were evaluated to assess compliance with *Article IV Noise, in Chapter 11 Nuisances* of the City of Riviera Beach Noise Ordinance. The applicable noise limit for the Project is for fixed mechanical equipment, which has an SPL limit of 55 dBA for residential zoned areas and 65 dBA for commercial and industrial zoned areas. These SPL limits apply to both the daytime and nighttime. As shown in Figures 9.5.5-1 and 9.5.5-2, the predicted SPLs from the natural gas compressor station, located either at the primary or alternate site locations will be less than 50 dBA in the adjoining industrial areas to

the west and south of the FPL 45th Street Terminal and will be less than 46 dBA in residential areas located to the north-northwest in the unincorporated portion of Palm Beach County.

Based on the results of the computerized noise modeling analysis, it is concluded that the maximum sound levels predicted to be emitted from the natural gas compressor station operation at either site location will not exceed the maximum permissible sound levels in Section 11-152 of Riviera Beach's Noise Ordinance. Since the nearest residential areas are to the north-northwest of the facility in the unincorporated portion of Palm Beach County, there are no applicable noise standards relative to the compressor station located in the City of Riviera Beach.

No noise-sensitive wildlife is known to occur in or near the Site or vicinity. Since wildlife in the area has been acclimated to noise associated with the existing Interstate 95 highway and other background sources, noise from the operations of the natural gas compressor station will not adversely affect wildlife in the vicinity.

Intermittent noise sources during testing and maintenance and upset conditions may occur. Such activities would not normally occur simultaneously and would last for a short duration.

TABLES

TABLE 9.3.7-1

THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN KNOWN TO OCCUR WITHIN PALM BEACH COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence in Corridor
Plants				
Acrostichum aureum	Golden Leather Fern	N	T	M
Aeschynomene pratensis	Meadow Jointvetch	N	E	L
Argusia gnaphalodes	Sea Lavender	N	E	L
Asimina tetramera	Four-petal Pawpaw	E	E	L
Calopogon multiflorus	Many-flowered Grass-pink	N	E	L
Chamaesyce cumulicola	Sand-dune Spurge	N	E	L
Cladonia perforata	Perforate Reindeer Lichen	E	E	L
Coccothrinax argentata	Silver Palm	N	T	L
Conradina grandiflora	Large-flowered Rosemary	N	T	M
Cucurbita okeechobeensis	Okeechobee Gourd	E	E	L
Glandularia maritima	Coastal Vervain	N	E	M
Halophila johnsonii	Johnson's Seagrass	T	N	L
Jacquemontia reclinata	Beach Jacquemontia	E	E	L
Lantana depressa var. floridana	Atlantic Coast Florida Lantana	N	E	L
Lechea cernua	Nodding Pinweed	N	T	L
Lechea divaricata	Pine Pinweed	N	E	L
Linum carteri var. smallii	Small's flax	N	E	L
Nemastylis floridana	Celestial Lily	N	E	L
Okenia hypogaea	Burrowing Four-o'clock	N	E	L
Ophioglossum palmatum	Hand Fern	N	E	L
Panicum abscissum	Cutthroat Grass	N	E	L
Polygala smallii	Tiny Polygala	E	E	L
Pteris bahamensis	Bahama Brake	N	T	L
Pteroglossaspis ecristata	Giant Orchid	N	T	L
Sacoila lanceolata var. paludicola	Fahkahatchee Ladies' -tresses	N	T	L
Schizaea pennula	Ray Fern	N	E	L
Tephrosia angustissima var. curtissii	Coastal Hoary-pea	N	E	L
Thelypteris serrata	Toothed Maiden Fern	N	E	L
Tillandsia flexuosa	Banded Wild-pine	N	T	L
Tolumnia bahamensis	Dancing-lady Orchid	N	E	L
Gastropods				
Orthalicus reses reses	Stock Island Tree Snail	T	E	L
Fish				
Bairdiella sanctaeluciae	Striped Croaker	C	N	L
Microphis brachyurus	Opossum Pipefish	C	N	L
Amphibians				
Rana capito	Gopher Frog	N	SSC	M
Reptiles				
Alligator mississippiensis	American Alligator	T (SA)	SSC	M
Caretta caretta	Loggerhead	T	T	L
Chelonia mydas	Green Turtle	E	E	L
Crocodylus acutus	American Crocodile	T	E	L

TABLE 9.3.7-1

THREATENED, ENDANGERED, AND SPECIES OF SPECIAL CONCERN KNOWN TO OCCUR WITHIN PALM BEACH COUNTY, FLORIDA

Scientific Name	Common Name	Federal Status	State Status	Probability of Occurrence in Corridor
Dermochelys coriacea	Leatherback	E	E	L
Drymarchon couperi	Eastern Indigo Snake	T	T	L
Eretmochelys imbricata	Hawksbill	E	E	L
Gopherus polyphemus	Gopher Tortoise	N	T	M
Lepidochelys kempii	Kemp's Ridley	E	E	L
Pituophis melanoleucus mugitus	Florida Pine Snake	N	SSC	M
Birds				
Aphelocoma coerulescens	Florida Scrub-jay	T	T	L
Aramus guarauna	Limpkin	N	SSC	H
Athene cunicularia floridana	Florida Burrowing Owl	N	SSC	M
Caracara cheriway	Crested Caracara	T	T	L
Charadrius melodus	Piping Plover	T	T	L
Egretta caerulea	Little Blue Heron	N	SSC	H
Egretta thula	Snowy Egret	N	SSC	Observed
Egretta tricolor	Tricolored Heron	N	SSC	M
Eudocimus albus	White Ibis	N	SSC	H
Falco peregrinus	Peregrine Falcon	N	E	L
Falco sparverius paulus	Southeastern American Kestrel	N	T	L
Grus canadensis pratensis	Florida Sandhill Crane	N	T	M
Haematopus palliatus	American Oystercatcher	N	SSC	L
Mycteria americana	Wood Stork	E	E	H
Pelecanus occidentalis	Brown Pelican	N	SSC	L
Picoides borealis	Red-cockaded Woodpecker	E	SSC	L
Platalea ajaja	Roseate Spoonbill	N	SSC	M
Rostrhamus sociabilis plumbeus	Snail Kite	E	E	L
Rynchops niger	Black Skimmer	N	SSC	L
Sterna antillarum	Least Tern	N	T	L
Mammals				
Podomys floridanus	Florida Mouse	N	SSC	M
Puma concolor coryi	Florida Panther	E	E	L
Sciurus niger shermani	Sherman's Fox Squirrel	N	SSC	L
Trichechus manatus	Manatee	E	E	H
Ursus americanus floridanus	Florida Black Bear	N	T	L

Notes:

E = Endangered

N = Not currently listed, nor currently being considered for listing

SSC = Species of Special Concern

T = Threatened

T (SA) = Threatened due to similarity of appearance to the American crocodile (*Crocodylus acutus*)

C = Candidate species for listing

L = Low

M = Moderate

H = High

Source: Florida Natural Areas Inventory, 2010; Golder Associates Inc., 2010.

TABLE 9.3.7-2

MEASURED BASELINE AMBIENT SOUND PRESSURE LEVELS FOR THE PROPOSED NATURAL GAS COMPRESSOR STATION AT THE FPL 45th STREET TERMINAL, JUNE AND JULY 2010

Site	Date	Time	Wind Direction	Wind Speed (mph)	Sound Levels (dBA) L_{min}	L_{90}	L_{50}	L_{eq}	Observations
Site 1 - West of FPL 45th Street Terminal	6/24/2010	Daytime	East	5 - 10	59	61	62	62	Traffic on I-95, wind noise, pumping facility at the RV park
boundary near trailer park	7/10/2010	Evening	Variable	1 - 2	52	55	57	57	Traffic on I-95, insect noise, air plane traffic
	7/10/2010	Nighttime	Variable	0 - 1	53	54	55	55	Trailer park pump, traffic on I-95, insect noise
Site 2 - South of FPL 45th Street Terminal	6/24/2010	Daytime	East	10 - 15	52	54	57	57	Traffic on I-95, wind noise, bird noise, local traffic & activities, insect noise
boundary off of Northpoint Parkway	7/10/2010	Evening	East	2 - 4	49	51	52	52	Small cooling tower, traffic on I-95, wind noise, insect noise
	7/10/2010	Nighttime	Variable	0 - 1	47	48	48	50	Small cooling tower, traffic on I-95, air plane noise, insect noise, bird noise
Site 3 - Southeast of FPL 45th Street Terminal	6/24/2010	Daytime	East	15 - 20	51	52	53	53	Traffic on I-95, wind noise, local traffic & activities
boundary at the end of Corporate Way	7/10/2010	Evening	Southeast	2 - 5	50	53	54	55	Traffic on I-95, insect noise, local truck traffic to the north, bird noise
	7/10/2010	Nighttime	South	1 - 3	51	53	54	55	Traffic on I-95, insect noise, local truck traffic to the north

Source: Golder Associates Inc., 2010.

TABLE 9.5.5-1
COMPARISON OF THE EMISSION RATES AND EMISSIONS FOR THE RBEC COMPRESSOR STATION AND THE RIVIERA BEACH LATERAL - NATURAL GAS COMPRESSOR STATION LOCATED AT THE FPL 45TH STREET TERMINAL FACILITY

	Emission Rate		Emissions (tons/year)		
Pollutant	**RBEC Compressor[a]**	**FPL 45th Street Terminal Compressor Station**	**RBEC Compressor**	**FPL 45th Street Terminal Compressor Station**	**Difference**
SO_2	2 grains/100 scf	2 grains/100 scf	1.74	2.62	0.88
PM	0.034 g/hp-hr	0.034 g/hp-hr	3.10	4.67	1.58
PM_{10}	0.034 g/hp-hr	0.034 g/hp-hr	3.10	4.67	1.58
NO_x	1.5 g/hp-hr[b]	0.5 g/hp-hr	135.86	68.56	-67.30
CO	0.10 g/hp-hr	0.20 g/hp-hr	8.60	27.42	18.82
VOC (as methane)	0.16 g/hp-hr	0.21 g/hp-hr	14.04	28.96	14.92
				Total:	-29.53

[a] Permit No. 0990042-006-AC; Section III. D. Condition 7

[b] Reduced to 1.0 g/hp-hr if manufacturer date is 7/1/2010 or later.

TABLE 9.5.5-2

SOUND PRESSURE LEVELS FOR NOISE SOURCES ASSOCIATED WITH THE PROPOSED NATURAL GAS COMPRESSOR STATION

Sources	Interior Noise Source	Source Type	Number of Sources	Source Height (m)	Sound Pressure Level (dB) for Octave Band Center Frequency (Hz)									Overall Sound Pressure Level (dBA)
					31.5	63	125	250	500	1000	2000	4000	8000	
Unit 1 Exhaust	No	Point	1	15.24	125	113	119.4	119.7	116.4	119.1	118.1	118.7	114	129.1
Unit 2 Exhaust	No	Point	1	15.24	125	113	119.4	119.7	116.4	119.1	118.1	118.7	114	129.1
Unit 3 Exhaust	No	Point	1	15.24	125	113	119.4	119.7	116.4	119.1	118.1	118.7	114	129.1
Unit 4 Exhaust	No	Point	1	15.24	125	113	119.4	119.7	116.4	119.1	118.1	118.7	114	129.1
Recycle Value	No	Point	1	1.50	-	-	-	-	-	98	-	-	-	98.0
Roof Vent 1	No	Point	1	0.50	95	95	91	87	84	82	80	76	76	99.4
Roof Vent 2	No	Point	1	0.50	95	95	91	87	84	82	80	76	76	99.4
Roof Vent 3	No	Point	1	0.50	95	95	91	87	84	82	80	76	76	99.4
Roof Vent 4	No	Point	1	0.50	95	95	91	87	84	82	80	76	76	99.4
Air Cooler Unit 1	No	Area	1	4.00	-	104.8	103.8	100.8	95.8	93.8	87.8	81.8	75.8	108.6
Air Cooler Unit 2	No	Area	1	4.00	-	104.8	103.8	100.8	95.8	93.8	87.8	81.8	75.8	108.6
Air Cooler Unit 3	No	Area	1	4.00	-	104.8	103.8	100.8	95.8	93.8	87.8	81.8	75.8	108.6
Air Cooler Unit 4	No	Area	1	4.00	-	104.8	103.8	100.8	95.8	93.8	87.8	81.8	75.8	108.6
Compressor Engines (inside enclosure)	Yes	Line	4	2.00	116.3	112.0	113.5	109.7	108.2	111.3	111.0	107.0	101.4	121.1
Compressor Bldg Side North	No	Vert. Area	1	8.00	107.5	120.8	125.2	119.1	119.1	118.4	119.2	118.3	110.4	129.3
Compressor Bldg Side East	No	Vert. Area	1	8.00	107.5	120.8	125.2	119.1	119.1	118.4	119.2	118.3	110.4	129.3
Compressor Bldg Side South	No	Vert. Area	1	8.00	107.5	120.8	125.2	119.1	119.1	118.4	119.2	118.3	110.4	129.3
Compressor Bldg Side West	No	Vert. Area	1	8.00	107.5	120.8	125.2	119.1	119.1	118.4	119.2	118.3	110.4	129.3
Compressor Bldg Side East Louver 1	No	Vert. Area	1	2.44	95.0	95.0	91.0	87.0	84.0	82.0	80.0	76.0	76.0	99.4
Compressor Bldg Side East Louver 2	No	Vert. Area	1	2.44	95.0	95.0	91.0	87.0	84.0	82.0	80.0	76.0	76.0	99.4
Compressor Bldg Side East Louver 3	No	Vert. Area	1	2.44	95.0	95.0	91.0	87.0	84.0	82.0	80.0	76.0	76.0	99.4
Compressor Bldg Side East Louver 4	No	Vert. Area	1	2.44	95.0	95.0	91.0	87.0	84.0	82.0	80.0	76.0	76.0	99.4

Note: The enclosures for the gas compressors were modeled as a single source to represent noise from the walls, which will be located in close proximity.
Individual gas compressor engine exhausts were modeled as separate point sources.

TABLE 9.5.5-3
MEASURED BASELINE AMBIENT SOUND PRESSURE LEVELS AND PREDICTED IMPACT OF THE PROPOSED NATURAL GAS COMPRESSOR STATION - PRIMARY LOCATION

Site	Time	Sound Levels (dBA)			Land Use Classification	Noise Standard (dBA)	
		Existing Baseline	Project Impacts	Predicted Impacts			
Site 1 - West of FPL 45th Street Terminal boundary near trailer park	Daytime	62	46	62	Industrial	65	b
	Nighttime	55	46	56			
Site 2 - South of FPL 45th Street Terminal boundary off of Northpoint Parkway	Daytime	57	36	57	Industrial	65	b
	Nighttime	50	36	50			
Site 3 - Southeast of FPL 45th Street Terminal boundary at the end of Corporate Way	Daytime	53	41	53	Industrial	65	b
	Nighttime	55	41	55			
Site 4: North-northwest of FPL 45th Street Terminal [a] (used Site 3 baseline values)	Daytime	53	37	53	Residential	NA	c
	Nighttime	55	37	55			

Source: Golder, 2010.

[a] Receptor location for estimating noise impacts; baseline noise measurements were made at this site. To estimate combined impacts, the baseline values from Site 3 were used.

[b] Based on City of Riviera Beach Noise Ordinance for daytime and nighttime for fixed mechanical equipment.

[c] Since location is in unincorporated portion of Palm Beach County, there are no applicable noise standards relative to the sources in the City of Riviera Beach. However, the noise standard for the City of Riviera Beach is 55 dBA for fixed mecahnical equipment.

TABLE 9.5.5-4
MEASURED BASELINE AMBIENT SOUND PRESSURE LEVELS AND PREDICTED IMPACT OF THE PROPOSED NATURAL GAS COMPRESSOR STATION - ALTERNATE LOCATION

Site	Time	Sound Levels (dBA)			Land Use Classification	Noise Standard (dBA)	
		Existing Baseline	Project Impacts	Predicted Impacts			
Site 1 - West of FPL 45th Street Terminal	Daytime	62	45	62	Industrial	65	b
boundary near trailer park	Nighttime	55	45	55			
Site 2 - South of FPL 45th Street Terminal	Daytime	57	35	57	Industrial	65	b
boundary off of Northpoint Parkway	Nighttime	50	35	50			
Site 3 - Southeast of FPL 45th Street Terminal	Daytime	53	40	53	Industrial	65	b
boundary at the end of Corporate Way	Nighttime	55	40	55			
Site 4: North-northwest of FPL 45th Street Terminal [a]	Daytime	53	35	53	Residential	NA	c
(used Site 3 baseline values)	Nighttime	55	35	55			

Source: Golder, 2010.

[a] Receptor location for estimating noise impacts; baseline noise measurements were made at this site. To estimate combined impacts, the baseline values from Site 3 were used.

[b] Based on City of Riviera Beach Noise Ordinance for daytime and nighttime for fixed mechanical equipment.

[c] Since location is in unincorporated portion of Palm Beach County, there are no applicable noise standards relative to the sources in the City of Riviera Beach. However, the noise standard for the City of Riviera Beach is 55 dBA for fixed mecahnical equipment.

FIGURES

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity

REFERENCES

1. Base Map, ESRI Streets Online, 2010.
2. Riviera Beach Lateral Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

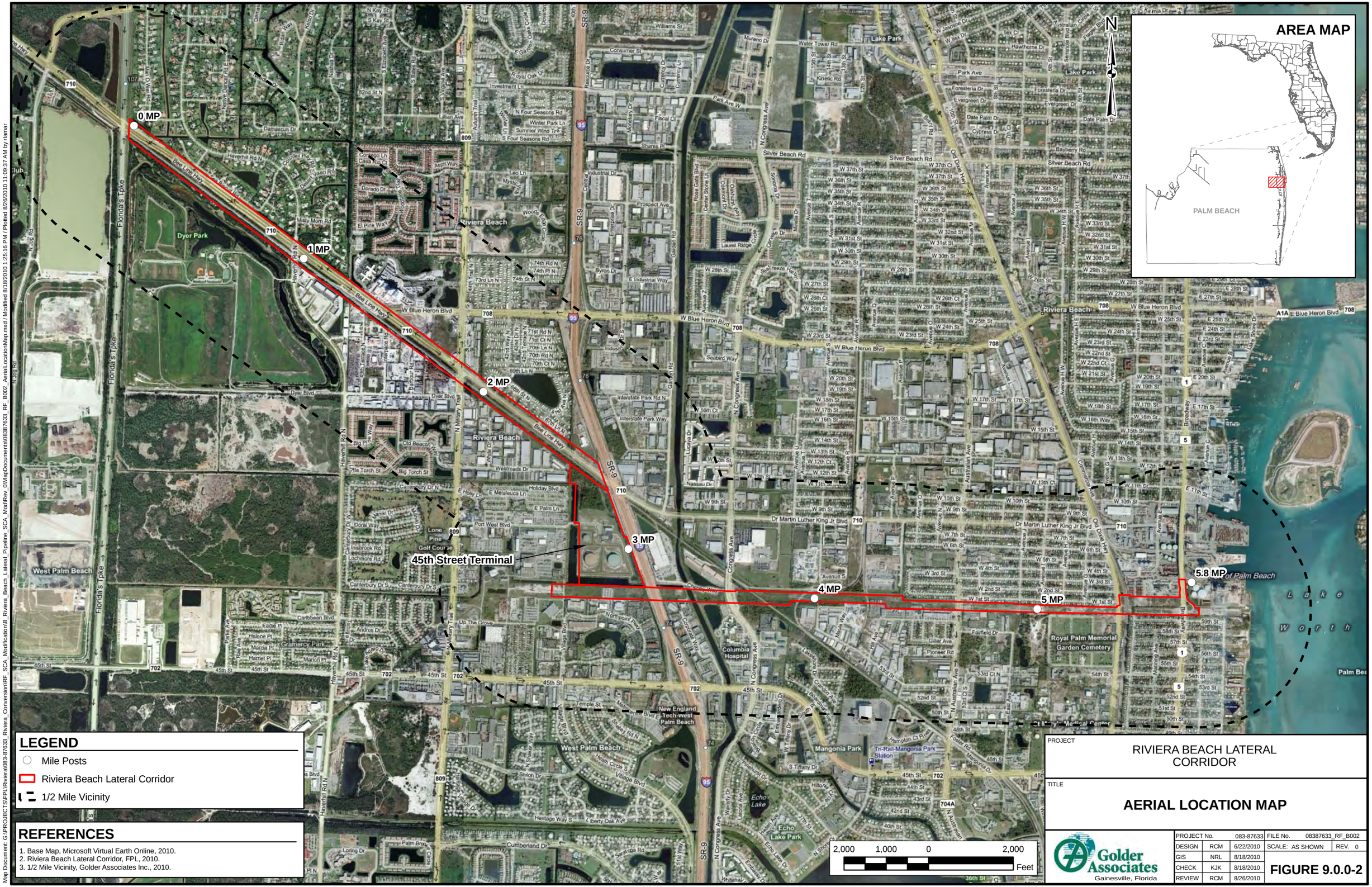
LOCATION MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B001	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	KJK	8/18/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.0.0-1

Map Document: G:\PROJECTS\FPLRiviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_ModIRev_0\MapDocuments\08387633_RF


0 MP
1 MP
2 MP
3 MP
4 MP
5 MP
5.8 MP
45th Street Terminal
Florida's Turnpike
Blue Lines Hwy
SR-9
Dyer Park
Riviera Beach
West Palm Beach
Lake Park
Royal Palm Memorial Garden Cemetery
Columbia Hospital
New England Tech-West Palm Beach
Mangonia Park
Tri-Rail-Mangonia Park Station
Lone Pine Golf Course
Echo Lake
Echo Lake Park
Lake Worth
Palm Beach
W Blue Heron Blvd
Silver Beach Rd
45th St
Dr Martin Luther King Jr Blvd
Broadway
N Congress Ave
Dyer Blvd
Haverhill Rd N
Military Trail
Village Blvd
Gramercy Park
Old Dixie Hwy
Australian Ave
Lake Shore Dr
Golf Club
Dog Rd
Lucerne Park
Lake Worth Golf Course
Palm Beach Lakes Blvd
Okeechobee Blvd
Northpoint Pkwy
Interstate Park Rd N
Interstate Park Way
Seabird Way
Laurel Ridge Circle
Fairfield Dr
Giller Ave
Pioneer Rd
Hampton Ct Pl
Foxtail Rd
Mangonia Dr
Hilton Cir
Hilton Ave
Lucaya Dr
Nassau Dr
Chilean Way
Up The Grove
Temple St
Shiloh Dr
Heritage Way S
Liberty Oak Ave
Cumberland Dr
Saratoga Rd
Loring Dr
Palm Brook Cir
Caribbean Blvd
Eagle Pl
Helene Pl
Marcia Pl
Harriet Pl
Marion Pl
Andros Dr
Canterbury Dr N
Canterbury Dr S
Port West Blvd
Holiday Blvd
E Melaleuca Ln
E Palm Ln
Doral Way
Inisbrook Rd
Lochmore Rd
Big Torch St
Old Beacon Rd
Bird Pine Way
Dr
Ln
Rd
St
Ave
Pl
Cir
Blvd
Way
Ct
Terrace
Trail
Circle
Parkway
Highway
Turnpike
Golf Club
Golf Course
Park
Cemetery
Hospital
Station
Lake
Beach
Palm Beach
AREA MAP
PALM BEACH
N
LEGEND
Mile Posts
Riviera Beach Lateral Corridor
1/2 Mile Vicinity
REFERENCES
1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
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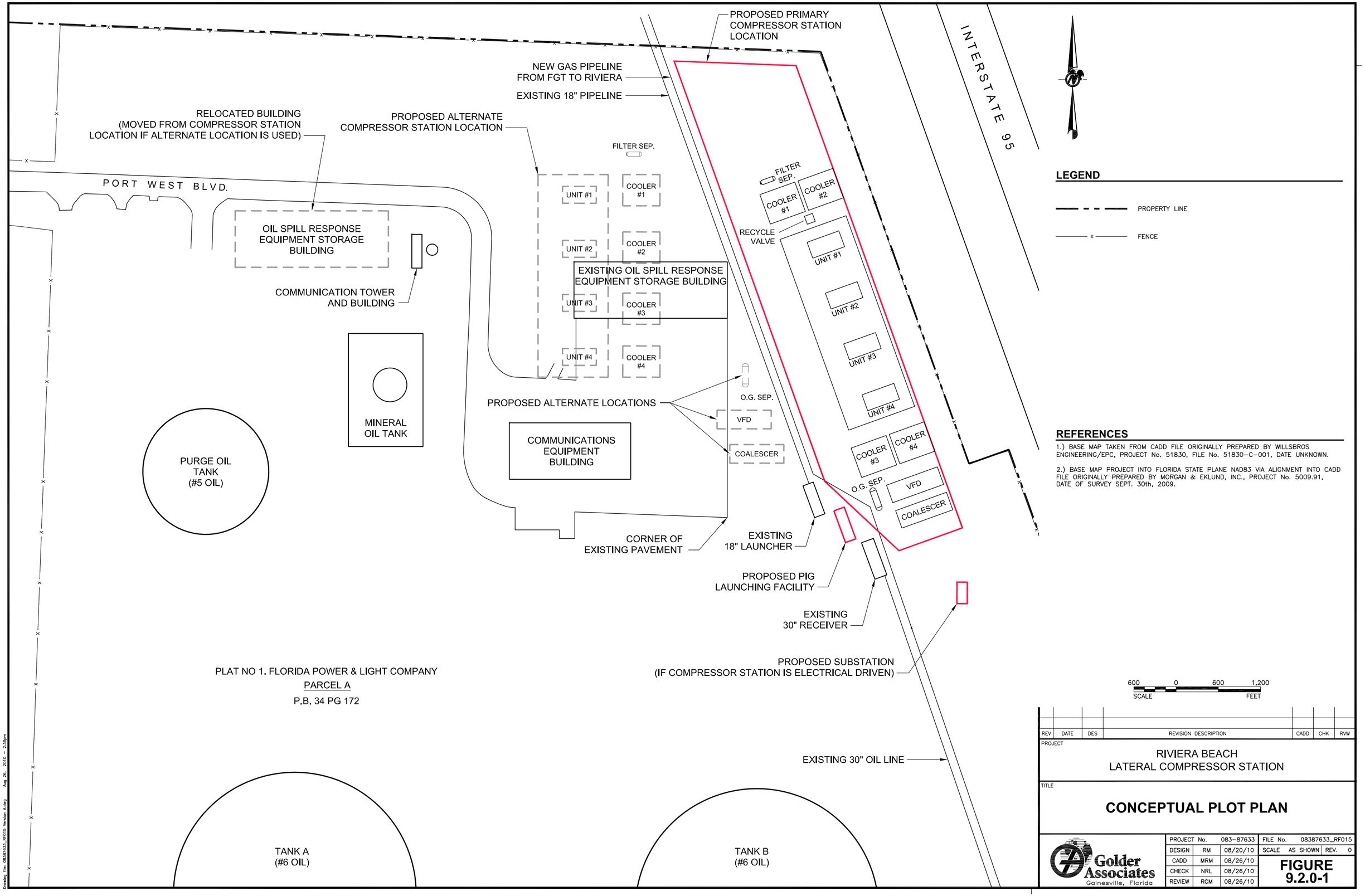
PROJECT
RIVIERA BEACH LATERAL CORRIDOR
TITLE
AERIAL LOCATION MAP
Golder Associates
Gainesville, Florida
PROJECT No. 083-87633
FILE No. 08387633_RF_B002
DESIGN RCM 6/22/2010
SCALE: AS SHOWN
REV. 0
GIS NRL 8/18/2010
CHECK KJK 8/18/2010
REVIEW RCM 8/26/2010
FIGURE 9.0.0-2
Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_ModificationIB_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B002_AerialLocationMap.mxd / Modified 8/18/2010 1:25:16 PM / Plotted 8/26/2010 11:09:37 AM by rlamar



LEGEND

PROPERTY LINE

FENCE

REFERENCES

1.) BASE MAP TAKEN FROM CADD FILE ORIGINALLY PREPARED BY WILLSBROS ENGINEERING/EPC, PROJECT No. 51830, FILE No. 51830-C-001, DATE UNKNOWN.

2.) BASE MAP PROJECT INTO FLORIDA STATE PLANE NAD83 VIA ALIGNMENT INTO CADD FILE ORIGINALLY PREPARED BY MORGAN & EKLUND, INC., PROJECT No. 5009.91, DATE OF SURVEY SEPT. 30th, 2009.

600 0 600 1,200
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RIVIERA BEACH
LATERAL COMPRESSOR STATION

TITLE

CONCEPTUAL PLOT PLAN

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF015	
DESIGN	RM	08/20/10	SCALE	AS SHOWN	REV. 0
CADD	MRM	08/26/10			
CHECK	NRL	08/26/10			
REVIEW	RCM	08/26/10			

FIGURE 9.2.0-1

Drawing file: 08387633_RF015 Version A.dwg Aug 26, 2010 - 2:38pm

Typical Maintained Permanent Right-of-Way and Aboveground Marker

Typical Maintained Permanent Right-of-Way and Mainline Block Valve

Pig Launching / Receiving Facility

SOURCE: Ecology and Environment, Inc. 2009

Definitions:

Pig Launching / Receiving Facilities - Pigs are internal devices that can be moved (pushed under pressure) through the pipeline during testing, maintenance, or inspection. These facilities are areas where the pig maybe deployed or retrieved during pipeline integrity inspections.

Mainline Block Valve - This is a valve that can isolate portions of the pipeline.

FIGURE 9.2.0-2
TYPICAL POST-CONSTRUCTION RIGHT-OF-WAY,
MAINLINE BLOCK VALVE, AND PIG LAUNCHING FACILITY

July 6, 2009

FPL

Map Document: G:\PROJECT\SFPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B003_GovJur.mxd / Modified 8/26/2010 11:03:23 AM / Plotted 8/26/2010 11:10:06 AM by rlamar

0 MP
1 MP
2 MP
3 MP
4 MP
5 MP
5.8 MP

Winding Waters Natural Area

45th Street Terminal

PALM BEACH GARDENS
LAKE PARK
RIVIERA BEACH
MANGONIA PARK
LAKE WORTH LAGOON
Riviera Beach
West Palm Beach
Palm Beach
Peanut Island Park
Royal Palm Memorial Garden Cemetery
Columbia Hospital
Tri-Rail-Mangonia Park Station

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- Seagrass
- County Parks
- Conservation Lands
- Strategic Habitat Conservation Areas

Municipalities

- Lake Park
- Mangonia Park
- Palm Beach
- Palm Beach Gardens
- Riviera Beach
- West Palm Beach

REFERENCES

1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
4. County Parks,Palm Beach County, 2009.
5. Conservation Lands, FDEP, 2010.
6. Strategic Habitat Conservation Areas, FNAI, 2008.

2,000 1,000 0 2,000 Feet

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

GOVERNMENTAL JURISDICTIONS

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B003	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/26/2010			
CHECK	KJK	8/18/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.6-1

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B004_FLU.mxd / Modified 8/18/2010 1:25:59 PM / Plotted 8/26/2010 11:10:35 AM by rlamar

PALM BEACH GARDENS
PALM BEACH COUNTY
LAKE PARK
RIVIERA BEACH
PALM BEACH COUNTY
Intracoastal Waterway
Lake Worth Lagoon
PALM BEACH SHORES
PALM BEACH COUNTY
Florida's Turnpike
WEST PALM BEACH
RIVIERA BEACH
MANGONIA PARK
PALM BEACH
WEST PALM BEACH
95
0 MP
1 MP
2 MP
3 MP
4 MP
5 MP
5.8 MP
N

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity

City of Palm Beach Gardens
- Commercial
- Residential Low

City of Riviera Beach
- Commercial
- Community Facility
- General Mixed Use
- High Density Multiple Family Residential up to 20 du per acre
- Industrial
- Low Density Multiple Family Residential up to 10 du per acre
- Medium Density Multiple Family Residential up to 15 du per acre
- Port
- Recreational
- Single Family Residential up to 6 du per acre
- Utilities

Palm Beach County
- Industrial
- Medium Residential 5 (MR-5)
- Parks and Recreation (Park)
- Spoil
- Utilities and Transportation

Town of Mangonia Park
- Commercial
- Commercial Flex
- Industrial
- Multi Family-Residential High
- Municipal
- ROW
- Recreation and Open Space
- Single Family-Residential Low
- Utility
- Water

City of West Palm Beach
- Commercial
- Community Service
- Conservation
- Industrial
- Mixed Use
- Multifamily Residential
- Planned Community
- Single Family Residential
- Special Impact Zone/Commercial
- Special Impact Zone/Community Service
- Special Impact Zone/Industrial

REFERENCES

1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
4. Future Land Use, Town of Mangonia Park, 2010, City of Riviera Beach, 2008, City of Palm Beach Gardens, 2010, Palm Beach County, 2010, City of West Palm Beach, 2010.

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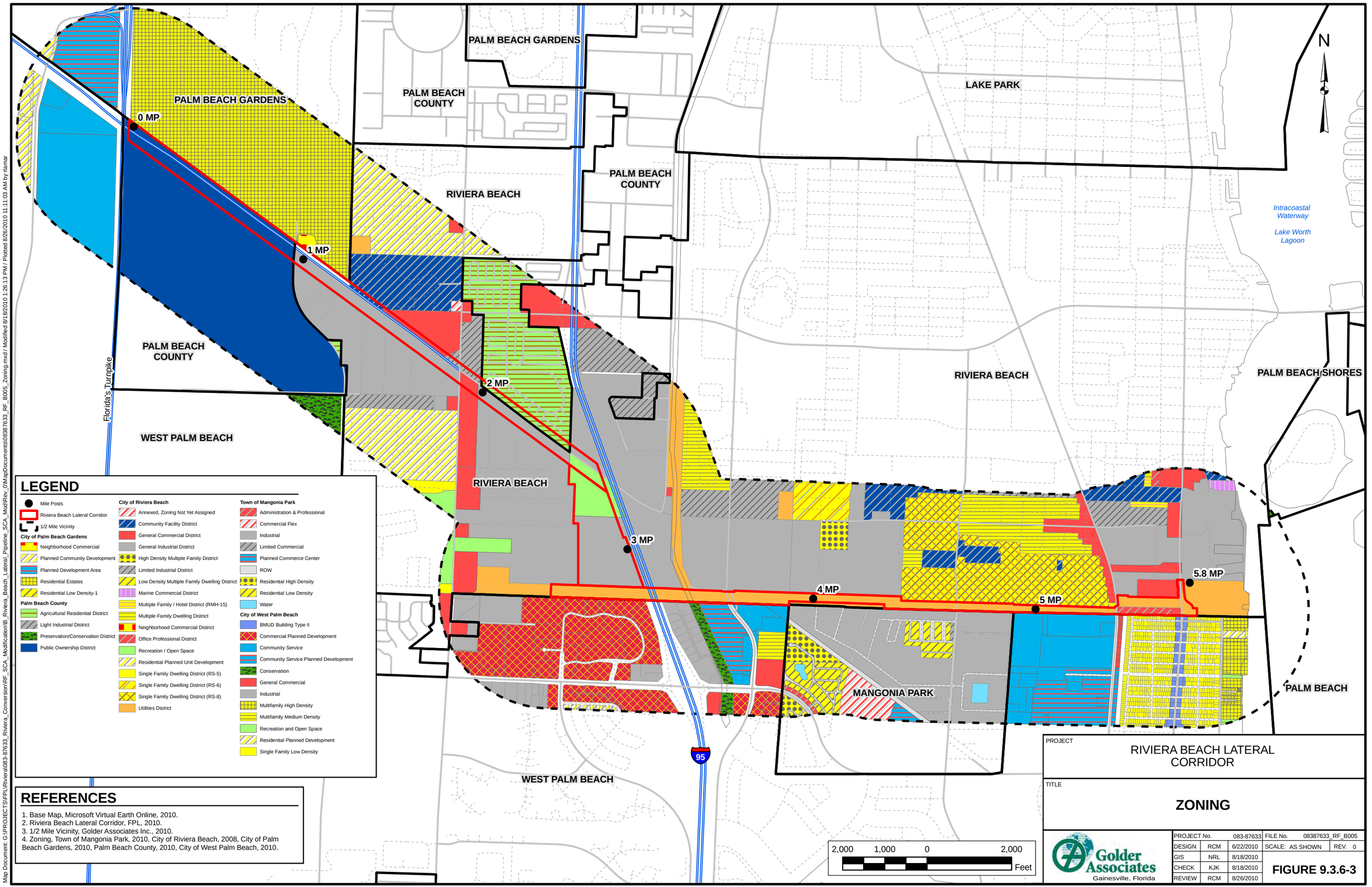
PROJECT
RIVIERA BEACH LATERAL CORRIDOR

TITLE
FUTURE LAND USE

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B004	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	KJK	8/18/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.6-2



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity

City of Palm Beach Gardens
- Neighborhood Commercial
- Planned Community Development
- Planned Development Area
- Residential Estates
- Residential Low Density-1

Palm Beach County
- Agricultural Residential District
- Light Industrial District
- Preservation/Conservation District
- Public Ownership District

City of Riviera Beach
- Annexed, Zoning Not Yet Assigned
- Community Facility District
- General Commercial District
- General Industrial District
- High Density Multiple Family District
- Limited Industrial District
- Low Density Multiple Family Dwelling District
- Marine Commercial District
- Multiple Family / Hotel District (RMH-15)
- Multiple Family Dwelling District
- Neighborhood Commercial District
- Office Professional District
- Recreation / Open Space
- Residential Planned Unit Development
- Single Family Dwelling District (RS-5)
- Single Family Dwelling District (RS-6)
- Single Family Dwelling District (RS-8)
- Utilities District

Town of Mangonia Park
- Administration & Professional
- Commercial Flex
- Industrial
- Limited Commercial
- Planned Commerce Center
- ROW
- Residential High Density
- Residential Low Density
- Water

City of West Palm Beach
- BMUD Building Type II
- Commercial Planned Development
- Community Service
- Community Service Planned Development
- Conservation
- General Commercial
- Industrial
- Multifamily High Density
- Multifamily Medium Density
- Recreation and Open Space
- Residential Planned Development
- Single Family Low Density

REFERENCES

1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
4. Zoning, Town of Mangonia Park, 2010, City of Riviera Beach, 2008, City of Palm Beach Gardens, 2010, Palm Beach County, 2010, City of West Palm Beach, 2010.

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

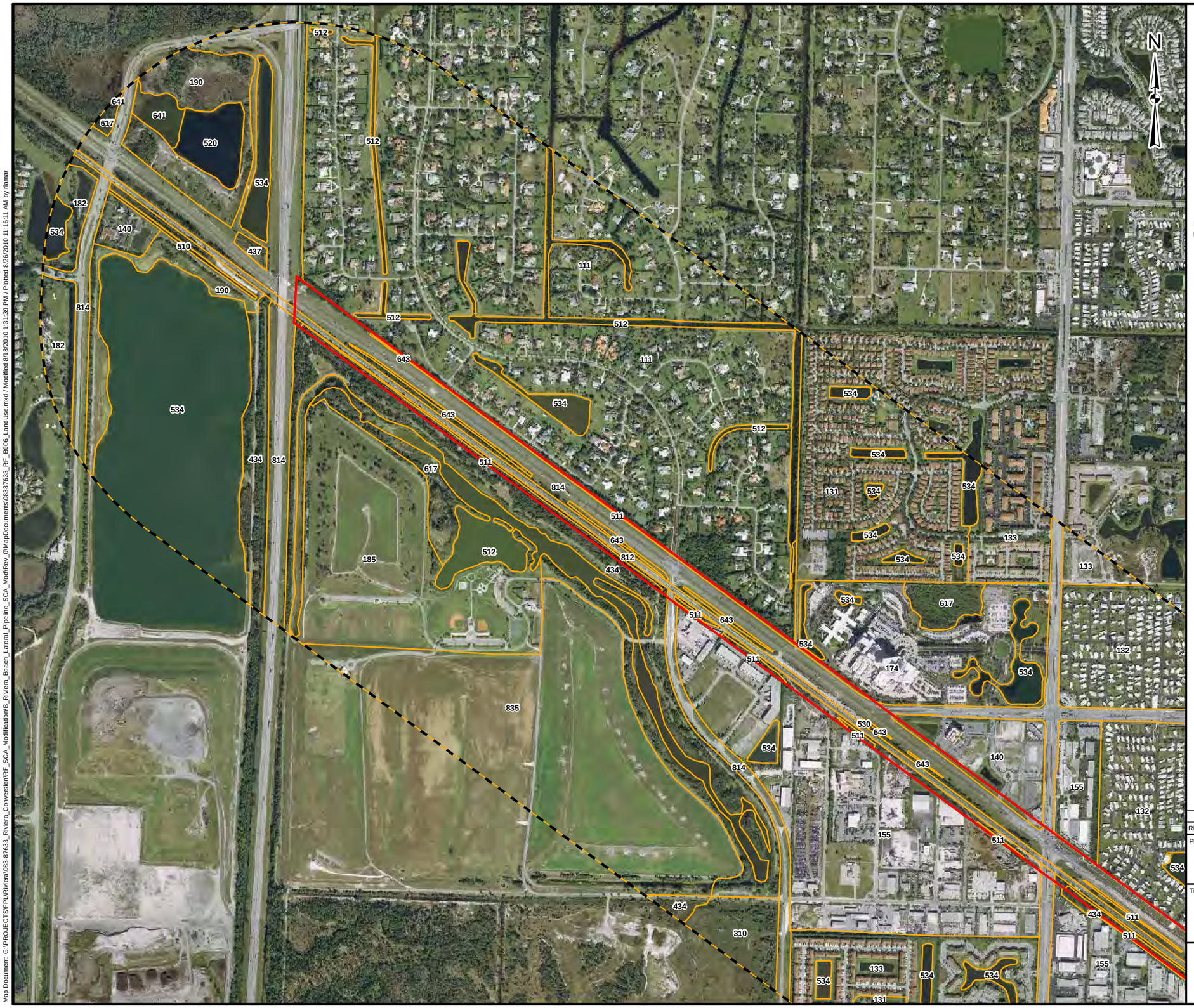
ZONING

Golder Associates
Gainesville, Florida

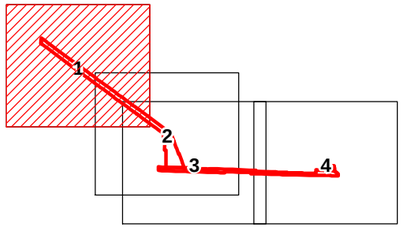
PROJECT No.		083-87633	FILE No.	08387633_RF_B005	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	KJK	8/18/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.6-3

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B005_Zoning.mxd / Modified 8/18/2010 1:26:13 PM / Plotted 8/26/2010 11:11:03 AM by rlamar



INDICATOR MAP



LEGEND

- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- LandUse

Land Use Classification

111 - Fixed Single Family Units
121 - Fixed Single Family Units
131 - Fixed Single Family Units <Six or more dwelling units per acre>
132 - Mobile Home Units <Six or more dwelling units per acre>
133 - Multiple Dwelling Units, Low Rise <Two stories or less>
134 - Multiple Dwelling Units, High Rise <Three stories or more>
140 - Commercial and Services
141 - Retail Sales and Services
142 - Wholesale Sales and Services <Excluding warehouses associated with industrial use>
146 - Oil and Gas Storage <Except those areas associated with industrial use or manufacturing>
148 - Cemeteries
154 - Oil and Gas Processing
155 - Other Light Industrial
156 - Other Heavy Industrial
170 - Institutional
171 - Educational Facilities
174 - Medical and Health Care
182 - Golf Courses
185 - Parks and Zoos
190 - Open Land
310 - Herbaceous (Dry Prairie)
320 - Shrub and Brushland
411 - Pine Flatwoods
434 - Hardwood - Coniferous Mixed
437 - Australian Pines
510 - Streams and Waterways
511 - Ditches
512 - Canals
520 - Lakes
530 - Reservoirs
534 - Reservoirs less than 10 acres (4 hectares) which are dominant features
617 - Mixed Wetland Hardwoods
631 - Wetland Shrub
641 - Freshwater Marshes
643 - Wet Prairies
812 - Railroads
814 - Roads and Highways
831 - Electric Power Facilities
835 - Solid Waste Disposal

REFERENCES

1. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
2. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
3. Land Use/ Vegetation, SFWMD/Golder Associates Inc., 2004/2010.

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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

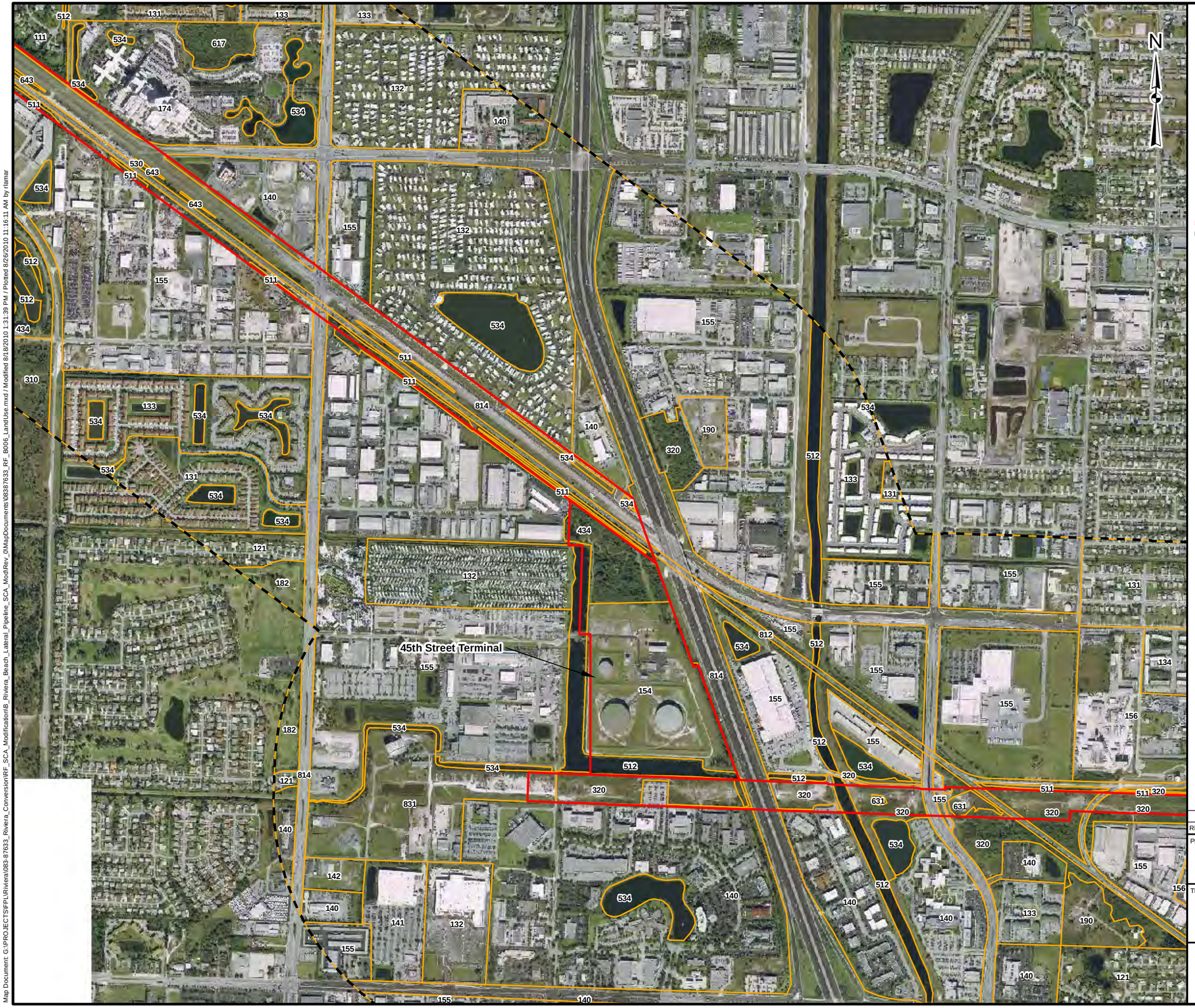
TITLE

LAND USE/ VEGETATION

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF_B006	
DESIGN	CMC	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010	**FIGURE 9.3.7-1**		
REVIEW	RCM	8/26/2010	Sheet1 of 4		

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B006_LandUse.mxd / Modified 8/18/2010 1:31:39 PM / Plotted 8/26/2010 11:16:11 AM by rlamar



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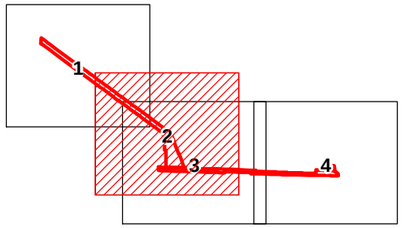

LEGEND

- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- LandUse

Land Use Classification

- 111 - Fixed Single Family Units
- 121 - Fixed Single Family Units
- 131 - Fixed Single Family Units <Six or more dwelling units per acre>
- 132 - Mobile Home Units <Six or more dwelling units per acre>
- 133 - Multiple Dwelling Units, Low Rise <Two stories or less>
- 134 - Multiple Dwelling Units, High Rise <Three stories or more>
- 140 - Commercial and Services
- 141 - Retail Sales and Services
- 142 - Wholesale Sales and Services <Excluding warehouses associated with industrial use>
- 146 - Oil and Gas Storage <Except those areas associated with industrial use or manufacturing>
- 148 - Cemeteries
- 154 - Oil and Gas Processing
- 155 - Other Light Industrial
- 156 - Other Heavy Industrial
- 170 - Institutional
- 171 - Educational Facilities
- 174 - Medical and Health Care
- 182 - Golf Courses
- 185 - Parks and Zoos
- 190 - Open Land
- 310 - Herbaceous (Dry Prairie)
- 320 - Shrub and Brushland
- 411 - Pine Flatwoods
- 434 - Hardwood - Coniferous Mixed
- 437 - Australian Pines
- 510 - Streams and Waterways
- 511 - Ditches
- 512 - Canals
- 520 - Lakes
- 530 - Reservoirs
- 534 - Reservoirs less than 10 acres (4 hectares) which are dominant features
- 617 - Mixed Wetland Hardwoods
- 631 - Wetland Shrub
- 641 - Freshwater Marshes
- 643 - Wet Prairies
- 812 - Railroads
- 814 - Roads and Highways
- 831 - Electric Power Facilities
- 835 - Solid Waste Disposal

REFERENCES

1. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
2. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
3. Land Use/ Vegetation, SFWMD/Golder Associates Inc., 2004/2010.

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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

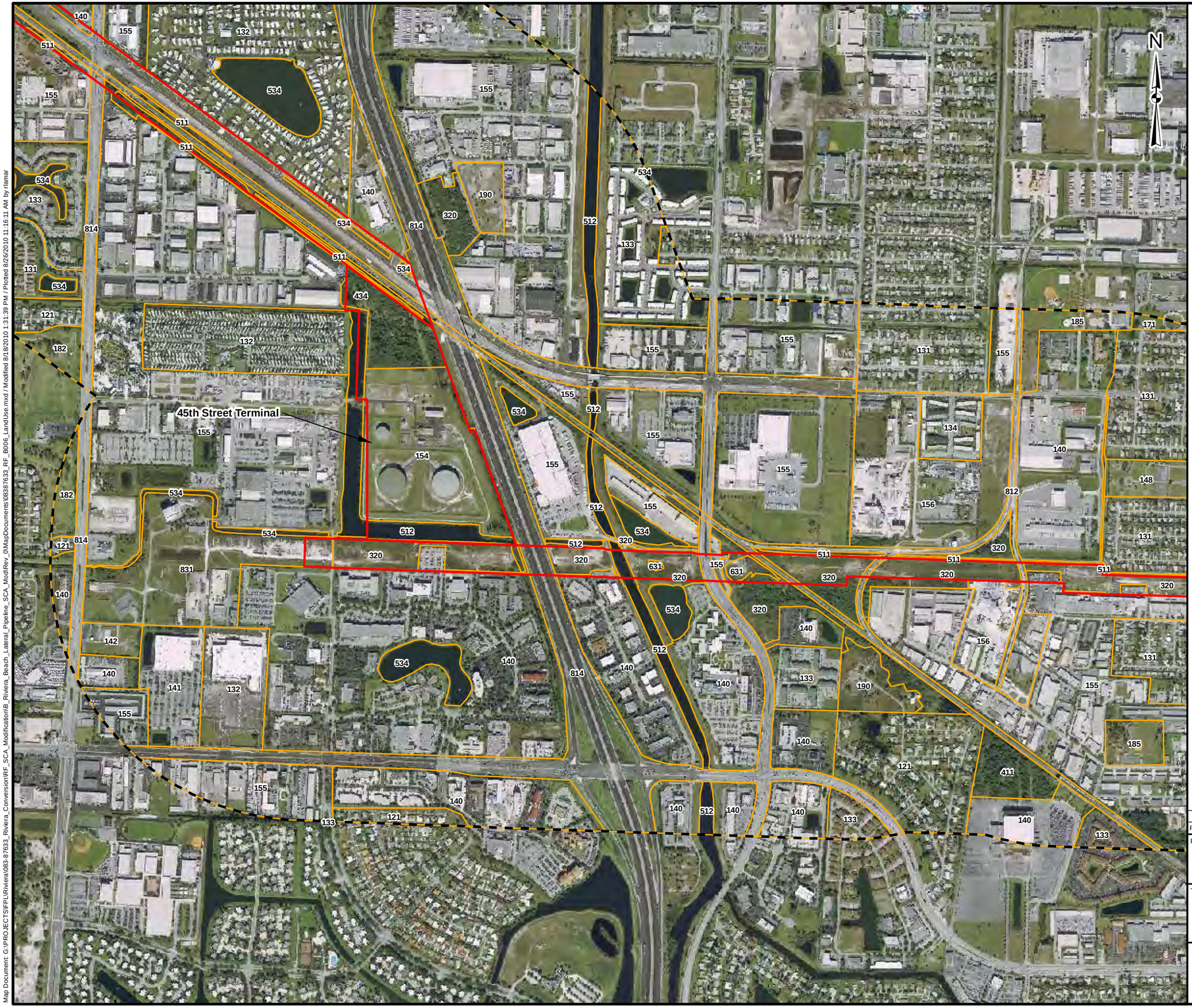
LAND USE/ VEGETATION

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF_B006	
DESIGN	CMC	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.7-1
Sheet2 of 4

Map Document: G:\PROJECTS\FPLRiviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_MxdRev_0\MapDocuments\08387633_RF_B006_LandUse.mxd / Modified 8/18/2010 1:31:39 PM / Plotted 8/26/2010 11:16:11 AM by rlamar



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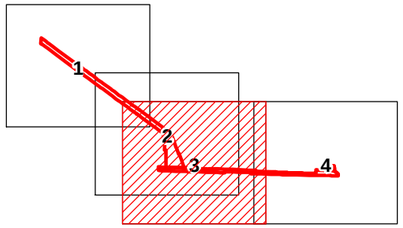

LEGEND

- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- LandUse

Land Use Classification

- 111 - Fixed Single Family Units
- 121 - Fixed Single Family Units
- 131 - Fixed Single Family Units <Six or more dwelling units per acre>
- 132 - Mobile Home Units <Six or more dwelling units per acre>
- 133 - Multiple Dwelling Units, Low Rise <Two stories or less>
- 134 - Multiple Dwelling Units, High Rise <Three stories or more>
- 140 - Commercial and Services
- 141 - Retail Sales and Services
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- 146 - Oil and Gas Storage <Except those areas associated with industrial use or manufacturing>
- 148 - Cemeteries
- 154 - Oil and Gas Processing
- 155 - Other Light Industrial
- 156 - Other Heavy Industrial
- 170 - Institutional
- 171 - Educational Facilities
- 174 - Medical and Health Care
- 182 - Golf Courses
- 185 - Parks and Zoos
- 190 - Open Land
- 310 - Herbaceous (Dry Prairie)
- 320 - Shrub and Brushland
- 411 - Pine Flatwoods
- 434 - Hardwood - Coniferous Mixed
- 437 - Australian Pines
- 510 - Streams and Waterways
- 511 - Ditches
- 512 - Canals
- 520 - Lakes
- 530 - Reservoirs
- 534 - Reservoirs less than 10 acres (4 hectares) which are dominant features
- 617 - Mixed Wetland Hardwoods
- 631 - Wetland Shrub
- 641 - Freshwater Marshes
- 643 - Wet Prairies
- 812 - Railroads
- 814 - Roads and Highways
- 831 - Electric Power Facilities
- 835 - Solid Waste Disposal

REFERENCES

1. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
2. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
3. Land Use/ Vegetation, SFWMD/Golder Associates Inc., 2004/2010.

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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

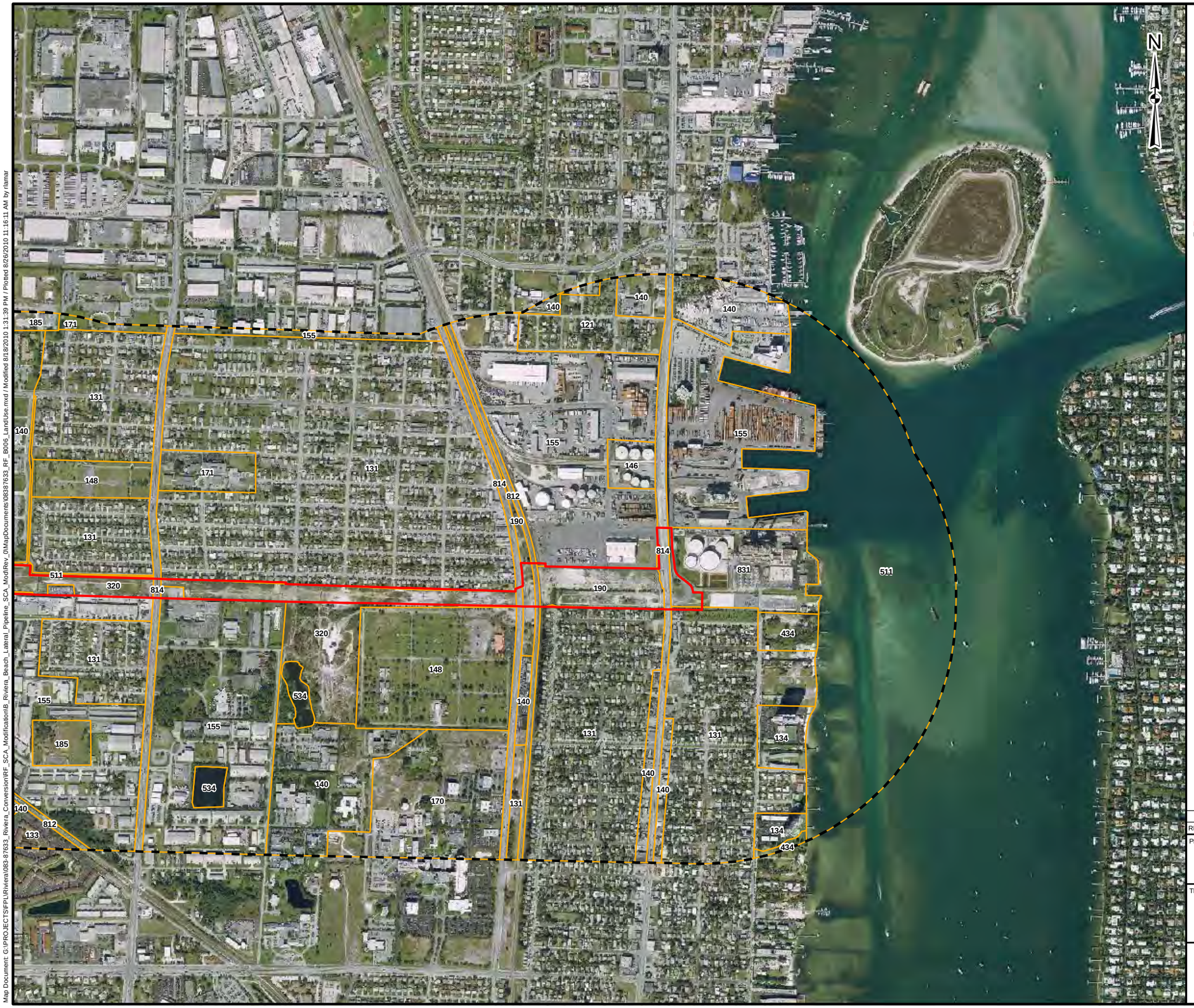
LAND USE/ VEGETATION

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF_B006	
DESIGN	CMC	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.7-1
Sheet3 of 4

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_Modification\B_Riviera_Beach_Lateral_Pipeline_SCA_Modif\Rev_0\MapDocuments\08387633_RF_B006_LandUse.mxd / Modified 8/18/2010 1:31:39 PM / Plotted 8/26/2010 11:16:11 AM by rlamar



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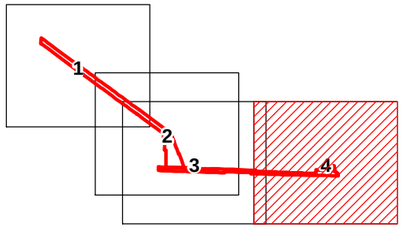

LEGEND

- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- LandUse

Land Use Classification

- 111 - Fixed Single Family Units
- 121 - Fixed Single Family Units
- 131 - Fixed Single Family Units <Six or more dwelling units per acre>
- 132 - Mobile Home Units <Six or more dwelling units per acre>
- 133 - Multiple Dwelling Units, Low Rise <Two stories or less>
- 134 - Multiple Dwelling Units, High Rise <Three stories or more>
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- 155 - Other Light Industrial
- 156 - Other Heavy Industrial
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- 174 - Medical and Health Care
- 182 - Golf Courses
- 185 - Parks and Zoos
- 190 - Open Land
- 310 - Herbaceous (Dry Prairie)
- 320 - Shrub and Brushland
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- 641 - Freshwater Marshes
- 643 - Wet Prairies
- 812 - Railroads
- 814 - Roads and Highways
- 831 - Electric Power Facilities
- 835 - Solid Waste Disposal

REFERENCES

1. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
2. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
3. Land Use/ Vegetation, SFWMD/Golder Associates Inc., 2004/2010.

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Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

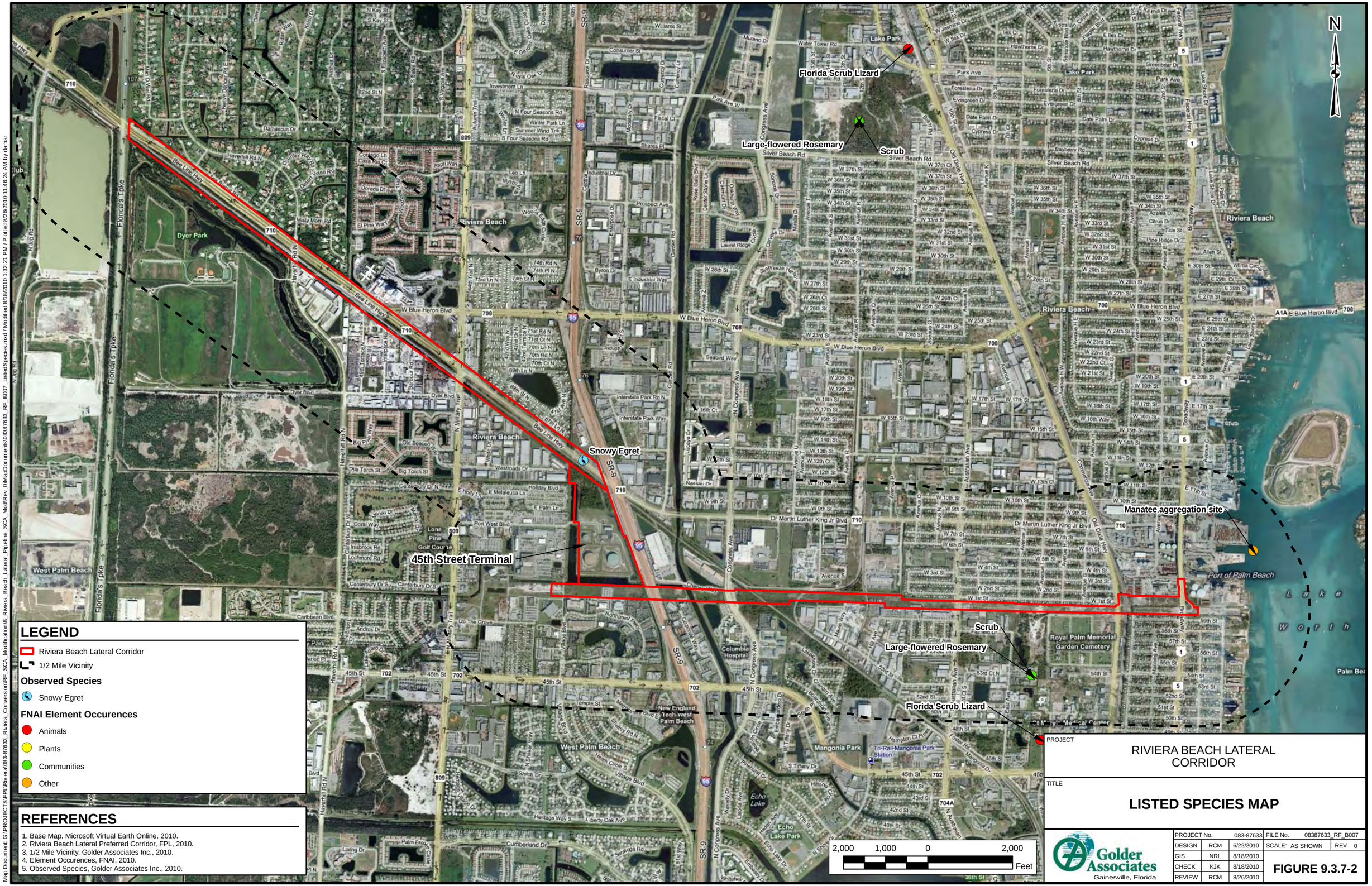
TITLE

LAND USE/ VEGETATION

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF_B006
DESIGN	CMC	7/14/2010	SCALE: AS SHOWN	REV. 0
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010	**FIGURE 9.3.7-1**	
REVIEW	RCM	8/26/2010	Sheet4 of 4	

Map Document: G:\PROJECTS\PLI\Riviera\083-87633_Riviera_Conversion\RF_SCA_ModificationIB_Riviera_Beach_Lateral_PipeIne_SCA_ModRev_0\MapDocuments\08387633_RF_B006_LandUse.mxd / Modified 8/18/2010 1:31:39 PM / Plotted 8/26/2010 11:16:11 AM by rlamar



LEGEND

- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity

Observed Species

- Snowy Egret

FNAI Element Occurences

- Animals
- Plants
- Communities
- Other

REFERENCES

1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
4. Element Occurences, FNAI, 2010.
5. Observed Species, Golder Associates Inc., 2010.

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

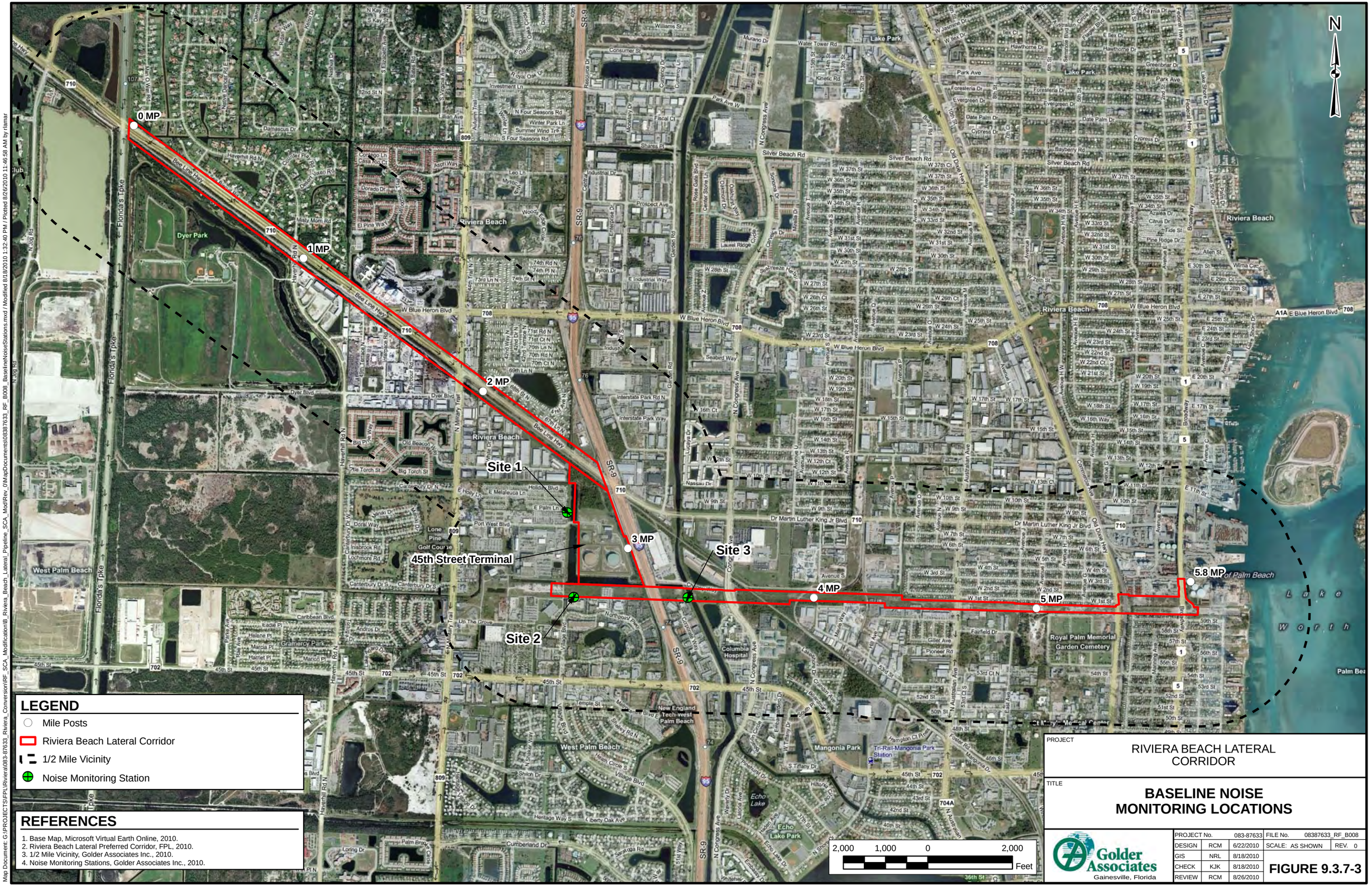
LISTED SPECIES MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B007	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	KJK	8/18/2010			
REVIEW	RCM	8/26/2010			

FIGURE 9.3.7-2

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_ModificationIB_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B007_ListedSpecies.mxd / Modified 8/18/2010 1:32:21 PM / Plotted 8/26/2010 11:46:24 AM by rlamar



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- 1/2 Mile Vicinity
- Noise Monitoring Station

REFERENCES

1. Base Map, Microsoft Virtual Earth Online, 2010.
2. Riviera Beach Lateral Preferred Corridor, FPL, 2010.
3. 1/2 Mile Vicinity, Golder Associates Inc., 2010.
4. Noise Monitoring Stations, Golder Associates Inc., 2010.

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

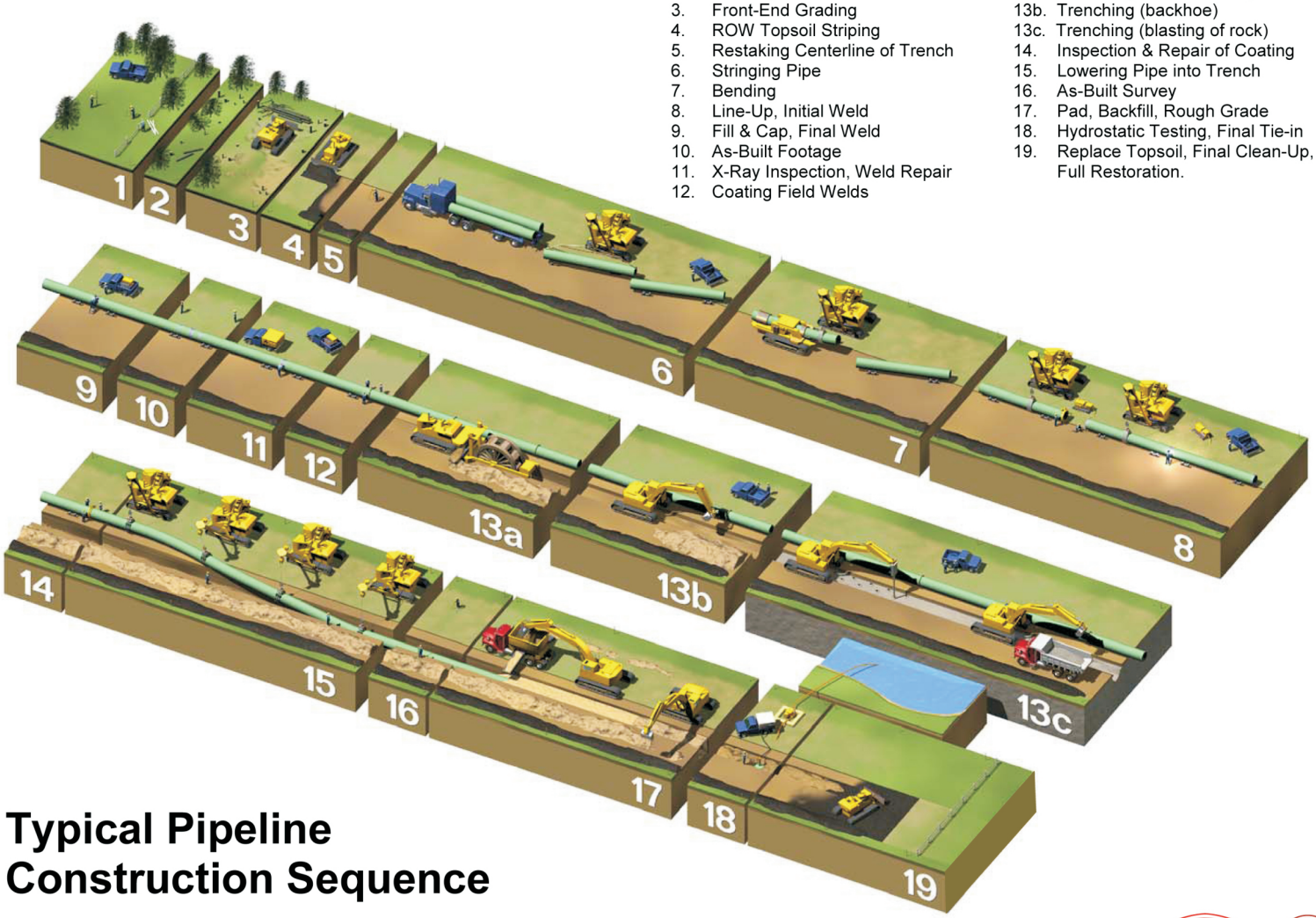
TITLE

BASELINE NOISE MONITORING LOCATIONS

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B008	
DESIGN	RCM	6/22/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	KJK	8/18/2010	**FIGURE 9.3.7-3**		
REVIEW	RCM	8/26/2010			

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_ModificationIB_Riviera_Beach_Lateral_Pipeline_SCA_Mod\Rev_0\MapDocuments\08387633_RF_B008_BaselineNoiseStations.mxd / Modified 8/18/2010 1:32:40 PM / Plotted 8/26/2010 11:46:58 AM by rlamar



Typical Pipeline Construction Sequence

M:\Clients\V-X\WEI\FPL_ArcGIS\2008\05\ConstructionSequence_ConstructionSequence.mxd

© Natural Resource Group, LLC, 2007

SOURCE: Willbros and Natural Resource Group, 2007

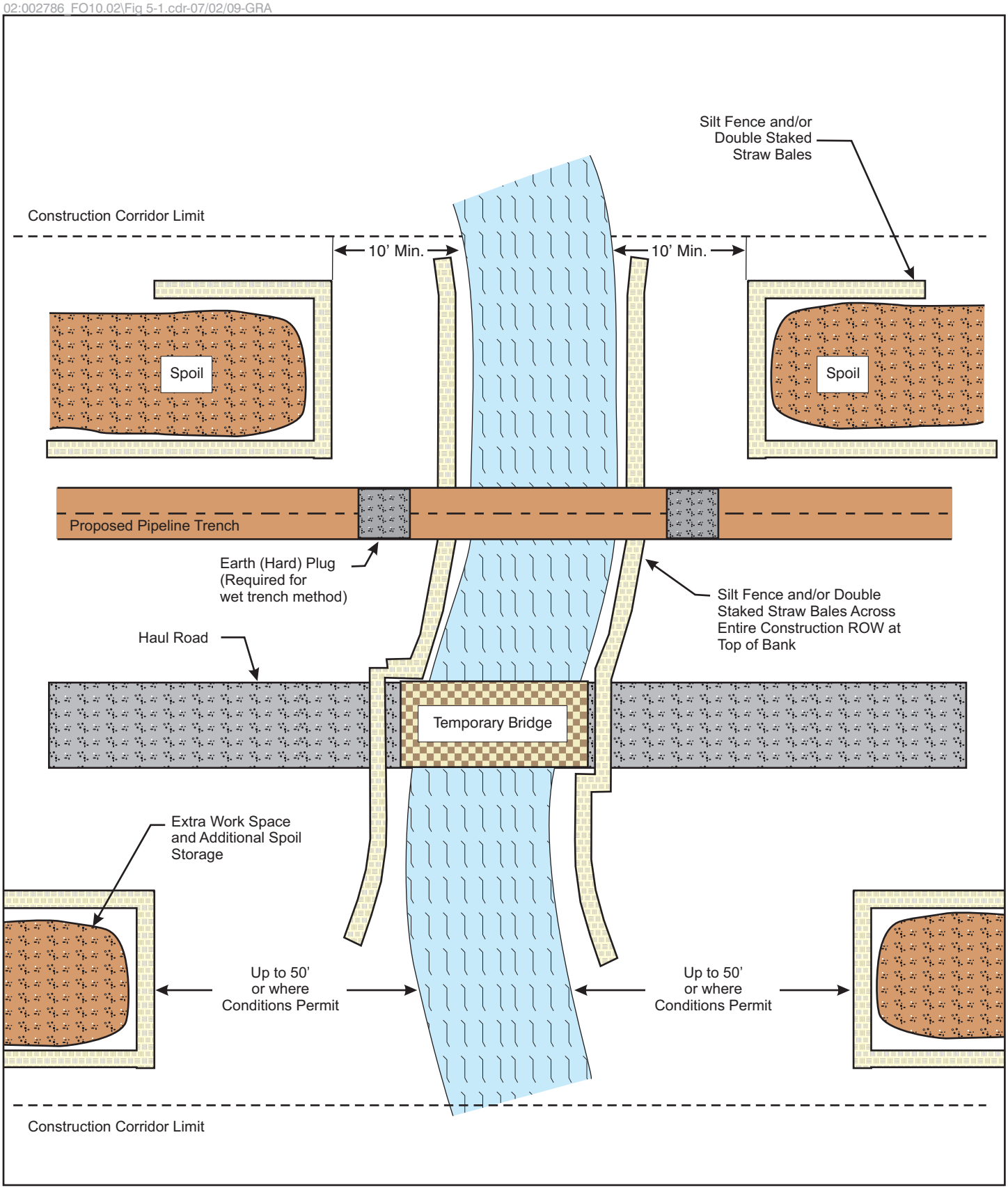
FIGURE 9.4.1-1

TYPICAL PIPELINE CONSTRUCTION SEQUENCE
RIVIERA BEACH LATERAL

July 6, 2009

FPL

Y:/Projects/08387633/SCA Mod 2010/FIGURE 9.4.1-1.pdf

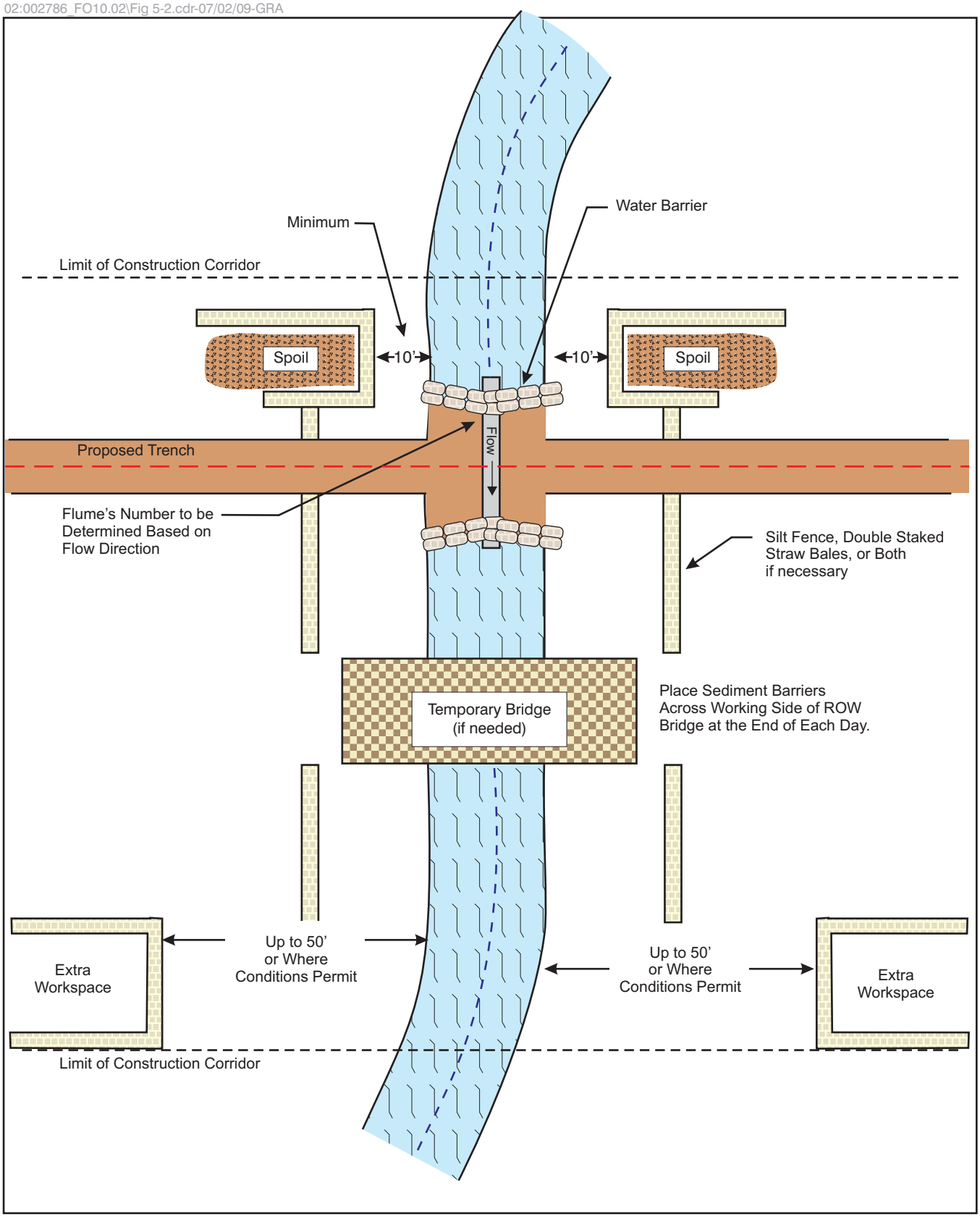


SOURCE: Willbros and Natural Resource Group, 2008

FIGURE 9.4.1-2
WET CROSSING: OPEN CUT METHOD
RIVIERA BEACH LATERAL

July 6, 2009

FPL

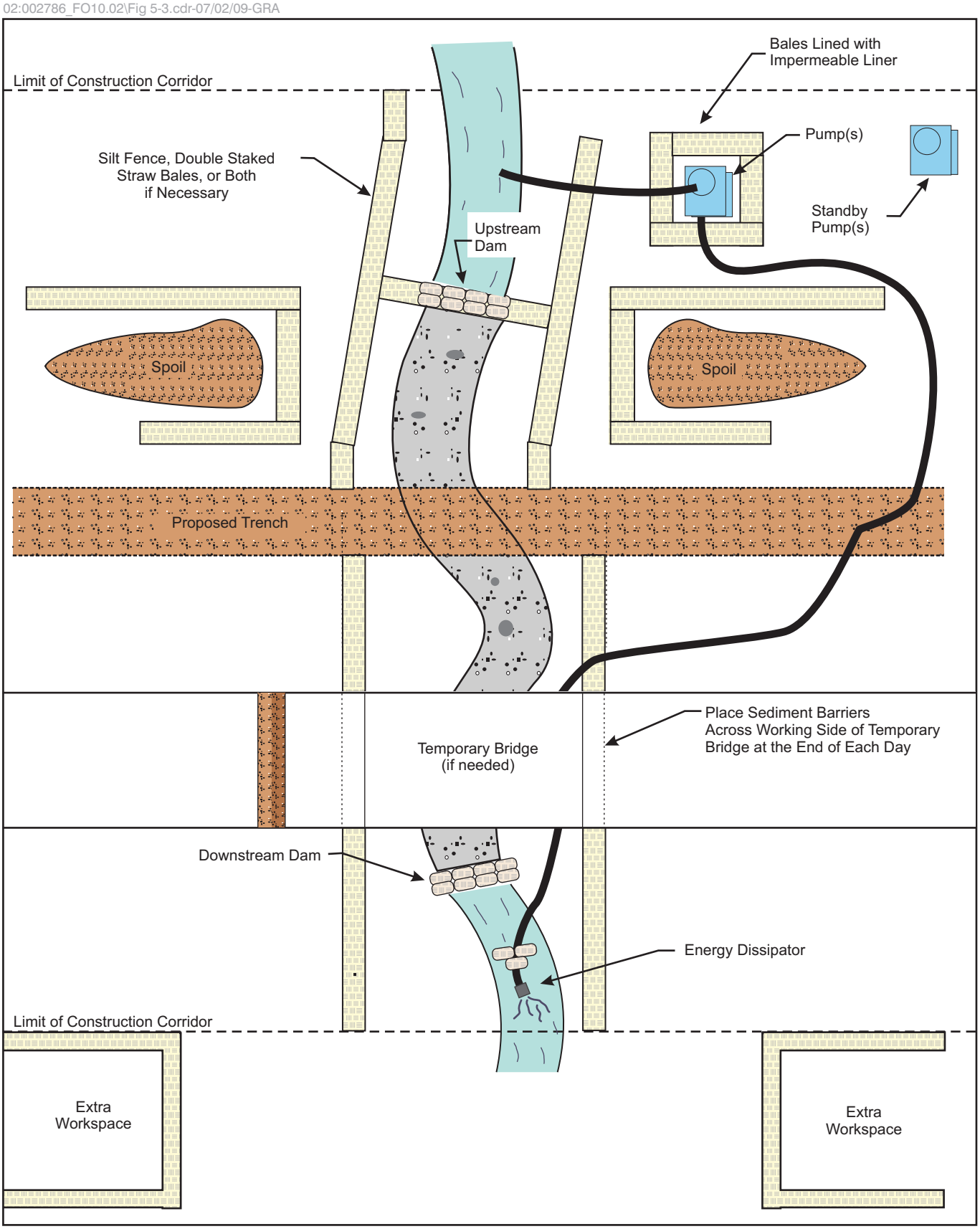


SOURCE: Willbros and Natural Resource Group, 2008

FIGURE 9.4.1-3
DRY CROSSING: FLUME AND PIPE METHOD
RIVIERA BEACH LATERAL

July 6, 2009

FPL

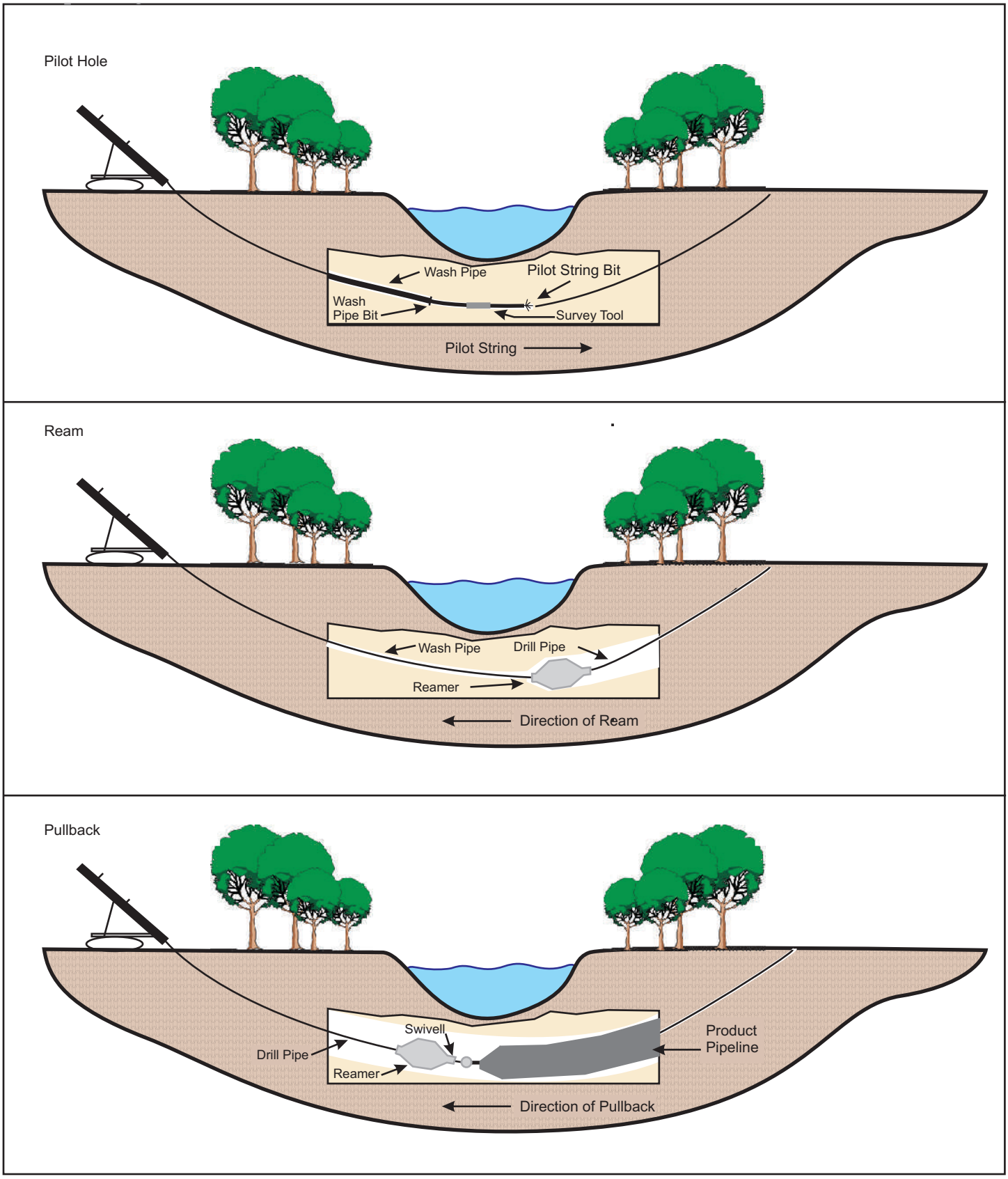


SOURCE: Willbros and Natural Resource Group, 2008

FIGURE 9.4.1-4
DRY CROSSING: DAM AND PUMP METHOD
RIVIERA BEACH LATERAL

July 6, 2009

FPL



SOURCE: Willbros and Natural Resource Group, 2008

FIGURE 9.4.1-5

DRY CROSSING: HORIZONTAL DIRECTIONAL DRILL (HDD) METHOD
RIVIERA BEACH LATERAL

July 6, 2009

FPL

Y:/Projects/08387633/SCA Mod 2010/FIGURE 9.4.1-2.pdf

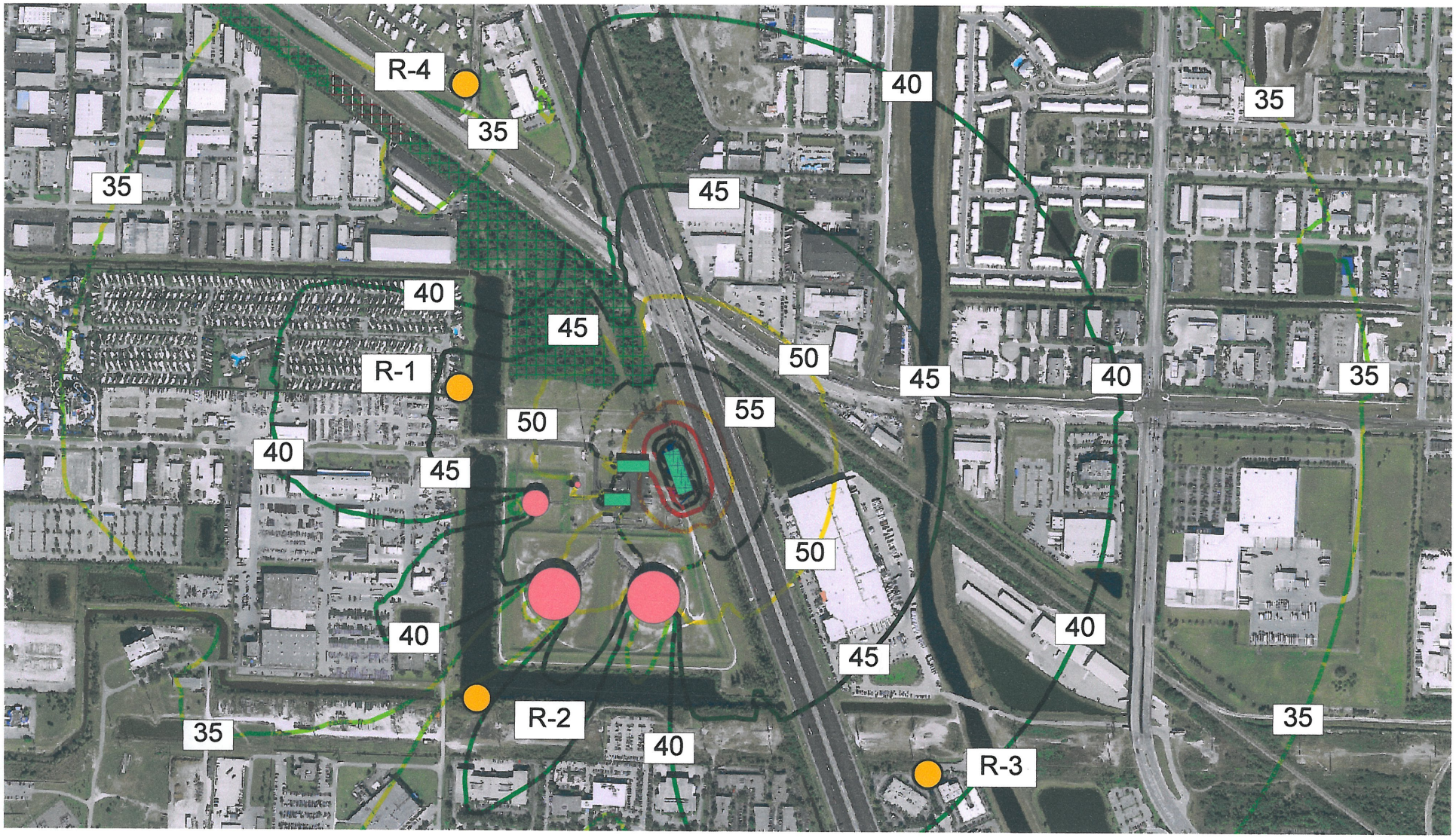


Figure 9.5.5-1

Predicted Noise Levels (dBA) for the Natural Gas Compressor Station Only – Primary Location

Source: Golder, 2010.

LEGEND:

- R-1 through R-3 = Monitoring Sites 1 through 3
- R4 = Receptor Location
- Buildings/Structures
- Storage Tanks

FPL.

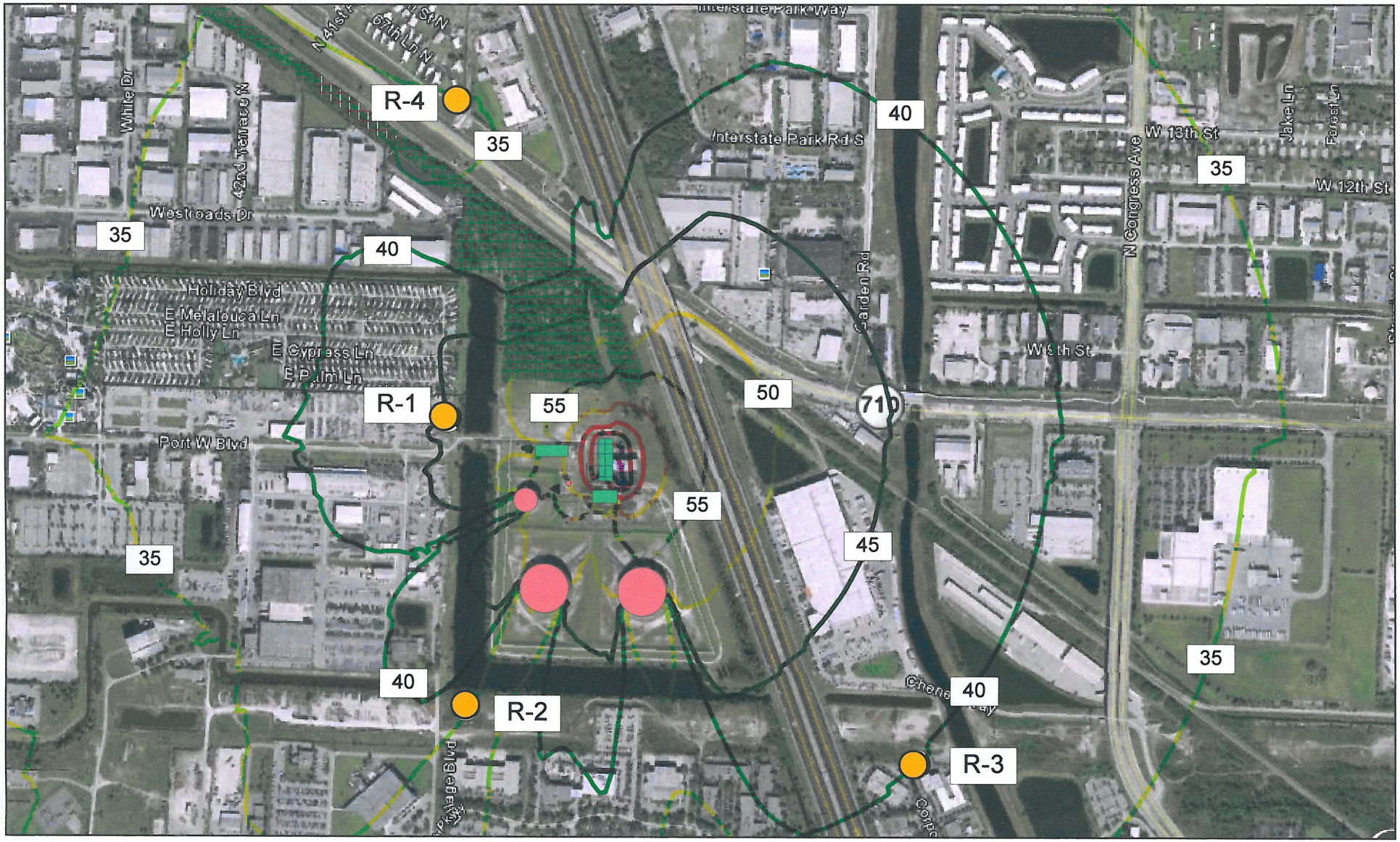


Figure 9.5.5-2

Predicted Noise Levels (dBA) for the Natural Gas Compressor Station Only – Alternate Location

Source: Golder, 2010.

LEGEND:

- R-1 through R-3 = Monitoring Sites 1 through 3
- R4 = Receptor Location
- Buildings/Structures
- Storage Tanks

FPL

APPENDIX A

AIR PERMIT APPLICATION AND EMISSION CALCULATIONS

Department of
Environmental Protection

Division of Air Resource Management

APPLICATION FOR AIR PERMIT - LONG FORM

I. APPLICATION INFORMATION

Air Construction Permit – Use this form to apply for an air construction permit:

- For any required purpose at a facility operating under a federally enforceable state air operation permit (FESOP) or Title V air operation permit;
- For a proposed project subject to prevention of significant deterioration (PSD) review, nonattainment new source review, or maximum achievable control technology (MACT);
- To assume a restriction on the potential emissions of one or more pollutants to escape a requirement such as PSD review, nonattainment new source review, MACT, or Title V; or
- To establish, revise, or renew a plantwide applicability limit (PAL).

Air Operation Permit – Use this form to apply for:

- An initial federally enforceable state air operation permit (FESOP); or
- An initial, revised, or renewal Title V air operation permit.

To ensure accuracy, please see form instructions.

Identification of Facility

1. Facility Owner/Company Name: **Florida Power & Light Company**	
2. Site Name: **Martin Oil Storage Facility and Physical Distribution Center**	
3. Facility Identification Number: **0990123**	
4. Facility Location... Street Address or Other Locator: **Soutwest corner of I-95 and SR 710** City: **Riviera Beach** County: **Palm Beach** Zip Code: **33407**	
5. Relocatable Facility? ☐ Yes ☒ No	6. Existing Title V Permitted Facility? ☐ Yes ☒ No

Application Contact

1. Application Contact Name: **Barbara Linkiewicz, Director of Environmental Licensing**
2. Application Contact Mailing Address... Organization/Firm: **Florida Power & Light Company** Street Address: **700 Universe Boulevard, P.O. Box 14000** City: **Juno Beach** State: **Florida** Zip Code: **33408**
3. Application Contact Telephone Numbers... Telephone: (**561**) **691-7518** ext. Fax: (**561**) **691-7070**
4. Application Contact E-mail Address: **Barbara.P.Linkiewicz@FPL.com**

Application Processing Information (DEP Use)

1. Date of Receipt of Application:	3. PSD Number (if applicable):
2. Project Number(s):	4. Siting Number (if applicable):

APPLICATION INFORMATION

Purpose of Application

This application for air permit is being submitted to obtain: (Check one)

Air Construction Permit

☒ Air construction permit.

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL).

☐ Air construction permit to establish, revise, or renew a plantwide applicability limit (PAL), and separate air construction permit to authorize construction or modification of one or more emissions units covered by the PAL.

Air Operation Permit

☐ Initial Title V air operation permit.

☐ Title V air operation permit revision.

☐ Title V air operation permit renewal.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is required.

☐ Initial federally enforceable state air operation permit (FESOP) where professional engineer (PE) certification is not required.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit (Concurrent Processing)

☐ Air construction permit and Title V permit revision, incorporating the proposed project.

☐ Air construction permit and Title V permit renewal, incorporating the proposed project.

Note: By checking one of the above two boxes, you, the applicant, are requesting concurrent processing pursuant to Rule 62-213.405, F.A.C. In such case, you must also check the following box:

☐ I hereby request that the department waive the processing time requirements of the air construction permit to accommodate the processing time frames of the Title V air operation permit.

Application Comment

Application to add a natural gas compressor station to the facility. The addition of this emission unit will not change the status of the facility as a synthetic, non-Title V source. This application also requests the deletion of Emission Unit No. 007, United Group Model W-3000-HT Wire Reclaimer as an emission unit of the facility. This emission has been removed.

APPLICATION INFORMATION

Scope of Application

Emissions Unit ID Number	Description of Emissions Unit	Air Permit Type	Air Permit Processing Fee
001	Fossil Fuel-Fired Steam Generating Unit (boiler) with a Design Heat Input of 125 MMBtu/hour	NA	
002	Fossil Fuel-Fired Steam Generating Unit (boiler) with a Design Heat Input of 125 MMBtu/hour	NA	
005	Fuel Storage Tanks	NA	
~~007~~	~~United Group Model W-3000-HT Wire Reclaim Furnace~~ (Removed)	~~NA~~	~~———~~
008 (requested)	Natural Gas Compressor Station	AC1C	4,500

Application Processing Fee

Check one: ☒ Attached - Amount: $ **4,500** ☐ Not Applicable

APPLICATION INFORMATION

Owner/Authorized Representative Statement

Complete if applying for an air construction permit or an initial FESOP.

1. Owner/Authorized Representative Name :
   Randall R. LaBauve, Vice President, Environmental Services
2. Owner/Authorized Representative Mailing Address...
   Organization/Firm: **Florida Power & Light Company**
   Street Address: **700 Universe Boulevard, P.O. Box 14000**
   City: **Juno Beach** State: **FL** Zip Code: **33408**
3. Owner/Authorized Representative Telephone Numbers...
   Telephone: **(561) 691-7001** ext. Fax: **(561) 691-7070**
4. Owner/Authorized Representative E-mail Address: **Randall_R_LaBauve@fpl.com**
5. Owner/Authorized Representative Statement:

   I, the undersigned, am the owner or authorized representative of the corporation, partnership, or other legal entity submitting this air permit application. To the best of my knowledge, the statements made in this application are true, accurate and complete, and any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department.

Signature 8/30/2010
Date

APPLICATION INFORMATION

Application Responsible Official Certification

Complete if applying for an initial, revised, or renewal Title V air operation permit or concurrent processing of an air construction permit and revised or renewal Title V air operation permit. If there are multiple responsible officials, the "application responsible official" need not be the "primary responsible official."

1. Application Responsible Official Name:

2. Application Responsible Official Qualification (Check one or more of the following options, as applicable):

- ☐ For a corporation, the president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit under Chapter 62-213, F.A.C.
- ☐ For a partnership or sole proprietorship, a general partner or the proprietor, respectively.
- ☐ For a municipality, county, state, federal, or other public agency, either a principal executive officer or ranking elected official.
- ☐ The designated representative at an Acid Rain source or CAIR source.

3. Application Responsible Official Mailing Address...
Organization/Firm:
Street Address:
City: State: Zip Code:

4. Application Responsible Official Telephone Numbers...
Telephone: ( ) ext. Fax: ( )

5. Application Responsible Official E-mail Address:

6. Application Responsible Official Certification:

I, the undersigned, am a responsible official of the Title V source addressed in this air permit application. I hereby certify, based on information and belief formed after reasonable inquiry, that the statements made in this application are true, accurate and complete and that, to the best of my knowledge, any estimates of emissions reported in this application are based upon reasonable techniques for calculating emissions. The air pollutant emissions units and air pollution control equipment described in this application will be operated and maintained so as to comply with all applicable standards for control of air pollutant emissions found in the statutes of the State of Florida and rules of the Department of Environmental Protection and revisions thereof and all other applicable requirements identified in this application to which the Title V source is subject. I understand that a permit, if granted by the department, cannot be transferred without authorization from the department, and I will promptly notify the department upon sale or legal transfer of the facility or any permitted emissions unit. Finally, I certify that the facility and each emissions unit are in compliance with all applicable requirements to which they are subject, except as identified in compliance plan(s) submitted with this application.

_____ _____

Signature Date

APPLICATION INFORMATION

Professional Engineer Certification

1. Professional Engineer Name: **Kennard F. Kosky**
   Registration Number: **14996**
2. Professional Engineer Mailing Address...
   Organization/Firm: **Golder Associates Inc.****
   Street Address: **6026 NW 1st Place**
   City: **Gainesville** State: **FL** Zip Code: **32607**
3. Professional Engineer Telephone Numbers...
   Telephone: **(352) 336-5600** ext. **21156** Fax: (352) **336-6603**
4. Professional Engineer E-mail Address: **kkosky@golder.com**
5. Professional Engineer Statement:

I, the undersigned, hereby certify, except as particularly noted herein, that:*

(1) To the best of my knowledge, there is reasonable assurance that the air pollutant emissions unit(s) and the air pollution control equipment described in this application for air permit, when properly operated and maintained, will comply with all applicable standards for control of air pollutant emissions found in the Florida Statutes and rules of the Department of Environmental Protection; and

(2) To the best of my knowledge, any emission estimates reported or relied on in this application are true, accurate, and complete and are either based upon reasonable techniques available for calculating emissions or, for emission estimates of hazardous air pollutants not regulated for an emissions unit addressed in this application, based solely upon the materials, information and calculations submitted with this application.

(3) If the purpose of this application is to obtain a Title V air operation permit (check here ☐, if so), I further certify that each emissions unit described in this application for air permit, when properly operated and maintained, will comply with the applicable requirements identified in this application to which the unit is subject, except those emissions units for which a compliance plan and schedule is submitted with this application.

(4) If the purpose of this application is to obtain an air construction permit (check here ☒, if so) or concurrently process and obtain an air construction permit and a Title V air operation permit revision or renewal for one or more proposed new or modified emissions units (check here ☐, if so), I further certify that the engineering features of each such emissions unit described in this application have been designed or examined by me or individuals under my direct supervision and found to be in conformity with sound engineering principles applicable to the control of emissions of the air pollutants characterized in this application.

(5) If the purpose of this application is to obtain an initial air operation permit or operation permit revision or renewal for one or more newly constructed or modified emissions units (check here ☐, if so), I further certify that, with the exception of any changes detailed as part of this application, each such emissions unit has been constructed or modified in substantial accordance with the information given in the corresponding application for air construction permit and with all provisions contained in such permit.

Signature 8/27/10 Date

(seal) 14996

* Attach any exception to certification statement.
**Board of Professional Engineers Certificate of Authorization #00001670.

II. FACILITY INFORMATION

A. GENERAL FACILITY INFORMATION

Facility Location and Type

1. Facility UTM Coordinates... Zone **17** East (km) **589.7** North (km) **2,961.2**		2. Facility Latitude/Longitude... Latitude (DD/MM/SS) **26/46/15** Longitude (DD/MM/SS) **80/05/52**	
3. Governmental Facility Code: **0**	4. Facility Status Code: **A**	5. Facility Major Group SIC Code: **49**	6. Facility SIC(s): **4911**
7. Facility Comment :			

Facility Contact

1. Facility Contact Name: **Mary Archer**
2. Facility Contact Mailing Address... Organization/Firm: **Florida Power & Light Company** Street Address: **700 Universe Boulevard, P.O. Box 14000** City: **Juno Beach** State: **FL** Zip Code: **33408**
3. Facility Contact Telephone Numbers: Telephone: (**561**) **691-7057** ext. Fax: (**561**) **691-7049**
4. Facility Contact E-mail Address: **Mary.Archer@FPL.com**

Facility Primary Responsible Official

Complete if an "application responsible official" is identified in Section I that is not the facility "primary responsible official."

1. Facility Primary Responsible Official Name:
2. Facility Primary Responsible Official Mailing Address... Organization/Firm: Street Address: City: State: Zip Code:
3. Facility Primary Responsible Official Telephone Numbers... Telephone: ( ) ext. Fax: ( )
4. Facility Primary Responsible Official E-mail Address:

Facility Regulatory Classifications

Check all that would apply *following* completion of all projects and implementation of all other changes proposed in this application for air permit. Refer to instructions to distinguish between a "major source" and a "synthetic minor source."

1. ☐ Small Business Stationary Source	☐ Unknown
2. ☒ Synthetic Non-Title V Source	
3. ☐ Title V Source	
4. ☐ Major Source of Air Pollutants, Other than Hazardous Air Pollutants (HAPs)	
5. ☒ Synthetic Minor Source of Air Pollutants, Other than HAPs	
6. ☐ Major Source of Hazardous Air Pollutants (HAPs)	
7. ☒ Synthetic Minor Source of HAPs	
8. ☐ One or More Emissions Units Subject to NSPS (40 CFR Part 60)	
9. ☐ One or More Emissions Units Subject to Emission Guidelines (40 CFR Part 60)	
10. ☒ One or More Emissions Units Subject to NESHAP (40 CFR Part 61 or Part 63)	
11. ☐ Title V Source Solely by EPA Designation (40 CFR 70.3(a)(5))	
12. Facility Regulatory Classifications Comment:	

List of Pollutants Emitted by Facility

1. Pollutant Emitted	2. Pollutant Classification	3. Emissions Cap [Y or N]?
PM	**A**	**N**
PM10	**A**	**N**
VOC	**A**	**N**
SO2	**A**	**N**
NOx	**A**	**N**
CO	**A**	**N**

B. EMISSIONS CAPS

Facility-Wide or Multi-Unit Emissions Caps

1. Pollutant Subject to Emissions Cap	2. Facility-Wide Cap [Y or N]? (all units)	3. Emissions Unit ID's Under Cap (if not all units)	4. Hourly Cap (lb/hr)	5. Annual Cap (ton/yr)	6. Basis for Emissions Cap

7. Facility-Wide or Multi-Unit Emissions Cap Comment:

Condition (specific condition 2.5) on fuel usage restricts the facility's operation to keep the facility a minor source of air pollution.

C. FACILITY ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Facility Plot Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **OSF-FI-C1** ☐ Previously Submitted, Date: _____

2. Process Flow Diagram(s): (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☒ Previously Submitted, Date: **2/27/2006**

3. Precautions to Prevent Emissions of Unconfined Particulate Matter: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **OSF-FI-C3** ☐ Previously Submitted, Date: _____

Additional Requirements for Air Construction Permit Applications

1. Area Map Showing Facility Location:
   ☐ Attached, Document ID: _____ ☒ Not Applicable (existing permitted facility)

2. Description of Proposed Construction, Modification, or Plantwide Applicability Limit (PAL):
   ☐ Attached, Document ID: _____

3. Rule Applicability Analysis:
   ☒ Attached, Document ID: **Part II**

4. List of Exempt Emissions Units:
   ☐ Attached, Document ID: _____ ☒ Not Applicable (no exempt units at facility)

5. Fugitive Emissions Identification:
   ☐ Attached, Document ID: _____ ☒ Not Applicable

6. Air Quality Analysis (Rule 62-212.400(7), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable

7. Source Impact Analysis (Rule 62-212.400(5), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable

8. Air Quality Impact since 1977 (Rule 62-212.400(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable

9. Additional Impact Analyses (Rules 62-212.400(8) and 62-212.500(4)(e), F.A.C.):
   ☐ Attached, Document ID: _____ ☒ Not Applicable

10. Alternative Analysis Requirement (Rule 62-212.500(4)(g), F.A.C.):
    ☐ Attached, Document ID: _____ ☒ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for FESOP Applications

1. List of Exempt Emissions Units:
   ☐ Attached, Document ID:_____ ☐ Not Applicable (no exempt units at facility)

Additional Requirements for Title V Air Operation Permit Applications

1. List of Insignificant Activities: (Required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☐ Not Applicable (revision application)

2. Identification of Applicable Requirements: (Required for initial/renewal applications, and for revision applications if this information would be changed as a result of the revision being sought)
   ☐ Attached, Document ID:_____
   ☐ Not Applicable (revision application with no change in applicable requirements)

3. Compliance Report and Plan: (Required for all initial/revision/renewal applications)
   ☐ Attached, Document ID:_____
   Note: A compliance plan must be submitted for each emissions unit that is not in compliance with all applicable requirements at the time of application and/or at any time during application processing. The department must be notified of any changes in compliance status during application processing.

4. List of Equipment/Activities Regulated under Title VI: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____
   ☐ Equipment/Activities Onsite but Not Required to be Individually Listed
   ☐ Not Applicable

5. Verification of Risk Management Plan Submission to EPA: (If applicable, required for initial/renewal applications only)
   ☐ Attached, Document ID:_____ ☐ Not Applicable

6. Requested Changes to Current Title V Air Operation Permit:
   ☐ Attached, Document ID:_____ ☐ Not Applicable

C. FACILITY ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Facilities Subject to Acid Rain, CAIR, or Hg Budget Program

1. Acid Rain Program Forms:

   Acid Rain Part Application (DEP Form No. 62-210.900(1)(a)):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable (not an Acid Rain source)

   Phase II NO_X Averaging Plan (DEP Form No. 62-210.900(1)(a)1.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

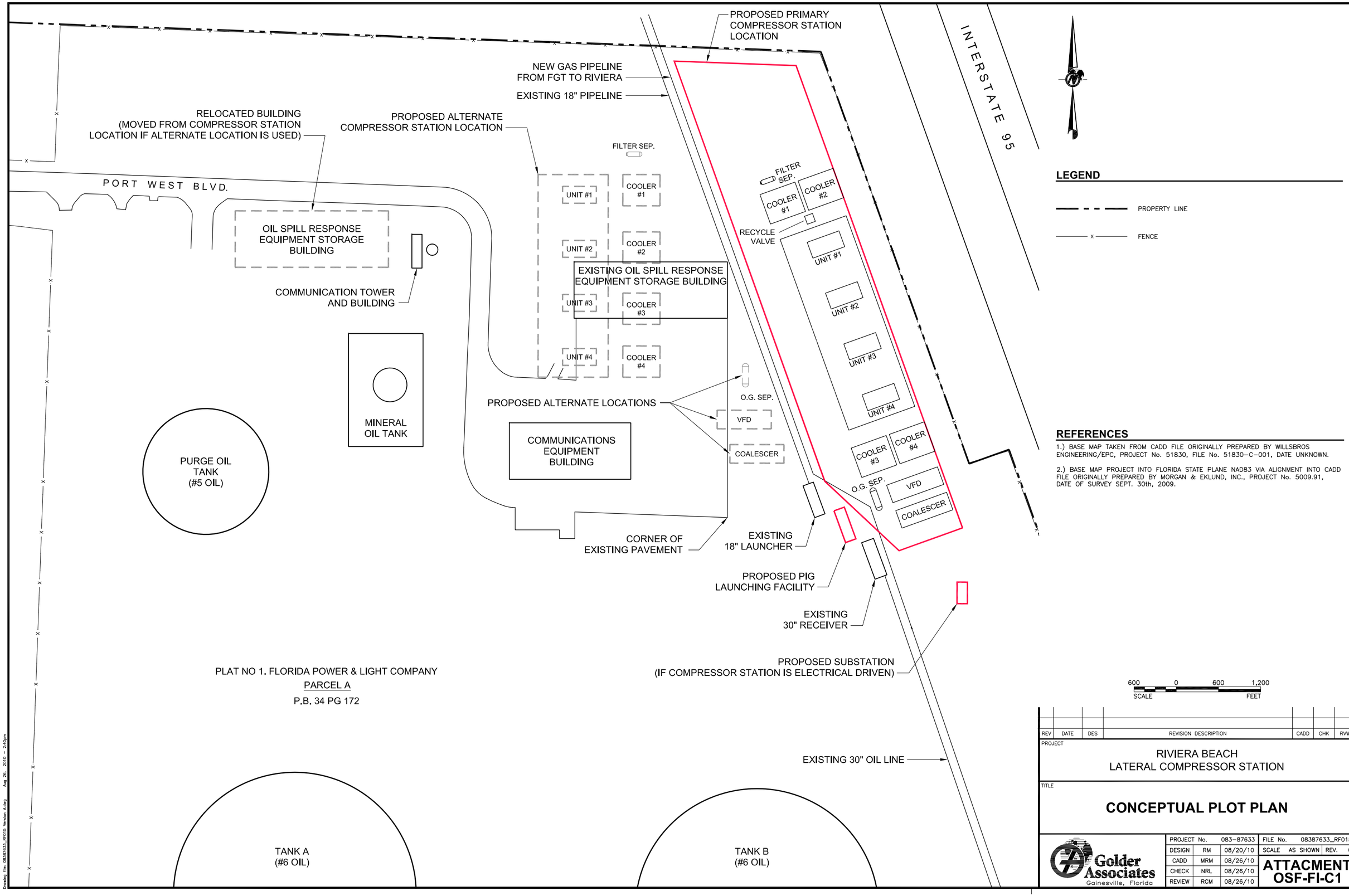
   New Unit Exemption (DEP Form No. 62-210.900(1)(a)2.):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable

2. CAIR Part (DEP Form No. 62-210.900(1)(b)):
   ☐ Attached, Document ID:_____ ☐ Previously Submitted, Date:_____
   ☒ Not Applicable (not a CAIR source)

Additional Requirements Comment

ATTACHMENT OSF-FI-C1

FACILITY PLOT PLAN



LEGEND

PROPERTY LINE

x FENCE

REFERENCES

1.) BASE MAP TAKEN FROM CADD FILE ORIGINALLY PREPARED BY WILLSBROS ENGINEERING/EPC, PROJECT No. 51830, FILE No. 51830-C-001, DATE UNKNOWN.

2.) BASE MAP PROJECT INTO FLORIDA STATE PLANE NAD83 VIA ALIGNMENT INTO CADD FILE ORIGINALLY PREPARED BY MORGAN & EKLUND, INC., PROJECT No. 5009.91, DATE OF SURVEY SEPT. 30th, 2009.

600 0 600 1,200
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RIVIERA BEACH
LATERAL COMPRESSOR STATION

TITLE

CONCEPTUAL PLOT PLAN

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF015	
DESIGN	RM	08/20/10	SCALE	AS SHOWN	REV. 0
CADD	MRM	08/26/10	ATTACMENT OSF-FI-C1		
CHECK	NRL	08/26/10			
REVIEW	RCM	08/26/10			

Drawing file: 08387633_RF015_Version A.dwg Aug 26, 2010 - 2:43pm

ATTACHMENT OSF-FI-C3

PRECAUTIONS TO PREVENT EMISSIONS OF UNCONFINED PARTICULATE MATTER

ATTACHMENT OSF-FI-C3
PRECAUTIONS TO PREVENT EMISSIONS OF
UNCONFINED PARTICULATE MATTER

The following reasonable precautions are taken at the facility, pursuant to Rule 62-296.320(4)(c)2, F.A.C., as applicable, to prevent emissions of unconfined particulate matter:

1. Paving and maintenance of roads, parking areas and yards
2. Application of water or chemicals to control emissions from such activities as demolition of buildings, grading roads, construction, and land clearing
3. Application of asphalt, water, chemicals or other dust suppressants to unpaved roads, yards, open stock piles and similar activities
4. Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent reentrainment, and from buildings or work areas to prevent particulate from becoming airborne
5. Landscaping or planting of vegetation
6. Use of hoods, fans, filters, and similar equipment to contain, capture and/or vent particulate matter
7. Confining abrasive blasting where possible
8. Enclosure or covering of conveyor systems

III. EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Application - For Title V air operation permitting only, emissions units are classified as regulated, unregulated, or insignificant. If this is an application for an initial, revised or renewal Title V air operation permit, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each regulated and unregulated emissions unit addressed in this application. Some of the subsections comprising the Emissions Unit Information Section of the form are optional for unregulated emissions units. Each such subsection is appropriately marked. Insignificant emissions units are required to be listed at Section II, Subsection C.

Air Construction Permit or FESOP Application - For air construction permitting or federally enforceable state air operation permitting, emissions units are classified as either subject to air permitting or exempt from air permitting. The concept of an "unregulated emissions unit" does not apply. If this is an application for an air construction permit or FESOP, a separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit subject to air permitting addressed in this application for air permit. Emissions units exempt from air permitting are required to be listed at Section II, Subsection C.

Air Construction Permit and Revised/Renewal Title V Air Operation Permit Application – Where this application is used to apply for both an air construction permit and a revised or renewal Title V air operation permit, each emissions unit is classified as either subject to air permitting or exempt from air permitting for air construction permitting purposes, and as regulated, unregulated, or insignificant for Title V air operation permitting purposes. A separate Emissions Unit Information Section (including subsections A through I as required) must be completed for each emissions unit addressed in this application that is subject to air construction permitting and for each such emissions unit that is a regulated or unregulated unit for purposes of Title V permitting. (An emissions unit may be exempt from air construction permitting but still be classified as an unregulated unit for Title V purposes.) Emissions units classified as insignificant for Title V purposes are required to be listed at Section II, Subsection C.

If submitting the application form in hard copy, the number of this Emissions Unit Information Section and the total number of Emissions Unit Information Sections submitted as part of this application must be indicated in the space provided at the top of each page.

EMISSIONS UNIT INFORMATION
Section [1]
Compressor Station

A. GENERAL EMISSIONS UNIT INFORMATION

Title V Air Operation Permit Emissions Unit Classification

1. Regulated or Unregulated Emissions Unit? (Check one, if applying for an initial, revised or renewal Title V air operation permit. Skip this item if applying for an air construction permit or FESOP only.)

   ☐ The emissions unit addressed in this Emissions Unit Information Section is a regulated emissions unit.

   ☐ The emissions unit addressed in this Emissions Unit Information Section is an unregulated emissions unit.

Emissions Unit Description and Status

1. Type of Emissions Unit Addressed in this Section: (Check one)

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, a single process or production unit, or activity, which produces one or more air pollutants and which has at least one definable emission point (stack or vent).

   ☒ This Emissions Unit Information Section addresses, as a single emissions unit, a group of process or production units and activities which has at least one definable emission point (stack or vent) but may also produce fugitive emissions.

   ☐ This Emissions Unit Information Section addresses, as a single emissions unit, one or more process or production units and activities which produce fugitive emissions only.

2. Description of Emissions Unit Addressed in this Section:
   Compressor Engines

3. Emissions Unit Identification Number: **008 (Requested)**

4. Emissions Unit Status Code:	5. Commence Construction Date:	6. Initial Startup Date:	7. Emissions Unit Major Group SIC Code:
C	**2011**	**2013**	**49**

8. Federal Program Applicability: (Check all that apply)

   ☐ Acid Rain Unit

   ☐ CAIR Unit

9. Package Unit:
   Manufacturer: **Caterpillar - 4 Stroke Lean-Burn** Model Number: **G3612**

10. Generator Nameplate Rating: MW

11. Emissions Unit Comment:
    Includes 4 units rated at 3,550 hp each.

EMISSIONS UNIT INFORMATION
Section [1]
Compressor Station

Emissions Unit Control Equipment/Method: Control **1** of **2**

1. Control Equipment/Method Description: **Oxidation Catalyst**
2. Control Device or Method Code: **039**

Emissions Unit Control Equipment/Method: Control **2** of **2**

1. Control Equipment/Method Description: **Control of percent O_2 in Combustion Air - Lean Burn**
2. Control Device or Method Code: **033**

Emissions Unit Control Equipment/Method: Control _____ of _____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

Emissions Unit Control Equipment/Method: Control _____ of _____

1. Control Equipment/Method Description:
2. Control Device or Method Code:

B. EMISSIONS UNIT CAPACITY INFORMATION
(Optional for unregulated emissions units.)

Emissions Unit Operating Capacity and Schedule

1. Maximum Process or Throughput Rate:	
2. Maximum Production Rate:	
3. Maximum Heat Input Rate: **106.83** million Btu/hr	
4. Maximum Incineration Rate: pounds/hr tons/day	
5. Requested Maximum Operating Schedule: **24** hours/day **52** weeks/year	**7** days/week **8,760** hours/year
6. Operating Capacity/Schedule Comment: **Value is for the four units.** **Maximum heat input rate for each compressor engine is 26.71 MMBtu/hr.**	

C. EMISSION POINT (STACK/VENT) INFORMATION
(Optional for unregulated emissions units.)

Emission Point Description and Type

1. Identification of Point on Plot Plan or Flow Diagram:	2. Emission Point Type Code: **1**	
3. Descriptions of Emission Points Comprising this Emissions Unit for VE Tracking:		
4. ID Numbers or Descriptions of Emission Units with this Emission Point in Common:		
5. Discharge Type Code: **V**	6. Stack Height: **40** feet	7. Exit Diameter: **1.0** feet
8. Exit Temperature: **838**°F	9. Actual Volumetric Flow Rate: **24,040** acfm	10. Water Vapor: %
11. Maximum Dry Standard Flow Rate: dscfm	12. Nonstack Emission Point Height: feet	
13. Emission Point UTM Coordinates... Zone: East (km): North (km):	14. Emission Point Latitude/Longitude… Latitude (DD/MM/SS) Longitude (DD/MM/SS)	
15. Emission Point Comment: **The parameters shown represent one unit.**		

D. SEGMENT (PROCESS/FUEL) INFORMATION

Segment Description and Rate: Segment **1** of **1**

1. Segment Description (Process/Fuel Type): **Internal Combustion Engines, Natural gas, 4-Cycle Lean Burn**		
2. Source Classification Code (SCC): **2-02-002-54**	3. SCC Units: **MMscf**	
4. Maximum Hourly Rate: **0.105**	5. Maximum Annual Rate: **917.5**	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit: **1,020**
10. Segment Comment: **Maximum hourly and annual are for the four units. Annual rate based on 8,760 hr/yr operation.**		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

D. SEGMENT (PROCESS/FUEL) INFORMATION (CONTINUED)

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

Segment Description and Rate: Segment _____ of _____

1. Segment Description (Process/Fuel Type):		
2. Source Classification Code (SCC):	3. SCC Units:	
4. Maximum Hourly Rate:	5. Maximum Annual Rate:	6. Estimated Annual Activity Factor:
7. Maximum % Sulfur:	8. Maximum % Ash:	9. Million Btu per SCC Unit:
10. Segment Comment:		

E. EMISSIONS UNIT POLLUTANTS

List of Pollutants Emitted by Emissions Unit

1. Pollutant Emitted	2. Primary Control Device Code	3. Secondary Control Device Code	4. Pollutant Regulatory Code
CO	**039**		**EL**
PM/PM10			**NS**
NOx	**033**		**EL**
SO2			**NS**
VOC	**039**		**EL**
H095	**039**		**EL**

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Carbon Monoxide - CO**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **6.26** lb/hour **27.42** tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: **0.20 g/hp-hr (with Oxidation Catalyst @ 93% control)** Reference: **Manufacturer's Specifications**		7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Table 1**		
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **6.26 lb/hr**	4. Equivalent Allowable Emissions: **6.26** lb/hour **27.42** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Nitrogen Oxides - NOx**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **15.65** lb/hour **68.6** tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: **0.5 g/hp-hr** Reference: **Manufacturer's Specifications**		7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Table 1**		
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **0.5 g/hp-hr**	4. Equivalent Allowable Emissions: **15.65** lb/hour **68.6** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Sulfur Dioxide - SO2**	2. Total Percent Efficiency of Control:
3. Potential Emissions: **0.60** lb/hour **2.62** tons/year	4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year	
6. Emission Factor: **2 grains/100 scf** Reference: **FPL, 2009**	7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years
10. Calculation of Emissions: **Table 1**	
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**	

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **2 grains/100 scf**	4. Equivalent Allowable Emissions: **0.60** lb/hour **2.62** tons/year
5. Method of Compliance: **Fuel vendor information**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Particulate Matter - PM/PM10**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **1.07** lb/hour **4.67** tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: **0.00999 lb/MMBtu** Reference: **EPA AP-42, Volume I, August 2000**		7. Emissions Method Code: **3**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Table 1**		
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **10% Opacity**	4. Equivalent Allowable Emissions: **1.07** lb/hour **4.67** tons/year
5. Method of Compliance: **EPA Method 9**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Volatile Organic Compounds - VOC**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **6.61** lb/hour **28.96** tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: **0.21 g/hp-hr (with Oxidation Catalyst @ 67% control)** Reference: **Manufacturer's Specifications**		7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Table 1**		
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **6.61 lb/hr**	4. Equivalent Allowable Emissions: **6.61** lb/hour **28.96** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

F1. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION – POTENTIAL, FUGITIVE, AND ACTUAL EMISSIONS

(Optional for unregulated emissions units.)

Complete a Subsection F1 for each pollutant identified in Subsection E if applying for an air construction permit or concurrent processing of an air construction permit and a revised or renewal Title V operation permit. Complete for each emissions-limited pollutant identified in Subsection E if applying for an air operation permit.

Potential, Estimated Fugitive, and Baseline & Projected Actual Emissions

1. Pollutant Emitted: **Formaldehyde - H095**	2. Total Percent Efficiency of Control:	
3. Potential Emissions: **2.25** lb/hour **9.87** tons/year		4. Synthetically Limited? ☐ Yes ☐ No
5. Range of Estimated Fugitive Emissions (as applicable): to tons/year		
6. Emission Factor: **0.4 g/hp-hr (with Oxidation Catalyst @ 82% control)** Reference: **Manufacturer's Specifications**		7. Emissions Method Code: **5**
8.a. Baseline Actual Emissions (if required): tons/year	8.b. Baseline 24-month Period: From: To:	
9.a. Projected Actual Emissions (if required): tons/year	9.b. Projected Monitoring Period: ☐ 5 years ☐ 10 years	
10. Calculation of Emissions: **Table 1**		
11. Potential, Fugitive, and Actual Emissions Comment: **Emissions represent total for the four compressor engines.**		

F2. EMISSIONS UNIT POLLUTANT DETAIL INFORMATION - ALLOWABLE EMISSIONS

Complete Subsection F2 if the pollutant identified in Subsection F1 is or would be subject to a numerical emissions limitation.

Allowable Emissions Allowable Emissions **1** of **1**

1. Basis for Allowable Emissions Code: **OTHER**	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units: **12.52 lb/hr**	4. Equivalent Allowable Emissions: **2.25** lb/hour **9.87** tons/year
5. Method of Compliance: **Manufacturer certification**	
6. Allowable Emissions Comment (Description of Operating Method): **Emissions represent total for the four compressor engines.**	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

Allowable Emissions Allowable Emissions _____ of _____

1. Basis for Allowable Emissions Code:	2. Future Effective Date of Allowable Emissions:
3. Allowable Emissions and Units:	4. Equivalent Allowable Emissions: lb/hour tons/year
5. Method of Compliance:	
6. Allowable Emissions Comment (Description of Operating Method):	

G. VISIBLE EMISSIONS INFORMATION

Complete Subsection G if this emissions unit is or would be subject to a unit-specific visible emissions limitation.

Visible Emissions Limitation: Visible Emissions Limitation **1** of **2**

1. Visible Emissions Subtype: **VE20**	2. Basis for Allowable Opacity: ☒ Rule ☐ Other
3. Allowable Opacity: Normal Conditions: **20** % Exceptional Conditions: **100** % Maximum Period of Excess Opacity Allowed: **60** min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **FDEP Rule 62-296.320(4)(b)1, F.A.C. requires 20 percent opacity. Excess emissions provided by Rule 62-210.700.**	

Visible Emissions Limitation: Visible Emissions Limitation **2** of **2**

1. Visible Emissions Subtype: **VE10**	2. Basis for Allowable Opacity: ☐ Rule ☒ Other
3. Allowable Opacity: Normal Conditions: **10** % Exceptional Conditions: % Maximum Period of Excess Opacity Allowed: min/hour	
4. Method of Compliance: **EPA Method 9**	
5. Visible Emissions Comment: **Proposed for PM/PM_{10} emissions.**	

H. CONTINUOUS MONITOR INFORMATION

Complete Subsection H if this emissions unit is or would be subject to continuous monitoring.

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

H. CONTINUOUS MONITOR INFORMATION (CONTINUED)

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

Continuous Monitoring System: Continuous Monitor _____ of _____

1. Parameter Code:	2. Pollutant(s):
3. CMS Requirement:	☐ Rule ☐ Other
4. Monitor Information... Manufacturer: Model Number:	Serial Number:
5. Installation Date:	6. Performance Specification Test Date:
7. Continuous Monitor Comment:	

I. EMISSIONS UNIT ADDITIONAL INFORMATION

Additional Requirements for All Applications, Except as Otherwise Stated

1. Process Flow Diagram: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **OSF-EU1-I1** ☐ Previously Submitted, Date _____

2. Fuel Analysis or Specification: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **OSF-EU1-I2** ☐ Previously Submitted, Date _____

3. Detailed Description of Control Equipment: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☒ Attached, Document ID: **OSF-EU1-I3** ☐ Previously Submitted, Date _____

4. Procedures for Startup and Shutdown: (Required for all operation permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable (construction application)

5. Operation and Maintenance Plan: (Required for all permit applications, except Title V air operation permit revision applications if this information was submitted to the department within the previous five years and would not be altered as a result of the revision being sought)
   ☐ Attached, Document ID: _____ ☐ Previously Submitted, Date _____
   ☒ Not Applicable

6. Compliance Demonstration Reports/Records:
   ☐ Attached, Document ID: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ Previously Submitted, Date: _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ To be Submitted, Date (if known): _____
   Test Date(s)/Pollutant(s) Tested: _____
   _____
   ☐ Not Applicable
   Note: For FESOP applications, all required compliance demonstration records/reports must be submitted at the time of application. For Title V air operation permit applications, all required compliance demonstration reports/records must be submitted at the time of application, or a compliance plan must be submitted at the time of application.

7. Other Information Required by Rule or Statute:
   ☐ Attached, Document ID: **Part II** ☐ Not Applicable

I. EMISSIONS UNIT ADDITIONAL INFORMATION (CONTINUED)

Additional Requirements for Air Construction Permit Applications

1. Control Technology Review and Analysis (Rules 62-212.400(10) and 62-212.500(7), F.A.C.; 40 CFR 63.43(d) and (e)): ☐ Attached, Document ID: _____ ☒ Not Applicable
2. Good Engineering Practice Stack Height Analysis (Rules 62-212.400(4)(d) and 62-212.500(4)(f), F.A.C.): ☐ Attached, Document ID: _____ ☒ Not Applicable
3. Description of Stack Sampling Facilities: (Required for proposed new stack sampling facilities only) ☐ Attached, Document ID: _____ ☒ Not Applicable

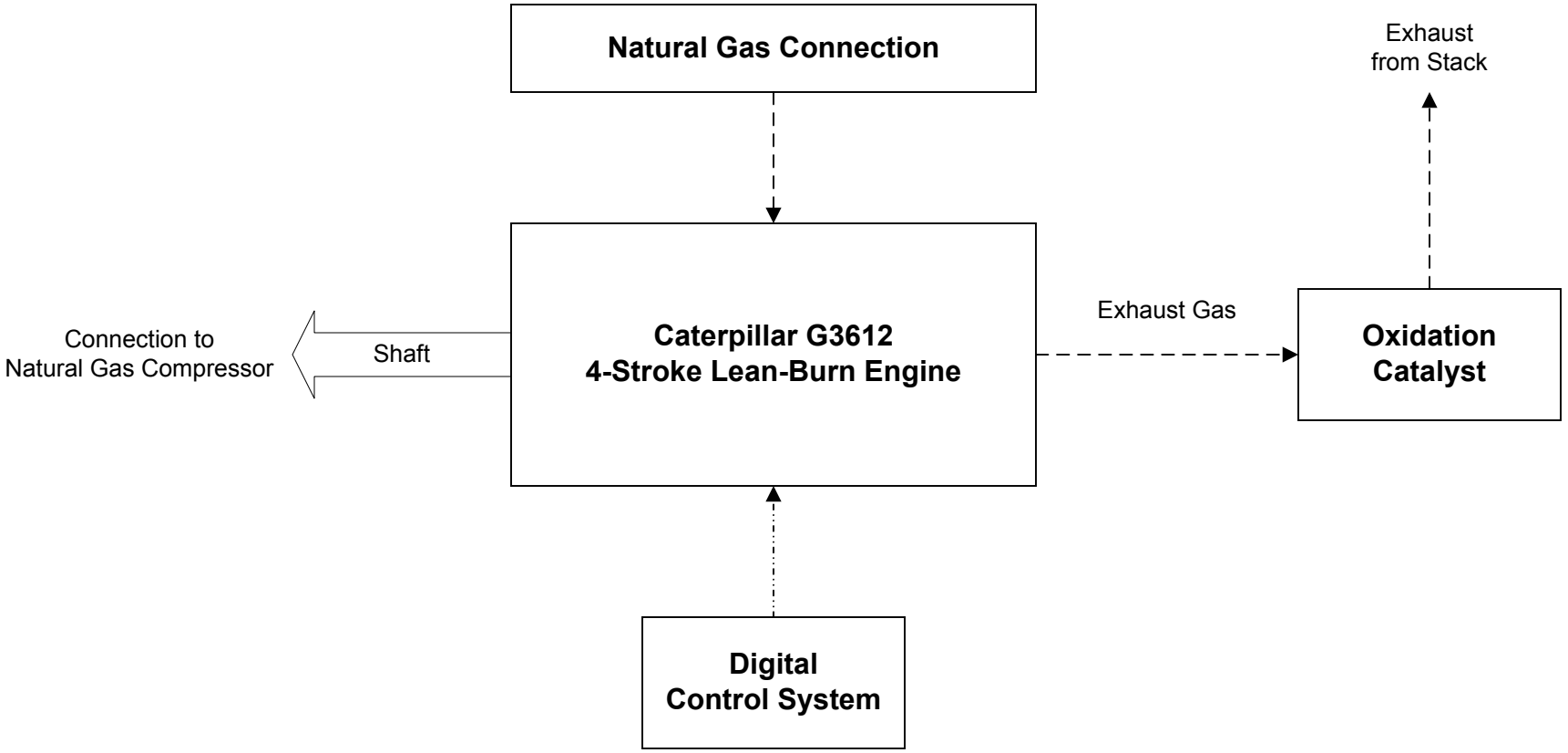
Additional Requirements for Title V Air Operation Permit Applications

1. Identification of Applicable Requirements: ☐ Attached, Document ID: _____
2. Compliance Assurance Monitoring: ☐ Attached, Document ID: _____ ☐ Not Applicable
3. Alternative Methods of Operation: ☐ Attached, Document ID: _____ ☐ Not Applicable
4. Alternative Modes of Operation (Emissions Trading): ☐ Attached, Document ID: _____ ☐ Not Applicable

Additional Requirements Comment

ATTACHMENT OSF-EU1-I1

PROCESS FLOW DIAGRAM



Attachment OSF-EU1-I1
Simplified Flow Diagram of One Caterpillar G3612 4-Stroke Lean-Burn Engine
FPL Riviera Beach
Riviera Beach, FL

Source: Golder Associates Inc., 2010.

Process Flow Legend
Gas
Control

Golder Associates

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ATTACHMENT OSF-EU1-I2

FUEL ANALYSIS

ATTACHMENT OSF-EU1-I2

FUEL ANALYSIS

Fuel	Density (lb/scf)	Moisture (%)	Weight % Sulfur	Weight % Nitrogen	Weight % Ash	Heat Capacity (Btu/ft^3)
Natural Gas	0.048	<0.1	<0.001	0.62	N/A	1,020

ATTACHMENT OSF-EU-I3

DETAILED DESCRIPTION OF CONTROL EQUIPMENT

ATTACHMENT OSF-EU1-I3

CONTROL EQUIPMENT PARAMETERS (a)

CATALYTIC CONVERTER

Manufacturer		Caterpillar	
Model No.		SP-RHSIGA-66S2424-20x41-28-H4	
Date of Installation		2011	
Inlet/Outlet Pipe Size		28	inches
Inlet Height		16.5	feet
Overall Height		50	feet
Diameter		66	inches
Converter Pressure Loss		5.34	inches
Temperature Limits (Inlet)		550-1,250	°F
Control Efficiency	- Carbon Monoxide	93	%
	- Volatile organic Compounds	67	%
	- Formaldehyde	82	%

Based on manufacturer's quote.

PART II

PART II

APPLICATION FOR MINOR SOURCE AIR CONSTRUCTION PERMIT FOR NATURAL GAS COMPRESSOR STATION

Executive Summary

Florida Power & Light Company (FPL) proposes to construct and operate a natural gas compressor station located at the FPL 45th Street Terminal in Riviera Beach, Florida. The existing facility [site name: FPL Martin Oil Storage Facility (OSF) and Physical Distribution Center (PDC)] is classified as a synthetic, non-Title V, minor source. With a natural gas compressor station, the project will increase emissions of nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), particulate matter (PM), PM less than 10 microns (PM_{10}), and volatile organic compounds (VOCs). The potential annual emissions from the project together with those from the existing facility will not change the classification of the facility, which will remain a synthetic, non-Title V, minor source. FPL is requesting a minor source air construction permit for the project.

Introduction

The FPL Martin OSF and PDC is located at the southwest corner of State Road 710 and I-95, Riviera Beach, Palm Beach County, Florida. The existing facility is a synthetic, non-Title V, minor source and is authorized to operate as a source of air pollution under Air Pollution Operation Permit No. 0990123-008-AO. The existing facility consists of four emission units associated with oil transfer and storage of No. 6 residual oil through a pipeline connected to the Riviera and Martin Plants and facilities to support FPL's electric transmission and distribution system.

Golder Associates Inc. (Golder) was contracted to prepare the necessary air permit application seeking authorization to allow construction and operation of the natural gas compressor station. The air permit application consists of the appropriate applications form [Part I; DEP Form 62-210.900(1)], a technical description of the project, and rule applicability for the project.

Project Description

The proposed Compressor Station (EU 008) will include four Caterpillar engines [Model G3612 (or equivalent)] with a 4-stroke lean-burn configuration that will operate on natural gas and will run continuously (8,760 hours per year). The engines have a design rating of 3,550 horsepower (hp) and will have a heat input rate of 26.71 million British thermal units per hour (MMBtu/hr), each (see

Table 1, Attachment A). The CO and VOC emissions from these engines will be controlled by oxidation catalysts, providing a 93 percent reduction of CO emissions, a 67 percent reduction of VOC emissions, and an 82 percent reduction of formaldehyde emissions. The oxidation catalyst information is presented in Attachment OSF-EU1-I3 of the application form.

Table 1 summarizes the emission rates from a single engine as well as the four engines for SO_2, NO_x, CO, VOC, and PM/PM_{10}. The maximum potential emission for any regulated air pollutants is 68.6 tons per year (TPY) for NO_x. The maximum potential emissions of hazardous air pollutants (HAPs) are presented in Table 2. Emissions of formaldehyde and other organic HAPs are controlled with an oxidation catalyst. For HAPs, other than formaldehyde, a control efficiency of 67 percent was assumed (i.e., the same as guaranteed for VOCs). The maximum potential emission for a single HAP is 9.87 TPY for formaldehyde and 12.87 TPY for all HAPs.

Rule Applicability

The existing facility is classified as a synthetic, non-Title V, minor source of air pollution based on the design capacity of the equipment and the limits and restrictions of the federally-enforceable air pollution construction permits Nos. 0990123-001-AC and 0990123-006-AC. The maximum potential annual emissions of the FPL Martin OSF/PDC facility were determined using the emission limiting standards in the current authorization (as listed in Air Pollution Operation Permit No. 0990123-008-AO) and the original application requesting the designation of the facility as a synthetic non-Title V source. Tables 3 and 4 present maximum potential emissions from the FPL Martin OSF/PDC boilers the emergency generators and fire pump engine, respectively. The boilers are limited by fuel usage depending on whether residual or distillate oil is used. The maximum emissions for either residual or distillate oil was used in determining maximum potential emissions from the boilers. For the emergency generators and fire pump engine, the fuel use is limited to 32,000 gallons per year.

The air operating permit for the FPL Martin OSF/PDC facility (Air Permit No. 0990123-008-AO) included as Emission Unit No. 007, a United Group Model W-3000-HT Wire Reclaim Furnace. This emission unit has been removed from the facility. By this application, FPL is requesting that this wire reclaim furnace be deleted as an emission unit for the facility.

Table 5 presents the maximum potential emissions for the FPL Martin OSF/PDC, including VOC emissions from the storage tanks. These VOC emissions were obtained from the original application that used the U.S. Environmental Protection Agency's (EPA's) TANKS program. VOC emissions from surface coating are also included based on the limit of 6 gallons per day monthly average for coatings containing more than 5 percent VOC.

Table 5 also includes the maximum potential annual emissions from the installation of the natural gas compressor station and the total emissions for the facility after the project is constructed. The maximum potential emissions for the facility after the project is constructed do not exceed 100 TPY for any regulated air pollutant. As a result, there will be no change to the classification of the facility as a result of this project (see Table 5).

The FPL Martin OSF/PDC facility is one of the 28 listed sources under the definition of a "major stationary source" in Rule 62-210.200, Florida Administrative Code (F.A.C.) (petroleum storage and transfer units with a total storage capacity of 300,000 barrels). If a facility is one of the 28 listed sources, annual emissions of 100 TPY or more of any Prevention of Significant Deterioration (PSD) pollutant would classify a facility as a major stationary source potentially subject to PSD review. The existing FPL Martin OSF/PDC is not a major stationary source since maximum potential emissions are less than 100 TPY of any PSD pollutant. After the installation of the natural gas compressor station, as shown in Table 5, the maximum potential emissions for the FPL Martin OSF/PDC will remain below 100 TPY of any PSD pollutant. Therefore, the facility is not subject to PSD review under Rule 62-212.400, F.A.C., because the source is considered "minor" for the purpose of PSD regulations (one of the 28 listed sources and having a potential to emit less than 100 TPY of pollutant).

The maximum potential annual emissions of formaldehyde from the project are estimated to be 9.87 TPY, which is below the major source threshold of 10 TPY or more, pursuant to Rule 62-210-200, F.A.C., under the definition of "major source or air pollution" or "Title V source."

Formaldehyde emissions from the boilers and the emergency generators are 0.0072 and 0.0026 TPY, respectively. Emissions from these sources were calculated based on fuel usage as follows:

- Boilers (Residual Oil): 438,000 gal/yr/1,000 gal x 0.033 lb of formaldehyde/1,000 gal x 1 ton/2,000 lb = 0.0072 TPY
- Emergency Generators (Diesel): 4,381 MMBtu/yr x 0.0018 lb/MMBtu x 1 ton/2,000 lb = 0.0026 TPY

When the formaldehyde emissions from these sources, which total about 0.01 TPY, are added to the formaldehyde emissions from the project, the total facility formaldehyde emissions are less than 10 TPY (i.e., 9.88 TPY) and less than the major source threshold for HAPs.

EPA promulgated New Source Performance Standards (NSPS) for Stationary Spark Ignition Internal Combustion Engines in Title 40, Part 60 of the Code of Federal Regulations (40 CFR 60), Subpart JJJJ.

These NSPS do not apply to lean burn engines and engines with a horsepower rating more than 1,350. However, the proposed emissions from the project will be less than the emission limitation established in the current Subpart JJJJ NSPS.

EPA promulgated National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Reciprocating Internal Combustion Engines (RICE) for new and reconstructed RICE at area sources, and for new and reconstructed RICE > 500 brake horsepower (bhp) located at major sources (January 18, 2008) in 40 CFR 63, Subpart ZZZZ. The FPL Martin OSF/PDC is classified as an area source of HAPs. With the new compressor station, this classification will not change. There are no emission limitations for new four-cycle lean burn engines located at an area source. The limitation for four-cycle lean burn engines greater than or equal to 250 hp and located at a major source of HAPs is a reduction of CO emissions by 93 percent or an emission of formaldehyde not to exceed 14 parts per million by volume (ppmvd) corrected to 15 percent oxygen. While these emission limitations are not applicable to the project, the project has included an oxidation catalyst that will achieve these emissions limitations.

Rule 62-296.570 F.A.C., pertaining to Reasonable Available Control Technology (RACT) - Requirements for Major VOC- and NO_x-Emitting Facilities, was evaluated for the project. The proposed emissions from the project when combined with emissions of existing facility will be less than the major source thresholds for NO_x and VOC. Therefore, this rule does not apply. Notwithstanding, there are no emission limiting standards for lean-burn natural gas-fired engines in this rule [see Rule 62-296.570(4) F.A.C.].

TABLES

TABLE 1
PERFORMANCE AND EMISSION DATA
FOR THE PROPOSED NATURAL GAS COMPRESSOR ENGINES

Parameter			
Performance			
Engine Make/Model		Caterpillar/ G3612	Total
Number of Units		1	4
Engine Configuration		4 Stroke Lean-Burn	
Design Rating (hp) - provided		3,550	14,200
Fuel		Natural Gas	
Fuel Heat Content (Btu/scf) (HHV)		1,020	
Engine Heat Rate (Btu/hp-hr) - provided		7,523	
Heat input (MMBtu/hr) (HHV)		26.71	106.83
Maximum operation (hours)/engine		8,760	
Maximum Fuel Usage (MMscf/hr)		0.0262	0.1047
Maximum Fuel Usage (MMscf/yr)		229.36	917.5
Stack Parameters			
Height (ft)		40	
Diameter (ft)		1.00	
Temperature (^{o}F)		838	
Flow (acfm)		24,040	
Velocity (ft/sec)		510.1	
Emissions			
SO_2 -	Basis (grains/100 scf)	2	
	Conversion of S to SO_2	100	
	Ratio Molecular weight SO_2/ S (64/32)	2	
	Emission rate (lb/hr)	0.150	0.60
	(TPY)	0.655	2.62
NO_x -	Basis (g/hp-hr) [a]	0.5	
	Emission rate (lb/hr)	3.91	15.65
	(TPY)	17.14	68.6
CO -	Basis (g/hp-hr)- Uncontrolled [a]	2.75	
	- Controlled	0.20	
	Control- oxidation catalyst: efficiency	93%	
	Emission rate (lb/hr)	1.57	6.26
	(TPY)	6.86	27.42
VOC -	Basis (g/hp-hr)- Uncontrolled [a]	0.64	
	- Controlled	0.21	
	Control- oxidation catalyst: efficiency	67%	
	Emission rate (lb/hr)	1.65	6.61
	(TPY)	7.24	28.96
PM/PM_{10} -	Basis (lb/MMBtu) [b]	0.00999	
	Emission rate (lb/hr)	0.267	1.07
	(TPY)	1.17	4.67

Sources: FPL, 2010; Golder; 2010.

[a] Manufacturer's specification

[b] Based on EPA AP-42, Volume I, August 2000. Table 3.2-2, Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engines.

TABLE 2
SUMMARY OF HAP POTENTIAL ANNUAL EMISSIONS
FOR THE PROPOSED NATURAL GAS COMPRESSOR ENGINES

Pollutant	Emission Rate			Control Efficiency [b]	Emission Rate with Control Efficiency
	lb/MMBtu[a]	lb/hr	TPY	%	TPY
1,1,2,2-Tetrachloroethane	4.00E-05	4.27E-03	1.87E-02	67.0%	6.18E-03
1,1,2-Trichloroethane	3.18E-05	3.40E-03	1.49E-02	67.0%	4.91E-03
1,3-Butadiene	2.67E-04	2.85E-02	1.25E-01	67.0%	4.12E-02
1,3-Dichloropropene	2.64E-05	2.82E-03	1.24E-02	67.0%	4.08E-03
2-Methylnaphthalene	3.32E-05	3.55E-03	1.55E-02	67.0%	5.13E-03
2,2,4-Trimethylpentane	2.50E-04	2.67E-02	1.17E-01	67.0%	3.86E-02
Acenaphthene	1.25E-06	1.34E-04	5.85E-04	67.0%	1.93E-04
Acenaphthylene	5.53E-06	5.91E-04	2.59E-03	67.0%	8.54E-04
Acetaldehyde	8.36E-03	8.93E-01	3.91	67.0%	1.29
Acrolein	5.14E-03	5.49E-01	2.41	67.0%	7.94E-01
Benzene	4.40E-04	4.70E-02	2.06E-01	67.0%	6.79E-02
Benzo(b)fluoranthene	1.66E-07	1.77E-05	7.77E-05	67.0%	2.56E-05
Benzo(e)pyrene	4.15E-07	4.43E-05	1.94E-04	67.0%	6.41E-05
Benzo(g,h,i)perylene	4.14E-07	4.42E-05	1.94E-04	67.0%	6.39E-05
Biphenyl	2.12E-04	2.26E-02	9.92E-02	67.0%	3.27E-02
Carbon Tetrachloride	3.67E-05	3.92E-03	1.72E-02	67.0%	5.67E-03
Chlorobenzene	3.04E-05	3.25E-03	1.42E-02	67.0%	4.69E-03
Chloroform	2.85E-05	3.04E-03	1.33E-02	67.0%	4.40E-03
Chrysene	6.93E-07	7.40E-05	3.24E-04	67.0%	1.07E-04
Ethylbenzene	3.97E-05	4.24E-03	1.86E-02	67.0%	6.13E-03
Ethylene Dibromide	4.43E-05	4.73E-03	2.07E-02	67.0%	6.84E-03
Fluoranthene	1.10E-06	1.18E-04	5.15E-04	67.0%	1.70E-04
Fluorene	5.67E-06	6.06E-04	2.65E-03	67.0%	8.75E-04
Formaldehyde [c]	1.17E-01	12.52	54.85	82.0%	9.87
Methanol	2.50E-03	2.67E-01	1.17	67.0%	3.86E-01
Methylene Chloride	2.00E-05	2.14E-03	9.36E-03	67.0%	3.09E-03
n-Hexane	1.11E-03	1.19E-01	5.19E-01	67.0%	1.71E-01
Naphthalene	7.44E-05	7.95E-03	3.48E-02	67.0%	1.15E-02
PAH	2.69E-05	2.87E-03	1.26E-02	67.0%	4.15E-03
Phenanthrene	1.04E-05	1.11E-03	4.87E-03	67.0%	1.61E-03
Phenol	2.40E-05	2.56E-03	1.12E-02	67.0%	3.71E-03
Pyrene	1.36E-06	1.45E-04	6.36E-04	67.0%	2.10E-04
Styrene	2.36E-05	2.52E-03	1.10E-02	67.0%	3.64E-03
Tetrachloroethane	2.48E-06	2.65E-04	1.16E-03	67.0%	3.83E-04
Toluene	4.08E-04	4.36E-02	1.91E-01	67.0%	6.30E-02
Vinyl Chloride	1.49E-05	1.59E-03	6.97E-03	67.0%	2.30E-03
Xylene	1.84E-04	1.97E-02	8.61E-02	67.0%	2.84E-02
Total HAPs			63.9		12.87

[a] Based on EPA AP-42, Volume I, August 2000. Table 3.2-2, Uncontrolled Emission Factors for 4-Stroke Lean-Burn Engines.

[b] Control efficiency assumed to be 82% for formaldehyde due to the installation of the oxidation catalyst and 67% for all other pollutants similarly to control efficiency for VOCs.

[c] Uncontrolled emissions of formaldehyde are based on 0.4 g/bhp (Caterpillar 2010).

TABLE 3
PERFORMANCE AND EMISSIONS
FOR THE EXISTING BOILERS
MARTIN OTF AND PDC

Parameter	Residual Oil	Distillate Oil
Performance		
Heat Input (MMBtu/hr-HHV)[a]	25.00	25.00
Fuel	Residual Oil	Distillate Oil
Heat Content (HHV-Btu/gal)	151,890	136,010
Fuel Usage (gal/hr-boiler)	165	184
Maximum Hours per Year (per permit)	8,760	8,760
Maximum Hours per Year at Max Load	2,661	8,760
Maximum Fuel Usage (gal/yr)[a]	438,000	1,610,088
Emissions		
SO_2 -Basis (% sulfur) [a]	2.50	0.50
(lb/1,000 gal; 157S) [b]	392.50	71.00
(lb/hr)	64.60	13.05
(tpy)	85.96	57.16
NO_x - (lb/1000 gal) [b]	55.000	20.000
(lb/hr)	9.05	3.68
(tpy)	12.05	16.10
CO - (lb/1000 gal) [b]	5.000	5.000
(lb/hr)	0.82	0.92
(tpy)	1.10	4.03
VOC - (lb/1000 gal) [b]	0.280	0.200
(lb/hr)	0.05	0.04
(tpy)	0.06	0.16
PM/PM10 - (lb/1000 gal) [b]	10.000	2.000
(lb/hr)	1.65	0.37
(tpy)	2.19	1.61

[a] Based on Condition III A.2 (d) of Air Permit No. 0990123-008-AO

[b] Emissions based on EPA, 1996 (AP-42, Tables 1.3-1 and 1.3-3).

TABLE 4
PERFORMANCE, STACK PARAMETERS AND EMISSIONS FOR THE EXISTING EMERGENCY ENGINES AND FIRE PUMP ENGINE
MARTIN OTF AND PDC

Parameters	Emergency Generators and Diesel Fire Pump Engine
Performance	
Number of Engines	12
Fuel	Diesel
Total Rating (kW)	2,629.0
Rating (HP)	1,960
Maximum Fuel Usage (gallons/yr)[a]	32,000
Density (lb/gal)	7.1
Maximum Fuel Usage (lb/yr)	227,200
Heat Content (Btu/gal)	136,905
Maximum Fuel Usage (MMBtu/yr)	4,381
Emissions	
SO_2 -Basis (%S diesel) [b]	0.50%
(TPY)	1.14
NO_X[c] (lb/MMBtu)	4.410
(TPY)	9.66
CO[c] (lb/MMBtu)	0.95
(TPY)	2.08
VOC[c] (lb/MMBtu)	0.36
(TPY)	0.79
PM/PM_{10}[c] (lb/MMBtu)	0.31
(TPY)	0.68

[a] Maximum fuel usage based on Condition II 2.5 (a) of Air Permit No. 0990123-008-AO.

[b] Permit Application.

[c] Based on Table 3.3-1, AP-42 Section 3.3. VOC emissions equal to total organic compound emissions.

TABLE 5
SUMMARY OF MAXIMUM POTENTIAL ANNUAL EMISSIONS AT THE FACILITY
MARTIN OTF AND PDC

Pollutant	Existing Martin OTF and PDC Emissions Maximum Potential Annual Emissions (TPY)					Proposed Natural Gas Compressor Station [e] (TPY)	Facility Total (TPY)
	Boilers [a]	Emergency Generators [b]	Storage Tanks [c]	Surface Coatings [d]	TOTAL		
SO_2	85.96	1.14	--	--	87.09	2.62	89.71
PM	2.19	0.68	--	--	2.87	4.67	7.54
PM_{10}	2.19	0.68	--	--	2.87	4.67	7.54
NO_x	16.10	9.66	--	--	25.76	68.56	94.32
CO	4.03	2.08	--	--	6.11	27.42	33.53
VOC (as methane)	0.16	0.79	3.60	3.29	7.83	28.96	36.79

[a] See Table 3.

[b] See Table 4.

[c] Synthetic Non-Title V Permit Application (VOC based on EPA Tanks Program).

[d] Based on 3 lb/gallon for high VOC paints; 6 gallons/day monthly average is a limit in Section II Condition 2.5(b).

[e] See Table 1.

Source: Golder, 2010.

Attachment A

Caterpillar Engines (Model G3612)

G3612

GAS COMPRESSION APPLICATION

GAS ENGINE SITE SPECIFIC TECHNICAL DATA
Wilbros

CATERPILLAR®

ENGINE SPEED (rpm):	1000	FUEL SYSTEM:	GAV WITH AIR FUEL RATIO CONTROL
COMPRESSION RATIO:	9:1		
AFTERCOOLER WATER INLET (°F):	130	**SITE CONDITIONS:**	
JACKET WATER OUTLET (°F):	190	FUEL:	Gas Analysis
COOLING SYSTEM:	JW, OC+AC	FUEL PRESSURE RANGE(psig):	42.8-47.0
IGNITION SYSTEM:	CIS/ADEM3	FUEL METHANE NUMBER:	78.1
EXHAUST MANIFOLD:	DRY	FUEL LHV (Btu/scf):	961
COMBUSTION:	Low Emission	ALTITUDE(ft):	500
NOx EMISSION LEVEL (g/bhp-hr NOx):	0.5	MAXIMUM INLET AIR TEMPERATURE(°F):	105
		NAMEPLATE RATING:	3550 bhp@1000rpm

			MAXIMUM RATING	SITE RATING AT MAXIMUM INLET AIR TEMPERATURE		
RATING	**NOTES**	**LOAD**	**100%**	**100%**	**75%**	**50%**
ENGINE POWER	(1)	bhp	3550	3550	2663	1775
INLET AIR TEMPERATURE		°F	106	105	105	105
ENGINE DATA						
FUEL CONSUMPTION (LHV)	(2)	Btu/bhp-hr	6791	6791	7082	7684
FUEL CONSUMPTION (HHV)	(2)	Btu/bhp-hr	7523	7523	7845	8512
AIR FLOW	(3)(4)	lb/hr	41492	41492	31838	21777
AIR FLOW WET (77°F, 14.7 psia)	(3)(4)	scfm	9358	9358	7180	4911
INLET MANIFOLD PRESSURE	(5)	in Hg(abs)	73.4	73.4	57.0	39.1
EXHAUST STACK TEMPERATURE	(6)	°F	838	838	876	925
EXHAUST GAS FLOW (@ stack temp, 14.5 psia)	(7)(4)	ft3/min	24040	24040	18993	13510
EXHAUST GAS MASS FLOW	(7)(4)	lb/hr	42638	42638	32734	22425
EMISSIONS DATA						
NOx (as NO2)	(8)	g/bhp-hr	0.50	0.50	0.50	0.50
CO	(8)	g/bhp-hr	2.75	2.75	2.75	2.75
THC (mol. wt. of 15.84)	(8)	g/bhp-hr	6.45	6.45	6.62	6.81
NMHC (mol. wt. of 15.84)	(8)	g/bhp-hr	0.97	0.97	0.99	1.02
NMNEHC (VOCs) (mol. wt. of 15.84)	(8)(9)	g/bhp-hr	0.64	0.64	0.66	0.68
HCHO (Formaldehyde)	(8)	g/bhp-hr	0.40	0.40	0.44	0.48
CO2	(8)	g/bhp-hr	440	440	459	498
EXHAUST OXYGEN	(10)	% DRY	12.8	12.8	12.1	11.0
HEAT REJECTION						
HEAT REJ. TO JACKET WATER (JW)	(11)	Btu/min	36625	36625	31408	29701
HEAT REJ. TO ATMOSPHERE	(11)	Btu/min	14063	14063	13200	12502
HEAT REJ. TO LUBE OIL (OC)	(11)	Btu/min	18081	18081	17285	17049
HEAT REJ. TO AFTERCOOLER (AC)	(11)(12)	Btu/min	34447	34447	18618	2696

HEAT EXCHANGER SIZING CRITERIA			
TOTAL JACKET WATER CIRCUIT (JW)	(12)	Btu/min	40287
TOTAL AFTERCOOLER CIRCUIT (OC+AC)	(12)(13)	Btu/min	57866
A cooling system safety factor of 0% has been added to the heat exchanger sizing criteria.			

CONDITIONS AND DEFINITIONS

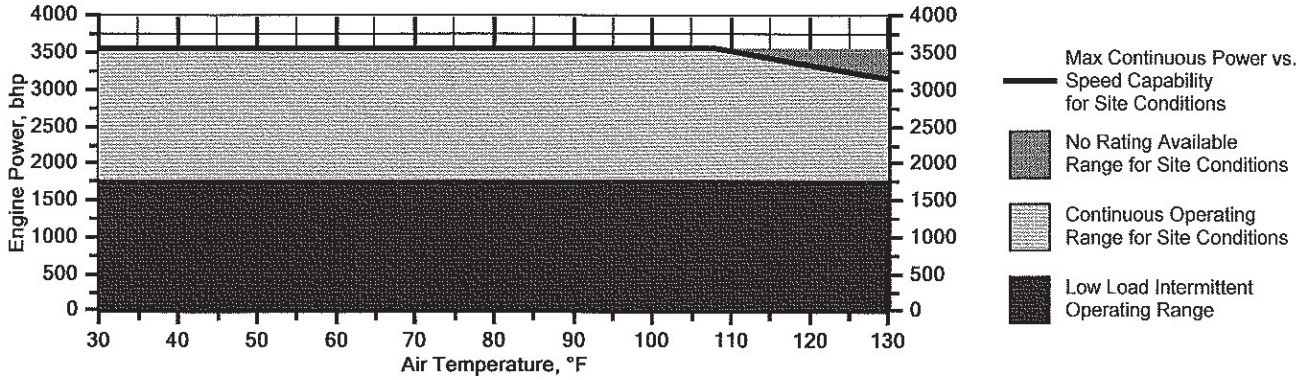
Engine rating obtained and presented in accordance with ISO 3046/1, adjusted for fuel, site altitude and site inlet air temperature.
100% rating at maximum inlet air temperature is the maximum engine capability for the specified fuel at site altitude and maximum site inlet air temperature.
Max. rating is the maximum capability for the specified fuel at site altitude and reduced inlet air temperature.
Lowest load point is the lowest continuous duty operating load allowed. No overload permitted at rating shown.

For notes information consult page three.

PREPARED BY: Mark Phillips, Enerfrlex
Data generated by Gas Engine Rating Pro Version 3.03.00
Ref. Data Set DM8607-01-000, Printed 19Jul2010

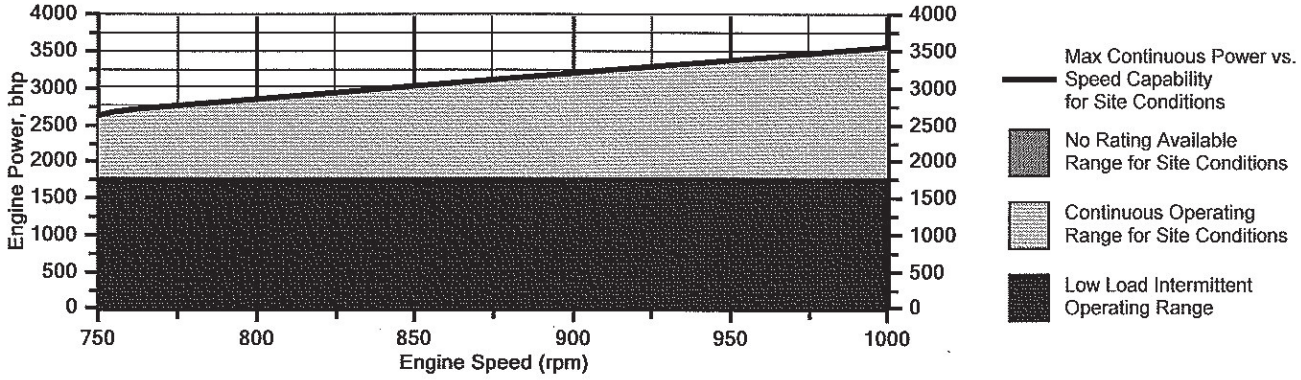
Engine Power vs. Inlet Air Temperature

Data represents temperature sweep at 500 ft and 1000 rpm



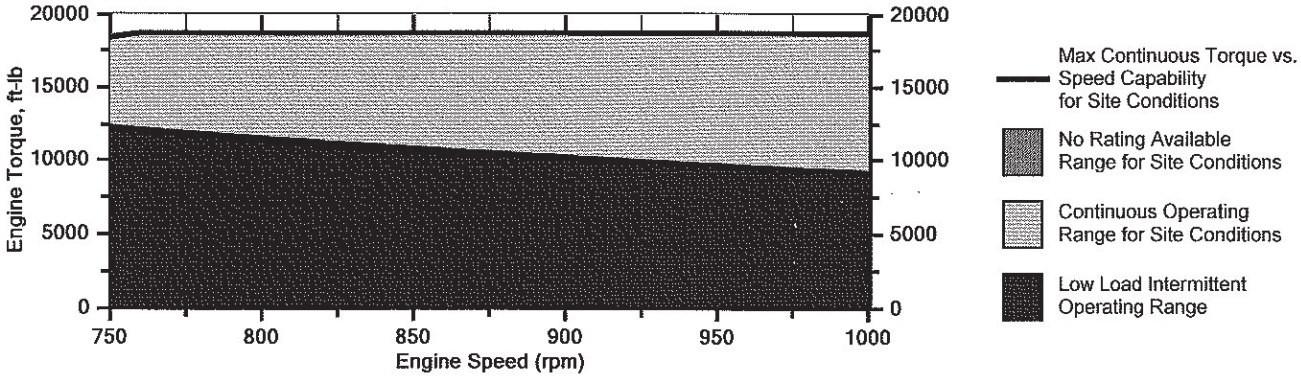
Engine Power vs. Engine Speed

Data represents speed sweep at 500 ft and 105 °F



Engine Torque vs. Engine Speed

Data represents speed sweep at 500 ft and 105 °F



Note: At site conditions of 500 ft and 105°F inlet air temp., constant torque can be maintained down to 760 rpm. The minimum speed for loading at these conditions is 750 rpm.

PREPARED BY: Mark Phillips, Enerfrlex
Data generated by Gas Engine Rating Pro Version 3.03.00
Ref. Data Set DM8607-01-000, Printed 19Jul2010

NOTES

1. Engine rating is with two engine driven water pumps. Tolerance is ± 3% of full load.

2. Fuel consumption tolerance is ± 2.5% of full load data.

3. Undried air. Flow is a nominal value with a tolerance of ± 5 %.

4. Inlet and Exhaust Restrictions must not exceed A&I limits based on full load flow rates from the standard technical data sheet.

5. Inlet manifold pressure is a nominal value with a tolerance of ± 5 %.

6. Exhaust stack temperature is a nominal value with a tolerance of (+)63°F, (-)54°F.

7. Exhaust flow value is on a "wet" basis. Flow is a nominal value for total flow rate with a tolerance of ±6%. Exhaust gas vented through the wastegate flows only to the right exhaust outlet. The total flow through the wastegate may be as great as 15% of the total value for conditions under which the wastegate is open. For installations that use dual exhaust runs this difference must be taken into account when specifying any items to be connected to the exhaust outlets. The flow in the right exhaust outlet must be sized for at least 65% of the total flow to allow for the wastegate full open condition, while the left outlet must be sized for 50% of the total flow for the wastegate closed condition. Both runs must meet the allowable backpressure requirement as described in the Exhaust Systems A&I Guide.

8. Emission levels are at engine exhaust flange prior to any after treatment. Values are based on engine operating at steady state conditions, adjusted to the specified NOx level at 100% load. Fuel methane number cannot vary more than ± 3. Values listed are higher than nominal levels to allow for instrumentation, measurement, and engine-to-engine variations. They indicate "Not to Exceed" values. THC, NMHC, and NMNEHC do not include aldehydes. An oxidation catalyst may be required to meet Federal, State or local CO or HC requirements.

9. VOCs - Volatile organic compounds as defined in US EPA 40 CFR 60, subpart JJJJ

10. Exhaust Oxygen level is the result of adjusting the engine to operate at the specified NOx level. Tolerance is ± 0.5.

11. Heat rejection values are nominal. Tolerances, based on treated water, are ± 10% for jacket water circuit, ± 50% for radiation, ± 20% for lube oil circuit, and ± 5% for aftercooler circuit.

12. Aftercooler heat rejection includes an aftercooler heat rejection factor for the site elevation and inlet air temperature specified. Aftercooler heat rejection values at part load are for reference only. Do not use part load data for heat exchanger sizing.

13. Heat exchanger sizing criteria are maximum circuit heat rejection for the site, with applied tolerances.

Constituent	Abbrev	Mole %	Norm
Water Vapor	H2O	0.0000	0.0000
Methane	CH4	93.0000	93.5237
Ethane	C2H6	3.9000	3.9220
Propane	C3H8	1.0000	1.0056
Isobutane	iso-C4H1O	0.2300	0.2313
Norbutane	nor-C4H1O	0.2300	0.2313
Isopentane	iso-C5H12	0.0800	0.0800
Norpentane	nor-C5H12	0.0000	0.0000
Hexane	C6H14	0.1000	0.1006
Heptane	C7H16	0.0000	0.0000
Nitrogen	N2	0.4000	0.4023
Carbon Dioxide	CO2	0.5000	0.5028
Hydrogen Sulfide	H2S	0.0000	0.0000
Carbon Monoxide	CO	0.0000	0.0000
Hydrogen	H2	0.0000	0.0000
Oxygen	O2	0.0000	0.0000
Helium	HE	0.0000	0.0000
Neopentane	neo-C5H12	0.0000	0.0000
Octane	C8H18	0.0000	0.0000
Nonane	C9H20	0.0000	0.0000
Ethylene	C2H4	0.0000	0.0000
Propylene	C3H6	0.0000	0.0000
TOTAL (Volume %)		99.4400	100.0001

Fuel Makeup:	Gas Analysis
Unit of Measure:	English

Calculated Fuel Properties

Caterpillar Methane Number:	78.1
Lower Heating Value (Btu/scf):	961
Higher Heating Value (Btu/scf):	1065
WOBBE Index (Btu/scf):	1241
THC: Free Inert Ratio:	109.49
RPC (%) (To 905 Btu/scf Fuel):	100%
Compressibility Factor:	0.998
Stoich A/F Ratio (Vol/Vol):	10.02
Stoich A/F Ratio (Mass/Mass):	16.71
Specific Gravity (Relative to Air):	0.600
Specific Heat Constant (K):	1.307

CONDITIONS AND DEFINITIONS

Caterpillar Methane Number represents the knock resistance of a gaseous fuel. It should be used with the Caterpillar Fuel Usage Guide for the engine and rating to determine the rating for the fuel specified. A Fuel Usage Guide for each rating is included on page 2 of its standard technical data sheet.

RPC always applies to naturally aspirated (NA) engines, and turbocharged (TA or LE) engines only when they are derated for altitude and ambient site conditions.

Project specific technical data sheets generated by the Caterpillar Gas Engine Rating Pro program take the Caterpillar Methane Number and RPC into account when generating a site rating.

Fuel properties for Btu/scf calculations are at 60F and 14.696 psia.

Caterpillar shall have no liability in law or equity, for damages, consequently or otherwise, arising from use of program and related material or any part thereof.

FUEL LIQUIDS

Field gases, well head gases, and associated gases typically contain liquid water and heavy hydrocarbons entrained in the gas. To prevent detonation and severe damage to the engine, hydrocarbon liquids must not be allowed to enter the engine fuel system. To remove liquids, a liquid separator and coalescing filter are recommended, with an automatic drain and collection tank to prevent contamination of the ground in accordance with local codes and standards.

To avoid water condensation in the engine or fuel lines, limit the relative humidity of water in the fuel to 80% at the minimum fuel operating temperature.

APPENDIX B

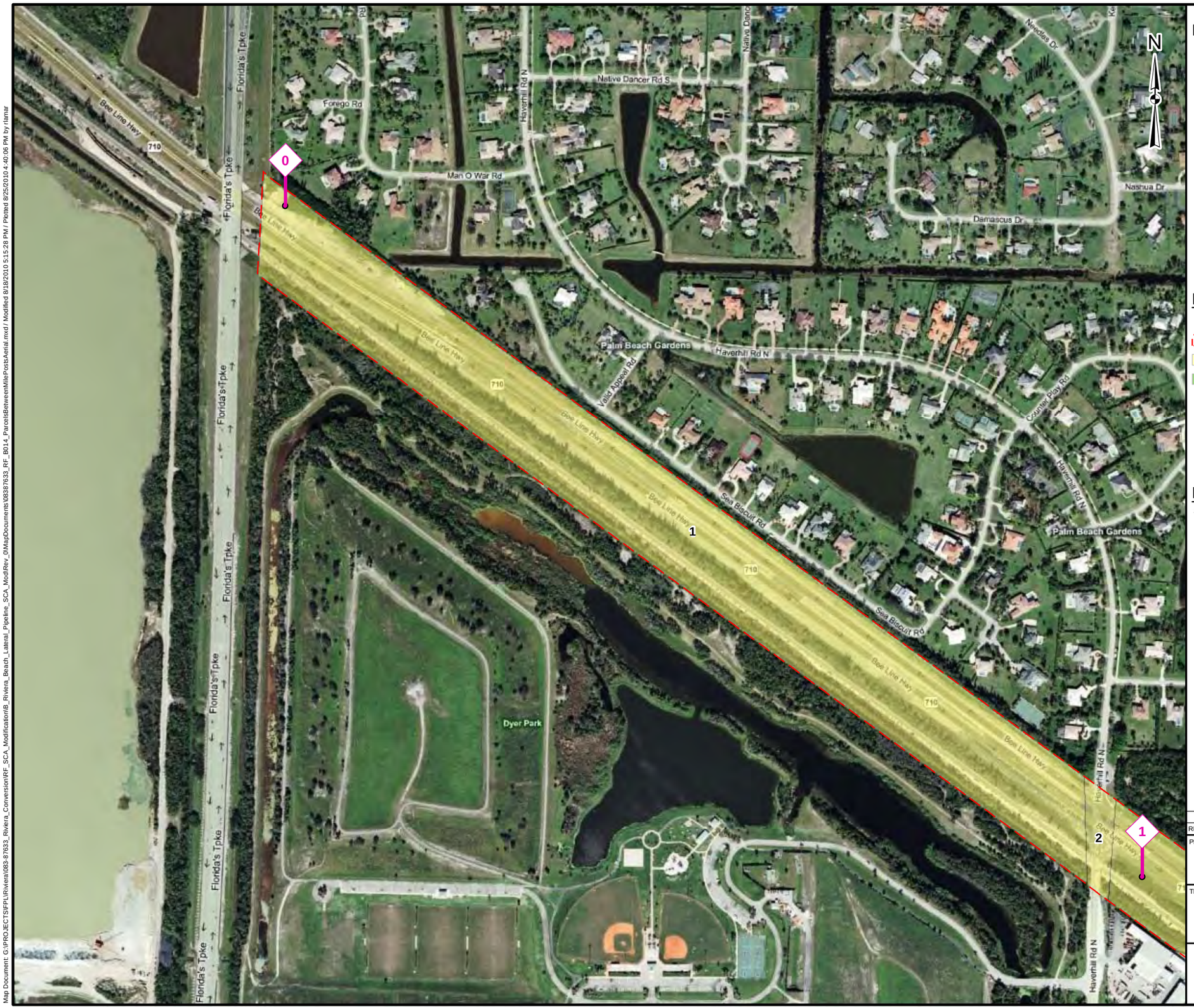
IDENTIFICATION OF PARCEL OWNERSHIP
REGARDING THE PIPELINE CORRIDOR

TABLE B-1
RIVIERA BEACH LATERAL CORRIDOR - PARCEL IDENTIFICATION AND OWNERSHIP

Parcel Number	Property Control Number	Owner Name (1)	Owner Name (2)	Affiliation	Governmental Jurisdiction
1	No PCN Available	State Road 710/Bee Line Highway	State of Florida DOT (District 4)	State Agency	Palm Beach County
2	No PCN Available	Haverhill Road North	Palm Beach County	County Agency	Palm Beach County
3	No PCN Available	State Road 708/Blue Heron Blvd	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
4	56424225000007200	FW&N RY/State Agency	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
5	No PCN Available	State Road 809/Military Trail	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
6	56434231040010000	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
7	56434231000007020	North Palm Beach County Improvement District	Improvement District	Special District	City of Riviera Beach
8	56424236000005090	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
9	56434231000007080	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
10	No PCN Available	State Road 9/Interstate 95	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
11	56434231000007010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
12	56434231000005080	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
13	No PCN Available	C-17 Canal	SFWMD	State Agency	City of Riviera Beach
14	56434231000005080	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
15	No PCN Available	North Congress Avenue	Palm Beach County	County Agency	City of Riviera Beach
16	56434231000005080	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
17	No PCN Available	Seaboard Coast Line Railroad Company/CSX Railroad	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
18	00434231000005020	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
19	No PCN Available	1914 Plat Dedicated Land to the Public	City of Riviera Beach	City	City of Riviera Beach
20	56434232060000062	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
21	No PCN Available	1914 Plat Dedicated Land to the Public	City of Riviera Beach	City	City of Riviera Beach
22	56434232060000062	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
23	56434232000007010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
24	56434233030000010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
25	No PCN Available	North Australia Avenue	Palm Beach County	County Agency	City of Riviera Beach
26	56434233030000010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
27	No PCN Available	County Road 811/Greenwood Avenue/Old Dixie Highway	Palm Beach County	County Agency	City of Riviera Beach
28	56434233000007010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
28A	56434233000007010	FDOT/South 1/2 of Parcel 28	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
29	No PCN Available	Florida East Coast Railroad	Florida East Coast Railroad	Private	City of Riviera Beach
30	56434233000007010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
31	56434233000005010	Florida Power & Light Company	FPL	FPL	City of Riviera Beach
32	56434233000005000	FDOT	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
33	No PCN Available	FDOT	State of Florida DOT (District 4)	State Agency	City of Riviera Beach
34	No PCN Available	US Highway 1/Broadway Avenue	State of Florida DOT (District 4)	State Agency	City of Riviera Beach

Reference:
1. Riviera Beach Lateral Corridor, FPL, 2010
2. Parcel Boundaries, Palm Beach County Property Appraiser, 2010

See Attached Figure B-1



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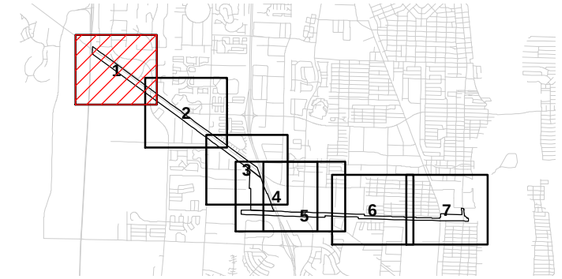

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Agency Crossing
- Individual Parcel

NOTES

See Attached Table B-1 for Parcel Information.

REFERENCES

1. Riviera Beach Lateral Corridor, FPL, 2010.
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450 225 0 450
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

PARCELS WITHIN CORRIDOR

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B014	
DESIGN	KJK	8/12/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/25/2010			
CHECK	KJK	8/25/2010			
REVIEW	RCM	8/25/2010			

FIGURE B-1
Sheet 1 of 7

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RF_SCA_ModificationB_Riviera_Beach_Lateral_Pipeline_SCA_ModRev_0\MapDocuments\08387633_RF_B014_ParcelsBetweenMilePostsAerial.mxd / Modified 8/18/2010 5:15:28 PM / Plotted 8/25/2010 4:40:06 PM by rlamar

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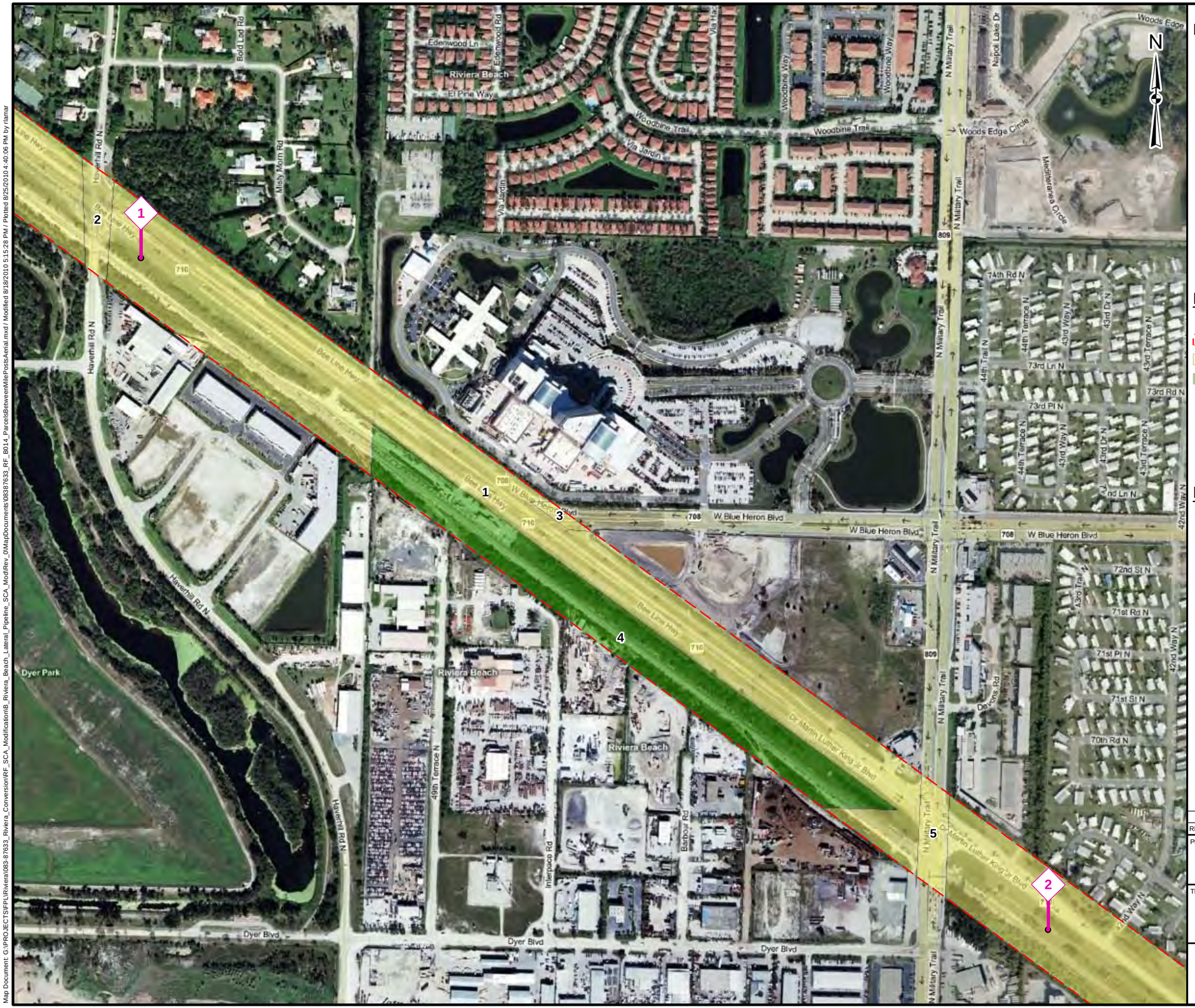

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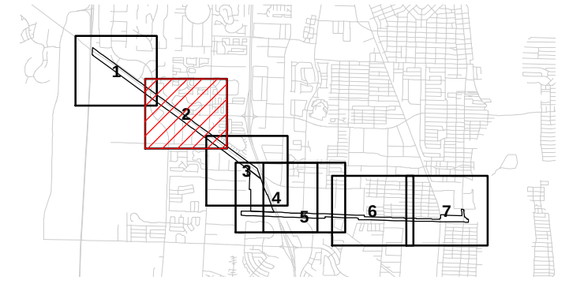

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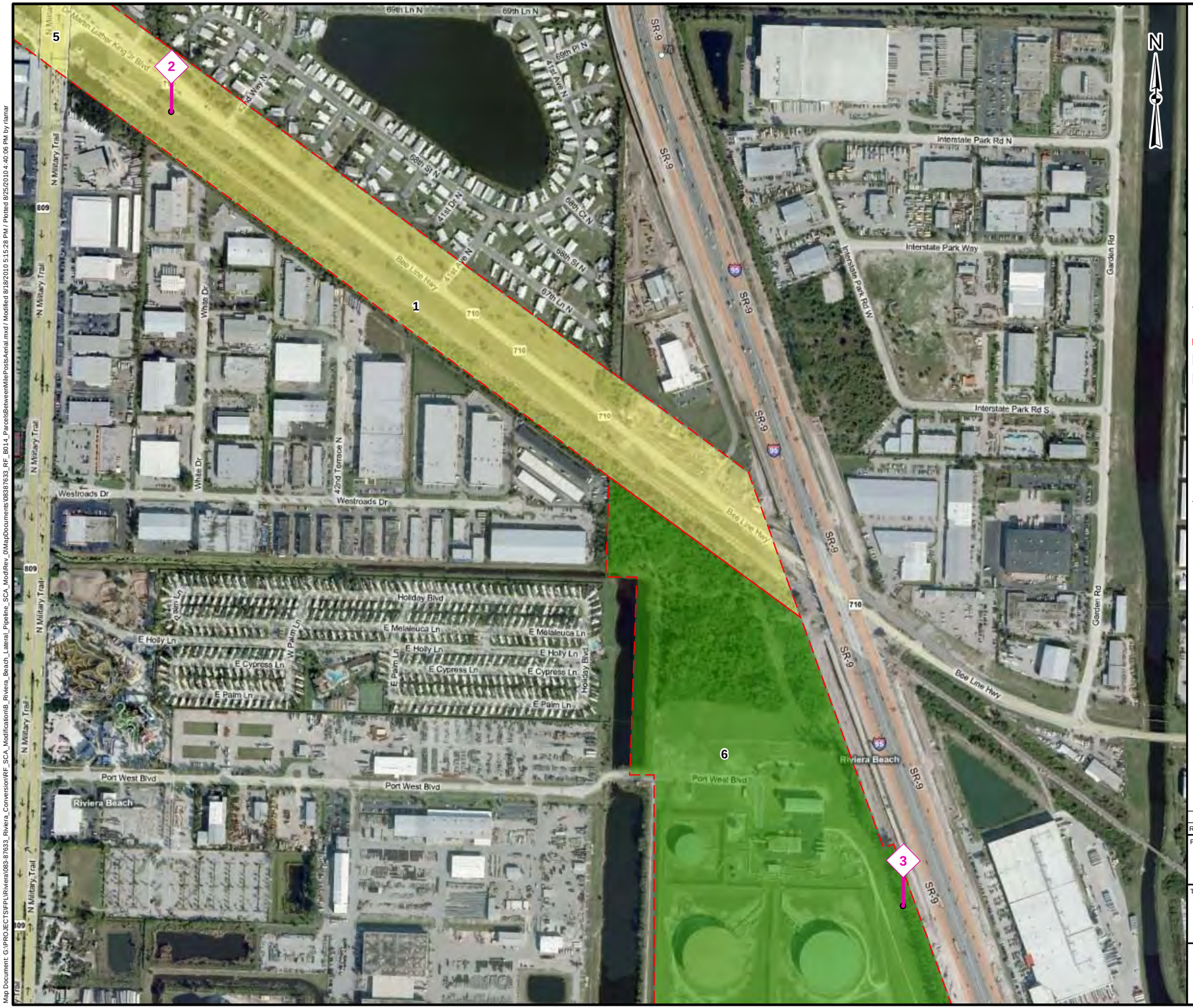
GIS	NRL	8/25/2010		
CHECK	KJK	8/25/2010	**FIGURE B-1**	
REVIEW	RCM	8/25/2010	**Sheet 2 of 7**	



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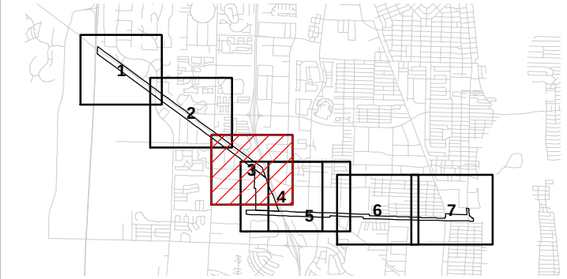

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GIS	NRL	8/25/2010		
CHECK	KJK	8/25/2010	**FIGURE B-1**	
REVIEW	RCM	8/25/2010	**Sheet 3 of 7**	

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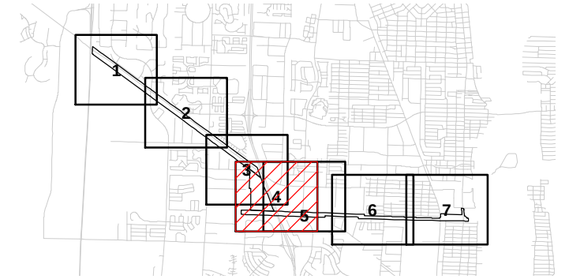

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REVIEW	RCM	8/25/2010	**Sheet 4 of 7**	

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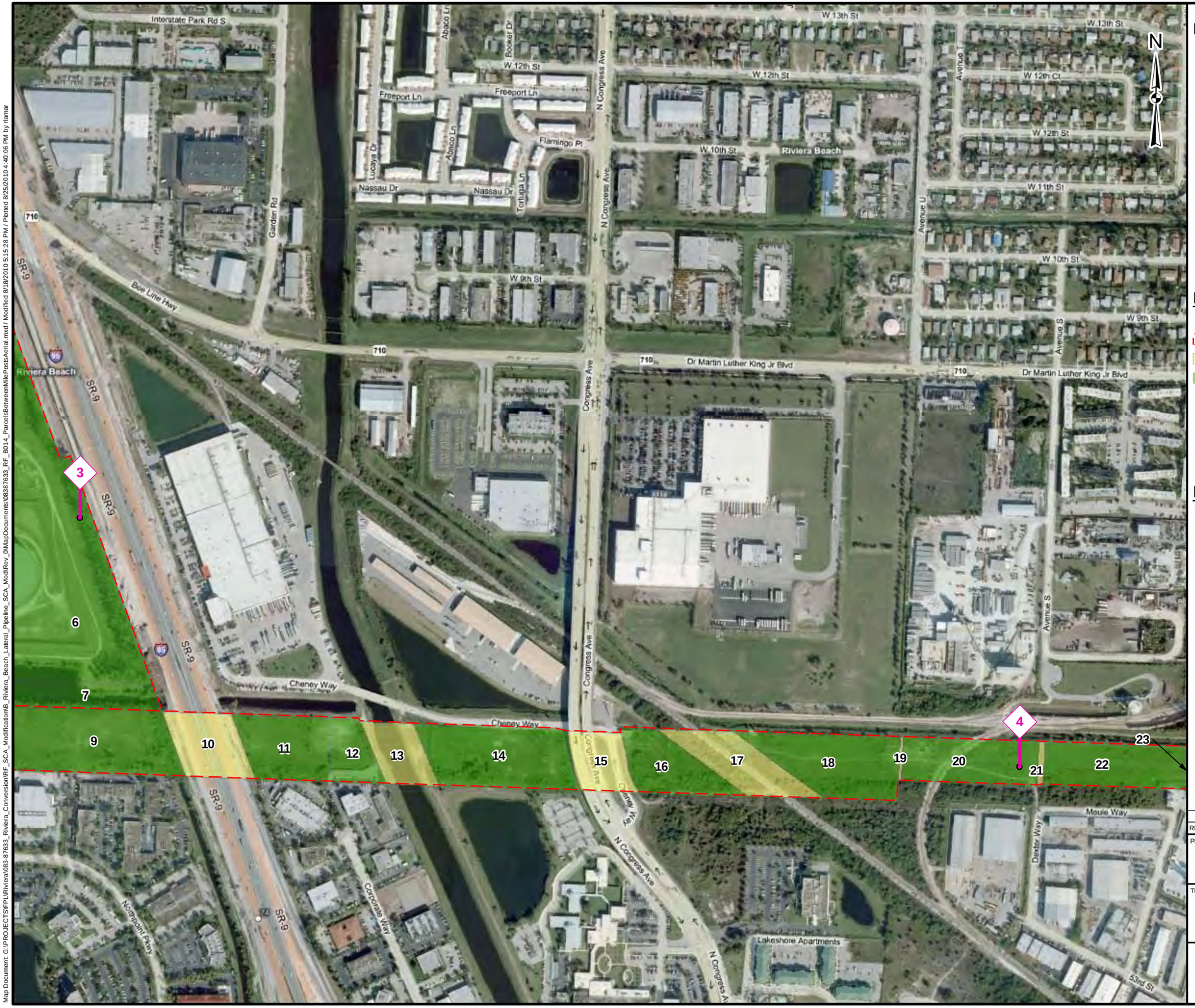

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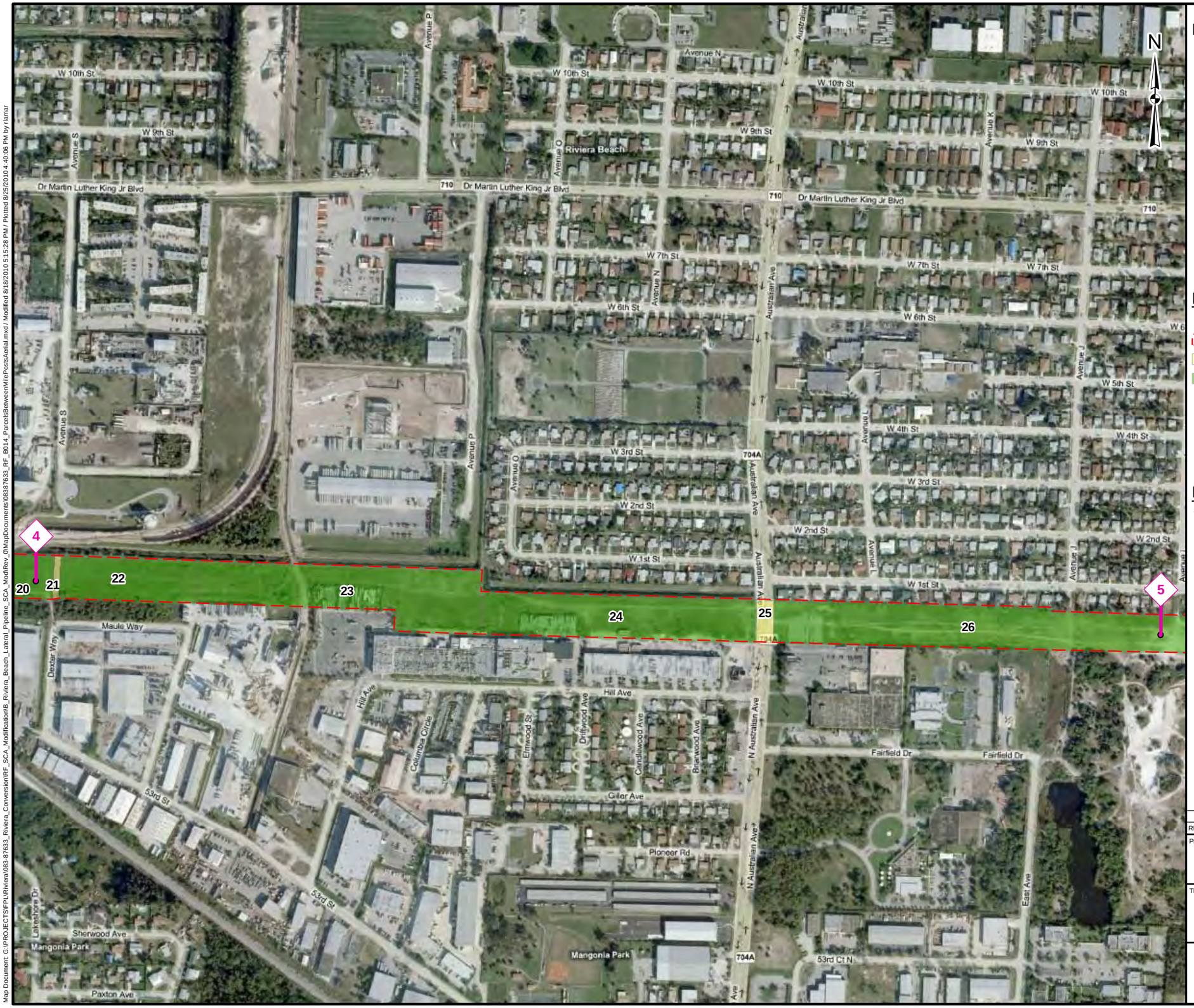
CHECK	KJK	8/25/2010	**FIGURE B-1**	
REVIEW	RCM	8/25/2010	**Sheet 5 of 7**	



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450 225 0 450

Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

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RIVIERA BEACH LATERAL CORRIDOR

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PARCELS WITHIN CORRIDOR

Golder Associates
Gainesville, Florida

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GIS	NRL	8/25/2010			
CHECK	KJK	8/25/2010	**FIGURE B-1**		
REVIEW	RCM	8/25/2010	**Sheet 6 of 7**		

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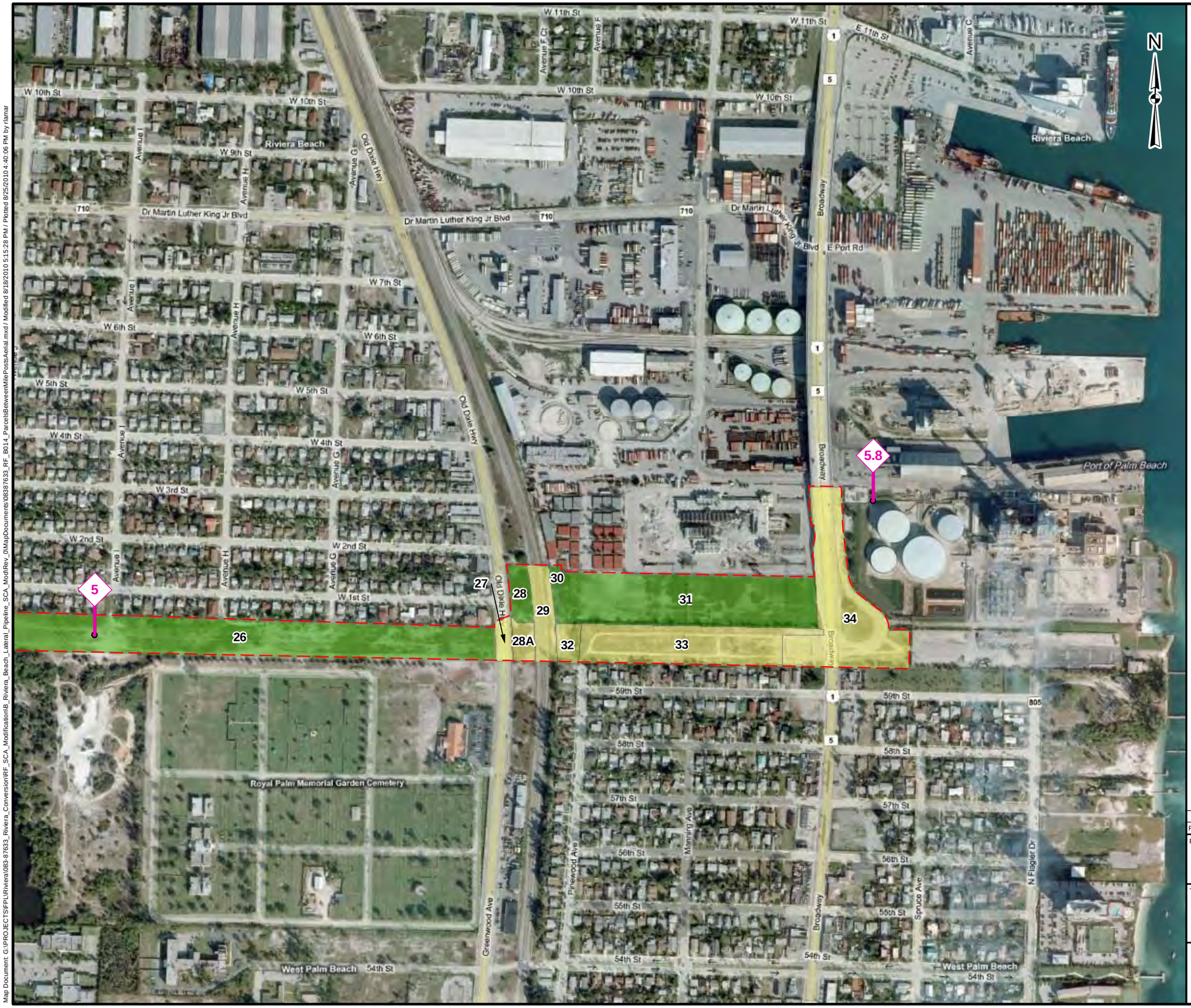
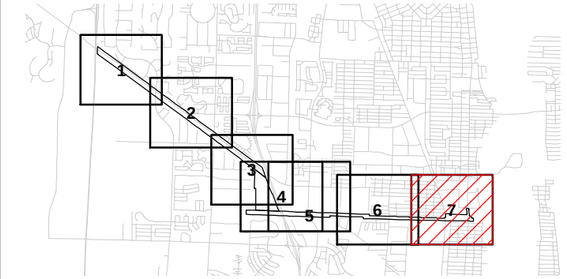


INDICATOR MAP



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Agency Crossing
- Individual Parcel

NOTES

See Attached Table B-1 for Parcel Information.

REFERENCES

1. Riviera Beach Lateral Corridor, FPL, 2010.
2. Parcel Boundaries, Palm Beach County Property Appraiser, 2010.

450 225 0 450
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

PARCELS WITHIN CORRIDOR

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RF_B014	
DESIGN	KJK	8/12/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/25/2010	**FIGURE B-1**		
CHECK	KJK	8/25/2010	**Sheet 7 of 7**		
REVIEW	RCM	8/25/2010			

APPENDIX C

CULTURAL RESOURCE REPORT

A DESKTOP CULTURAL RESOURCE SURVEY OF THE RIVIERA BEACH LATERAL CORRIDOR PALM BEACH COUNTY, FLORIDA

By:
Robert S. Carr, M.S.
John G. Beriault, B.A.

ARCHAEOLOGICAL AND HISTORICAL CONSERVANCY, INC.
4800 SW 64th Avenue, Suite 107
Davie, Florida 33314
archlgcl@bellsouth.net
(954) 792-9776

For:
GOLDER ASSOCIATES INC.

AHC TECHNICAL REPORT NO. 926
AHC PROJECT NO. 2010.43
JULY 2010

Draft 5
7-26-10

A Desktop Cultural Resource Survey of the Riviera Beach Lateral Corridor Palm Beach County, Florida

by

Robert S. Carr, M.S.
John G. Beriault, B.A.

Archaeological and Historical Conservancy
4800 SW 64th Avenue Suite 107
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AHC Technical Report # 926
July, 2010
2010.43

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CONSULTANT SUMMARY

In July, 2010, the Archaeological & Historical Conservancy, Inc. (AHC) conducted a desktop cultural resource assessment for Golder Associates of the Riviera Beach Lateral Corridor. The six +/- mile-long corridor is located within Palm Beach County, Florida. The parcel was surveyed to locate and assess any cultural resources of archaeological and/or historical significance based on review of aerial imagery, topographic map data, and a literature review of previous surveys performed within and up to .5 mile from corridor.

The subject parcel is located within Sections 31, 32, 11, and 33 in Township 42S, Range 43E; Sections 3, 4, 5, and 6 in Township 43S, Range 43E; Section 1 in Township 43S, Range 42E; and Sections 23, 25, 26, 25 and 36 in Township 42S, Range 42E (Figure 1). The parcel traverses Riviera Beach and parts of unincorporated Palm Beach County.

The desktop assessment of the project parcel was based on a review of relevant archives and literature. This included, but was not limited to, studying the previous reports for sites in Palm Beach County and Riviera Beach area, reviewing information from the Master Site File in Tallahassee concerning nearby sites, and examining USGS maps of the project area. A review of the Labins database of land surveys also was conducted. In addition, color and black and white aerial photographs from the project area which could aid in revealing anthropogenic changes to the topography and floral communities were reviewed and interpreted.

A total of fifteen cultural resource assessments have been conducted within the corridor and surrounding half mile buffer. Of these three were of particular relevance because they encompassed all or parts of the Riviera Beach Lateral Corridor. All of the assessments were conducted to fulfill historic and cultural resource requirements of Chapters 267 and 373 of the Florida Statutes. Their reports conform to the specifications set forth in Chapter Ia-46, Florida Administrative Code.

One resource group, four linear sites, and one archaeological site were recorded within the study area. The resource group 8PB13944 is the Riviera Beach Plant (none of the encompassed structures were considered eligible for listing in the National Register of Historic Places). Other recorded sites within the buffer include historic residences in Northwood—all considered ineligible for listing in the NRHP. One prehistoric site, 8PB30, a black earth midden, is located in the northeastern buffer but does not occur in the corridor. All of the linear historic sites traverse the corridor, but none will be adversely affected by the proposed use of the corridor.

It is the consultant's opinion that this desktop review and literature search indicates that all of the area lying within the Riviera Beach Lateral Corridor has been previously and adequately assessed by prior cultural resource surveys. The results of those surveys indicate that there are no significant archaeological or historic resources within the Riviera Beach Lateral Corridor. All of these assessment results were recorded with and accepted by the Florida Division of Historic Resources.

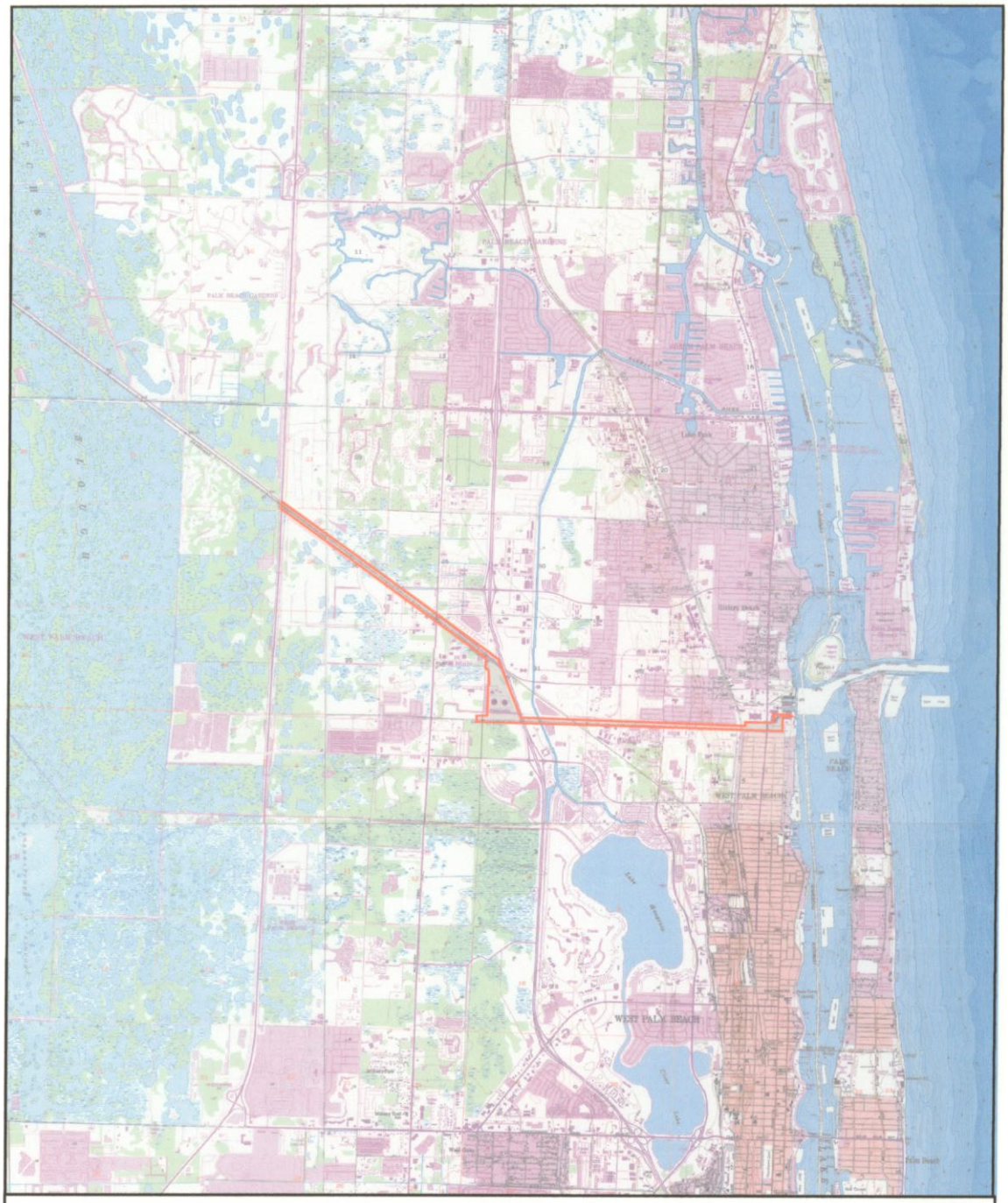


Figure 1. Map of the Riviera Beach Lateral Corridor

TOWNSHIP 42S, RANGE 43E, SECTION 31, 32, 33
TOWNSHIP 43S, RANGE 43E, SECTION 3, 4, 5, 6
TOWNSHIP 43S, RANGE 42E, SECTION 1
TOWNSHIP 42S, RANGE 42E, SECTION 23, 25, 26, 35, 36

USGS Maps: RIVIERA BEACH, REV. 1986
DELTA, REV, 1983

N

0 1 2 4 Miles
0 1.6 3.2 6.4 Km.

PROJECT SETTING

The Riviera Beach Lateral Corridor is located within and west of the City of Riviera Beach, Palm Beach County, Florida. The corridor is within portions of Township 42S, Range 43E, Sections 31, 32, 33; Township 43S, Range 43E, Sections 3, 4, 5, 6: Township 43S, Range 42E, Section 1; and Township 42S, Range 42E, Sections 23, 25, 26, 35, 36 (Figure 1). The corridor is approximately 6 miles (9.6 km.) long, averaging 50-120 meters across. It extends westward from a point on the western shore of the Lake Worth Inlet and then northwest almost to the Loxahatchee Slough area of north-central Palm Beach County. The relevant USGS maps are Riviera Beach and Delta.

The corridor has been impacted by extensive development, including a utility easement and utility plant areas and a westerly portion of the right of way for the current Seaboard Coastline Railway and County Road 710 (Dr. Martin Luther King Jr./Bee Line Highway). Historically the corridor crossed a number of environmental communities. Vintage aerial photographs taken in 1953 indicate that the corridor has been intensely developed especially in the eastern portions (Figure 3).

The eastern terminus of the corridor is at the west shore of Lake Worth almost directly west of the Lake Worth Inlet. Lake Worth was historically a fresh to brackish landlocked body of water before modern dredging activity made it part of the Intercoastal Waterway and made it a salt water body by opening inlets to the Atlantic Ocean. The 1859 survey platting the immediate area described the vicinity as being oak scrub and pineland areas extending to the west shore of Lake Worth.

The northeastern central Palm Beach County area has been the focus of urban suburban growth and modification activities for many years. Very few if any relatively unaltered areas fall within the Riviera Beach Lateral Corridor with most of those areas lying along the east-west segment west of the Florida East Coast Railway easement and east of the I-95 easement, or along select portions of the corridor paralleling the Seaboard Coastline/County Road 710 right of way.

The Riviera Beach Lateral Corridor runs from its eastern terminus at Lake Worth approximately three miles westward along the southern boundary of the Town of Riviera Beach. The corridor passes south of Riviera Heights, a residential community developed in the late 1940s. The corridor continues east crossing I-95 through a mixture of urban/suburban commercial and residential areas and there widens to encompass a utilities yard containing water tanks, a plant, and administration center. From the northwestern corner of this area the corridor heads northwest along a utility easement on the western side of the Seaboard Coastline/Beeline Highway/Martin Luther King Boulevard (CR 710) right of way. Most of the development to its immediate south consists of commercial structures. The western terminus of the corridor is at the intersection of CR 710 and SR 91, the Florida Turnpike.

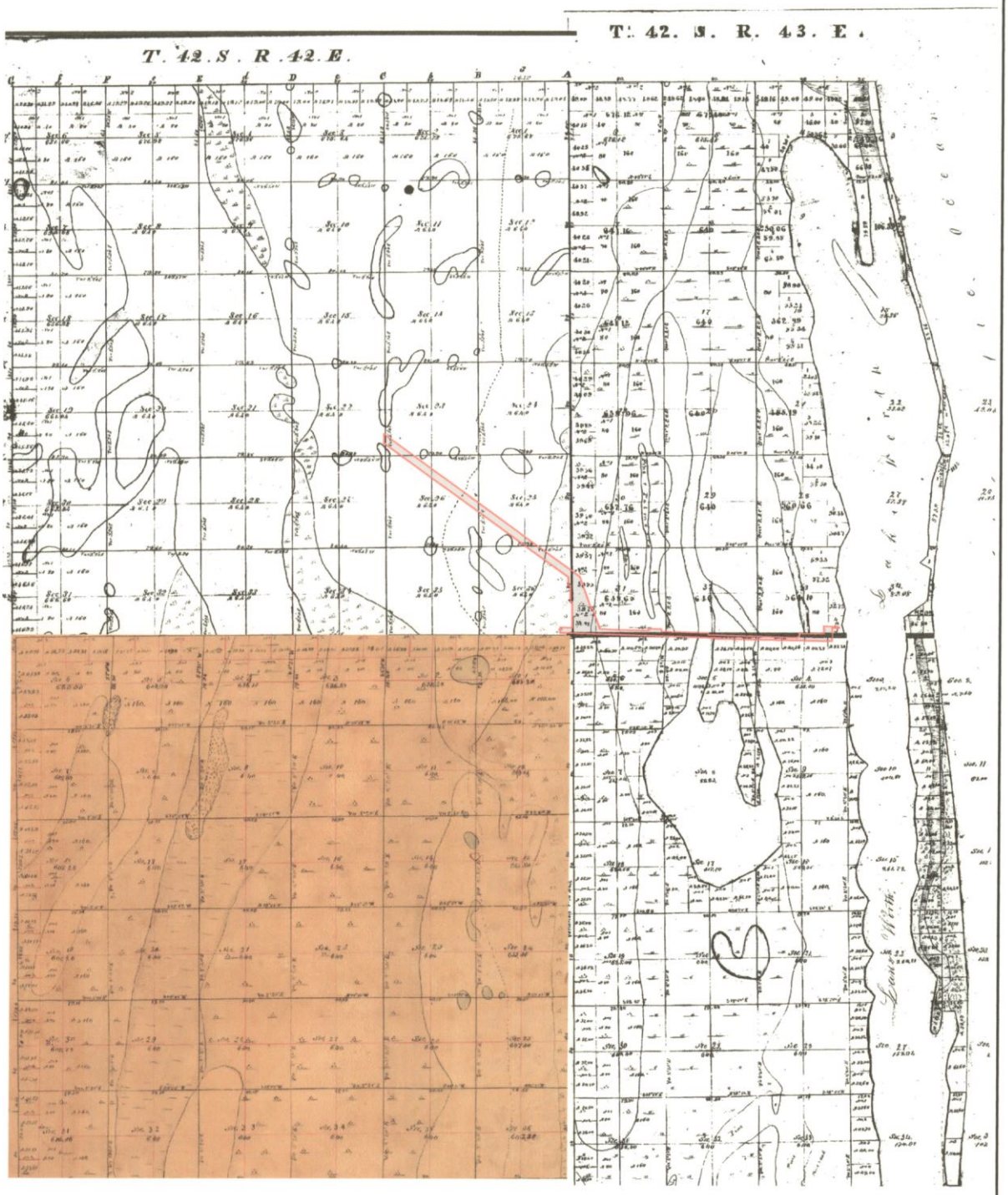


Figure 2. Portions of the c. 1859 plat maps for Township 43S, Range 42E, Township 43S, Range 43E,Township 42S, Range 42E,and Township 42S, Range 42E,with the Riviera Beach Lateral Corridor boundaries superimposed.

N

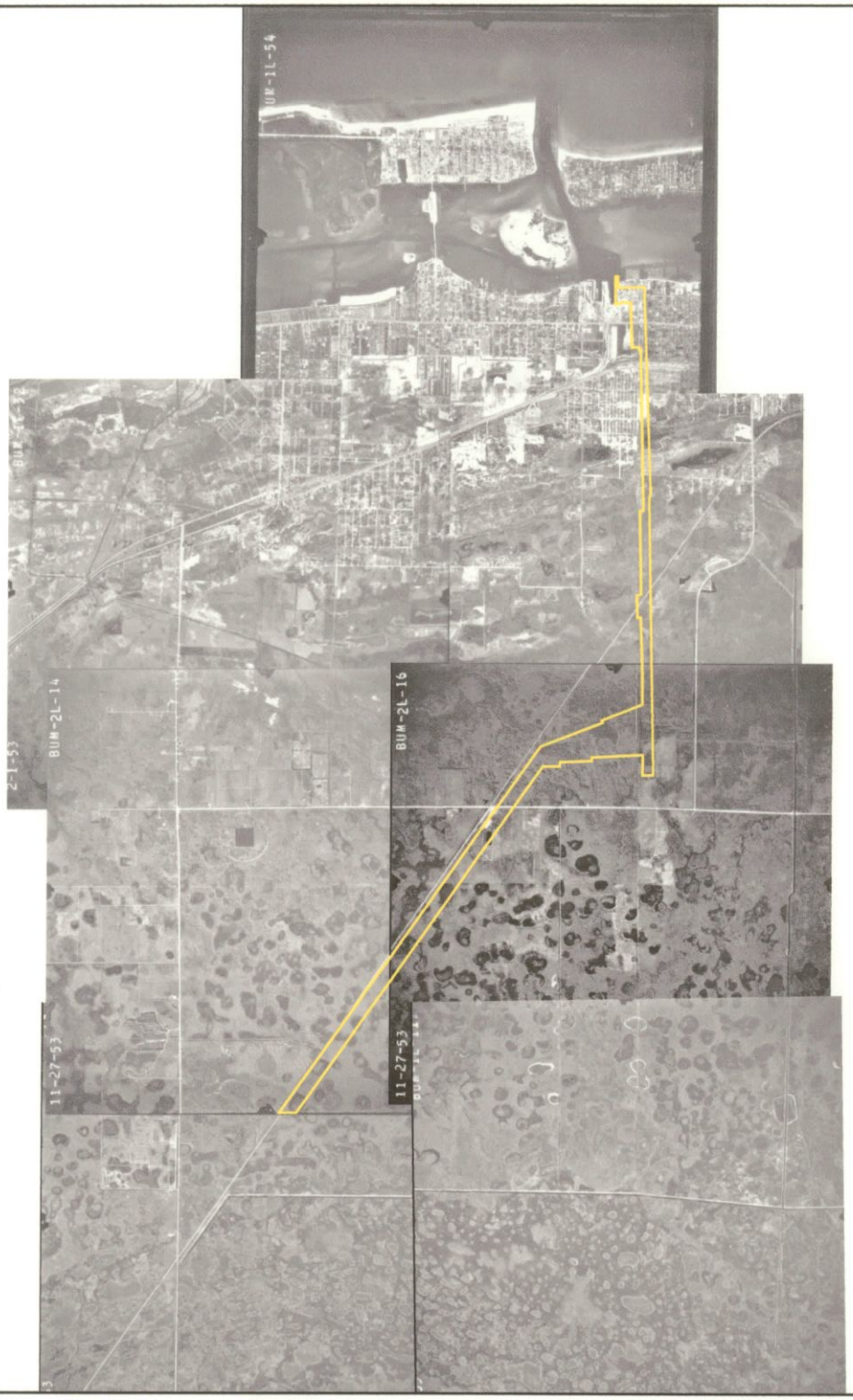


Figure 3. 1953 black and white aerial photograph mosaic of the Riviera Beach Lateral Corridor.

Figure 4. 2008 color aerial orthophotograph of the Riviera Beach Lateral Corridor.

N

0 1 2 4 Miles approx.
0 1.6 3.2 6.4 Km. approx.

SUMMARY OF PREVIOUS RESEARCH

A search was requested on 7-12-10 with the Florida Division of Historic Resources for relevant archives and literature associated with the project area. This included but was not limited to site forms and reports from the Master Site File in Tallahassee concerning previously recorded sites within 0.5 mile of the Riviera Beach Lateral Corridor.

Work within the study area has been prolific. At least fifteen surveys have been conducted within the Riviera Beach Lateral Corridor or within a half-mile buffer surrounding the corridor. Some of the most relevant assessments are discussed below.

In 2002-2003 R. Christopher Goodwin and Associates conducted a Phase I Cultural Resources Survey and Archaeological Inventory of the Onshore Florida Portion of the Seafarer U.S. Pipeline System Project Corridor and its associated access roads and ancillary facilities in Martin and Palm Beach Counties (Goodwin and Associates 2003). A portion of their intensive survey included the Riviera Beach corridor. Their assessment included the excavation of 59 shovel tests in accessible areas of the corridor, all of which were negative for archaeological and historic cultural materials.

The R. Christopher Goodwin survey determined that much of the corridor was historically low-lying terrain with a low probability for containing archaeological remains. Their assessment reviewed all recorded historic structures occurring within a half mile of the corridor and determined none would be impacted by the proposed Seafarer Pipeline corridor. The findings of the report were formally accepted by the Florida Division of Historical Resources on December 4, 2004.

In 2008 a reconnaissance level cultural resource survey was conducted by Janus Research of the FPL Riviera Plant property at the eastern terminus of the Riviera Beach Lateral Corridor (Janus Research 2008). A Florida Master Site File search conducted at that time by Janus Research indicated that no previously recorded cultural resources occurred within the project area. Janus Research cited the previous work done by R. Christopher Goodwin and Associates and conducted a review of 1859 plat maps, surveyors notes, and the information on the USGS Riviera Beach topographic map as justification for not performing shovel testing in the FPL Riviera Beach Plant area. Their survey documented five structures in the eastern portion of the FPL Riviera Beach Plant parcel (8PB12102, 8PB12192, 8PB13330, 8PB13525, and 8PB13795). All five structures had been destroyed during expansion of the plant facility during the 1980s.

The Janus survey resulted in the recording of one resource group encompassing seven previously unrecorded historic standing structures (Resource Group 8PB13944 and standing structures 8PB13945, 8PB13946, 8PB13947, 8PB13948, 8PB13949, 8PB13950, and 8PB13951) which comprised buildings and structures associated with the Riviera Beach FPL Plant. All of these structures were deemed ineligible for listing in the National Register of Historic Places. The findings of the report were formally accepted by the Florida Division of Historical Resources on December 8, 2008.

In May and June 2009, Environmental Services, Inc. (ESI) conducted an archaeological and historical Phase I survey of the proposed FPL Ranch-Riviera Transmission line right- of-way on behalf of Florida Power & Light Company, directed by Michael Arbuthnot and Brian S. Marks (Environmental Services Inc. 2009). The corridor was a 23.5 mile (37.8 km.) by 50 meter wide extending from Boynton Beach to Riviera Beach. The eastern three miles coincides with the Riviera Beach Lateral Corridor. Their assessment identified thirty-five (35) previously unrecorded historic buildings (8PB14433–8PB14467) lying north of the present project parcel in the Riviera Heights Subdivision and five previously recorded linear resources. The findings of the report were formally accepted by the Florida Division of Historical Resources on September 30, 2009.

It was also determined that the corridor traverses five linear resources (8PB12102, 8PB12192, 8PB12917, 8PB13330, and 8PB13795) which include historic road or railroad right-of-ways. One archaeological site, 8PB30, is depicted on the FDHRM map as being on the very edge of the Riviera Beach Lateral Corridor buffer but does not occur within the corridor. A number of historic residential structures were recorded in the North Lake neighborhood north of the corridor (R. Christopher Goodwin and Associates 2004). However, all were determined to be ineligible for listing in the National Register of Historic Places.

Table 1. Previously Recorded Sites Summary[1]

Site No.	Name	Site Type	References	In Corridor Study Area	Eligible for Listing in the NRHP
8PB13944	FPL Riviera Plant Complex Resource Group	Utility Plant	Survey 15806 (Janus Research, 2008)	YES	NO
8PB13945	Drum Storage Building	Masonry Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13946	Administration Building	Masonry Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13947	Chemical House	Industrial Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13948	Tank B	Industrial Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13949	Tank A	Industrial Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13950	FPL Training Center Pavilion	Masonry Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB13951	Water Tower	Industrial Vernacular Structure constructed c. 1946	Survey 15806	YES	NO
8PB12102	Florida East Coast Railway	Historic Railway Right of Way constructed ca. 1900	Survey #14832	YES	NO
8PB12192	Broadway/U.S. 1, Riviera Beach	Historic Road, 20th Century	Survey #12041	YES	NO
8PB12917	Seaboard Airline Railroad	Historic Railway Right of Way, 20th Century	Survey #14727	YES	NO
8PB13330	Old Dixie Highway	Historic Road, 20th Century	Survey #12928	YES	NO

8PB13795	Military Trail (Road)	Historic Road and Military Trail 19th-20th Century	Site Form on File, Division of Historic Resources	YES	Not Eligible as an Individual Resource

A review of relevant cultural resource assessments was conducted by requesting USGS maps of the cultural resource assessments from the Florida Division of Historical Resources and overlaying the project corridor and one-half-mile buffer established by Golder Associates (Figure 5.). The following table depicts cultural resource surveys that are within the study area.

Table 2. Summary of Cultural Resource Assessments

Survey No.	Date	Author	Title	Within Corridor	Within 0.5 Mile Buffer
3095	1992	McMurray, Carl	*Cultural Resource Assessment Survey of S.R. 710 from S.R. 809 (Military Trail) to S.R. 5 (U.S. 1) in Palm Beach County, Florida*	YES	YES
5072	1995	Milano, Karen Webster	*Cultural Resource Assessment: A Propose Roadway Resurfacing, Re-Striping, and Traffic Signalization to Northwood Road, 24th Street, 25th Street, and 59th Street, From Dixie Highway to SR 5, US 1/Broadway Avenue, West Palm Beach, Florida*	YES	YES
5732	1998	Bland, Myles C.P. and Johnson, Sydney	*Cultural Resource Assessment Survey of Peanut Island, Palm Beach County, Florida*	NO	YES
6008	2000	Hutchinson, Lee	*Cultural Resources Assessment Survey, Ne Interchange at Florida's Turnpike and SR 710, Palm Beach County, Florida*	NO	YES
6651	2001	Post, Buckley, Schuh and Jernigan, Inc.	*Cultural Resource Assessment Technical Memorandum, TRI-Rail Palm Beach Maintenance Layover Facility*	YES	YES
7347	2002	Janus Research	*A Cultural Resource Assessment Survey of the 13th Street Realignment Project*	NO	YES
8472	2002	Janus Research	*A Cultural Resource Assessment Survey of the Riviera Beach Harbor High School Site, Palm beach County, Florida*	NO	YES
9061	2003	R. Christopher Goodwin and Associates	*Phase I Cultural Resources Survey and Archaeological Inventory of the Onshore Florida Portion of the Seafarer U.S. Pipeline System Project Corridor and Its Associated Access Roads and Ancillary Facilities, Martin and Palm Beach Counties, Florida*	NO	YES
10185	2004	Ambrosino, Meghan L.	*Cultural Resource Reconnaissance of Two Pond Alternatives Alt. VE West 2 and Alt. Number 2 State Road 710 (Beeline Highway) in Palm Beach County, Florida*	NO	YES
10954	2003	R. Christopher Goodwin and Associates	*Phase I Cultural Resources Survey and Archaeological Inventory of the Onshore Florida Portion of the Seafarer U.S. Pipeline System Project Corridor and Its Associated Access Roads and Ancillary Facilities, Martin and Palm Beach Counties, Florida*	YES	YES
12015	2004	Estabrook, Richard	*Cultural Resource Assessment of Pond 1 and Pond VE East Along the State Road 710 Improvement Project, Palm Beach*	YES	YES

			County, Florida		
14000	2006	Streelman, Amy and Frasheur, Anya	*Cultural Resources Analysis Study, South Florida East Coast Corridor Transit Analysis*	**YES**	**YES**
14772	2007	Janus Research	*A Final Cultural Resource Assessment Survey for State Road 91 (Florida's Turnpike) from North of the Lake Worth Road to the Indiantown/Jupiter Road, PD&E Study, Palm Beach County, Florida*	**YES**	**YES**
15806	2008	Janus Research	*Cultural Resource Review for the FPL Riviera Plant*	**NO**	**YES**
16741	2009	Environmental Services, Inc.	*A Cultural Resource Assessment Survey of the FPL Ranch- Riviera Transmission Line Right of Way, Palm beach County, Florida*	**YES**	**YES**

Notes: [1]Based on surveys within the ½-mile buffer of the survey parcel.

CONCLUSIONS AND RECOMMENDATIONS

This Desktop Archaeological and Historical assessment was conducted to review all previous cultural resource assessments and cultural resources located in and within 0.5 mile of the Riviera Beach Lateral Corridor and to determine what additional archaeological or historical assessments may need to be preformed to satisfy local and state cultural resource permitting requirements.

A literature and archival review determined that fifteen cultural resource surveys had previously been conducted traversing or within the project corridor (Figure 5). These surveys were comprehensive in that they collectively assessed historical and archaeological resources based on pedestrian survey, subsurface testing and historic assessment of standing historic structures.

These surveys determined that no archaeological sites exist within the corridor and that no standing historic structures considered eligible for listing on the National Register of Historic Places occur in the corridor or buffer area. Five previously destroyed standing structures (8PB12102, 8PB12192, 8PB13330, 8PB13525, and 8PB13795) and a Resource Group, 8PB13944, consisting of seven historic standing structures (8PB13945, 8PB13946, 8PB13947, 8PB13948, 8PB13949, 8PB13950, and 8PB13951) are recorded at or near the eastern terminus of the project parcel within the FPL Riviera Beach Plant. None of these structures were determined to be eligible for listing in the National Register of Historic Places. Five linear cultural resources traverse the corridor (Figure 6). These linear sites include the Florida East Coast Railroad (8PB12102) and the Seaboard Air Line Railroad (8PB12917). Three historic highways traverse the corridor. These are Dixie Highway (8PB13330), U.S. 1 (8PB12192), and Military Trail (8PB13795).

The results of these previous surveys were accepted by the Florida Division of Historical Resources and formal letters of approval issued (see Appendix).

It is the consultant's opinion that this desktop review indicates that all of the area lying within the Riviera Beach Lateral Corridor has been previously and adequately assessed by previous cultural resource surveys. The results of those surveys indicate that there are no significant archaeological or historic resources occurring within the Riviera Beach Lateral Corridor. The Florida Division of Historic Resources concurred with and approved the results of the various assessments and it is the consultant's opinion that additional assessments would be redundant.

Although previous systematic efforts have been made to document sites on the corridor, if subsequent development reveals undocumented cultural resources then the consultant archaeologist and relevant agencies should be notified and efforts should be made to document these resources. If human remains are uncovered then the provisions for Florida Statute 872.05, the Unmarked Human Graves Act, will apply.

Figure 5. USGS maps depicting all previously completed surveys within the Riviera Beach Lateral Corridor and 0.5 mile buffer. (Courtesy of Florida Division of Historical Resources)

= Riviera Beach Lateral Preferred Corridor

= 1/2 Mile Buffer

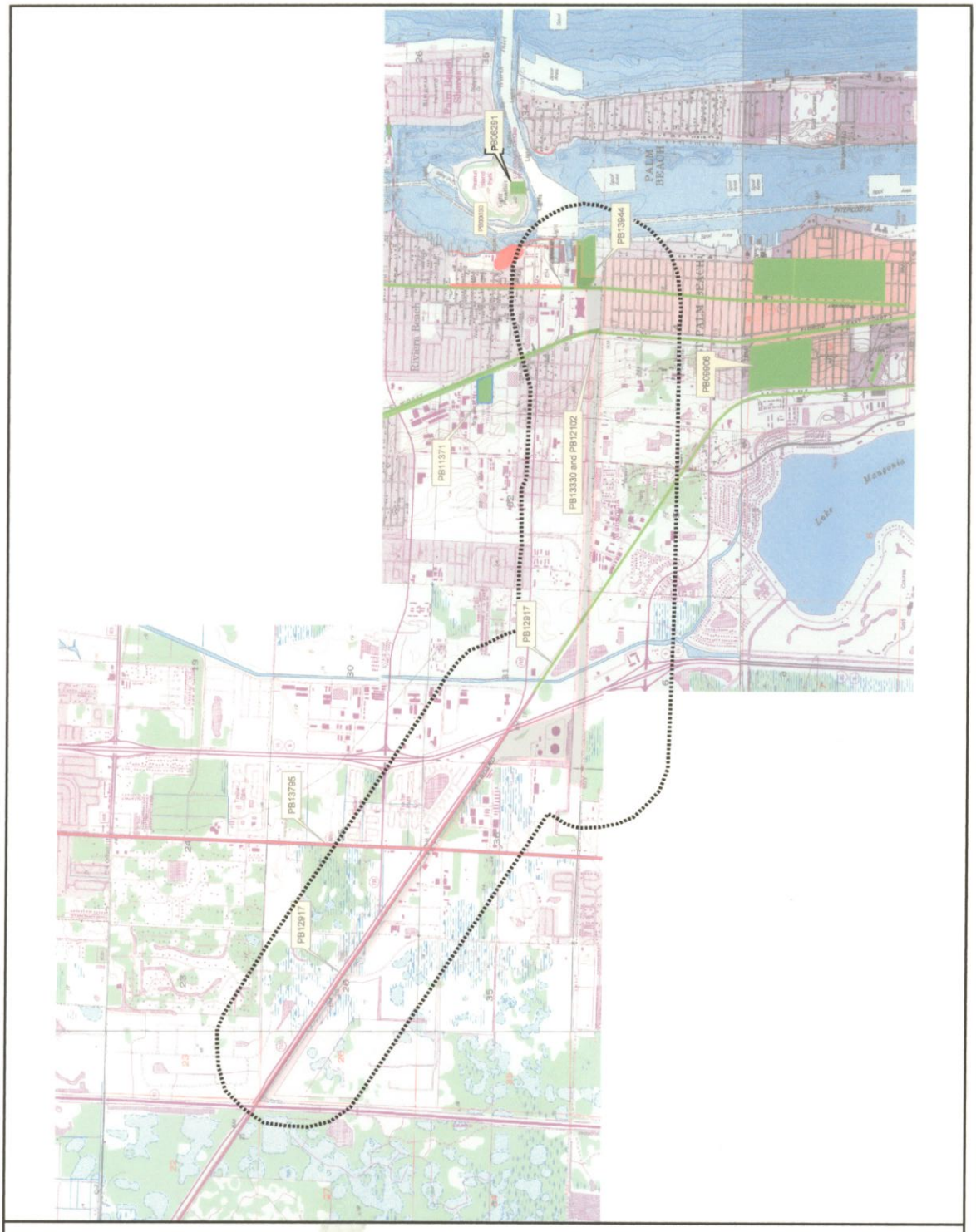


Figure 6. USGS map of the Riviera Beach Lateral Corridor area showing all previously recorded sites within or adjacent to the project parcel.

APPENDIX: FLORIDA DIVISION OF HISTORICAL RESOURCES CORRESPONDENCE

10954

FLORIDA DEPARTMENT OF STATE
Glenda E. Hood
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Ms. Heidi R. Post
R. Christopher Goodwin & Associates, Inc.
309 Jefferson Highway
New Orleans, LA 70121

December 8, 2004

Re: DHR Project File No. 2004-11008 (2003-6710)/ Received by DHR: November 8, 2004
Phase I Cultural Resources Survey and Archaeological Inventory of the Onshore Florida Portion of the Proposed Seafarer US Pipeline System Project, Palm Beach County, Florida

Dear Ms. Post:

Our office received and reviewed the above referenced survey report in accordance with Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89-665), as amended in 1992; *36 C.F.R., Part 800: Protection of Historic Properties*; and Chapter 267, *Florida Statutes*, for assessment of possible adverse impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places (NRHP)*.

From February 2002 to February 2003, R. Christopher Goodwin & Associates, Inc. conducted an archaeological and historical survey of the Onshore Florida portion of the proposed Seafarer US pipeline project area on behalf of Seafarer US Pipeline System, Inc. No cultural resources were identified within the project area during the investigation.

It is the opinion of R. Christopher Goodwin & Associates, Inc. that the proposed development will have no effect on cultural resources listed or eligible for listing in the *NRHP*, or otherwise of historical, architectural or archaeological value. R. Christopher Goodwin & Associates, Inc. recommends no further investigation of the subject parcel.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

If you have any questions concerning our comments, please contact Ron Grayson, Historic Sites Specialist, by phone at (850) 245-6333, or by electronic mail at rigrayson@dos.state.fl.us. Your continued interest in protecting Florida's historic properties is appreciated.

Sincerely,

Laura h. Kammerer, Deputy SHPO

for Frederick Gaske, Director, and
State Historic Preservation Officer

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

☐ Director's Office (850) 245-6300 • FAX: 245-6435
☐ Archaeological Research (850) 245-6444 • FAX: 245-6436
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437
☐ Historical Museums (850) 245-6400 • FAX: 245-6433
☐ Palm Beach Regional Office (561) 279-1475 • FAX: 279-1476
☐ St. Augustine Regional Office (904) 825-5045 • FAX: 825-5044
☐ Tampa Regional Office (813) 272-3843 • FAX: 272-2340

15806

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Ms. Kathleen Hoffman, Ph.D.
Janus Research
1300 N. Westshore Blvd., Suite 100
Tampa, Florida 33607

November 21, 2008

Re: DHR Project File No.: 2008-06617
Received by DHR: October 20, 2008
Cultural Resource Review for the FPL Riviera Plant

Dear Dr. Hoffman:

Our office received and reviewed the above referenced survey report in accordance with Chapters 267, 373, and 403 of the *Florida Statutes*, as well as pertinent local ordinances, for possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In September 2008, Janus Research conducted an archaeological and historical survey of the proposed FPL Riviera Plant Conversion project area on behalf of Florida Power & Light Company and Golder Associates. Janus Research identified seven previously unrecorded historic structures, six of which constitute a historic resource group, within the project area during the investigation.

Janus Research determined that the FPL Riviera Plant Complex Resource Group (8PB13944) does not appear to be eligible for listing on the NRHP based on lack of distinctive architecture, extensive alterations to historic structures, and a large number of non-historic buildings within the district.

Furthermore, Janus Research determined that the three historic buildings (8PB13945 – 8PB13947), two historic fuel oil tanks (8PB13948 – 8PB13949), and one historic water tower (8PB13951) that make up the resource group do not appear to be individually eligible for listing on the NRHP. One additional historic building (8PB1350) appears to be ineligible for listing on the NRHP based on its common form and lack of significant historic associations.

Janus Research determined that the proposed development will have no effect on cultural resources listed, or eligible for listing, in the NRHP, or otherwise of historical, archaeological, or architectural value. Janus Research recommends no further investigation of the subject parcel.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code.*

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

☐ Director's Office (850) 245-6300 • FAX: 245-6436
☐ Archaeological Research (850) 245-6444 • FAX: 245-6452
☑ Historic Preservation (850) 245-6333 • FAX: 245-6437

For any questions concerning our comments, please contact April Westerman, Historic Preservationist, by electronic mail at amwesterman@dos.state.fl.us, or by phone at (850) 245-6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Frederick P. Gaske, Director, and
State Historic Preservation Officer

16741

FLORIDA DEPARTMENT OF STATE
Kurt S. Browning
Secretary of State
DIVISION OF HISTORICAL RESOURCES

Mr. Brian Marks, Ph.D.
Environmental Services, Inc.
2825 Lewis Speedway, Suite 107
St. Augustine, Florida 32084

September 30, 2009

Re: DHR Project File No.: 2009-03697-B / 1A-32 Permit No.: 0809.095
Received by DHR: July 1, 2009 / Additional Information Received: August 24, 2009
A Cultural Resource Assessment Survey of the FPL Ranch-Riviera Transmission Line Right of Way, Palm Beach County, Florida

Dear Dr. Marks:

Our office received and reviewed the above referenced survey report in accordance with Chapters 267 and 373 of the *Florida Statutes*, for possible adverse impact to cultural resources (any prehistoric or historic district, site, building, structure, or object) listed, or eligible for listing, in the National Register of Historic Places (NRHP).

In May and June 2009, Environmental Services, Inc. (ESI) conducted an archaeological and historical Phase I survey of the proposed FPL Ranch-Riviera Transmission line right of way on behalf of Florida Power & Light Company. ESI identified thirty-five (35) previously unrecorded historic buildings (8PB14433 – 8PB14467) and five previously recorded linear resources (8PB12102, 8PB12192, 8PB13330, 8PB13525, and 8PB13795) within the project area during the investigation.

ESI determined that the historic buildings (8PB14433 – 8PB14467) do not appear to be individually eligible for listing in the NRHP based on their common architectural forms and, in some cases, non-historic alterations or additions.

ESI determined that the proposed transmission line will not adversely affect any historic properties, including linear resources. ESI recommends no further investigation of the corridor.

Based on the information provided, our office concurs with these determinations and finds the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*. It is the opinion of our office that further investigation beyond the scope of this project would be necessary to determine if any of the historic buildings identified in the survey may contribute to an historic district.

For any questions concerning our comments, please contact Rudy Westerman, Historic Preservationist, by electronic mail at amwesterman@dos.state.fl.us, or by phone at (850) 245-6333. We appreciate your continued interest in protecting Florida's historic properties.

Sincerely,

Laura A. Kammerer

Laura A. Kammerer
Historic Preservationist Supervisor
Compliance Review Section
Bureau of Historic Preservation

APPENDIX D

ENVIRONMENTAL RESOURCE PERMIT

FORM#: 62-343.900(1)
FORM TITLE: JOINT ENVIRONMENTAL
RESOURCE PERMIT APPLICATION
DATE: October 3, 1995

JOINT APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT/

AUTHORIZATION TO USE SOVEREIGN SUBMERGED LANDS/

FEDERAL DREDGE AND FILL PERMIT

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION/
WATER MANAGEMENT DISTRICTS/
U.S. ARMY CORPS OF ENGINEERS

INTRODUCTION FOR JOINT APPLICATION FOR ENVIRONMENTAL RESOURCE PERMIT/AUTHORIZATION TO USE STATE OWNED SUBMERGED LANDS/FEDERAL DREDGE AND FILL PERMIT

INTRODUCTION

Attached is a joint application for:

1) activities regulated under Part IV of Chapter 373, F.S.;
2) activities which require authorization to use state owned submerged lands; and
3) activities which require federal dredge and fill permit.

Certain activities may qualify for an exemption. If an activity qualifies for an exemption, an application is not required, although the use of this application form is the most expeditious way for the agencies to make the determination that the activity qualifies for an exemption. Attachment 2 list various regulated activities and the type of permit required for each activity. If you have any questions, please contact the staff of the nearest office of either the Florida Department of Environmental Protection (DEP) or a Water Management District (WMD).

PROCESSING AGENCY/DISTRICT SERVICE CENTERS

The Department of Environmental Protection ("Department" or "DEP") regulates some types of activities, and the Water Management Districts ("WMDs") regulate others. Attachment 1, DEP/WMD Permitting Responsibilities, specifies which activities are regulated by each agency. Environmental Resource Permit Applications shall be made tot he appropriate District/Department office serving the area in which the activity is proposed. Attachment 4 designates the appropriate agency office for each geographic area.

COPIES/APPLICATION FEES

Submit an original signed application form plus four copies of the form, and five complete sets of all the requested drawings and other information to the appropriate DEP or WMD office. Submit the appropriate fee with your application. Application fees are listed in Attachment 3.

DISTRIBUTION TO U.S. ARMY CORPS OF ENGINEERS

When activities are proposed in, on or over wetlands or other surface waters, a portion of the application (Section A and Section C, with the associated drawings) will be forwarded to the Army Corps of Engineers (ACOE) by the reviewing agency. The ACOE will advise you of any additional information that may be required to complete your federal dredge and fill permit application. It is not necessary for the applicant to submit a separate application to the ACOE. The information requested in this application form may be more than required to make a complete application to the ACOE. However, it is useful and may be essential for subsequent evaluation. Reducing unnecessary paperwork and delays is a continuing goal of the ACOE.

DISTRIBUTION TO THE DEP FOR STATE LAND APPROVAL

If the application checks the box to request authorization to use sovereign submerged lands, the Department will begin processing the request for sovereign submerged lands approval. Additionally, if at any time during the processing of the application, it appears that the proposed activities may take place on sovereign submerged lands, the Department will initiate a review for the authorization to use such lands. For an explanation of sovereign submerged lands approval see Attachment 5.

NOTE: The information listed in Sections B, D, E, and F of this application package is not intended to be all-inclusive. Additional information may be requested by the reviewing agency in order to complete your application.

TABLE OF CONTENTS
FOR ERP APPLICATION FORM PACKAGE

HEADING:	SUBJECT:
Section A	Basic application form
Section B	Information for noticed general environmental resource permits
Section C	Notice of receipt of application
Section D	Information required for standard general and individual environmental resource permit applications related to a single family dwelling unit
Section E	Information requested for standard general, individual and conceptual environmental resource permit applications not related to a single family dwelling unit
Table 1	Project impact summary
Table 2	On-site mitigation summary
Table 3	Off-site mitigation summary
Table 4	Docking facility summary
Table 5	Shoreline stabilization summary
Section F	Information for mitigation banks
Section G	Application for authorization to use sovereign submerged lands
Attachment 1	DEP and WMD permitting responsibilities
Attachment 2	Summary of activities typically authorized by each permit type
Attachment 3	Permit application processing fees
Attachment 4	Mailing instructions for submitting ERP applications to DEP, with map showing the DEP district boundaries and addresses
Attachment 5	Proprietary verses regulatory authorization

"What Sections of the Application Must I Fill Out?"

Section:	Noticed General Permits	Individual Permits		
		Single-Family Residences	Others	Mitigation Banks
Section A	Yes	Yes	Yes	Yes
Section B	Yes			
Section C		Yes	Yes	Yes
Section D		Yes		
Section E			Yes	
Section F				Yes
Section G	As Needed	As Needed	As Needed	As Needed

SECTION A

FOR AGENCY USE ONLY	
ACOE Application #	DEP/WMD Application #
Date Application Received	Date Application Received
Proposed Project Lat.	Fee Received $
Proposed Project Long.	Fee Receipt #

PART 1:
Are any of the activities described in this application proposed to occur in, on, or over wetlands or other surface waters?
☒ yes ☐ no
Is this application being filed by or on behalf of a government entity or drainage district? ☐yes ☒no

A. Type of Environmental Resource Permit Requested (check at least one). See Attachment 2 for thresholds and descriptions.

☐ Noticed General - include information requested in Section B.
☐ Standard General (Single Family Dwelling) - include information requested in Sections C and D.
☐ Standard General (all other Standard General projects) - include information requested in Sections C and E.
☐ Individual (Single Family Dwelling) - include information requested in Sections C and D.
☒ Individual (all other Individual projects) - include information requested in Sections C and E.
☐ Conceptual - include information requested in Sections C and E.
☐ Mitigation Bank Permit (construction) - include information requested in Sections C and F. (If the proposed mitigation bank involves the construction of a surface water management system requiring another permit defined above, check the appropriate box and submit the information requested by the applicable section.)
☐ Mitigation Bank (conceptual) - include information requested in Sections C and F.

B. Type of activity for which you are applying (check at least one)

☒ Construction or operation of a new system, other than a solid waste facility, including dredging or filling in, on or over wetlands and other surface waters.
☐ Construction, expansion or modification of a solid waste facility.
☐ Alteration or operation of an existing system which was not previously permitted by a WMD or DEP.
☐ Modification of a system previously permitted by a WMD or DEP.
Provide previous permit numbers:_____

☐ Alteration of a system
☐ Abandonment of a system
☐ Removal of a system
☐ Extension of permit duration
☐ Construction of additional phases of a system

C. Are you requesting authorization to use Sovereign Submerged Lands?
☐yes ☒no
(See Section G and Attachment 5 for more information before answering this question.)

D. For activities in, on,or over wetlands or other surface waters, check type of federal dredge and fill permit requested:
☐Individual ☐Programmatic General ☐General
☒Nationwide ☐Not Applicable

E. Are you claiming to qualify for an exemption? ☐yes ☒no
If yes, provide rule number if known. _____

PART 3: **A. OWNER(S) OF LAND**	**B. ENTITY TO RECEIVE PERMIT (IF OTHER THAN OWNER)**
Name Florida Power & Light Company (FPL)	Name
Title and Company	Title and Company
Address 700 Universe Boulevard	Address
City, State, Zip Juno Beach, Florida 33408	City, State, Zip
Telephone and Fax 561-691-7001 (phone) 561-691-7070 (fax)	Telephone and Fax
C. AGENT AUTHORIZED TO SECURE PERMIT	**D. CONSULTANT (IF DIFFERENT FROM AGENT)**
Name Mr. Randall R. LaBauve	Name Stacy Rizzo
Title and Company Vice President, FPL	Title and Company Project Scientist, Golder Associates Inc.
Address 700 Universe Boulevard	Address 6026 NW 1st Place
City, State, Zip Juno Beach, Florida 33408	City, State, Zip Gainesville, Florida 32607
Telephone and Fax 561-691-7001 (phone) 561-691-7070 (fax)	Telephone and Fax 352-336-5600 (phone) 352-336-6603 (fax)

PART 4: (Please provide metric equivalent for federally funded projects):

A. Name of Project, including phase if applicable: **FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline**

B. Is this application for part of a multi-phase project?
☐yes ☒no

C. Total applicant-owned area contiguous to the project?
133.03 ac.; **53.84** ha.

D. Total area served by the system: **N/A** ac.; _____ ha.

E. Impervious area for which a permit is sought: **approximately 0.83 to 0.92** ac.; **0.33 to 0.37** ha. – **compressor station**

F. Volume of water that the system is capable of impounding:
0 ac. ft.; **0** m

G. What is the total area of work in, on, or over wetlands or other surface waters?
6.11 ac.; **2.47** ha. **266,151** sq. ft.; **24,726** sq. m.

H. Total volume of material to be dredged: **approximately 22,396** yd^3; **17,123** m^3 – **trench excavation**

I. Number of new boat slips proposed: **0** wet slips; **0** dry slips

PART 5:

Project location (use additional sheets if needed):
County(ies) **Palm Beach**

Section(s) **22, 23, 25-27, 35, 36**	Township **42 South**	Range **42 East**
Section(s) **30-34**	Township **42 South**	Range **43 East**
Section(s) **1, 3-6**	Township **43 South**	Range **42, 43 East**

Land Grant name, if applicable: **N/A**

Tax Parcel Identification Number:
00434231000005020
56424225000007200
56424236000005090
56434231000005080
56434231000007010
56434231000007080
56434231000007020
56434231040010000
56434232000007010
56434232060000062
56434233000005010
56434233000005140
56434233000007010
56434233030000010

Street Address, Road, or other location: **between Florida's Turnpike and proposed FPL Riviera Beach Energy Center (RBEC)**

City, Zip Code, if applicable: **Riviera Beach, 33407**

PART 6: Describe in general terms the proposed project, system, or activity.

Installation of an approximately 6-mile natural gas pipeline between Florida's Turnpike and the proposed FPL RBEC. The pipeline would be up to 24-inches in diameter and would be installed a minimum of three feet below ground for its entire length except at the interconnection point near Florida's Turnpike, at the FPL 45th Street Terminal, and at RBEC. The Project will involve temporary impact to 6.11 acres of non-forested wetlands during trench excavation for pipeline installation. All areas of temporary wetland impact will be restored to original topographic grade using native wetland soils and allowed to revegetate through natural recruitment from the seed bank. The pipeline will be installed within temporary construction areas with a maximum corridor width of 100 feet.

The Project will also include either natural gas or electric driven compressor station, sited in an upland area at the existing FPL 45th Street Terminal. In the event that FPL chooses to construct and operate an electric compressor station, FPL will construct a new, unmanned substation near the compressor station within an upland area at the FPL 45th Street Terminal. FPL will modify the existing transmission line facilities within the existing FPL transmission right-of-way in order to extend them to serve the new substation. FPL will install distribution lines on FPL property from the new substation and from Gramercy substation to provide permanent power to the compressor station.

PART 7:

A. If there have been any pre-application meetings, including on-site meetings, with regulatory staff, please list the date(s), location(s), and names of key staff and project representatives.

Conference call with Timothy Gray, Florida Department of Environmental Protection, Southeast District Office, and Jacquelyn Lorne, FPL, on August 9, 2010, discussing overview of project.

B. Please identify by number any MSSW/Wetland Resource/ERP/ACOE Permits pending, issued or denied for projects at the location, and any related enforcement actions.

Agency	Date	No.\Type of Application	Action Taken

C. Note: The following information is required for projects proposed to occur in, on or over wetlands that need a federal dredge and fill permit or an authorization to use state owned submerged lands. Please provide the names, addresses and zip codes of property owners whose property directly adjoins the project (excluding application) and/or (for proprietary authorizations) is located within a 500 ft. radius of the applicant's land. Please attach a plan view showing the owner's names and adjoining property lines. Attach additional sheets if necessary.

1. 2.

See Attachment A, Adjacent Property Ownership.

3. 4.

5. 6.

7. 8.

PART 8:

A. By signing this application form, I am applying, or I am applying on behalf of the applicant, for the permit and any proprietary authorizations identified above, according to the supporting data and other incidental information filed with this application. I am familiar with the information contained in this application and represent that such information is true, complete and accurate. I understand this is an application and not a permit, and that work prior to approval is a violation. I understand that this application and any permit issued or proprietary authorization issued pursuant thereto, does not relive me of any obligation for obtaining any other required federal, state, water management district or local permit prior to commencement of construction. I agree, or I agree on behalf of the applicant, to operate and maintain the permitted system unless the permitting agency authorizes transfer of the permit to a responsible operation entity. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Randall R. LaBauve
Typed/Printed Name of Applicant (If no Agent is used) or Agent (If one is so authorized below)

Signature of Applicant/Agent — Date: 8/30/2010

Vice President
(Corporate Title if applicable)

AN AGENT MAY SIGN ABOVE ONLY IF THE APPLICANT COMPLETES THE FOLLOWING:

B. I hereby designate and authorize the agent listed above to act on my behalf, or on behalf of my corporation, as the agent in the processing of this application for the permit and/or proprietary authorization indicated above; and to furnish, on request, supplemental information in support of the application. In addition, I authorize the above-listed agent to bind me, or my corporation, to perform any requirements which may be necessary to procure the permit or authorization indicated above. I understand that knowingly making any false statement or representation in this application is a violation of Section 373.430, F.S. and 18 U.S.C. Section 1001.

Typed/Printed Name of Applicant	Signature of Applicant	Date

(Corporate Title if applicable)

Please note: The applicant's original signature (not a copy) is required above.

PERSON AUTHORIZING ACCESS TO THE PROPERTY MUST COMPLETE THE FOLLOWING:

C. I either own the property described in this application or I have legal authority to allow access to the property, and I consent, after receiving prior notification, to any site visit on the property by agents or personnel from the Department of Environmental Protection, the Water Management District and the U.S. Army Corps of Engineers necessary for the review and inspection of the proposed project specified in this application. I authorize these agents or personnel to enter the property as many times as may be necessary to make such review and inspection. Further, I agree to provide entry to the project site for such agents or personnel to monitor permitted work if a permit is granted.

Typed/Printed Name of Applicant	Signature of Applicant	Date
Randall R. LaBauve		8/30/2010

Vice President
(Corporate Title if applicable)

SECTION C

Environmental Resource Permit Notice of Receipt of Application

Note: this form does not need to be submitted for noticed general permits.
This information is required in addition to that required in other sections of the application. Please submit five copies of this notice of receipt of application and all attachments with the other required information. Please submit all information on 8 1/2" x 11" paper.

Project Name	**FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline**
County	**Palm Beach**
Owner	**Florida Power & Light Company**
Applicant:	**Florida Power & Light Company**
Applicant's Address:	**700 Universe Boulevard, Juno Beach, Florida 33408**

1. Indicate the project boundaries on a USGS quadrangle map. Attach a location map showing the boundary of the proposed activity. The map should also contain a north arrow and a graphic scale; show Section(s), Township(s), and Range(s); and must be of sufficient detail to allow a person unfamiliar with the site to find it.

Please see Attachment B – Site Location Information, Figure 1 – USGS Topographic Map.

2. Provide the names of all wetlands, or other surface waters that would be dredged, filled, impounded, diverted, drained, or would receive discharge (either directly or indirectly), or would otherwise be impacted by the proposed activity, and specify if they are in an Outstanding Florida Water or Aquatic Preserve:

No named wetlands, named surface waters, Outstanding Florida Waters, or Aquatic Preserves would be impacted by the proposed Project.

The proposed gas pipeline corridor is located entirely within the rights-of-way adjacent to existing paved roads, rail lines, and transmission lines, thereby avoiding and minimizing wetland impacts to the greatest extent practicable. Additional avoidance/minimization efforts include siting of the compressor station and associated substation within upland areas. Conservative assumptions regarding a preliminary pipeline alignment within the corridor were utilized to derive an enveloping scenario of worst-case wetland impact acreage. Upon detailed pipeline design and incorporation of avoidance and minimization efforts, the total acreage of wetland impacts are expected to be reduced. Using the worst-case assumptions, the total estimated wetland impacts resulting from construction of the pipeline include 6.11 acres of temporary wetland impact to ditches (Florida Land Use, Cover, and Forms Classification System [FLUCFCS] 511), canals (FLUCFCS 512), reservoirs (FLUCFCS 534), wetland shrub (FLUCFCS 631), and wet prairies (FLUCFCS 643). The Project will not require any clearing of forested wetlands, will be constructed within a temporary construction corridor with a width no greater than 100 feet, and will not require construction of permanent access roads within wetland areas. Areas of temporary impact will be restored through replacement of native wetland topsoil to original grade to allow natural regeneration of wetland vegetation.

Wetland locations are illustrated in Attachment C –Wetland Survey. ACOE wetland datasheets, ACOE jurisdictional (Rapanos) forms, and Uniform Mitigation Assessment Method (UMAM) wetland functional assessment forms are included in Attachment D.

Conceptual temporary wetland impacts associated with the preliminary pipeline alignment are summarized in the following table by wetland ID, habitat type according to the FLUCFCS, and functional assessment score of the existing conditions of the wetlands utilizing the UMAM.

Wetland ID	Wetland Type (FLUCFCS Code)	Approximate Temporary Impact Acreage	UMAM Score			
			Location/ Landscape	Water Environment	Community Structure	TOTAL SCORE
A/B	511	0	4	4	4	0.40
C	631	1.75	4	4	4	0.40
D	631	0	4	4	4	0.40
E	512	0	4	6	4	0.47
F	512	0.23	4	6	4	0.47
G	512	0	4	6	4	0.47
H	511	0.11	4	4	4	0.40
I	511	0	4	4	4	0.40
J	511	0.52	4	4	4	0.40
K	534	0	4	5	4	0.43
L	534	0	4	5	4	0.43
M	511	0	4	4	4	0.40
N	511	0	4	4	4	0.40
O	511	0	4	4	4	0.40
P	511	0	4	4	4	0.40
Q	534	0.08	4	5	4	0.43
R	643	0.13	4	4	4	0.40
S	643	0.14	4	4	4	0.40
T	643	0.71	4	4	4	0.40
U	511	0	4	4	4	0.40
V	643	1.37	4	4	4	0.40
W	643	1.07	4	4	4	0.40
X	511	0	4	4	4	0.40
Y	643	0	4	4	4	0.40
	TOTAL ACREAGE	6.11				

3. Attach a depiction (plan and section views), which clearly shows the works or other facilities proposed to be constructed. Use multiple sheets, if necessary. Use a scale sufficient to show the location and type of works.

Please see Attachment B – Site Location Information, Figure 2 (SCA Chapter 9 Figure P9.2.0-1) – Conceptual Plot Plan.

4. Briefly describe the proposed project (such as "construct dock with boat shelter", "replace two existing culverts", "construct surface water management system to serve 150 acre residential development"):

Construction of a natural gas pipeline, compressor station, and associated substation.

5. Specify the acreage of wetlands or other surface waters, if any, that are proposed to be filled, excavated, or otherwise disturbed or impacted by the proposed activity:

Construction of the Project will result in approximately 6.11 acres of temporary impacts to non-forested wetlands.

6. Provide a brief statement describing any proposed mitigation for impacts to wetlands and other surface waters (attach additional sheets if necessary):

Areas of temporary impact will be restored through replacement of native wetland topsoil to original grade to allow natural regeneration of wetland vegetation.

FOR AGENCY USE ONLY

Application Name:
Application Number:
Office where the application can be inspected:

Note to Notice recipient: The information in this notice has been submitted by the applicant, and has not been verified by the agency. It may be incorrect, incomplete or may be subject to change.

SECTION E

INFORMATION REQUESTED FOR STANDARD GENERAL, INDIVIDUAL AND CONCEPTUAL ENVIRONMENTAL RESOURCE PERMIT APPLICATIONS NOT RELATED TO A SINGLE FAMILY DWELLING UNIT

Please provide the information requested below if the proposed project requires either a standard general, individual, or conceptual approval environmental resource permit and is not related to an individual, single family dwelling unit, duplex or quadruplex. The information listed below represents the level of information that is usually required to evaluate an application. The level of information required for a specific project will vary depending on the nature and location of the site and the activity proposed. Conceptual approvals generally do not require the same level of detail as a construction permit. However, providing a greater level of detail will reduce the need to submit additional information at a later date. If an item does not apply to your project, proceed to the next item. Please submit all information that is required by the Department on either 8 1/2 in. X 11 in. paper or 11 in. X 17 in. paper. Larger drawings may be submitted to supplement but not replace these smaller drawings.

I. Site Information

A. Provide a map(s) of the project area and vicinity delineating USDA/SCS soil types.

Please see Attachment B – Site Location Information, Figure 3 – Soils Map.

B. Provide recent aerials, legible for photo interpretation with a scale of 1" = 400 ft, or more detailed, with project boundaries delineated on the aerial.

Please see Attachment B - Site Location Information, Figure 4 – Aerial Map.

C. Identify the seasonal high water or mean high tide elevation and normal pool or mean low tide elevation for each on site wetland or surface water, including receiving waters into which runoff will be discharged. Include dates, datum, and methods used to determine these elevations.

The seasonal high water elevation is approximated from the wetland boundary line elevation for each wetland within the corridor. The normal pool elevation for wet prairies and wetland shrub systems within the corridor is saturated soils (no standing water). Normal pool elevation for ditches and reservoirs within the corridor is approximately two feet below top of bank; for canals, it is approximately five feet below top of bank.

D. Identify the wet season high water tables at the locations representative of the entire project site. Include dates, datum, and methods used to determine these elevations.

According to the Soil Survey of Palm Beach County Area, Florida, the dominant soils underlying most of the corridor are Basinger fine sand and Myakka fine sand. Basinger fine sand has a groundwater table within 10 inches of the surface for 2 to 6 months in most years and within 10 to 30 inches for the rest of the year. Depressions are covered with water for 3 to 9 months or more each year. Myakka fine sand has a groundwater table within 10 inches of the surface for 2 to 4 months in most years and it is within a depth of 10 to 40 inches for 6 months or more in most years and recedes to below 40 inches during dry periods.

II. Environmental Considerations

A. Provide results of any wildlife surveys that have been conducted on the site, and provide any comments pertaining to the project from the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service.

Listed species observed within the pipeline corridor during field surveys conducted in June 2010 and identified within the vicinity according to the Florida Natural Areas Inventory (FNAI) are identified in Attachment B – Site Location Information, Figure 5 – Listed Species Map. A snowy egret (*Egretta thula*), classified by the Florida Fish and Wildlife Conservation Commission as a species of special concern, was

observed in a stormwater retention pond (Wetland L) within the corridor. It is likely that additional species of wading birds occasionally utilize wetland areas within and adjacent to the pipeline corridor for foraging. In addition, Florida manatees (*Trichechus manatus latirostris*) may occur within the C-17 canal; however, Horizontal Directional Drilling (HDD) methods are proposed to be used for installation of the pipeline in this area, therefore, no impacts to manatees are expected. The installation of the pipeline is not expected to result in any adverse impacts to threatened or endangered species.

B. Provide a description of how water quantity, quality, hydroperiod, and habitat will be maintained in on-site wetlands and other surface waters that will be preserved or will remain undisturbed.

Construction areas will be isolated from adjacent undisturbed areas through installation of staked silt fencing to protect the surrounding area from runoff and sedimentation associated with construction.

C. Provide a narrative description of any proposed mitigation plans, including purpose, maintenance, monitoring, and construction sequence and techniques, and estimated costs.

Construction of the Project will result in approximately 6.11 acres of temporary impacts to non-forested wetlands. Areas of temporary impact will be restored through replacement of native wetland topsoil to original grade to allow natural regeneration of wetland vegetation.

D. Describe how boundaries of wetlands or other surface waters were determined. If there has ever been a jurisdictional declaratory statement, a formal wetland determination, a formal determination, a validated informal determination, or a revalidated jurisdictional determination, provide the identifying number.

Jurisdictional wetland boundaries were delineated in the field based on the applicable federal (US Army Corps of Engineers) and state (FDEP) wetland criteria. Specifically, the corridor was examined for the presence of hydrophytic vegetation, hydric soils, and hydrological indicators, by which the landward extent of wetlands was marked upon aerial photography and in the field with sequentially-numbered flagging tape for subsequent surveying. Please see Attachment C – Wetland Survey.

E. Impact Summary Tables:

1. For all projects, complete Tables 1, 2 and 3 as applicable.

Please see Table 1 attached.

2. For docking facilities or other structures constructed over wetlands or other surface waters, provide the information requested in Table 4.

N/A

3. For shoreline stabilization projects, provide the information requested in Table 5.

N/A

III. Plans

Provide clear, detailed plans for the system including specifications, plan (overhead) views, cross sections (with the locations of the cross sections shown on the corresponding plan view), and profile (longitudinal) views of the proposed project. The plans must be signed and sealed by a an appropriate registered professional as required by law. Plans must include a scale and a north arrow. These plans should show the following:

A. Project area boundary and total land area, including distances and orientation from roads or other land marks;

Please see Attachment B – Site Location Information, Figure 4 – Aerial Map for the Project area boundary and orientation from roads.

B. Existing land use and land cover (acreage and percentages), and on-site natural communities, including wetlands and other surface waters, aquatic communities, and uplands. Use the Florida Land Use Cover & Classification System (FLUCCS)(Level 3) for projects proposed in the South Florida Water Management District, the St. Johns River Water Management District, and the Suwannee River Water Management District and use the National Wetlands Inventory (NWI) for projects proposed in the Southwest Florida Water Management District. Also identify each community with a unique identification number which must be consistent in all exhibits.

Please see Attachment B – Site Location Information, Figure 6 – Land Use/Land Cover. Existing land use and land cover within the proposed corridor is detailed below:

Land Use/Land Cover Type	FLUCFCS Code	Acreage	Percent
Fixed Single Family Units	111	172.03	12
Fixed Single Family Units <Six or more dwelling units per acre>	131	192.79	13
Mobile Home Units <Six or more dwelling units per acre>	132	48.69	3
Commercial and Services	140	94.71	6
Oil and Gas Processing	154	45.49	3
Other Light Industrial	155	353.55	24
Other Heavy Industrial	156	18.18	1
Medical and Health Care	174	36.48	2
Open Land	190	16.83	1
Shrub and Brushland	320	103.08	7
Hardwood - Coniferous Mixed	434	70.06	5
Ditches	511	10.74	1
Canals	512	23.87	2
Reservoirs	530/534	1.53	<1
Wetland Shrub	631	2.04	<1
Wet Prairies	643	3.66	<1
Railroads	812	44.97	3
Roads and Highways	814	204.09	14
Electric Power Facilities	831	32.50	2
TOTAL		1,475.28	100

C. The existing topography extending at least 100 feet off the project area, and including adjacent wetlands and other surface waters. All topography shall include the location and a description of known benchmarks, referenced to NGVD. For systems waterward of the mean high water (MHW) or seasonal high water lines, show water depths, referenced to mean low water (MLW) in tidal areas or seasonal low water in non-tidal areas, and list the range between MHW and MLW. For docking facilities, indicate the distance to, location of, and depths of the nearest navigational channel and access routes to the channel.

Please see Attachment C – Wetland Survey and Attachment B – Site Location Information, Figure 1 – USGS Topographic Map.

D. If the project is in the known flood plain of a stream or other water course, identify the following: 1) the flood plain boundary and approximate flooding elevations; and 2) the 100-year flood elevation and floodplain boundary of any lake, stream or other watercourse located on or adjacent to the site;

Please see Attachment B – Site Location Information, Figure 7 – Floodplain Map. Approximately 99 acres of the corridor are located within the FEMA-designated 100-year floodplain.

E. The boundaries of wetlands and other surface waters within the project area. Distinguish those wetlands and other surface waters that have been delineated by any binding jurisdictional determination;

Please see Attachment C – Wetland Survey.

F. Proposed land use, land cover and natural communities (acreage and percentages), including wetlands and other surface waters, undisturbed uplands, aquatic communities, impervious surfaces, and water management areas. Use the same classification system and community identification number used in III (B) above.

Because the impacts from pipeline construction are temporary, habitats within the corridor will return to their natural state. Post-construction land use and land cover is expected to return to current conditions, as summarized in the table in III (B) above.

G. Proposed impacts to wetlands and other surface waters, and any proposed connections/outfalls to other surface waters or wetlands;

Conservative assumptions regarding a preliminary pipeline alignment within the corridor were utilized to derive an enveloping scenario of worst-case wetland impact acreage. Upon detailed pipeline design and incorporation of avoidance and minimization efforts, the total acreage of wetland impacts are expected to be reduced. Using the worst-case assumptions, the total estimated wetland impacts resulting from construction of the pipeline include 6.11 acres of temporary wetland impact.

H. Proposed buffer zones;

N/A

I. Pre- and post-development drainage patterns and basin boundaries showing the direction of flows, including any off-site runoff being routed through or around the system; and connections between wetlands and other surface waters;

N/A

J. Location of all water management areas with details of size, side slopes, and designed water depths;

N/A

K. Location and details of all water control structures, control elevations, any seasonal water level regulation schedules; and the location and description of benchmarks (minimum of one benchmark per structure);

N/A

L. Location, dimensions and elevations of all proposed structures, including docks, seawalls, utility lines, roads, and buildings;

Please see Attachment B – Site Location Information, Figure 2 (SCA Chapter 9 Figure P9.2.0-1) – Conceptual Plot Plan.

M. Location, size, and design capacity of the internal water management facilities;

N/A

N. Rights-of-way and easements for the system, including all on-site and off-site areas to be reserved for water management purposes, and rights-of-way and easements for the existing drainage system, if any;

N/A

O. Receiving waters or surface water management systems into which runoff from the developed site will be discharged;

N/A

P. Location and details of the erosion, sediment and turbidity control measures to be implemented during each phase of construction and all permanent control measures to be implemented in post-development conditions;

Erosion, sediment, and turbidity control measures will be implemented during construction to prevent any discharge of turbid waters to adjacent wetlands. Silt fencing will be installed along the perimeter of the construction area.

Q. Location, grading, design water levels, and planting details of all mitigation areas;

N/A

R. Site grading details, including perimeter site grading;

N/A

S. Disposal site for any excavated material, including temporary and permanent disposal sites;

N/A

T. Dewatering plan details;

N/A

U. For marina facilities, locations of any sewage pumpout facilities, fueling facilities, boat repair and maintenance facilities, and fish cleaning stations;

N/A

V. Location and description of any nearby existing offsite features which might be affected by the proposed construction or development such as stormwater management ponds, buildings or other structures, wetlands or other surface waters.

N/A

W. For phased projects, provide a master development plan.

N/A

IV. Construction Schedule and Techniques

Provide a construction schedule, and a description of construction techniques, sequencing and equipment. This information should specifically include the following:

Typically, pipe installation takes place by excavation and backfill techniques. Minimum ground cover will be maintained. Following construction, the ROW would be reestablished to its pre-existing contours to the extent practicable, and the temporary construction ROW would be allowed to revert to natural conditions.

Most of the pipeline corridor and the FPL 45th Street Terminal has been previously cleared, remains disturbed, and only minimal additional clearing will be required for the pipeline.

The compressor station will be located at the FPL 45th Street Terminal. Typical construction activities include, but are not limited to, clearing and grading, site-preparation activities, foundation work, delivery and installation equipment and systems, equipment enclosures, testing, and startup. Disturbed areas that would not be required for installation and operation of the compressors would be restored, as soon as practicable, following construction. Wastes would be disposed of in an approved manner.

The proposed pipeline would be installed by the conventional buried method and will conform to applicable regulations. The pipeline would be buried with at least 3 feet of cover. Construction would be completed in approximately 12 months. Lateral installation would involve the completion of various activities, including corridor clearing and grading; pipeline stringing, bending, welding, and joint coating;

trenching; lowering-in; backfilling; hydrostatic testing; and cleanup. These activities are shown in Attachment B – Site Location Information, Figure 8 (SCA Chapter 9 Figure 9.4.1-1) – Typical Pipeline Construction Sequence.

Railway crossings and major roadway crossings typically require a jack-and-bore technique to install the pipeline under these transportation features.

The construction of the pipeline would employ one of four major types of construction methods for water body crossings: the open-cut method, which is a wet-crossing method, and three dry-crossing methods - flume pipe, dam-and-pump, and HDD. HDD is the proposed method for crossing the C-17 canal at this time. A method for crossing the EPB-10 canal has not yet been determined. Other water body crossings are expected to be wet crossings, however final construction techniques will be selected post-certification based on site-specific information.

FPL may use four different types of wetland crossing methods to minimize potential impacts. After assessment of each wetland to be traversed and based on field conditions, a decision would be made regarding which crossing method to implement at a given location. The following are summaries of each of the four wetland crossing methods:

- **Crossing Method 1: Conventional wetlands construction in unsaturated soils. This method can be used in wetlands where the soils are dry and stable enough to support construction equipment without sinking. Topsoil would be segregated and timber mats or corduroy roads would generally not be required.**

- **Crossing Method 2: Conventional wetlands construction in saturated soils. This method can be used in wetlands where soils are too wet to support pipeline construction equipment, such as permanently or semi-permanently saturated soils.**

- **Crossing Method 3: Push/pull wetlands construction. This method would involve trenching within a saturated wetland and floating the pipeline segment using floats within the inundated trench. The floating pipeline segment would then be pushed or pulled into place for installation. This method can be used in wetlands where standing water is present at the time of construction.**

- **Crossing Method 4: HDD. This method can be used for the crossing of high quality, sensitive or special status wetlands dependent on favorable geologic conditions, available staging areas, and other site-specific considerations.**

The excavated materials would then be used to backfill the trench, restoring sediment horizons. To maintain flow patterns within the wetland, the area will be restored to original topographic grade. Cleanup would include removal of any construction work pads. If they are used, log riprap and/or work floats would also be removed from the Project area. Natural topographic and hydrologic conditions would be restored.

A. Method for installing any pilings or seawall slabs;

N/A

B. Schedule of implementation of temporary or permanent erosion and turbidity control measures;

Detailed erosion control and revegetation measures would be developed after field surveys are completed and a ROW is identified and incorporated into the Project's detailed Erosion Control, Restoration, and Maintenance Plan to be developed post-certification. Generally, prior to initiation of any land clearing, the construction area will be surrounded with silt fencing to prevent any erosion/turbidity impacts to adjacent wetlands.

C. For projects that involve dredging or excavation in wetlands or other surface waters, describe the method of excavation, and the type of material to be excavated;

The trench would be excavated to a depth sufficient to provide a minimum cover of 3 feet, which would meet or exceed USDOT specifications. The method used to excavate the trench would depend upon the soil conditions encountered. Blasting is not anticipated to be necessary given the known geologic conditions in Florida. However, should localized blasting be necessary to fracture bedrock to create a trench, a controlled Blasting Plan will be developed by qualified professionals in compliance with applicable nonprocedural standards. Trench line breakers, usually composed of sandbags or sprayed foam, may be installed on steep slopes or at the boundaries of wetlands and water bodies to prevent drainage from becoming channelized along the buried pipeline.

D. For projects that involve fill in wetlands or other surface waters, describe the source and type of fill material to be used. For shoreline stabilization projects that involve the installation of riprap, state how these materials are to be placed, (i.e., individually or with heavy equipment) and whether the rocks will be underlain with filter cloth;

The excavated materials from wetlands would be used to backfill trenched areas, restoring sediment horizons and allowing for natural regeneration of wetland vegetation.

E. If dewatering is required, detail the dewatering proposal including the methods that are proposed to contain the discharge, methods of isolating dewatering areas, and indicate the period dewatering structures will be in place (Note: a consumptive use or water use permit may by required);

If the dam and pump method is used for crossing water bodies, the trench would be dewatered using best management practices to prevent erosion and sedimentation.

F. Methods for transporting equipment and materials to and from the work site. If barges are required for access, provide the low water depths and draft of the fully loaded barge;

Equipment and materials will be transported via truck, rail, and/or barges.

G. Demolition plan for any existing structures to be removed; and

N/A

H. Identify the schedule and party responsible for completing monitoring, record drawings, and as-built certifications for the project when completed.

The Project is proposed to be completed in 2014. FPL will remain the party responsible for completing monitoring, and recording drawings and as-built certifications upon completion.

V. Drainage Information

N/A

A. Provide pre-development and post-development drainage calculations, signed and sealed by an appropriate registered professional, as follows:

1. Runoff characteristics, including area, runoff curve number or runoff coefficient, and time of concentration for each drainage basin;

2. Water table elevations (normal and seasonal high) including aerial extent and magnitude of any proposed water table draw down;

3. Receiving water elevations (normal, wet season, design storm);

4. Design storms used including rainfall depth, duration, frequency, and distribution;

5. Runoff hydrograph(s) for each drainage basin, for all required design storm event(s);

6. Stage-storage computations for any area such as a reservoir, close basin, detention area, or channel, used in storage routing;

7. Stage-discharge computations for any storage areas at a selected control point, such as control structure or natural restriction;

8. Flood routings through on-site conveyance and storage areas;

9. Water surface profiles in the primary drainage system for each required design storm event(s);

10. Runoff peak rates and volumes discharged from the system for each required design storm event(s);

11. Tail water history and justification (time and elevation); and

12. Pump specifications and operating curves for range of possible operating conditions (if used in system).

B. Provide the results of any percolation tests, where appropriate, and soil borings that are representative of the actual site conditions;

C. Provide the acreage, and percentages of the total project, of the following:

1. Impervious surfaces, excluding wetlands;

2. Pervious surfaces (green areas, not including wetlands);

3. Lakes, canals, retention areas, other open water areas; and

4. Wetlands.

D. Provide an engineering analysis of floodplain storage and conveyance (if applicable), including:

1. Hydraulic calculations for all proposed traversing works;

2. Backwater water surface profiles showing upstream impact of traversing works;

3. Location and volume of encroachment within regulated floodplain(s); and

4. Plan for compensating floodplain storage, if necessary, and calculations required for determining minimum building and road flood elevations.

E. Provide an analysis of the water quality treatment system including:

1. A description of the proposed stormwater treatment methodology that addresses the type of treatment, pollution abatement volumes, and recovery analysis; and

2. Construction plans and calculations that address stage-storage and design elevations, which demonstrate compliance with the appropriate water quality treatment criteria.

F. Provide a description of the engineering methodology, assumptions and references for the parameters listed above, and a copy of all such computations, engineering plans, and specifications used to analyze the system. If a computer program is used for the analysis, provide the name of the program, a description of the program, input and output data, two diskette copies, if available, and justification for model selection.

VI. Operation and Maintenance and Legal Documentation

A. Describe the overall maintenance and operation schedule for the proposed system.

FPL will institute a comprehensive operations and maintenance program for the proposed facilities similar to other pipelines currently within the FPL system and in accordance with USDOT pipeline safety regulations. To the extent the final corridor is within the existing FPL electrical transmission ROW, the risk of unauthorized digging and other potential disturbances to the pipeline would be significantly reduced.

FPL's pipeline operations and maintenance program includes: a comprehensive corrosion control program utilizing state of the art inline inspection tools; leak inspection surveys that include regularly scheduled aerial and ground patrols of the pipeline ROW; and participation in the existing Sunshine State One-Call of Florida system. The One-Call of Florida system allows anyone planning excavation activities to call a single number to alert all utilities, and thus prevent unintentional contact with the pipeline. Additionally, FPL representatives will visit any construction site close to the pipeline and mark the location of FPL's underground facilities. They would also remain on site during any excavation activity within the pipeline ROW.

B. Identify the entity that will be responsible for operating and maintaining the system in perpetuity if different than the permittee, a draft document enumerating the enforceable affirmative obligations on the entity to properly operate and maintain the system for its expected life, and documentation of the entity's financial responsibility for long-term maintenance. If the proposed operation and maintenance entity is not a property owner's association, provide proof of the existence of an entity, or the future acceptance of the system by an entity which will operate and maintain the system. If a property owner's association is the proposed operation and maintenance entity, provide copies of the articles of incorporation for the association and copies of the declaration, restrictive covenants, deed restrictions, or other operational documents that assign responsibility for the operation and maintenance of the system. Provide information ensuring the continued adequate access to the system for maintenance purposes. Before transfer of the system to the operating entity will be approved, the permittee must document that the transferee will be bound by all terms and conditions of the permit.

FPL will remain the entity responsible for operation and maintenance of the system in perpetuity.

C. Provide copies of all proposed conservation easements, storm water management system easements, property owner's association documents, and plats for the property containing the proposed system.

N/A

D. Provide indication of how water and waste water service will be supplied. Letters of commitment from off-site suppliers must be included.

Approximately 200,000 gallons of water are required for miscellaneous uses during construction and would be either withdrawn from the C-17 canal or potable water would be purchased from the City of Riviera Beach. Approximately 950,000 gallons of water are required for hydrostatic testing during construction and would be either withdrawn from the C-17 canal or potable water would be purchased from the City of Riviera Beach.

E. Provide a copy of the boundary survey and/or legal description and acreage of the total land area of contiguous property owned/controlled by the applicant.

N/A

VII. Water Use

A. Will the surface water system be used for water supply, including landscape irrigation, or recreation.

N/A

B. If a Consumptive Use or Water Use permit has been issued for the project, state the permit number.

N/A

C. If no Consumptive Use or Water Use permit has been issued for the project, indicate if such a permit will be required and when the application for a permit will be submitted.

N/A

D. Indicate how any existing wells located within the project site will be utilized or abandoned.

N/A

TABLE 1
Project Impact Summary

WL & SW ID	WL & SW TYPE (FLUCFCS)	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
				IMPACT SIZE (acres)	IMPACT CODE	IMPACT SIZE (acres)	IMPACT CODE	
A/B	**511**	**0.57**	**0.57**	**0**	**N/A**	**0**	**N/A**	**N/A**
C	**631**	**1.75**	**0**	**0**	**N/A**	**1.75**	**Trench Excavation**	**In-Situ Restoration**
D	**631**	**0.29**	**0.29**	**0**	**N/A**	**0**	**N/A**	**N/A**
E	**512**	**0.96**	**0.96**	**0**	**N/A**	**0**	**N/A**	**N/A**
F	**512**	**6.14**	**5.91**	**0**	**N/A**	**0.23**	**Trench Excavation**	**In-Situ Restoration**
G	**512**	**1.85**	**1.85**	**0**	**N/A**	**0**	**N/A**	**N/A**
H	**511**	**0.92**	**0.81**	**0**	**N/A**	**0.11**	**Trench Excavation**	**In-Situ Restoration**
I	**511**	**1.73**	**1.73**	**0**	**N/A**	**0**	**N/A**	**N/A**
J	**511**	**0.52**	**0**	**0**	**N/A**	**0.52**	**Trench Excavation**	**In-Situ Restoration**
K	**534**	**0.20**	**0.20**	**0**	**N/A**	**0**	**N/A**	**N/A**
L	**534**	**1.25**	**1.25**	**0**	**N/A**	**0**	**N/A**	**N/A**
M	**511**	**0.32**	**0.32**	**0**	**N/A**	**0**	**N/A**	**N/A**
N	**511**	**0.43**	**0.43**	**0**	**N/A**	**0**	**N/A**	**N/A**
O	**511**	**0.81**	**0.81**	**0**	**N/A**	**0**	**N/A**	**N/A**
P	**511**	**0.46**	**0.46**	**0**	**N/A**	**0**	**N/A**	**N/A**

WL & SW ID	WL & SW TYPE (FLUCFCS)	WL & SW SIZE (ac.) ON SITE	WL & SW ACRES NOT IMPACTED	PERMANENT IMPACTS TO WL & SW		TEMPORARY IMPACTS TO WL & SW		MITIGATION ID
Q	**534**	**0.08**	**0**	**0**	**N/A**	**0.08**	**Trench Excavation**	**In-Situ Restoration**
R	**643**	**0.13**	**0**	**0**	**N/A**	**0.13**	**Trench Excavation**	**In-Situ Restoration**
S	**643**	**0.14**	**0**	**0**	**N/A**	**0.14**	**Trench Excavation**	**In-Situ Restoration**
T	**643**	**0.71**	**0**	**0**	**N/A**	**0.71**	**Trench Excavation**	**In-Situ Restoration**
U	**511**	**4.76**	**4.76**	**0**	**N/A**	**0**	**N/A**	**N/A**
V	**643**	**1.37**	**0**	**0**	**N/A**	**1.37**	**Trench Excavation**	**In-Situ Restoration**
W	**643**	**1.07**	**0**	**0**	**N/A**	**1.07**	**Trench Excavation**	**In-Situ Restoration**
X	**511**	**0.30**	**0.30**	**0**	**N/A**	**0**	**N/A**	**N/A**
Y	**643**	**0.25**	**0.25**	**0**	**N/A**	**0**	**N/A**	**N/A**
TOTAL		**27.01**	**20.90**	**0**		**6.11**		

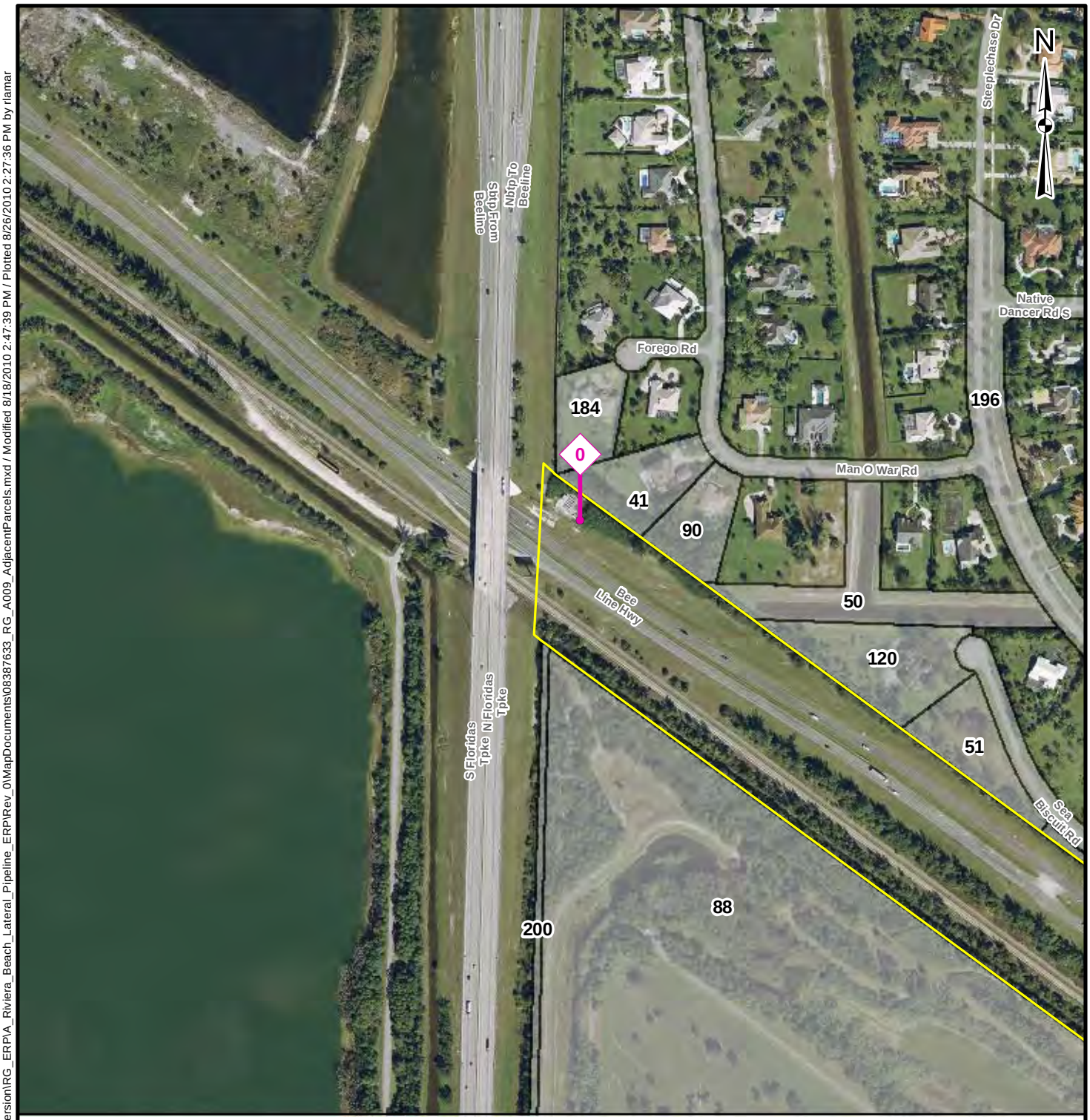
WL = Wetland; **SW** = Surface water; **ID** = Identification number, letter, etc.
Wetland Type: Use an established wetland classification system and, in the comments section below, indicate which classification system is being used.
Impact Code (Type): D = dredge; F = fill; H = change hydrology; S = shading; C = clearing; O = other. Indicate the final impact if more than one impact type is proposed in a given area. For example, show F only for an area that will first be demucked and then backfilled.

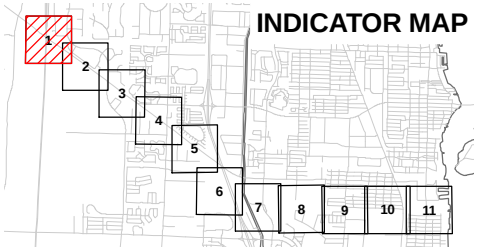
Note: Multiple entries per cell are not allowed, except in the "Mitigation ID" column. Any given acreage of wetland should be listed in one row only, such that the total of all rows equals the project total for a given category (column). For example, if Wetland No. 1 includes multiple wetland types and multiple impact codes are proposed in each type, then each proposed impact in each wetland type should be shown on a separate row, while the size of each wetland type found in Wetland No. 1 should be listed in only one row.

Comments: _____

ATTACHMENT A

ADJACENT PROPERTY OWNERSHIP





400 0 400 Feet

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Adjacent Parcels

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Parcels, Palm Beach County Property Appraisers., 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

ADJACENT PROPERTY OWNERSHIP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A009
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

ATTACHMENT A

Sheet 1 of 11

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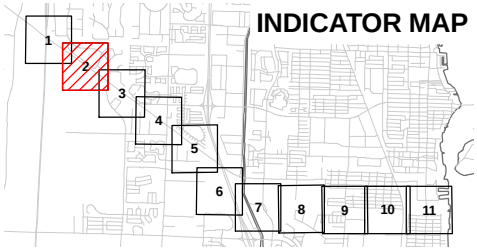

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Sheet 2 of 11

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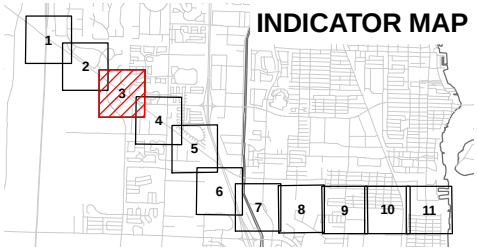

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ATTACHMENT A

Sheet 3 of 11

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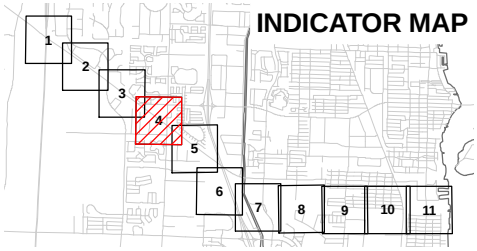
INDICATOR MAP



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ATTACHMENT A

Sheet 4 of 11

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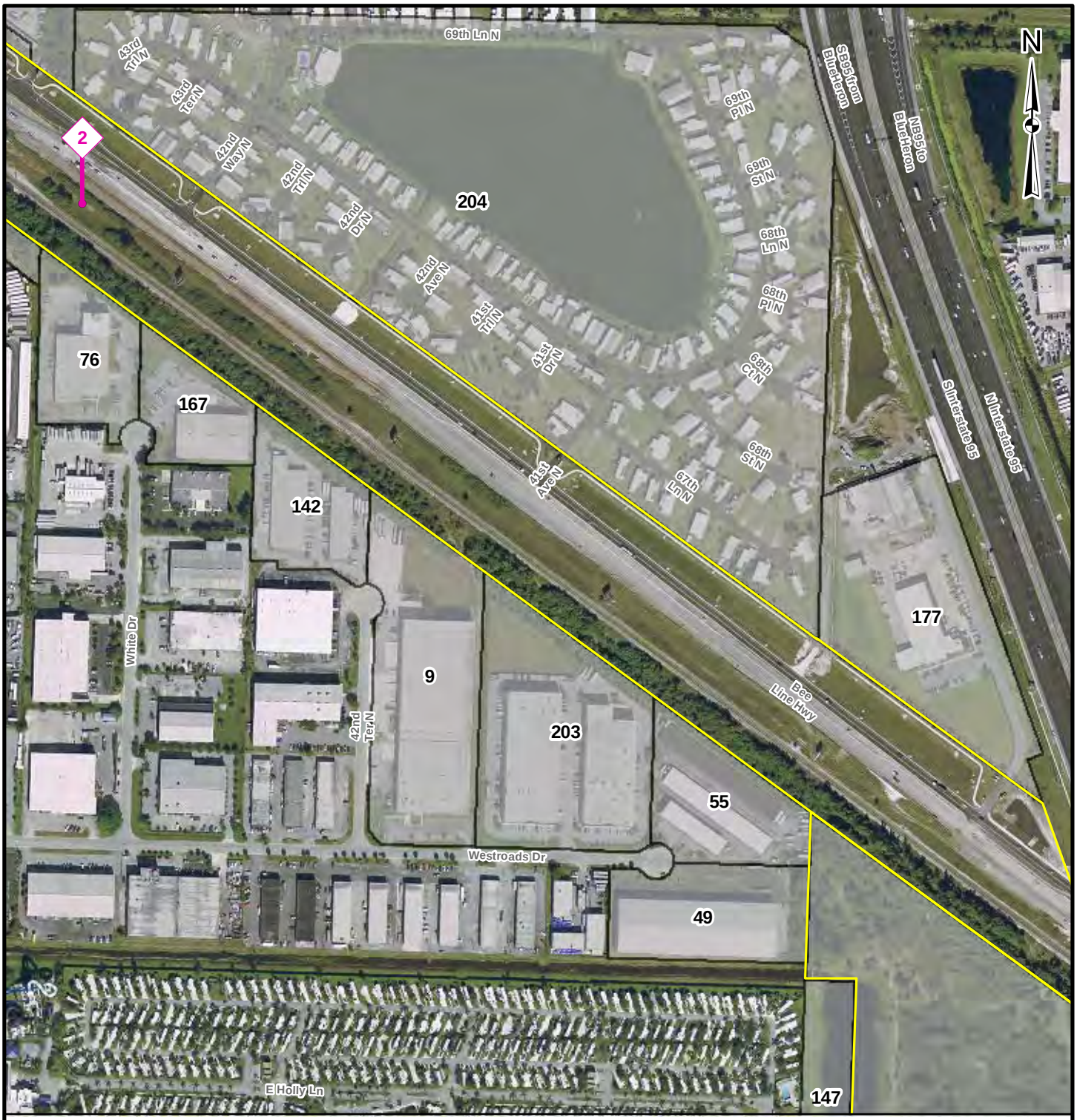

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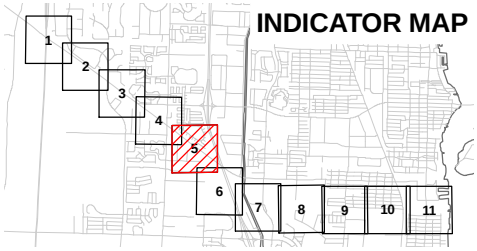

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Adjacent Parcels

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Parcels, Palm Beach County Property Appraisers., 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

ADJACENT PROPERTY OWNERSHIP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A009
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

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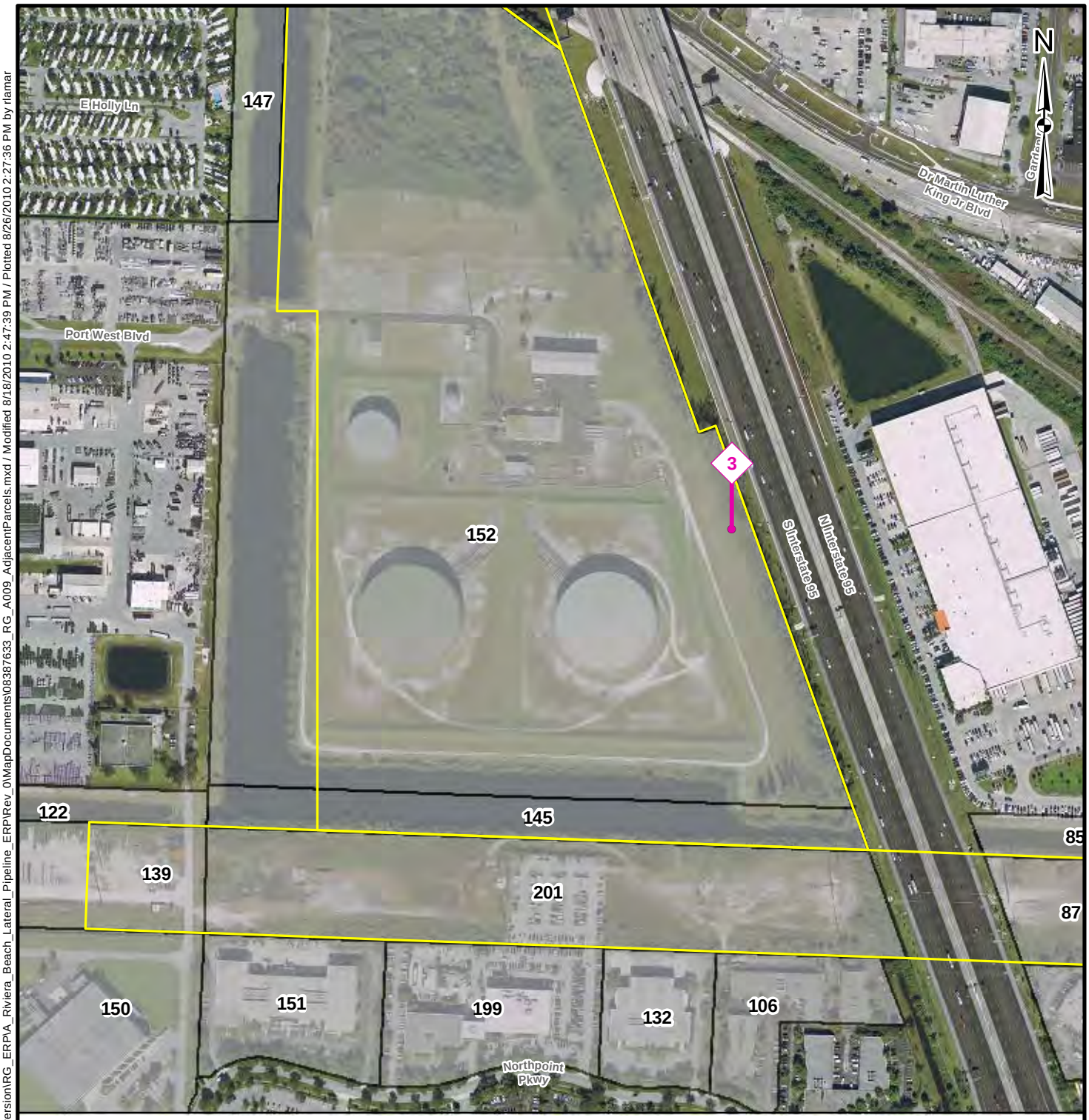
Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A009_AdjacentParcels.mxd / Modified 8/18/2010 2:47:39 PM / Plotted 8/26/2010 2:27:36 PM by rlamar



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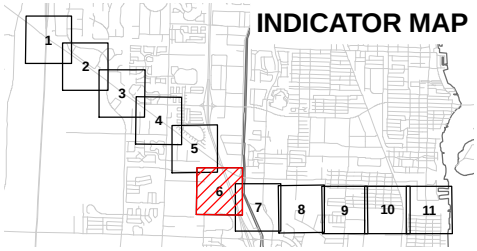

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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

ADJACENT PROPERTY OWNERSHIP

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Adjacent Parcels

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Parcels, Palm Beach County Property Appraisers., 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A009	
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010	ATTACHMENT A		
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010	Sheet 6 of 11		

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A009_AdjacentParcels.mxd / Modified 8/18/2010 2:47:39 PM / Plotted 8/26/2010 2:27:36 PM by rlamar

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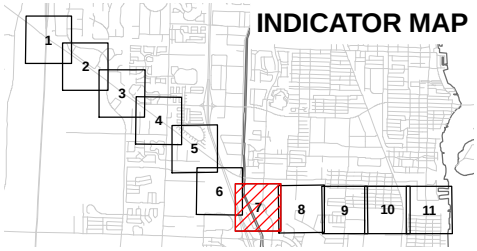

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Adjacent Parcels

REFERENCES

1. Aerial Imagery, FDOT, 2009.
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3. Parcels, Palm Beach County Property Appraisers., 2010.

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RIVIERA BEACH LATERAL CORRIDOR

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ATTACHMENT A

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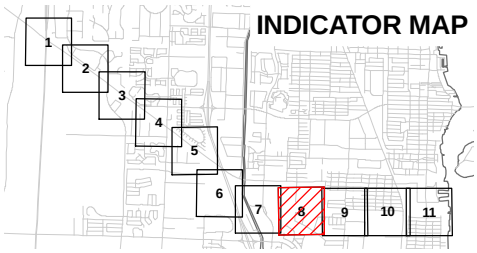

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Adjacent Parcels

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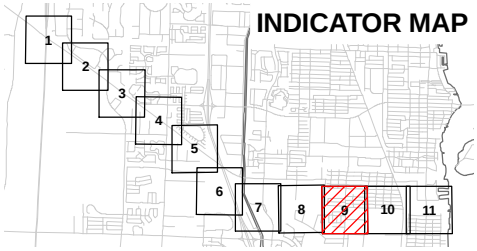

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ATTACHMENT A

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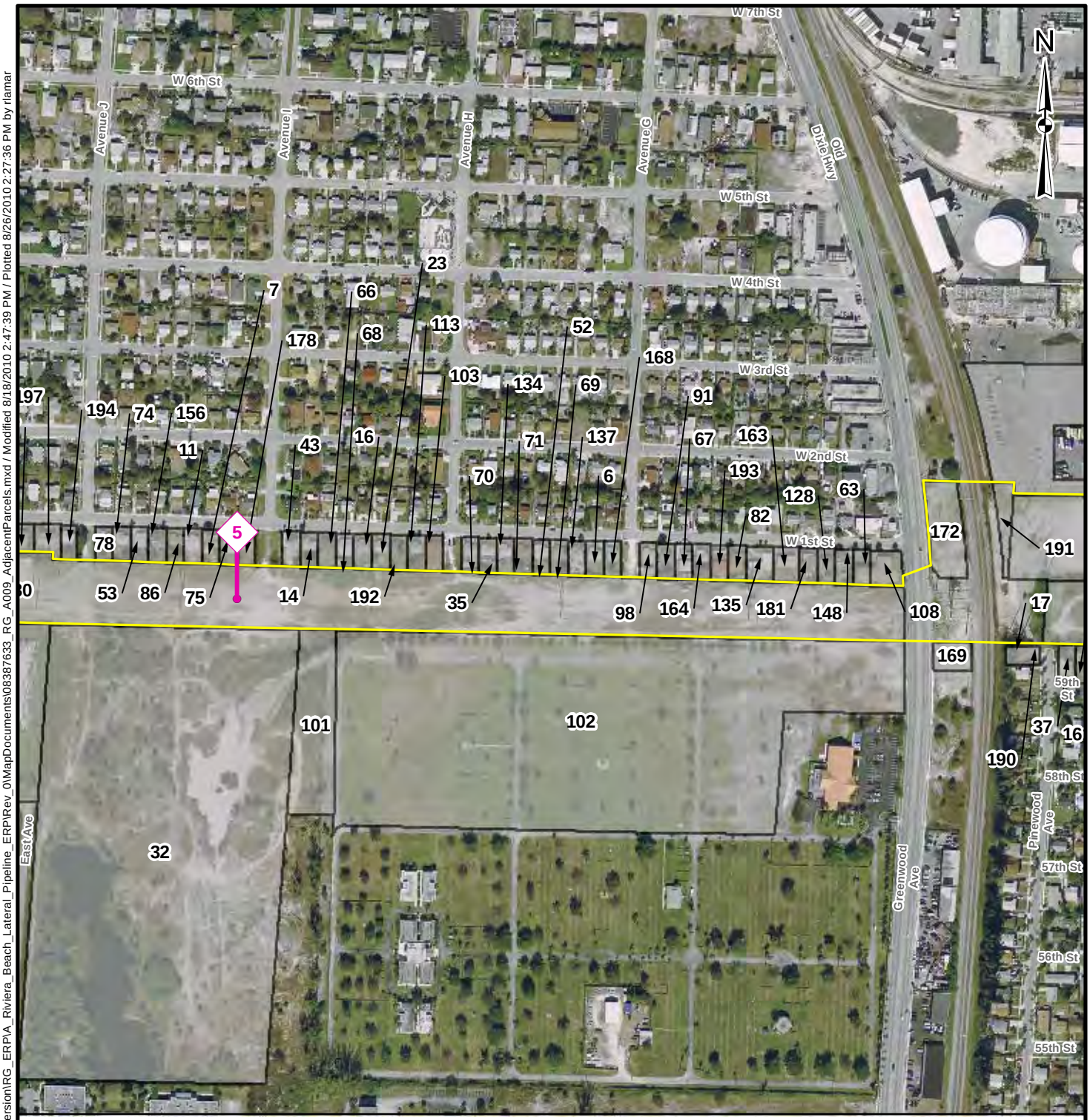

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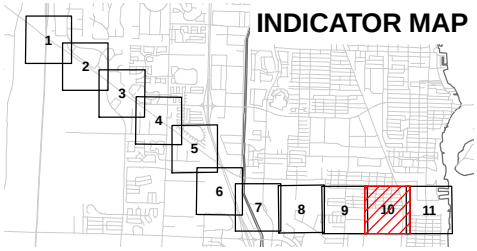

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LEGEND

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- Adjacent Parcels

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Golder Associates
Gainesville, Florida

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ATTACHMENT A

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Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A009_AdjacentParcels.mxd / Modified 8/18/2010 2:47:39 PM / Plotted 8/26/2010 2:27:36 PM by rlamar

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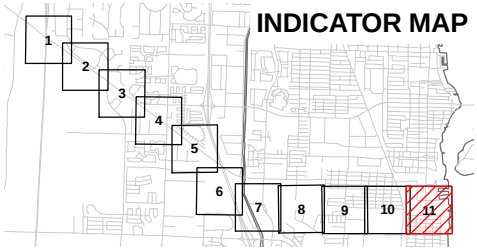

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LEGEND

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Gainesville, Florida

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ATTACHMENT A
ADJACENT PROPERTY OWNERSHIP

PARCEL ID	OWNER	ADDRESS	CITY, STATE, ZIP CODE
1	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
2	TOOKS ROBERT LESSEE &	611 59TH ST	WEST PALM BEACH FL 33407 2529
3	MANGONIA PROPERTIES LLC	1011 FAIRFIELD DR	WEST PALM BEACH FL 33407 2354
4	BARBOUR ROAD CORP	6000 DYER BLVD	WEST PALM BEACH FL 33407 1036
5	WASTE MANAGEMENT INC OF FLORIDA	PO BOX 1450	CHICAGO IL 60690 1450
6	JOIA SHARON	609 W 1ST ST	RIVIERA BEACH FL 33404 7603
7	MCHOME-ROSS LASHONDA	817 W 1ST ST	RIVIERA BEACH FL 33404 7607
8	FETTER CO	11380 PROPERITY FARMS RST	PALM BEACH GARDENS FL 33410 3474
9	GSG INVESTMENTS	3600 23RD AVE S	LAKE WORTH FL 33461 3247
10	TARMAC FLORIDA INC	1151 AZALEA GARDEN RD	NORFOLK VA 23502 5601
11	HARLEY JOYCE M	825 W 1ST ST	RIVIERA BEACH FL 33404 7607
12	BELLSOUTH TELECOMMUNICATIONS INC	675 W PEACHTREE ST RM 13-C60	ATLANTA GA 30308 1989
13	KRESIC BLAGO	6000 BROADWAY	WEST PALM BEACH FL 33407 2555
14	TERRA MAR CAPITAL INC	PO BOX 11204	POMPANO BEACH FL 33061 7204
15	CRIST DEREK T	957 W 1ST ST	RIVIERA BEACH FL 33404 7609
16	LAWSON DAVID	733 W 1ST ST	RIVIERA BEACH FL 33404 7605
17	RIVIERA BEACH UTILITY SPECIAL DISTRICT	600 W BLUE HERON BLVD	WEST PALM BEACH FL 33404 4311
18	5900 AUSTRALIAN AVENUE	5409 AUSTRALIAN AVE	WEST PALM BEACH FL 33407 2326
19	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
20	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
21	NATIONAL LAND COMPANY LLC	1528 N LAKESIDE DR	LAKE WORTH FL 33460 1922
22	TRACY WILLIAM P &	5028 MISTY MORN RD	PALM BEACH GARDENS FL 33418 7824
23	ATKINS EARNESTINE	725 W 1ST ST	RIVIERA BEACH FL 33404 7605
24	WEST PALM BEACH CITY OF	PO BOX 3366, 5TH FLR FINANCE DEPT	WEST PALM BEACH FL 33402 3366
25	TOOMBS ROBERT B	649 59TH ST	WEST PALM BEACH FL 33407 2529
26	POWERY CAROLYN M	2100 ECHO LAKE DR	WEST PALM BEACH FL 33407 3510
27	NEW TESTAMENT CHURCH OF GOD USA INC	1111 FAIRFIELD DR	WEST PALM BEACH FL 33407 2331
28	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
29	FLORIDA POWER & LIGHT CO	PO BOX 14000 - JLM	NORTH PALM BEACH FL 33408 0420
30	5841 CORPORATE WAY LLC	5841 CORPORATE WAY # 200	WEST PALM BEACH FL 33407 2039
31	JACOBOWITZ DANIEL	114 79 SWINDON WAY	WINNEPEG, MANITOBA R3P 0X2 CANADA
32	CEMETERY MANAGEMENT INC	PO BOX 11250	NEW ORLEANS LA 70181 1250
33	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
34	SYSCO FOOD SERVICES	1999 HIGHWAY 710	RIVIERA BEACH FL 33404 7005
35	STEPHENSON SINERA C	657 W 1ST ST	RIVIERA BEACH FL 33404 7603
36	HAZEL DOROTHY G	1071 W 1ST ST	RIVIERA BEACH FL 33404 7611
37	RANSOM RAY A &	875 TRIPP DR	WEST PALM BEACH FL 33413 1260
38	HAKKARAINEN J M & GLORIA C	5090 MISTY MORN RD	PALM BEACH GARDENS FL 33418 7824
39	WILLIS ERNESTINE	1031 W 1ST ST	RIVIERA BEACH FL 33404 7611
40	V & R HOLDINGS LLC	5002 ELPINE WAY	PALM BEACH GARDENS FL 33418 7846
41	SHAH VASANT &	8183 MAN O WAR RD	PALM BEACH GARDENS FL 33418 7718
42	POINTE WEST RIVIERA BEACH INC	5220 HOOD RD STE 100	PALM BEACH GARDENS FL 33418 8910
43	JAMES EVELYN	765 W 1ST ST	RIVIERA BEACH FL 33404 7605
44	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
45	UNITED STATES OF AMERICA	810 VERMONT AVE NW	WASHINGTON DC 20420 0001
46	PORT OF PALM BEACH DISTRICT	1 E 11TH ST STE 600	RIVIERA BEACH FL 33404
47	YOUNG DARYL R	921 W 1ST ST	RIVIERA BEACH FL 33404 7609
48	LONG LUVEUMIA &	629 59TH ST	WEST PALM BEACH FL 33407 2529
49	REILLY REAL ESTATE PARTNERSHIP	452 MARINER DR	JUPITER FL 33477 4068
50	NORTHERN PALM BEACH COUNTY	359 HIATT DR	PALM BCH GDNS FL 33418 7106
51	STEEPLECHASE PROPERTY OWNERS ASSN INC	PO BOX 31175	PALM BEACH GARDENS FL 33420 1175
52	MCCRAY GLORIA J	633 W 1ST ST	RIVIERA BEACH FL 33404 7603
53	LOVETT BYRON J {MINOR} &	849 W 1ST ST	RIVIERA BEACH FL 33404 7607
54	UNITED STATES OF AMERICA	810 VERMONT AVE NW	WASHINGTON DC 20420 0001
55	METRO STORAGE EAST LLC	13528 W BOULTON BLVD	LAKE FOREST IL 60045 4501
56	MCDONALD BILLY JOE &	1151 W 1ST ST	RIVIERA BEACH FL 33404 7613
57	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
58	PIERCE HARDY LIMITED PARTNERSHIP	1019 ROUTE 519 TAX DEPT BLDG 1	EIGHTY FOUR PA 15330
59	DOLPHIN TIRE CO INC	7071 N MILITARY TRL	PALM BEACH GARDENS FL 33410 6443
60	PIERCE HARDY LIMITED PARTNERSHIP	1019 ROUTE 519 TAX DEPT BLDG 1	EIGHTY FOUR PA 15330
61	COMMUNITY HOSPITAL OF THE	PO BOX 1504	NASHVILLE TN 37202 1504
62	FLORIDA POWER & LIGHT COMPANY	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
63	NEW BEGINNINGS COMMUNITY DEV CENTER INC	2001 BROADWAY STE 570	RIVIERA BEACH FL 33404 5622
64	TARMAC FLORIDA INC	1151 AZALEA GARDEN RD	NORFOLK VA 23502 5601
65	MCDULIN WILLIAM S	5060 MISTY MORN RD	PALM BEACH GARDENS FL 33418 7824
66	WASHINGTON MARK A	2192 OAKMONT DR	RIVIERA BEACH FL 33404 1831
67	YOUNG LANITA B &	579 W 1ST ST	RIVIERA BEACH FL 33404 7601
68	DAVIS TONYA	741 W 1ST ST	RIVIERA BEACH FL 33404 7605
69	AMERICAN TRUST INC	PO BOX 6040	BLUEFIELD WV 24701 6040
70	DORSEY CONSTANCE YVONNE	665 W 1 ST	RIVIERA BEACH FL 33404 7603
71	DOZIER SUSIE	765 W 3RH ST	RIVIERA BEACH FL 33404
72	HAVERHILL BUSINESS PARK 6 LLC	5610 PGA BLVD # 114	PALM BEACH GARDENS FL 33418 3838
73	MARTINEZ JORGE L & SILVIA P	7755 CANNONBALL RD	PALM BEACH GARDENS FL 33418 7808
74	GRACE ANNIE P EST	857 W 1ST ST	RIVIERA BEACH FL 33404 7607
75	MYRICK LEONARD	809 W 1ST ST	RIVIERA BEACH FL 33404 7607
76	LATICRETE INTERNATIONAL INC	91 AMITY RD	BETHANY CT 06524 3423
77	JENKINS ANTHONY &	1081 W 1ST ST	RIVIERA BEACH FL 33404 7611
78	HARVEY COREY D	865 W 1ST ST	RIVIERA BEACH FL 33404 7607
79	BARBOUR ROAD CORP	6000 DYER BLVD	WEST PALM BEACH FL 33407 1036
80	NATIONAL LAND COMPANY LLC	1528 N LAKESIDE DR	LAKE WORTH FL 33460 1922
81	V & K INVESTMENTS INC	19368 SW 80TH CT	MIAMI FL 33157 7437
82	PLEASANT GREGORY	555 W 1ST ST	RIVIERA BEACH FL 33404 7601

ATTACHMENT A
ADJACENT PROPERTY OWNERSHIP

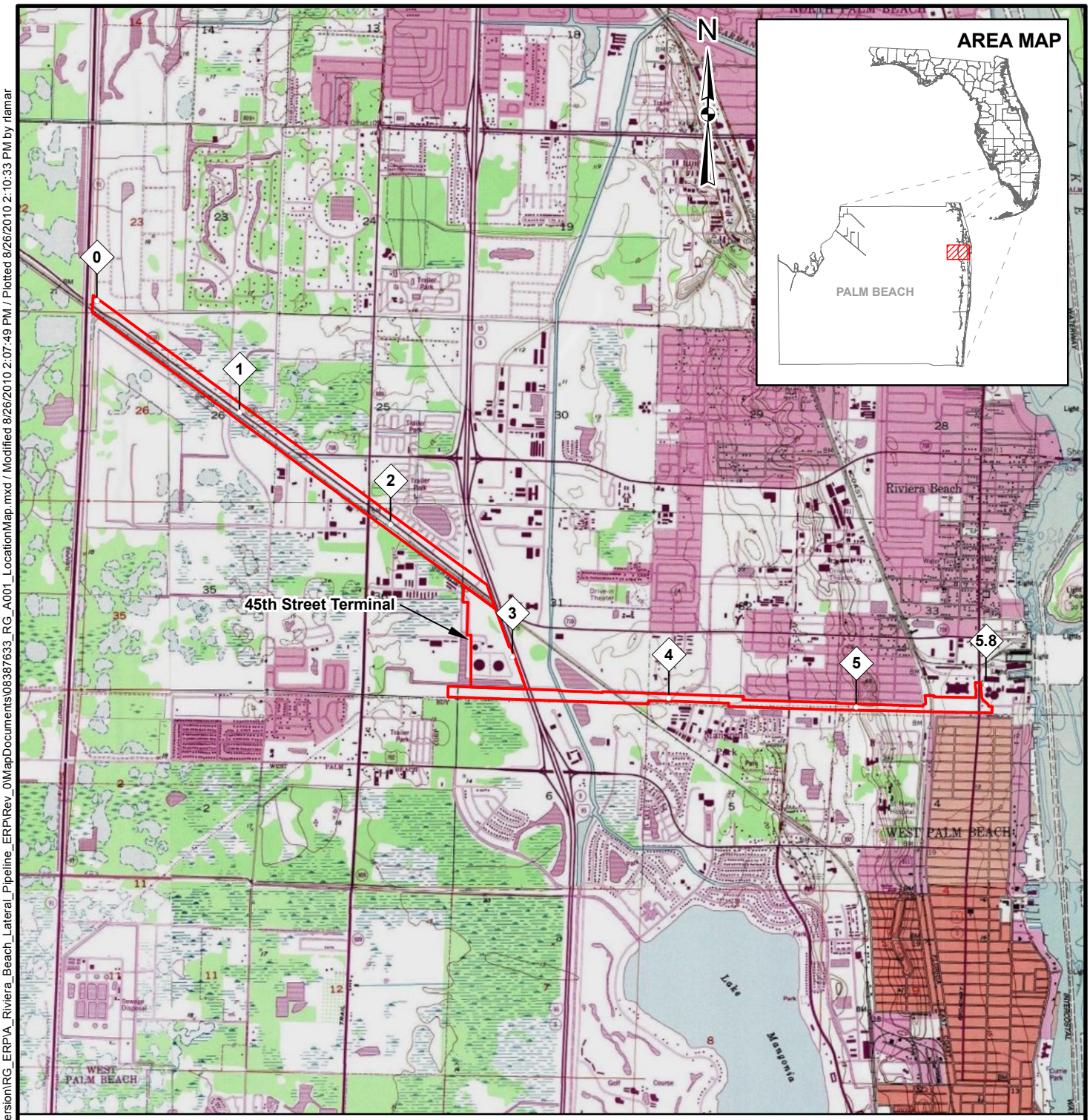
PARCEL ID	OWNER	ADDRESS	CITY, STATE, ZIP CODE
83	JAAHL LLC	5241 PENNOCK POINT RD	JUPITER FL 33458 3409
84	FRASCA JOHN	623 59TH ST	WEST PALM BEACH FL 33407 2529
85	NORTHERN PALM BEACH COUNTY	359 HIATT DR	PALM BCH GDNS FL 33418 7106
86	SIMMONDS MARK	4925 CLUB RD	RIVIERA BEACH FL 33404
87	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
88	SOLID WASTE AUTH OF PBC LESSOR	7501 N JOG RD	WEST PALM BEACH FL 33412 2414
89	LEWIS ALMA J	645 59TH ST	WEST PALM BEACH FL 33407 2529
90	SPIROU DENISE M &	8161 MAN O WAR RD	PALM BEACH GARDENS FL 33418 7718
91	COOKS DARYL A &	533 S MANGONIA CIR	WEST PALM BEACH FL 33401 3009
92	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
93	HARMS HAROLD H II &	12067 N EDGEWATER DR	PALM BEACH GARDENS FL 33410 2531
94	THREE BROTHERS RECYCLING LLC	6000 DYER BLVD	WEST PALM BEACH FL 33407 1036
95	FINSNESS JOSEPHINE J EST	777 S FLAGLER DR STE 500 E	WEST PALM BEACH FL 33401 6121
96	F W & N RY	500 WATER ST	JACKSONVILLE FL 32202 4423
97	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
98	LARRY ELIZABETH	PO BOX 9502	RIVIERA BEACH FL 33419 9502
99	HARRELL H E & ARILLA J	1001 W 1ST ST/PO BOX 11472	WEST PALM BEACH FL 33419 1472
100	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
101	ROYAL PLM MEMORIAL GARDENS INC	PO BOX 11250	NEW ORLEANS LA 70181 1250
102	ROYAL PALM MEMORIAL GDNS INC	PO BOX 11250	NEW ORLEANS LA 70181 1250
103	RAINFORD DUNSTAN K JR &	701 W 1ST ST	RIVIERA BEACH FL 33404 7605
104	7166 INTERPACE ROAD LLC	PO BOX 4592	WEST PALM BEACH FL 33402 4592
105	BRADCO SUPPLY CORP	13 PRODUCTION WAY	AVENEL NJ 07001 1628
106	B A & R INVESTMENTS LLC	6280 SW 56TH CT	FORT LAUDERDALE FL 33314 7215
107	MCQUEEN WILLIAM	3394 SE JEFFERSON ST	STUART FL 34997 5346
108	NEW BEGINNINGS COMMUNITY DEV CENTER INC	2001 BROADWAY STE 570	RIVIERA BEACH FL 33404 5622
109	PHOENIX EDITH L	1131 W 1ST ST	RIVIERA BEACH FL 33404 7613
110	LANE MARION &	931 W 1ST ST	RIVIERA BEACH FL 33404 7609
111	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
112	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
113	BLACKSHEAR RUDOLPH	709 W 1ST ST	RIVIERA BEACH FL 33404 7605
114	BURGESS GLENN	1011 W 1ST ST	RIVIERA BEACH FL 33404 7611
115	PORT OF PALM BEACH DISTRICT	1 E 11TH ST STE 600	RIVIERA BEACH FL 33404
116	POINTE WEST RIVIERA BEACH INC	5220 HOOD RD STE 100	PALM BEACH GARDENS FL 33418 8910
117	AVENUE S PROPERTIES LLC	2953 W CYPRESS CREEK RD STE 101	FT LAUDERDALE FL 33309 1765
118	TARMAC FLORIDA INC	1151 AZALEA GARDEN RD	NORFOLK VA 23502 5601
119	FLORIDA POWER & LIGHT COMPANY	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
120	RODRIGUEZ RAFAEL J	5840 SEA BISCUIT RD	PALM BEACH GARDENS FL 33418 7828
121	MARRO BRIAN S & CAMILLE	7783 CANNON BALL RD	PALM BEACH GARDENS FL 33418 7808
122	NORTHERN PALM BEACH COUNTY	359 HIATT DR	PALM BCH GDNS FL 33418 7106
123	NATIONAL LAND COMPANY LLC	1528 N LAKESIDE DR	LAKE WORTH FL 33460 1922
124	STARLING WILLIE & FAYE C	724 58TH ST	WEST PALM BEACH FL 33407 2524
125	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
126	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
127	HORSESHOE WEST CLUB INC	PO BOX 31175	WEST PALM BEACH FL 33420 1175
128	WILLIAMSON GEORGE M & DELORES	1622 W 31ST ST	RIVIERA BEACH FL 33404 3554
129	KELLER FRED TR	6758 N MILITARY TRL # 301	WEST PALM BEACH FL 33407 1224
130	RAIFORD N L & MEDIALEAN E	8628 DOVERBROOK DR	PALM BEACH GARDENS FL 33410 6372
131	POINTE WEST RIVIERA BEACH INC	5220 HOOD RD STE 100	PALM BEACH GARDENS FL 33418 8910
132	1101 ASSOCIATES LLC	2424 N FEDERAL HWY # 159	BOCA RATON FL 33431 7749
133	RIVIERA BEACH CITY OF	PO BOX 10682	WEST PALM BEACH FL 33419 0682
134	POLITE YVONNE J &	121-05 197TH ST	SPRINGFIELD GARDENS NY 11413 1140
135	ELLIS CURTIS	547 W 1ST ST	RIVIERA BEACH FL 33404 7601
136	BENNETT ROXIE L	723 59TH ST	WEST PALM BEACH FL 33407 2531
137	WILLIAMS JOHNNY &	617 W 1ST ST	RIVIERA BEACH FL 33404 7603
138	FLORIDA POWER & LIGHT COMPANY	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
139	FLORIDA POWER & LIGHT CO	PO BOX 1400	NORTH PALM BEACH FL 33408
140	LEWIS CLOVIS &	870 E 95TH ST	BROOKLYN NY 11236 2006
141	FLORIDA POWER & LIGHT COMPANY	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
142	KELLER FRED TR	6758 N MILITARY TRL # 301	WEST PALM BEACH FL 33407 1224
143	TARMAC FLORIDA INC	1151 AZALEA GARDEN RD	NORFOLK VA 23502 5601
144	DYER ROAD PROPERTY LLC	4651 DYER BLVD	RIVIERA BEACH FL 33407 1028
145	NORTHERN PALM BEACH COUNTY	359 HIATT DR	PALM BCH GDNS FL 33418 7106
146	BROWN TEVIS JR &	945 W 1ST ST	RIVIERA BEACH FL 33404 7609
147	VACATION INN RESORTS OF THE PALM BEACHES INC	6500 N MILITARY TRL	WEST PALM BEACH FL 33407 1257
148	WILLIAMS DOROTHY	507 W 1ST ST	RIVIERA BEACH FL 33404 7601
149	KELSON L	1041 W 1ST ST	RIVIERA BEACH FL 33404 7611
150	LAND RESOURCES INV CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
151	REALTY ASSOCIATES FUND VIII LP	120 S CENTRAL AVE STE 500	SAINT LOUIS MO 63105 1733
152	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
153	WILLIAMS CHARLIE	1111 W 1ST ST	RIVIERA BEACH FL 33404 7613
154	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
155	KINDRED HOSPITALS EAST LLC	680 S 4TH ST DEPT # 4559	LOUISVILLE KY 40202 2407
156	DOBY SYLVIA C	130 ALCAZAR ST	ROYAL PALM BEACH FL 33411 1235
157	JJC REAL ESTATE HOLDINGS LLC	900 US HIGHWAY 1 STE 104	LAKE PARK FL 33403 2856
158	RICHERT FRANK G IV TRUST	4164 GARDENIA DR	PALM BEACH GARDENS FL 33410 5506
159	MICKENS SAMUEL & INEZ	1161 W 1ST ST/PO BOX 11181	WEST PALM BEACH FL 33419 1181
160	HARRIS GAY B	635 59TH ST	WEST PALM BEACH FL 33407 2529
161	BREWSTER AHMAD	727 59TH ST	WEST PALM BEACH FL 33407 2531
162	PAIGE SHELIA P	701 59TH ST	WEST PALM BEACH FL 33407 2561
163	HOUSTON JAMES T & YVONNE T TRUST	3508 E 104TH ST	KANSAS CITY MO 64137 1505
164	CLARK SHEILA A	571 W 1ST ST	RIVIERA BEACH FL 33404 7601

ATTACHMENT A
ADJACENT PROPERTY OWNERSHIP

PARCEL ID	OWNER	ADDRESS	CITY, STATE, ZIP CODE
165	OENBRINK AUGUST H JR	5484 SEA BISCUIT RD	PALM BEACH GARDENS FL 33418 7811
166	MANIOTIS NICHOLAS & NANCY	5070 MISTY MORN RD	PALM BEACH GARDENS FL 33418 7824
167	NATIONAL G DISTRIBUTION CTR	300 CLOCKTOWER DR # 201	HAMILTON NJ 08691
168	MORRIS VINCENT	601 W 1ST ST	RIVIERA BEACH FL 33404 7603
169	FLORIDA STATE OF DOT	3400 W COMMERCIAL BLVD	FORT LAUDERDALE FL 33309 3421
170	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
171	MORRISON KIM &	625 59TH ST	WEST PALM BEACH FL 33407 2529
172	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
173	PORT OF PALM BEACH DISTRICT	1 E 11TH ST STE 600	RIVIERA BEACH FL 33404
174	RIVIERA BEACH CITY OF	PO BOX 10682	WEST PALM BEACH FL 33419 0682
175	NEW TESTAMENT CHURCH OF GOD USA INC	1111 FAIRFIELD DR	WEST PALM BEACH FL 33407 2331
176	SOUTHERN STORAGE INC	PO BOX 9818	WEST PALM BEACH FL 33419 4818
177	NORTRAX EQUIPMENT CO SOUTHEAST LLC	1200 SOUTH PINE ISLAND RD	PLANTATION FL 33324 4413
178	POWELL JAMES E	801 W 1ST ST	RIVIERA BEACH FL 33404 7607
179	ONEAL ROSE B	1021 W 1ST ST	RIVIERA BEACH FL 33404 7611
180	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
181	MITCHELL WALTER JR &	523 W 1ST ST	RIVIERA BEACH FL 33404 7601
182	HAVERHILL BUSINESS PARK 3 5 LLC	5610 PGA BLVD # 114	PALM BEACH GARDENS FL 33418 3838
183	SINERGO INVESTMENTS LLC	2455 E SUNRISE BLVD # 504	FORT LAUDERDALE FL 33304 3108
184	ARAUJO ELIZABETH &	8211 FOREGO RD	PALM BEACH GARDENS FL 33418 7741
185	SOUTHERN STORAGE INC	PO BOX 9818	WEST PALM BEACH FL 33419 4818
186	BARBOUR ROAD CORP	6000 DYER BLVD	WEST PALM BEACH FL 33407 1036
187	BOHNE KEVIN &	7595 STEEPLE CHASE	PALM BEACH GARDENS FL 33418 7833
188	RICHARDSON EDDIE &	705 59TH ST	WEST PALM BEACH FL 33407 2531
189	PORT OF PALM BEACH DISTRICT	1 E 11TH ST STE 600	RIVIERA BEACH FL 33404
190	DOZIER IVA &	711 14TH ST	WEST PALM BEACH FL 33401 2503
191	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
192	SCRUGGS HALLIE M	625 W 3RD ST	RIVIERA BEACH FL 33404 7807
193	SCRUGGS GWENDOLYN G	563 W 1ST ST	RIVIERA BEACH FL 33404 7601
194	MADISON RUBIN C JR &	1310 6TH ST	WEST PALM BEACH FL 33401 3128
195	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
196	STEEPLECHASE SAFE NEIGHBORHOOD IMPROVEMENT DIST	PO BOX 31175	WEST PALM BEACH FL 33420 1175
197	SMITH ELLA I &	911 W 1ST ST	RIVIERA BEACH FL 33404 7609
198	PORT OF PALM BEACH DISTRICT LESSOR	1 E 11TH ST STE 600	RIVIERA BEACH FL 33404
199	CABLE HOLDCO EXCHANGE II LLC	PO BOX 173838	DENVER CO 80217 3838
200	SOLID WASTE AUTH OF PBC LESSOR	7501 N JOG RD	WEST PALM BEACH FL 33412 2414
201	FLORIDA POWER & LIGHT CO	PO BOX 14000	NORTH PALM BEACH FL 33408 0420
202	SOLID WASTE AUTH OF PBC LESSOR	7501 N JOG RD	WEST PALM BEACH FL 33412 2414
203	EVANS BRYAN	5934 WHIRLAWAY RD	PALM BCH GDNS FL 33418 7738
204	PALM LAKE CO OP INC	6970 42ND WAY N	WEST PALM BEACH FL 33404 5804

ATTACHMENT B

SITE LOCATION INFORMATION



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

4,000 0 4,000 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

USGS TOPOGRAPHIC MAP

REFERENCES

1. USGS 24k Quad Maps, 2301-Riviera Beach, 2302-Delta, 2201-Palm Beach, 2202-Palm Beach Farms, 1983, USGS/ESRI Online Imagery, 2010.
2. Mile Posts, Corridor, FPL , 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A001
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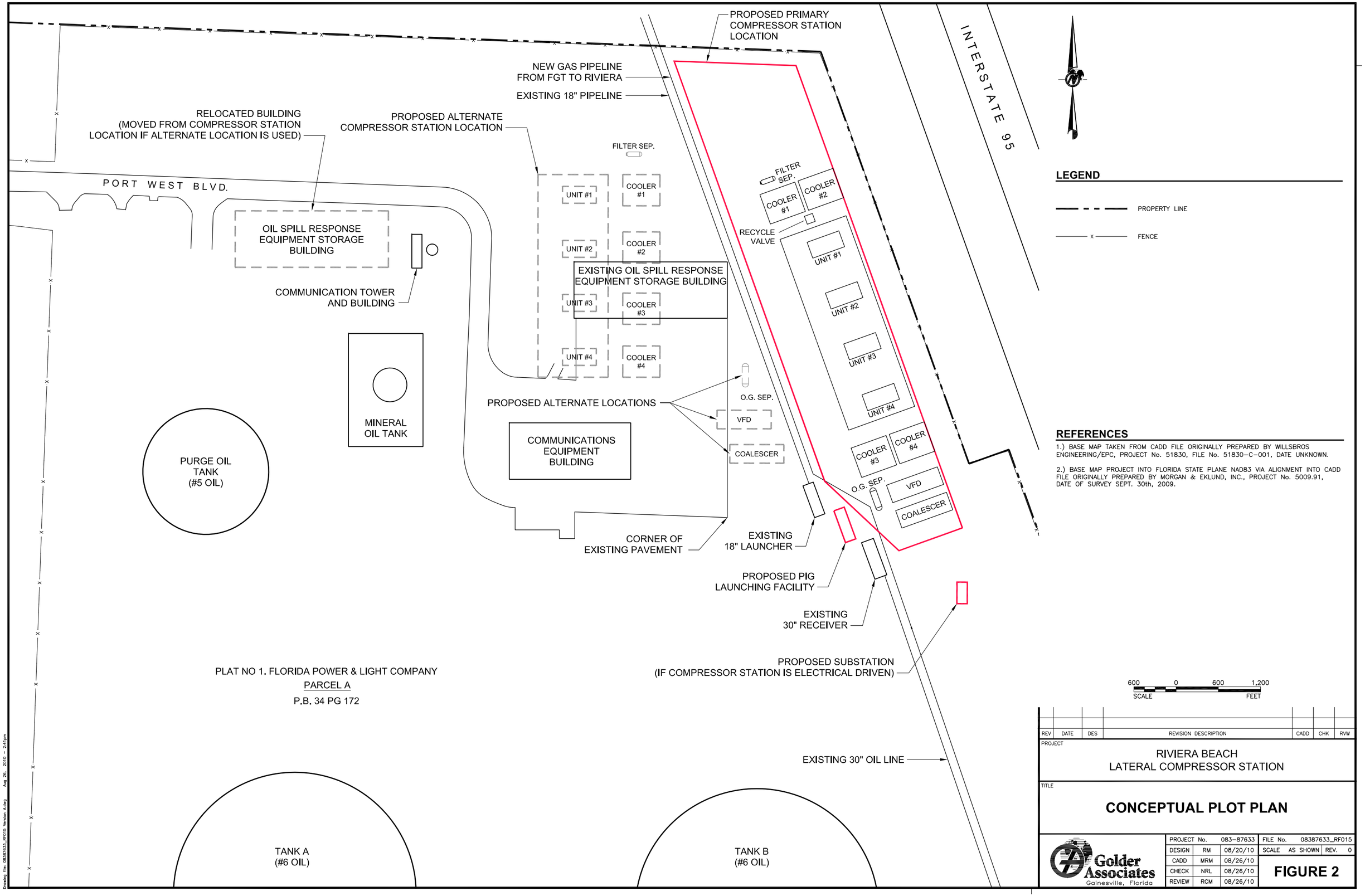
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 1

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A001_LocationMap.mxd / Modified 8/26/2010 2:07:49 PM / Plotted 8/26/2010 2:10:33 PM by rlamar



LEGEND

PROPERTY LINE

FENCE

REFERENCES

1.) BASE MAP TAKEN FROM CADD FILE ORIGINALLY PREPARED BY WILLSBROS ENGINEERING/EPC, PROJECT No. 51830, FILE No. 51830-C-001, DATE UNKNOWN.

2.) BASE MAP PROJECT INTO FLORIDA STATE PLANE NAD83 VIA ALIGNMENT INTO CADD FILE ORIGINALLY PREPARED BY MORGAN & EKLUND, INC., PROJECT No. 5009.91, DATE OF SURVEY SEPT. 30th, 2009.

600 0 600 1,200
SCALE FEET

REV	DATE	DES	REVISION DESCRIPTION	CADD	CHK	RVW

PROJECT

RIVIERA BEACH
LATERAL COMPRESSOR STATION

TITLE

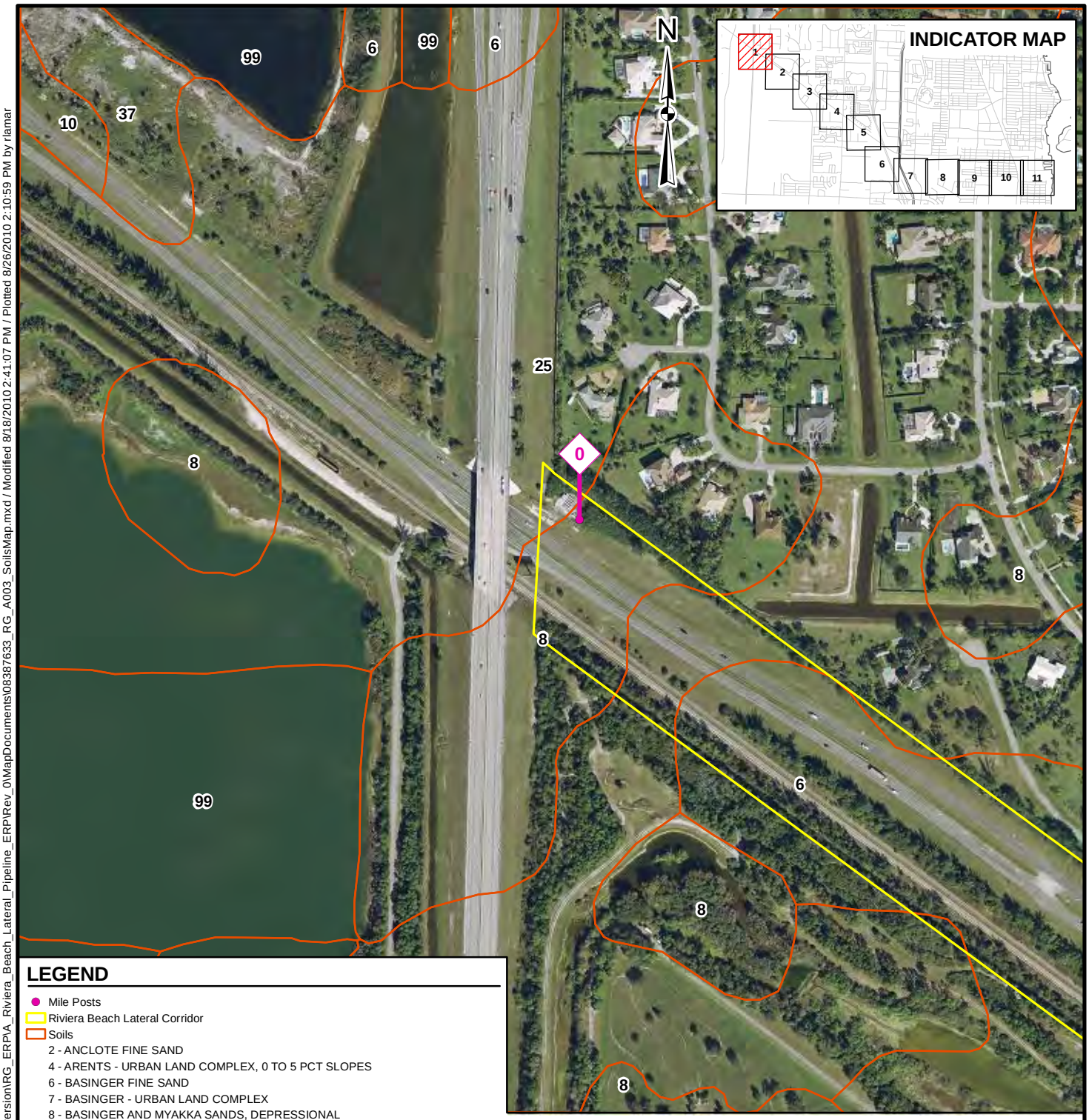
CONCEPTUAL PLOT PLAN

Golder Associates
Gainesville, Florida

PROJECT No.	083-87633		FILE No.	08387633_RF015	
DESIGN	RM	08/20/10	SCALE	AS SHOWN	REV. 0
CADD	MRM	08/26/10			
CHECK	NRL	08/26/10			
REVIEW	RCM	08/26/10			

FIGURE 2

Drawing file: 08387633_RF015 Version A.dwg Aug 26, 2010 - 2:41pm



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
  - 4 - ARENTS - URBAN LAND COMPLEX, 0 TO 5 PCT SLOPES
  - 6 - BASINGER FINE SAND
  - 7 - BASINGER - URBAN LAND COMPLEX
  - 8 - BASINGER AND MYAKKA SANDS, DEPRESSIONAL
  - 10 - BOCA FINE SAND
  - 18 - IMMOKALEE FINE SAND
  - 21 - MYAKKA FINE SAND
  - 24 - OKEELANTA MUCK
  - 25 - OLDSMAR SAND
  - 31 - PITS, 0 TO 5 PCT SLOPES
  - 33 - POMELLO FINE SAND, 0 TO 5 PCT SLOPES
  - 35 - QUARTZIPSAMMENTS, SHAPED, 0 TO 5 PCT SLOPES
  - 37 - RIVIERA FINE SAND, DEPRESSIONAL
  - 39 - SANIBEL MUCK
  - 41 - ST. LUCIE - PAOLA - URBAN LAND COMPLEX, 0 TO 8 PCT SLOPES
  - 44 - KESSON MUCKY SAND, TIDAL
  - 47 - UDORTHENTS, 2 TO 35 PCT SLOPES
  - 48 - URBAN LAND
  - 99 - WATER

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

400 0 400
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
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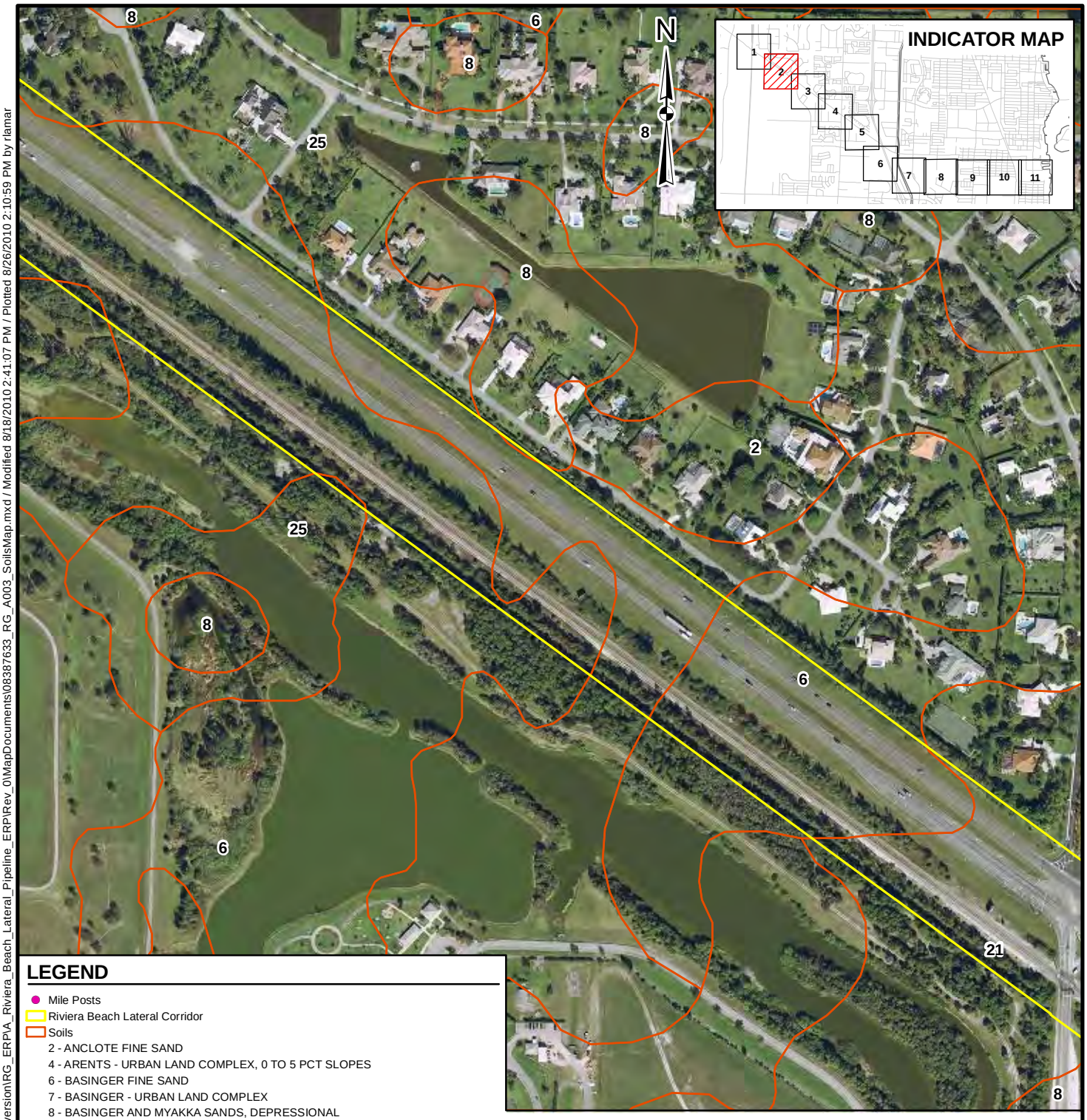
PROJECT No.		083-87633	FILE No.	08387633_RG_A003
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 3
Sheet 1 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar



LEGEND

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REFERENCES

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2. Mile Posts, Corridor, FPL , 2010.
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REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003
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CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 3

Sheet 2 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
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2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

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REVIEW	RCM	8/26/2010			

FIGURE 3
Sheet 3 of 11

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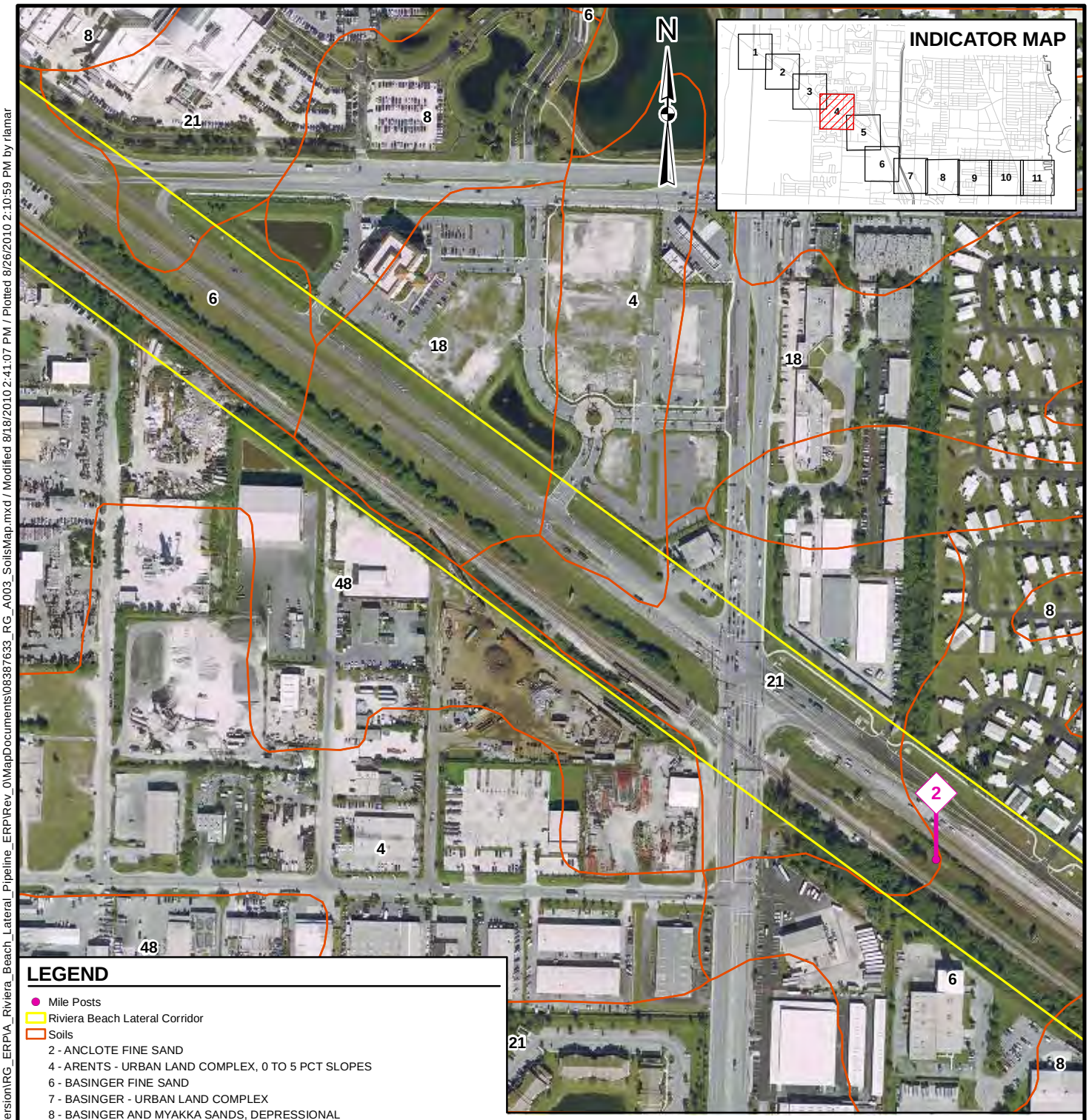

LEGEND

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2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

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PROJECT

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FIGURE 3
Sheet 4 of 11

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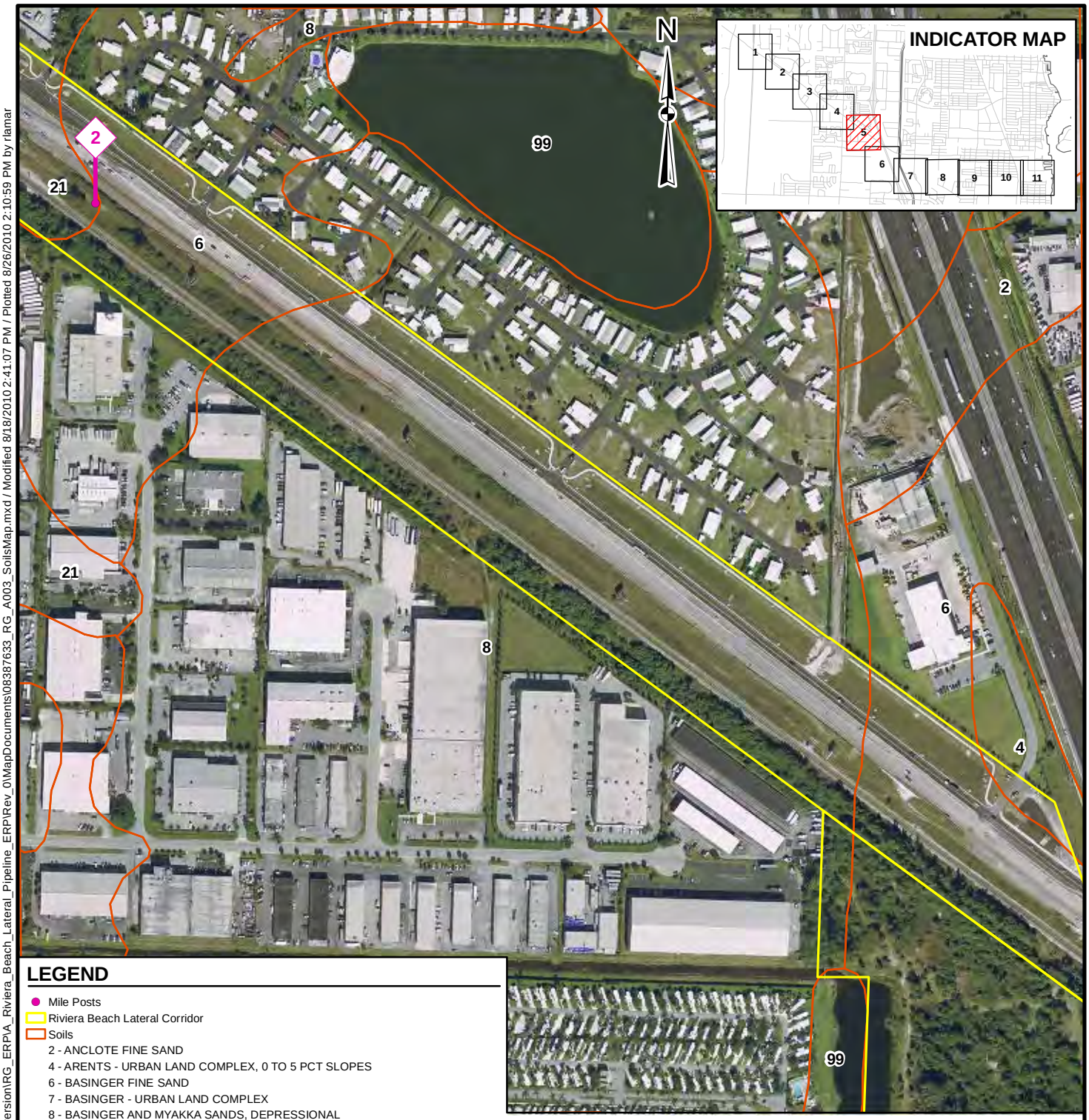

LEGEND

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Feet

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

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PROJECT No.		083-87633	FILE No.	08387633_RG_A003
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FIGURE 3
Sheet 5 of 11

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LEGEND

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2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

400 0 400
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003
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FIGURE 3
Sheet 6 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
  - 4 - ARENTS - URBAN LAND COMPLEX, 0 TO 5 PCT SLOPES
  - 6 - BASINGER FINE SAND
  - 7 - BASINGER - URBAN LAND COMPLEX
  - 8 - BASINGER AND MYAKKA SANDS, DEPRESSIONAL
  - 10 - BOCA FINE SAND
  - 18 - IMMOKALEE FINE SAND
  - 21 - MYAKKA FINE SAND
  - 24 - OKEELANTA MUCK
  - 25 - OLDSMAR SAND
  - 31 - PITS, 0 TO 5 PCT SLOPES
  - 33 - POMELLO FINE SAND, 0 TO 5 PCT SLOPES
  - 35 - QUARTZIPSAMMENTS, SHAPED, 0 TO 5 PCT SLOPES
  - 37 - RIVIERA FINE SAND, DEPRESSIONAL
  - 39 - SANIBEL MUCK
  - 41 - ST. LUCIE - PAOLA - URBAN LAND COMPLEX, 0 TO 8 PCT SLOPES
  - 44 - KESSON MUCKY SAND, TIDAL
  - 47 - UDORTHENTS, 2 TO 35 PCT SLOPES
  - 48 - URBAN LAND
  - 99 - WATER

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

400 0 400 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003	
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 3

Sheet 7 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
  - 4 - ARENTS - URBAN LAND COMPLEX, 0 TO 5 PCT SLOPES
  - 6 - BASINGER FINE SAND
  - 7 - BASINGER - URBAN LAND COMPLEX
  - 8 - BASINGER AND MYAKKA SANDS, DEPRESSIONAL
  - 10 - BOCA FINE SAND
  - 18 - IMMOKALEE FINE SAND
  - 21 - MYAKKA FINE SAND
  - 24 - OKEELANTA MUCK
  - 25 - OLDSMAR SAND
  - 31 - PITS, 0 TO 5 PCT SLOPES
  - 33 - POMELLO FINE SAND, 0 TO 5 PCT SLOPES
  - 35 - QUARTZIPSAMMENTS, SHAPED, 0 TO 5 PCT SLOPES
  - 37 - RIVIERA FINE SAND, DEPRESSIONAL
  - 39 - SANIBEL MUCK
  - 41 - ST. LUCIE - PAOLA - URBAN LAND COMPLEX, 0 TO 8 PCT SLOPES
  - 44 - KESSON MUCKY SAND, TIDAL
  - 47 - UDORTHENTS, 2 TO 35 PCT SLOPES
  - 48 - URBAN LAND
  - 99 - WATER

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

400 0 400
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003	
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GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 3
Sheet 8 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
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REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Soils, USDA/NRCS, 1978.

400 0 400
Feet

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

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CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 3
Sheet 9 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

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- Riviera Beach Lateral Corridor
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REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
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400 0 400
Feet

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003
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REVIEW	RCM	8/26/2010		

FIGURE 3
Sheet 10 of 11

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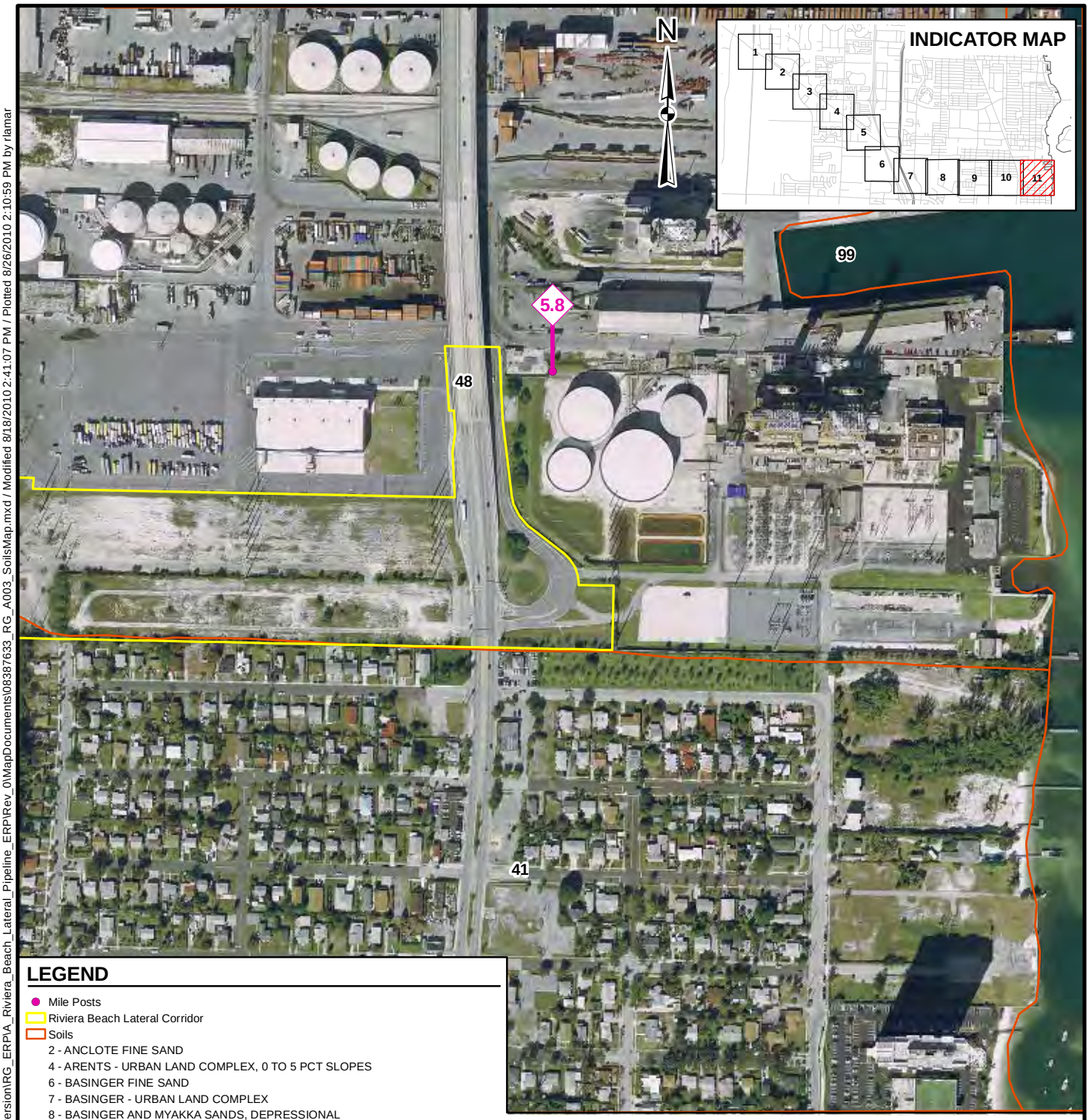

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- Soils
  - 2 - ANCLOTE FINE SAND
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400 0 400
Feet

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

SOILS MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A003
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REVIEW	RCM	8/26/2010		

FIGURE 3
Sheet 11 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A003_SoilsMap.mxd / Modified 8/18/2010 2:41:07 PM / Plotted 8/26/2010 2:10:59 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 1 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A002_AerialLocationMap.mxd / Modified 8/18/2010 2:39:07 PM / Plotted 8/26/2010 2:08:23 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400
Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 2 of 11

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400
Feet

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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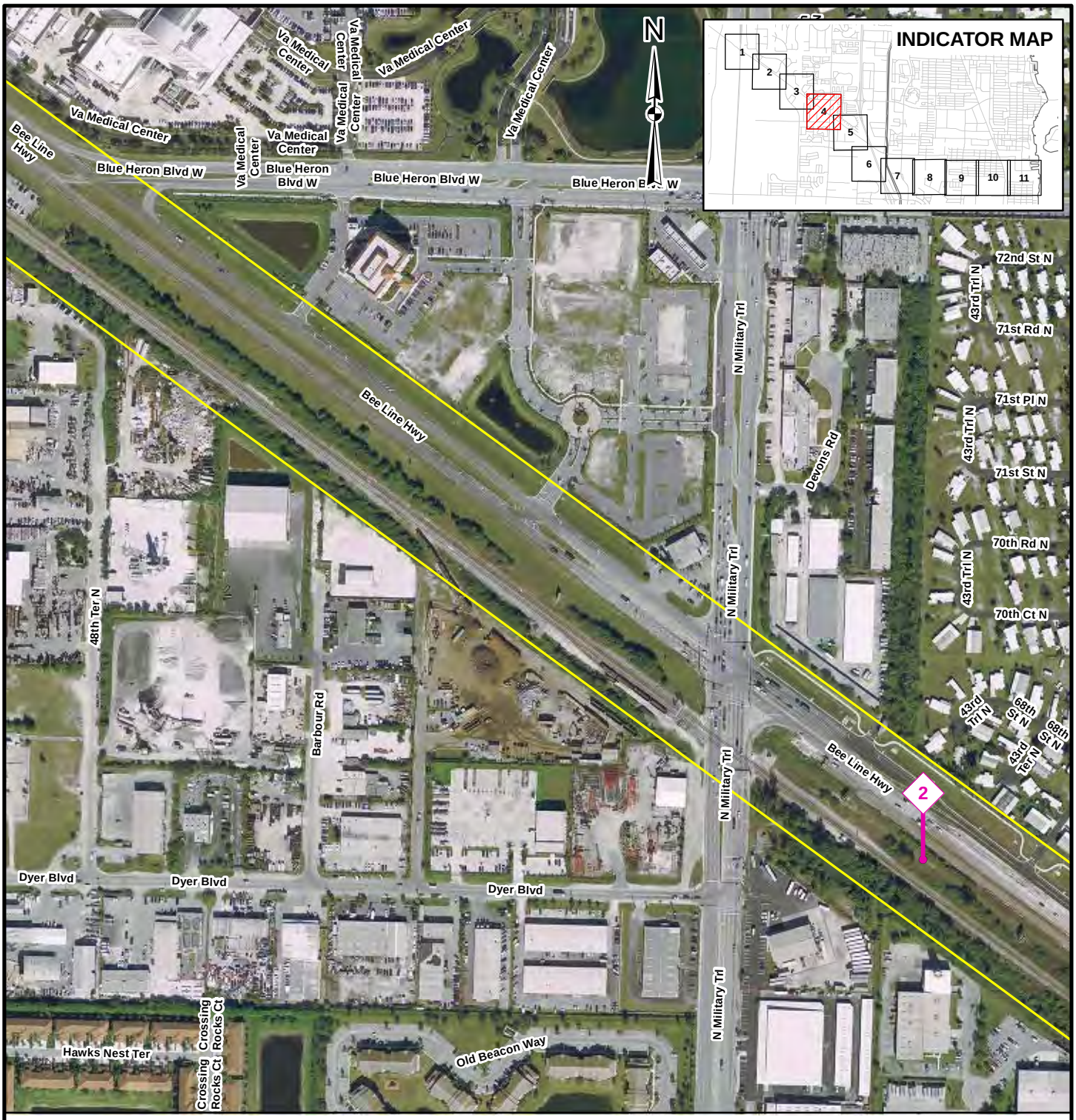
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 3 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A002_AerialLocationMap.mxd / Modified 8/18/2010 2:39:07 PM / Plotted 8/26/2010 2:08:23 PM by rlamar



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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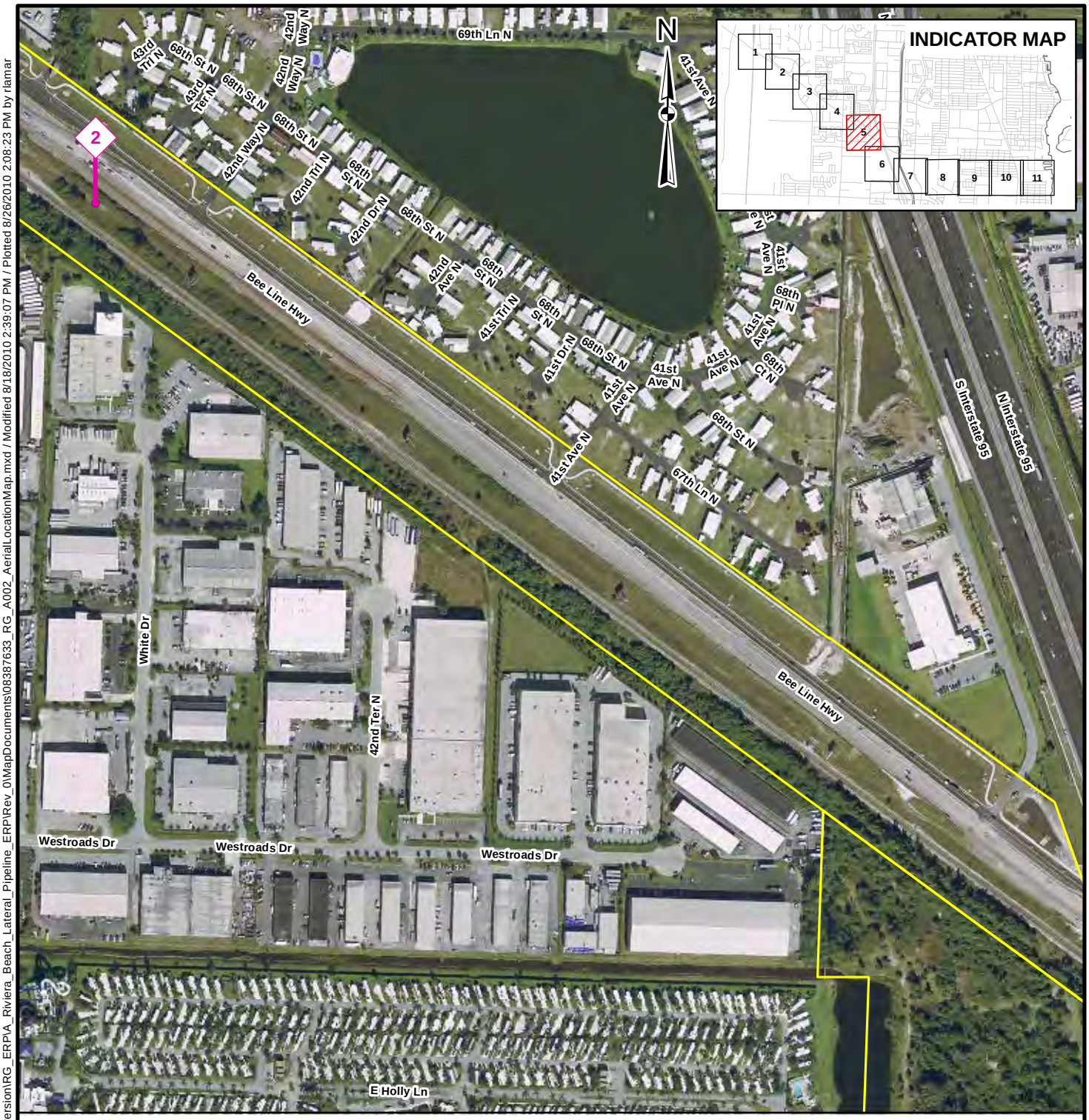
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 4 of 11

Map Document: G:\PROJECTS\FPLRiviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A002_AerialLocationMap.mxd / Modified 8/18/2010 2:39:07 PM / Plotted 8/26/2010 2:08:23 PM by rlamar



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
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CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 5 of 11

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 6 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A002_AerialLocationMap.mxd / Modified 8/18/2010 2:39:07 PM / Plotted 8/26/2010 2:08:23 PM by rlamar

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No. 08387633_RG_A002
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN REV. 0
GIS	NRL	8/18/2010	
CHECK	SAR	8/26/2010	**FIGURE 4**
REVIEW	RCM	8/26/2010	Sheet 7 of 11

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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GIS	NRL	8/18/2010		
CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 4

Sheet 8 of 11

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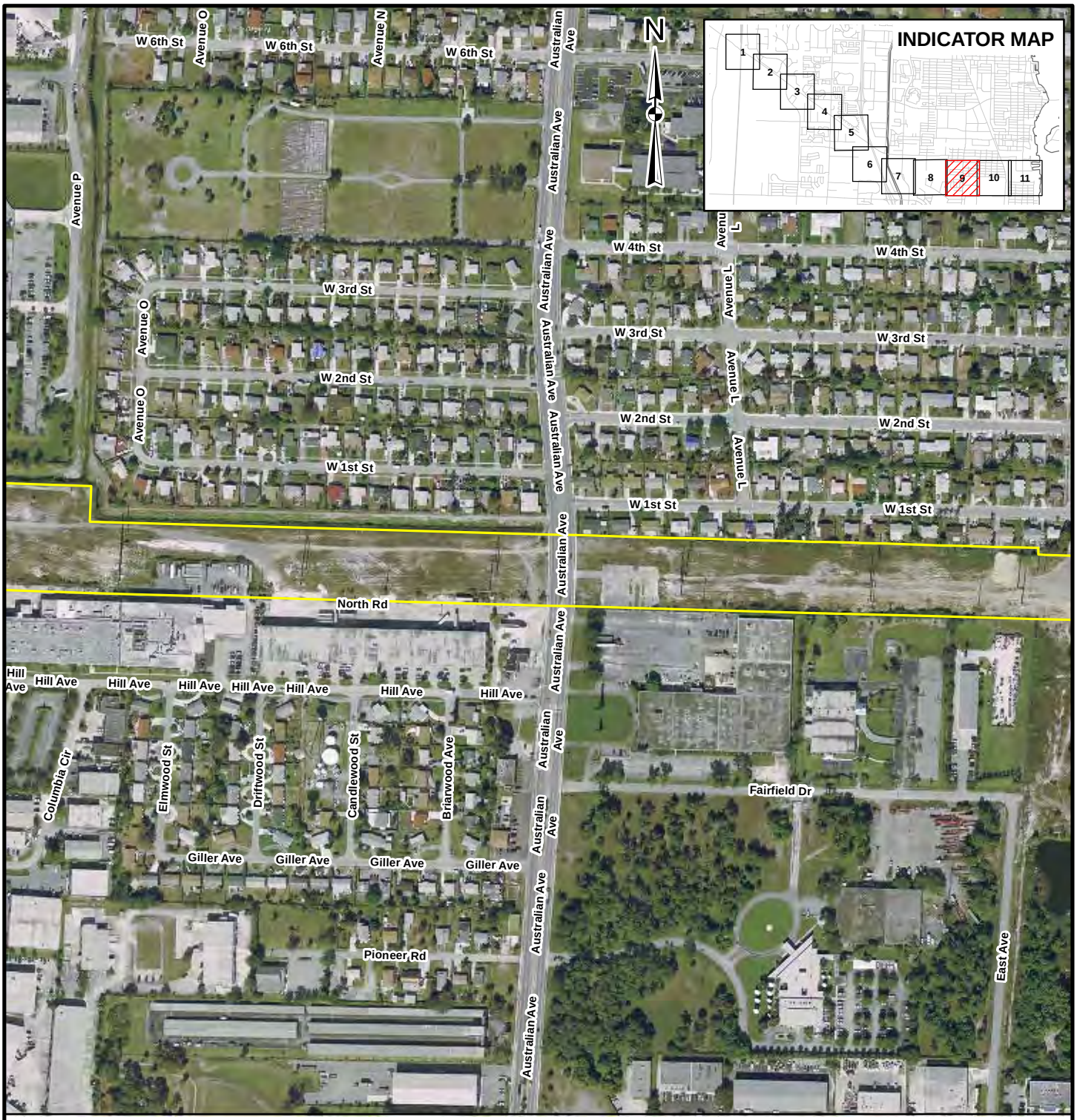

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

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RIVIERA BEACH LATERAL CORRIDOR

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Golder Associates
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FIGURE 4

Sheet 9 of 11

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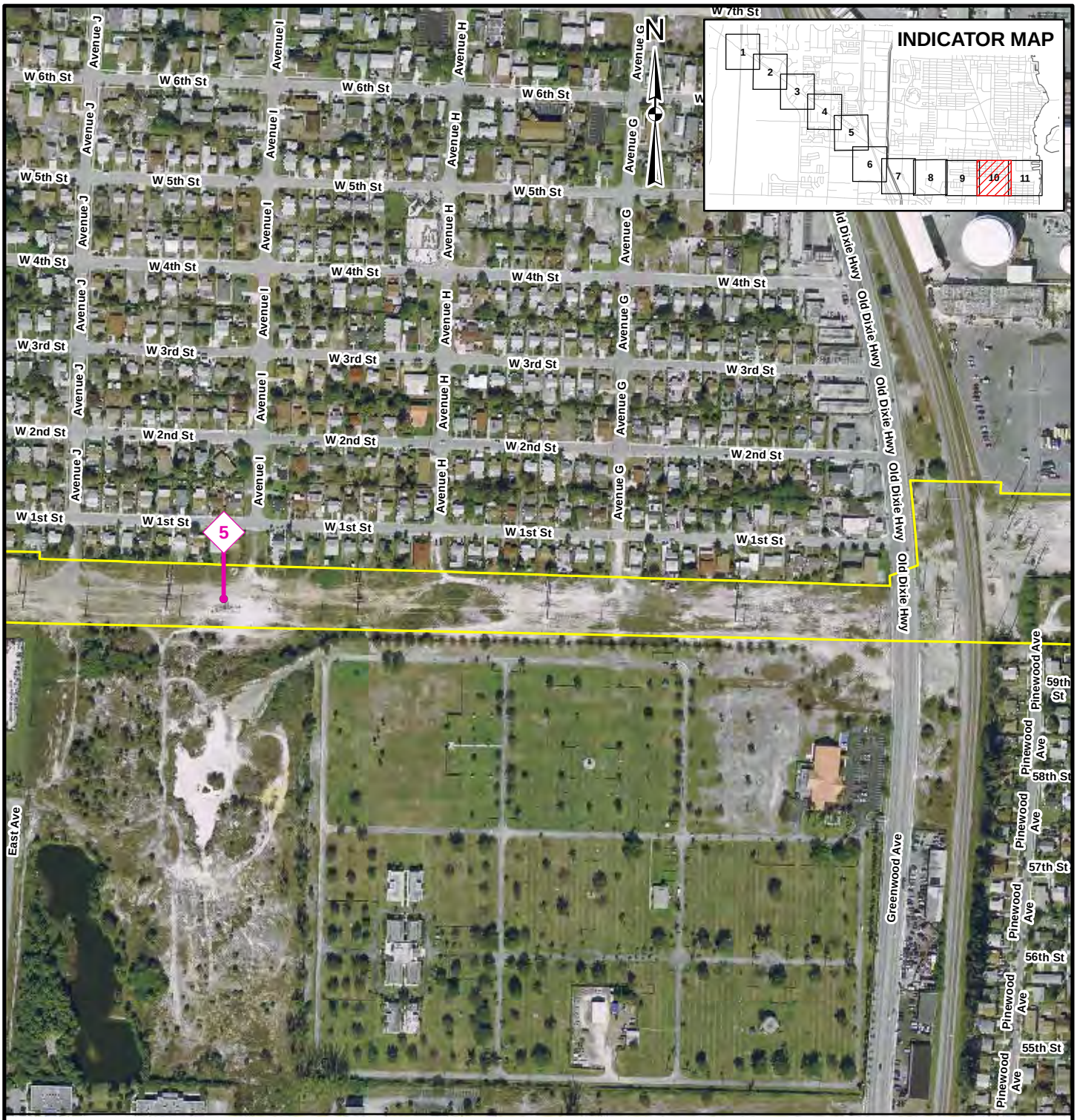

LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400
Feet

REFERENCES

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2. Mile Posts, Corridor, FPL , 2010.

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002
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FIGURE 4
Sheet 10 of 11

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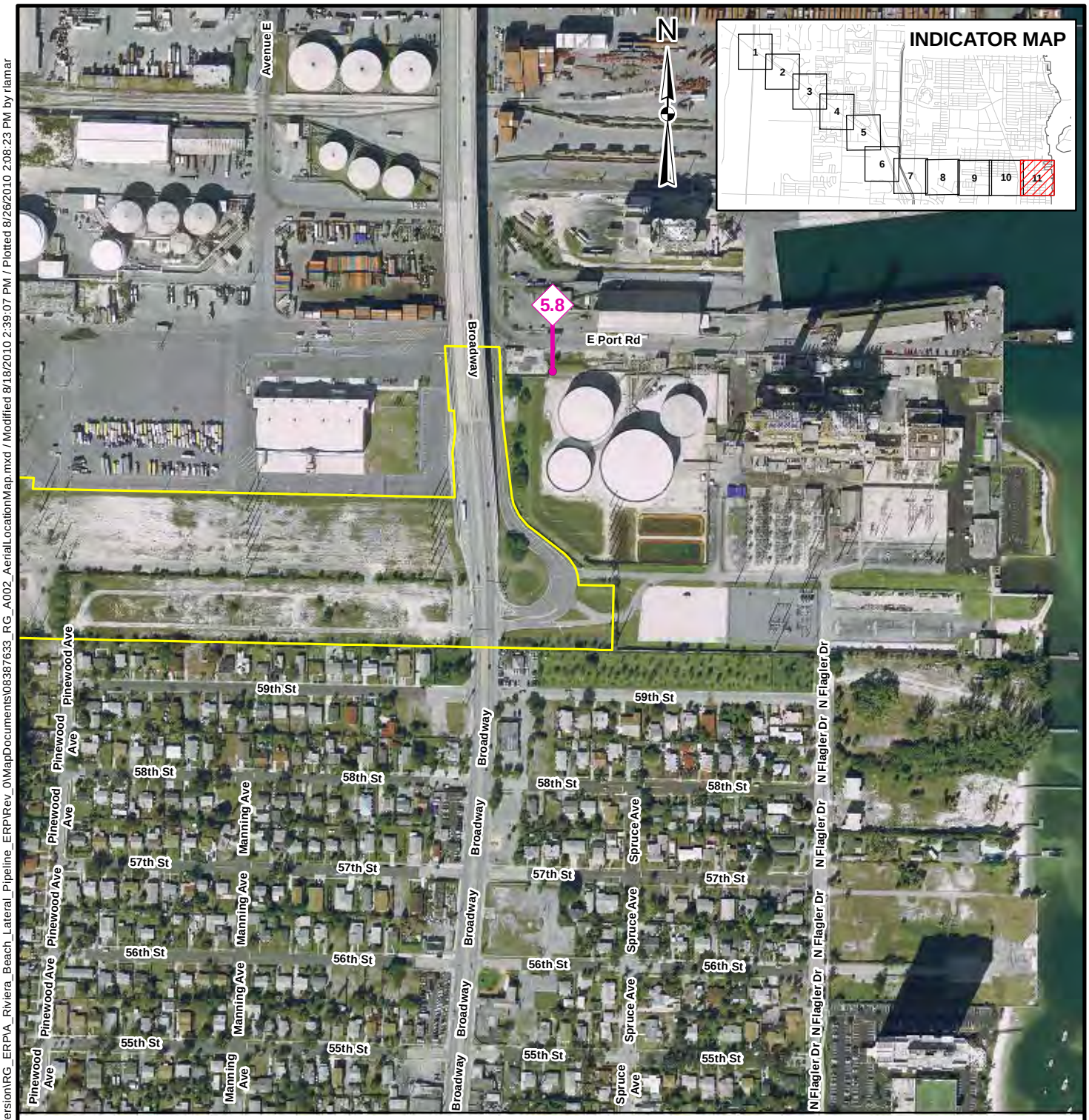

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LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

400 0 400 Feet

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

AERIAL MAP

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Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A002	
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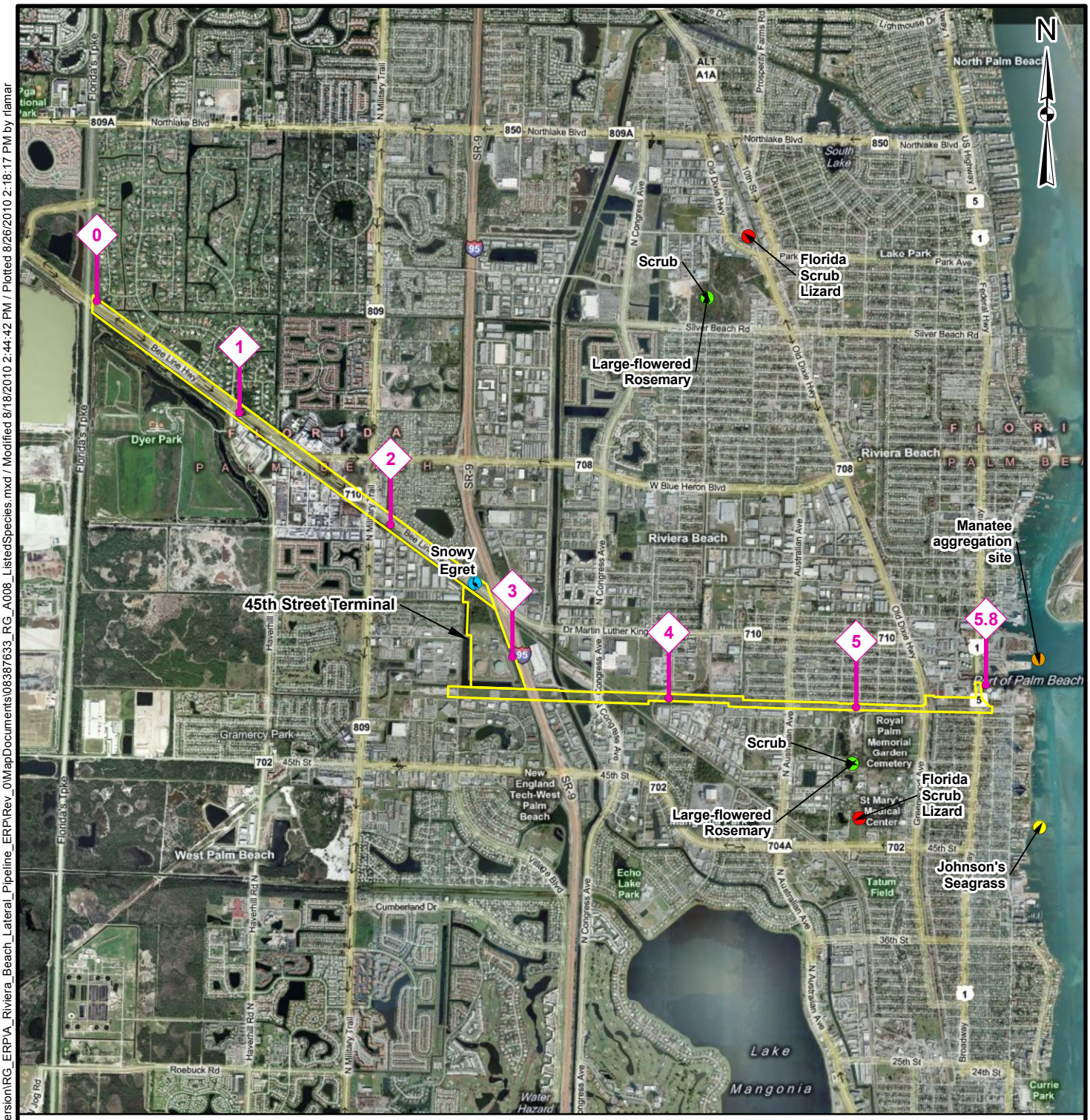
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 4

Sheet 11 of 11



LEGEND

- Riviera Beach Lateral Corridor
- Mile Posts
- Observed Species

FNAI Element Occurences

- Animals
- Communities
- Other
- Plants

REFERENCES

1. Aerial, ESRI/Bing Online Imagery, 2010.
2. Mile Posts, Corridor, FPL , 2010.
3. Element Occurences, FNAI, 2010.
4. Observed Species, Golder Associates Inc., 2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

LISTED SPECIES MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A008	
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
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FIGURE 5

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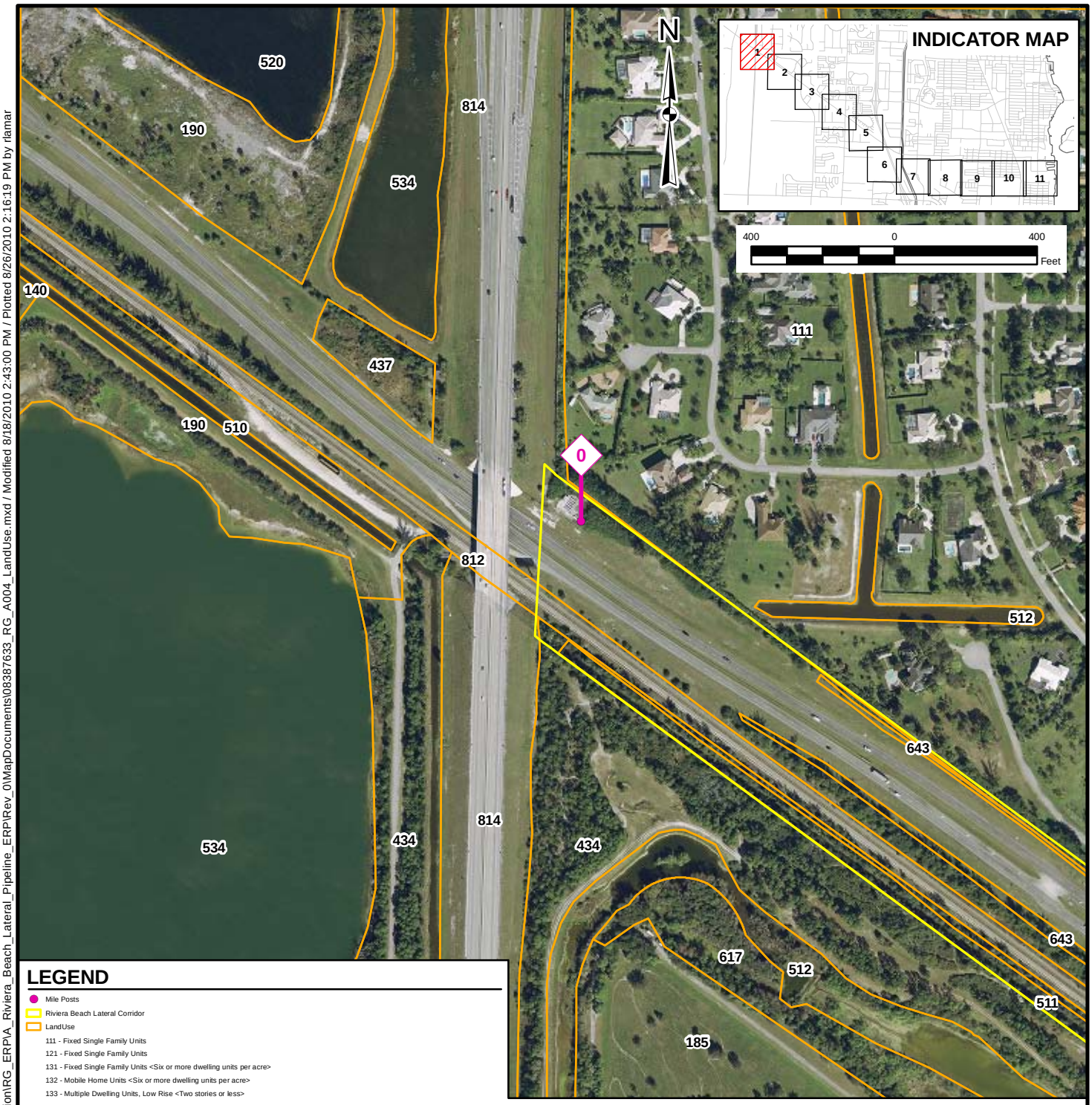

LEGEND

- Mile Posts
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  - 111 - Fixed Single Family Units
  - 121 - Fixed Single Family Units
  - 131 - Fixed Single Family Units <Six or more dwelling units per acre>
  - 132 - Mobile Home Units <Six or more dwelling units per acre>
  - 133 - Multiple Dwelling Units, Low Rise <Two stories or less>
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  - 140 - Commercial and Services
  - 146 - Oil and Gas Storage <Except those areas associated with industrial use or manufacturing>
  - 148 - Cemeteries
  - 154 - Oil and Gas Processing
  - 155 - Other Light Industrial
  - 156 - Other Heavy Industrial
  - 170 - Institutional
  - 171 - Educational Facilities
  - 174 - Medical and Health Care
  - 185 - Parks and Zoos
  - 190 - Open Land
  - 320 - Shrub and Brushland
  - 411 - Pine Flatwoods
  - 434 - Hardwood - Coniferous Mixed
  - 437 - Australian Pines
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  - 511 - Ditches
  - 512 - Canals
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  - 812 - Railroads
  - 814 - Roads and Highways
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  - 835 - Solid Waste Disposal

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Land Use / Land Cover, SFWMD/Golder Associates Inc., 2004/2010.

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PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

LAND USE / LAND COVER

Golder Associates
Gainesville, Florida

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DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV.	0
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 6

Sheet 1 of 11

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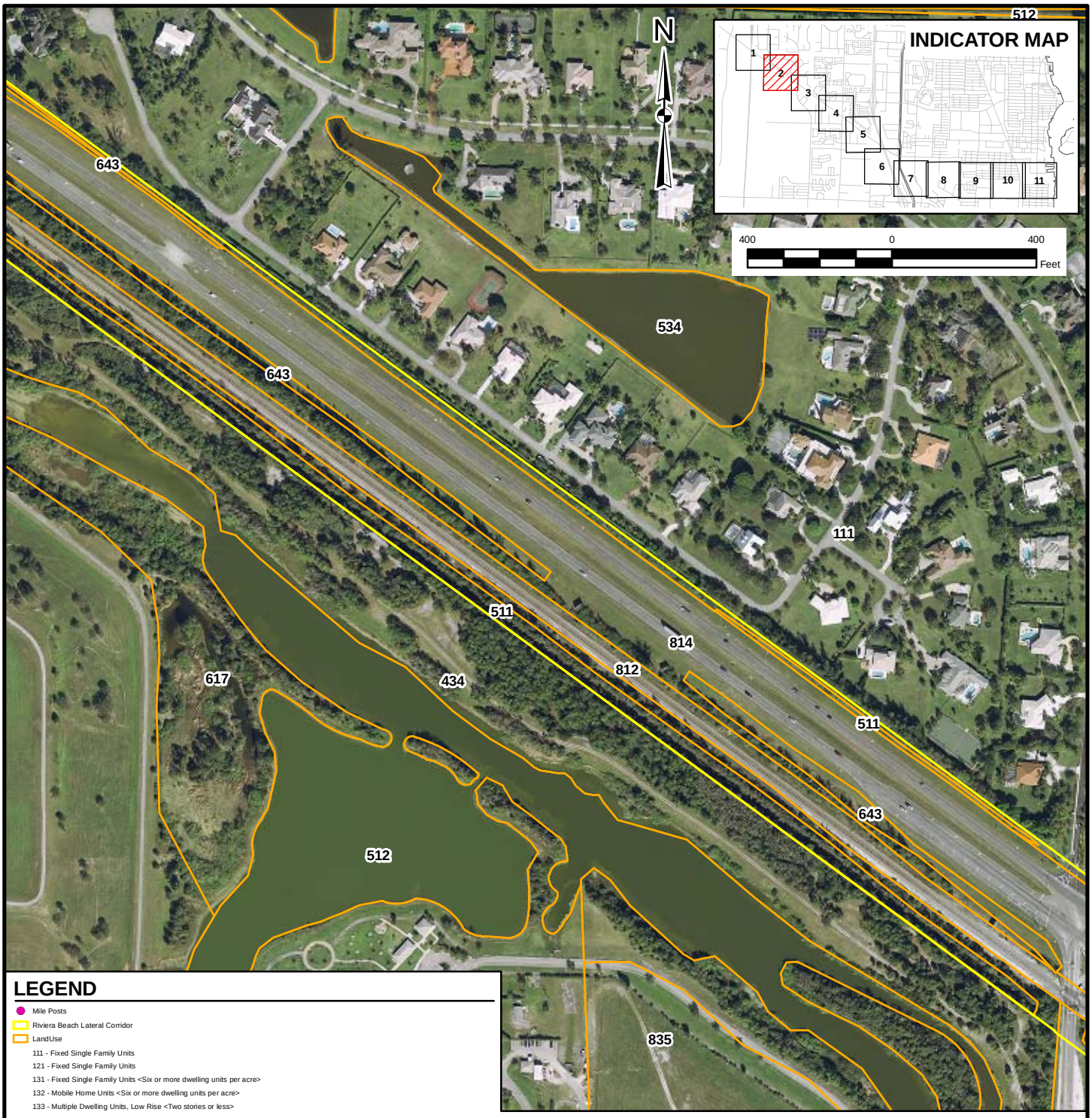

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1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Land Use / Land Cover, SFWMD/Golder Associates Inc., 2004/2010.

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Gainesville, Florida

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FIGURE 6

Sheet 2 of 11

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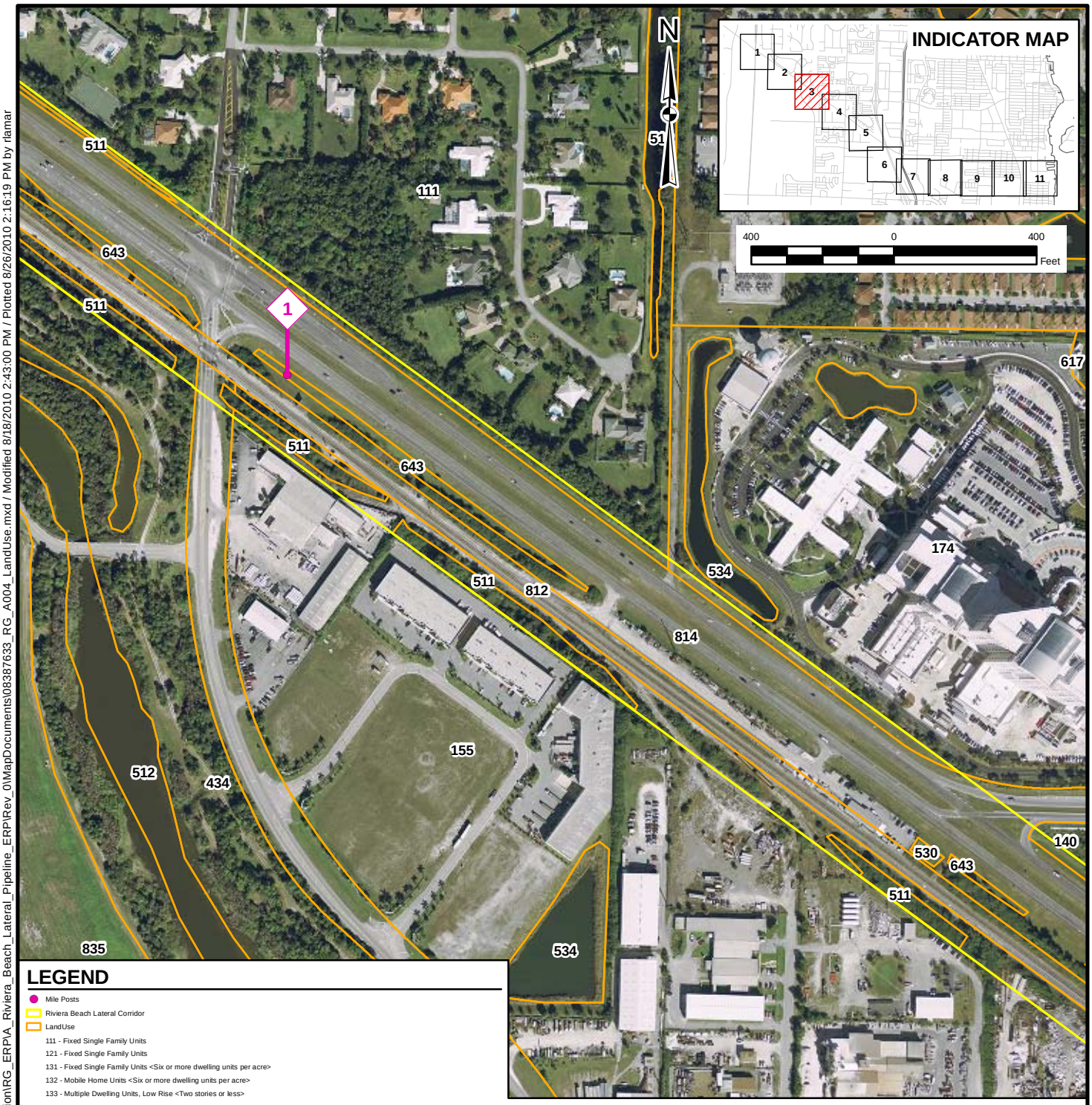

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FIGURE 6

Sheet 3 of 11

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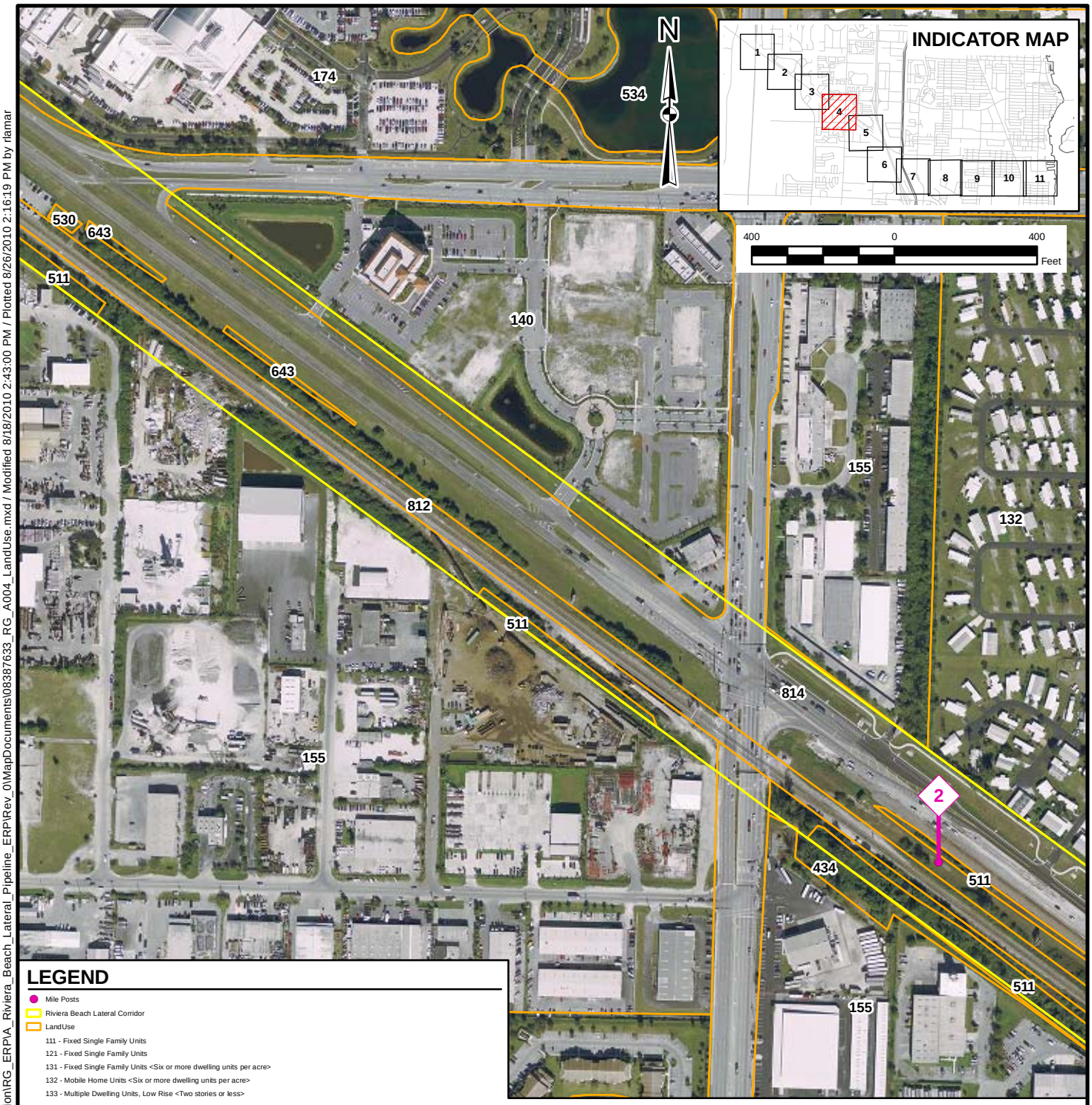

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FIGURE 6

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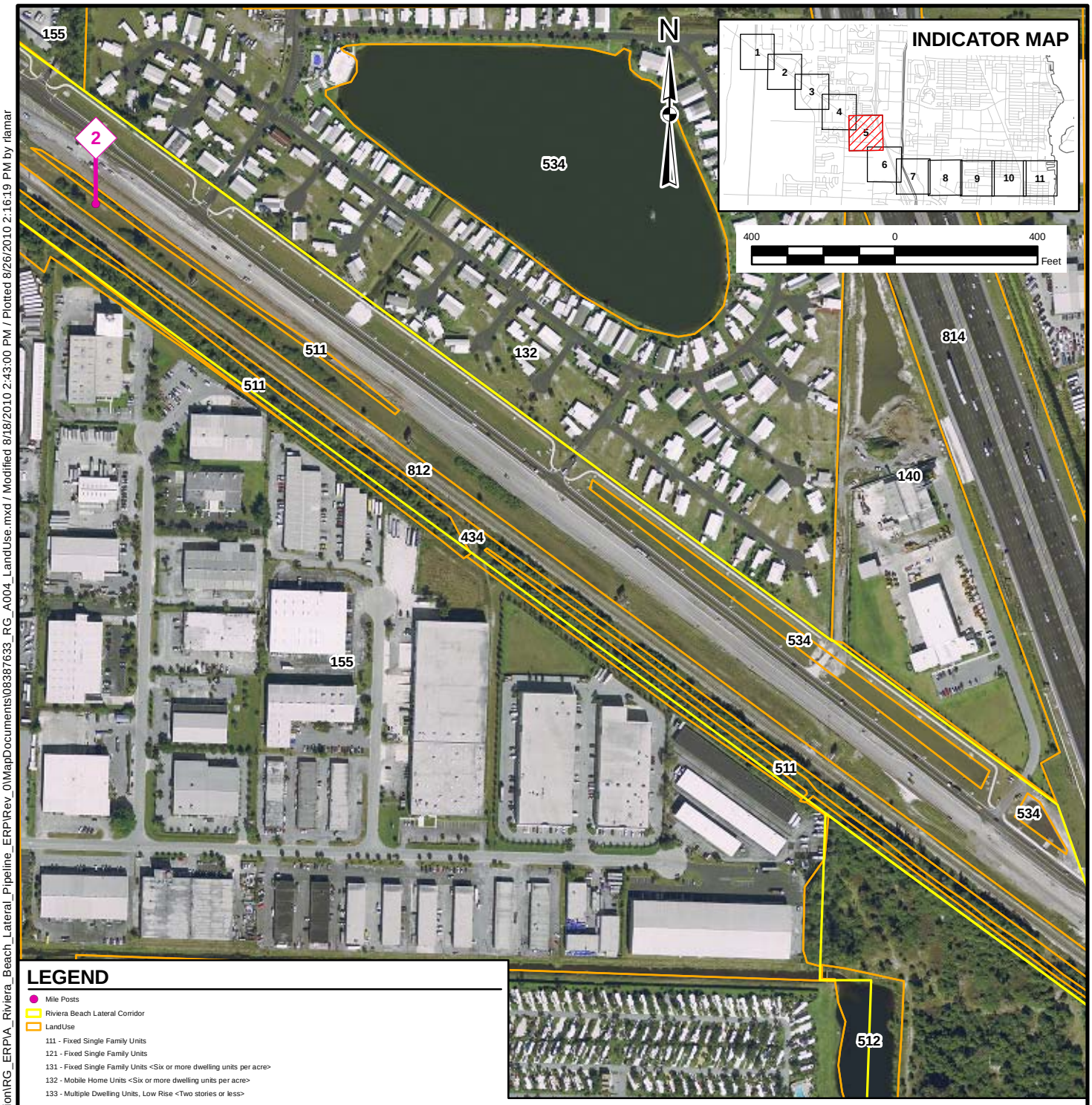

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FIGURE 6

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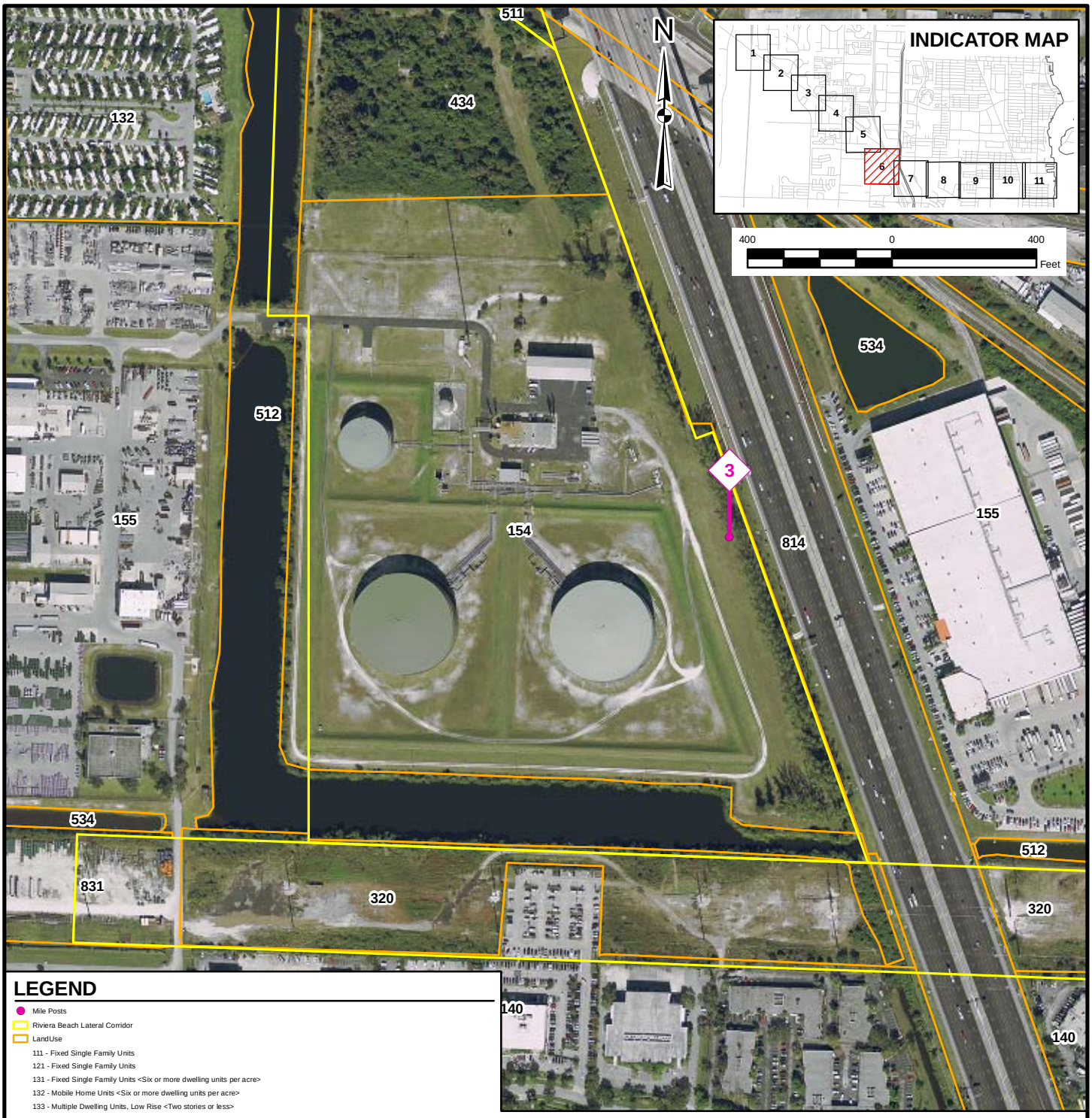

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RIVIERA BEACH LATERAL CORRIDOR

TITLE

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Golder Associates
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FIGURE 6

Sheet 6 of 11

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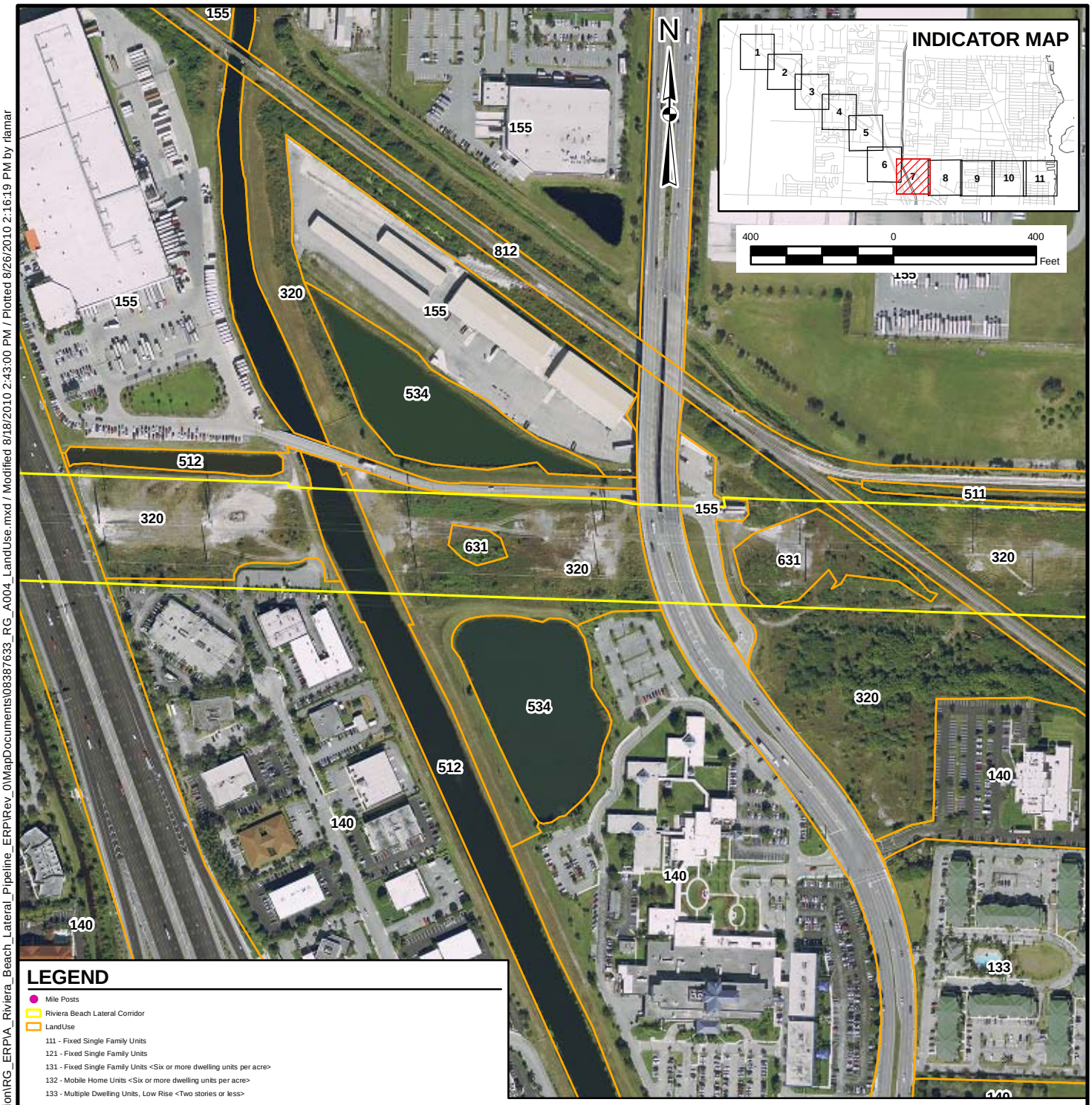

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FIGURE 6

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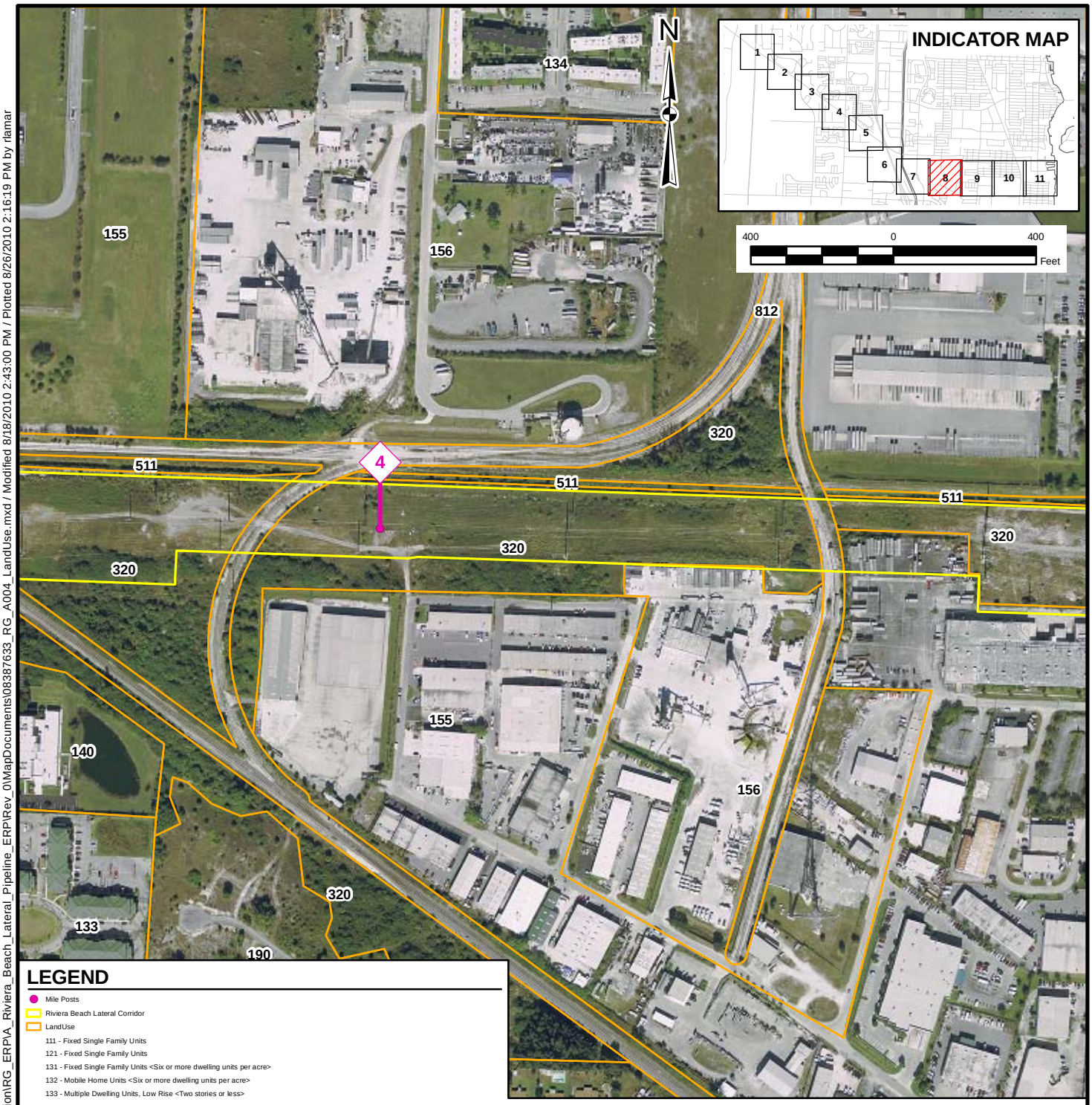

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FIGURE 6

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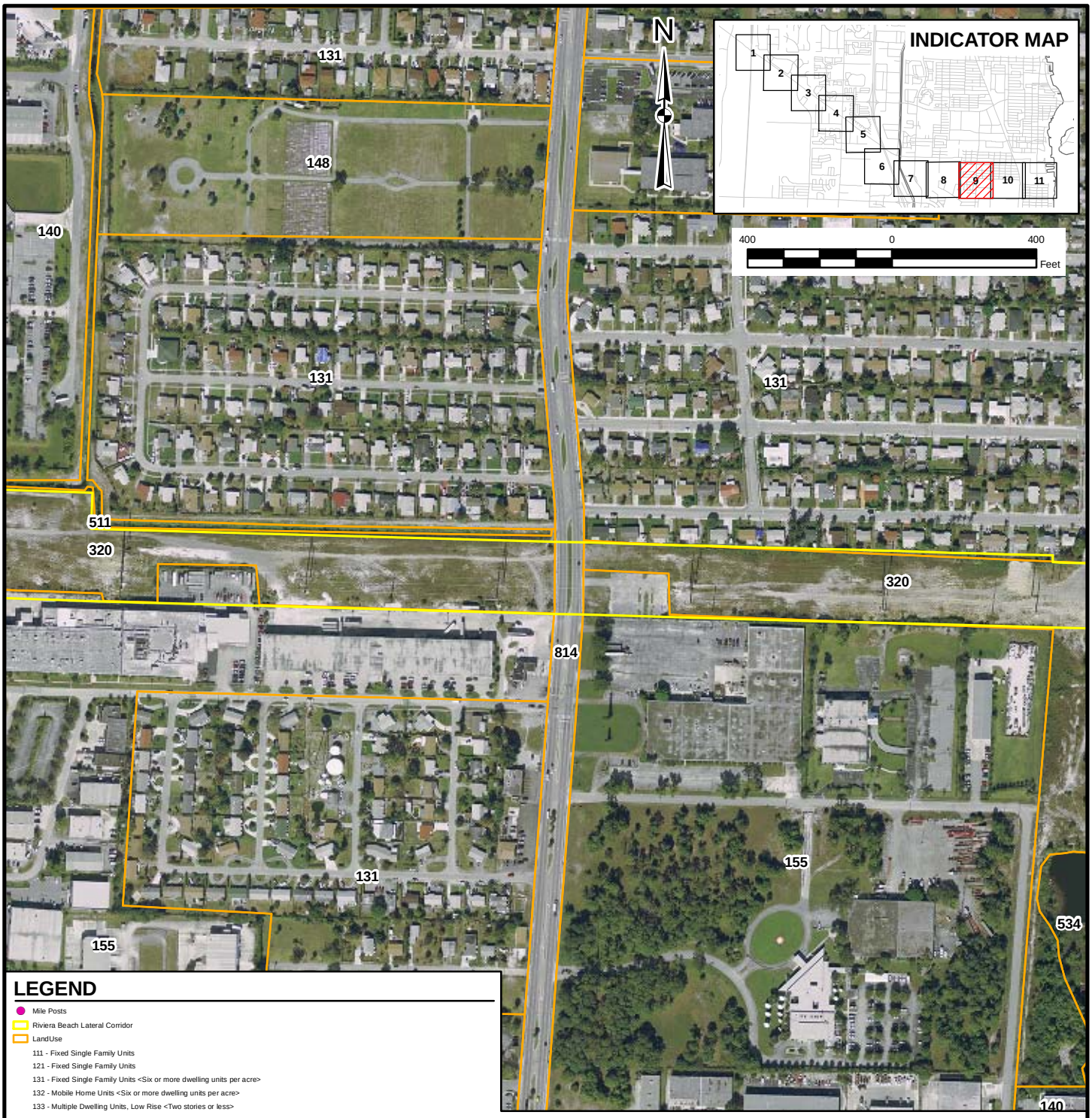

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Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A004	
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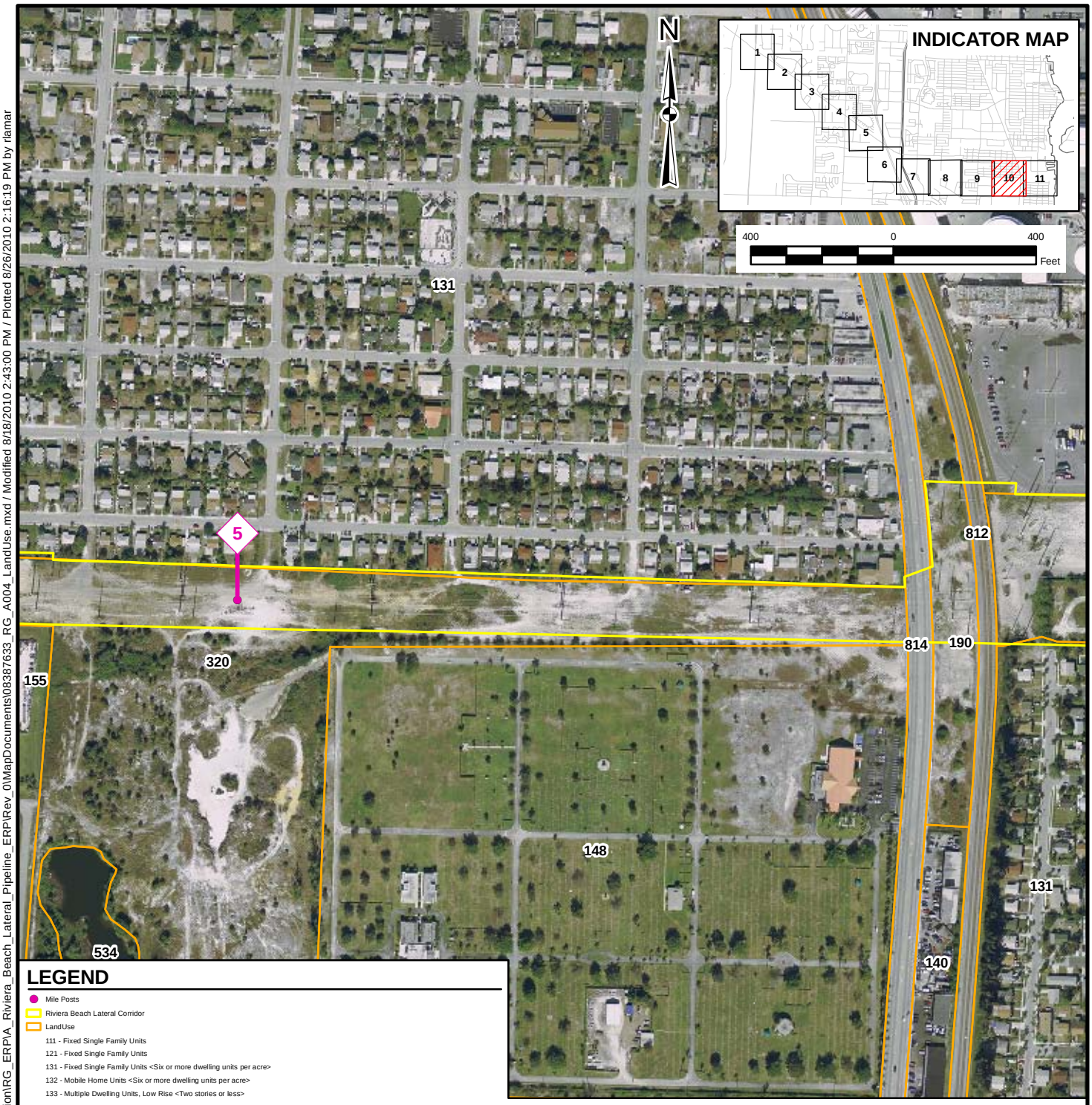
GIS	NRL	8/18/2010			
CHECK	SAR	8/26/2010			
REVIEW	RCM	8/26/2010			

FIGURE 6

Sheet 9 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A004_LandUse.mxd / Modified 8/18/2010 2:43:00 PM / Plotted 8/26/2010 2:16:19 PM by rlamar



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor
- LandUse
  - 111 - Fixed Single Family Units
  - 121 - Fixed Single Family Units
  - 131 - Fixed Single Family Units <Six or more dwelling units per acre>
  - 132 - Mobile Home Units <Six or more dwelling units per acre>
  - 133 - Multiple Dwelling Units, Low Rise <Two stories or less>
  - 134 - Multiple Dwelling Units, High Rise <Three stories or more>
  - 140 - Commercial and Services
  - 146 - Oil and Gas Storage <Except those areas associated with industrial use or manufacturing>
  - 148 - Cemeteries
  - 154 - Oil and Gas Processing
  - 155 - Other Light Industrial
  - 156 - Other Heavy Industrial
  - 170 - Institutional
  - 171 - Educational Facilities
  - 174 - Medical and Health Care
  - 185 - Parks and Zoos
  - 190 - Open Land
  - 320 - Shrub and Brushland
  - 411 - Pine Flatwoods
  - 434 - Hardwood - Coniferous Mixed
  - 437 - Australian Pines
  - 510 - Streams and Waterways
  - 511 - Ditches
  - 512 - Canals
  - 520 - Lakes
  - 530 - Reservoirs
  - 534 - Reservoirs less than 10 acres (4 hectares) which are dominant features
  - 617 - Mixed Wetland Hardwoods
  - 631 - Wetland Shrub
  - 643 - Wet Prairies
  - 812 - Railroads
  - 814 - Roads and Highways
  - 831 - Electric Power Facilities
  - 835 - Solid Waste Disposal

REFERENCES

1. Aerial Imagery, FDOT, 2009.
2. Mile Posts, Corridor, FPL , 2010.
3. Land Use / Land Cover, SFWMD/Golder Associates Inc., 2004/2010.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

LAND USE / LAND COVER

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A004	
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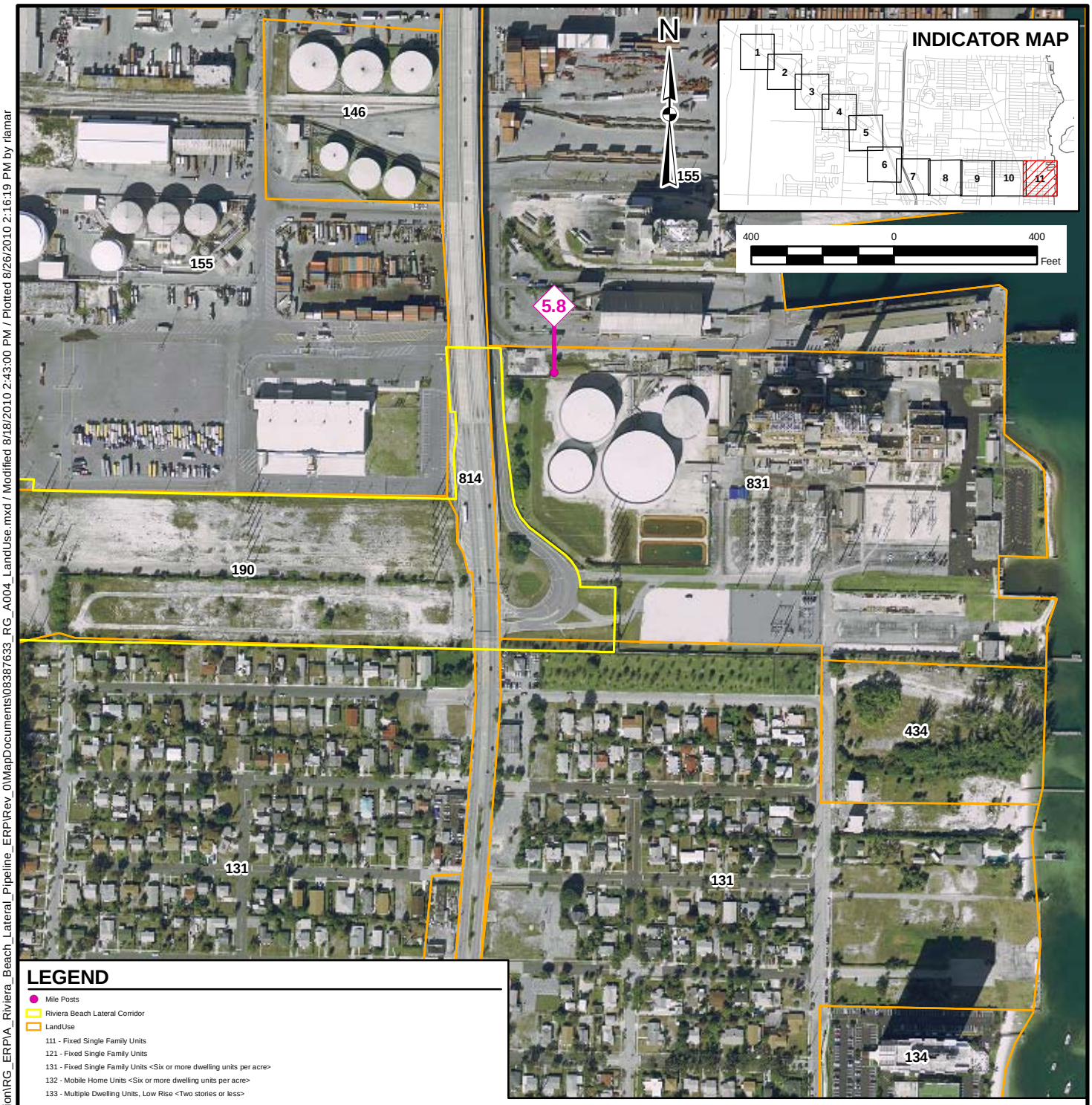
REVIEW	RCM	8/26/2010			

FIGURE 6

Sheet 10 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERPIA_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A004_LandUse.mxd / Modified 8/18/2010 2:43:00 PM / Plotted 8/26/2010 2:16:19 PM by rlamar



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Gainesville, Florida

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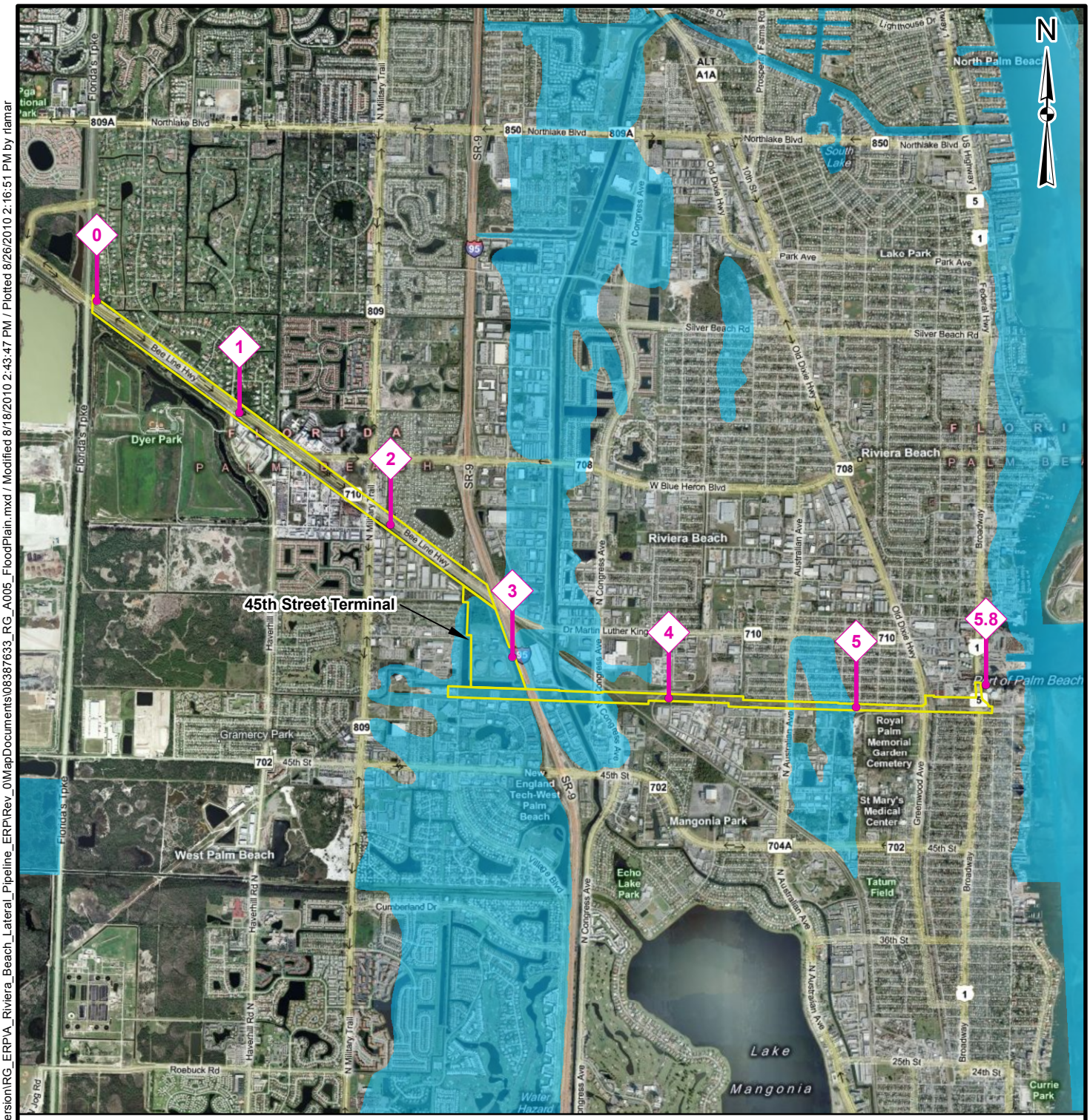
REVIEW	RCM	8/26/2010			

FIGURE 6

Sheet 11 of 11

Map Document: G:\PROJECTS\FPL\Riviera\083-87633_Riviera_Conversion\RG_ERP\A_Riviera_Beach_Lateral_Pipeline_ERP\Rev_0\MapDocuments\08387633_RG_A004_LandUse.mxd / Modified 8/18/2010 2:43:00 PM / Plotted 8/26/2010 2:16:19 PM by rlamar



LEGEND

- Mile Posts
- Riviera Beach Lateral Corridor

100-Year Flood Zone

- IN

4,000 0 4,000 Feet

REFERENCES

1. Aerial, ESRI/Bing Online Imagery, 2010.
2. Mile Posts, Corridor, FPL , 2010.
3. 100-Year Flood Zone, 2009.

REV.	DATE	DES	REVISION DESCRIPTION	GIS	CHK	RVW

PROJECT

RIVIERA BEACH LATERAL CORRIDOR

TITLE

FLOODPLAIN MAP

Golder Associates
Gainesville, Florida

PROJECT No.		083-87633	FILE No.	08387633_RG_A005
DESIGN	SAR	7/14/2010	SCALE: AS SHOWN	REV. 0
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CHECK	SAR	8/26/2010		
REVIEW	RCM	8/26/2010		

FIGURE 7

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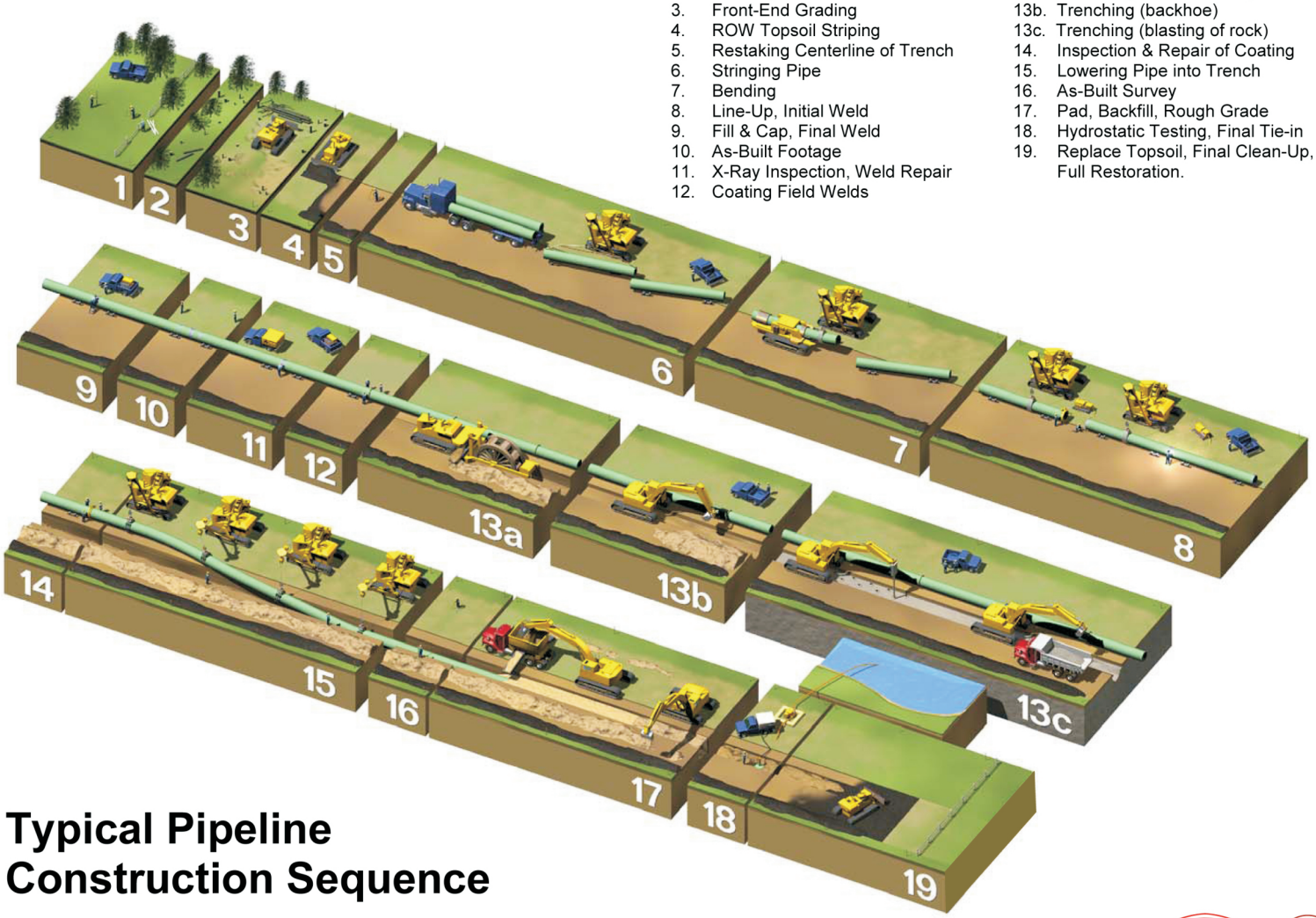


Typical Pipeline Construction Sequence

M:\Clients\V-X\WEI\FPL_ArcGIS\2008\05\ConstructionSequence_ConstructionSequence.mxd

© Natural Resource Group, LLC, 2007

SOURCE: Willbros and Natural Resource Group, 2007

FIGURE 8

TYPICAL PIPELINE CONSTRUCTION SEQUENCE
RIVIERA BEACH LATERAL

July 6, 2009

FPL

Y:/Projects/08387633/SCA Mod 2010/FIGURE 9.4.1-1.pdf

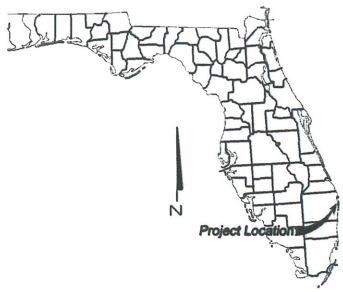
ATTACHMENT C

WETLAND SURVEY

Specific Purpose Survey of Wetland Jurisdictional Delineation
Florida Power and Light Company

Florida EnergySecure Line
Riviera Beach Lateral Preferred Corridor

Located In
Palm Beach County, Florida



SURVEYOR'S NOTES:

1) This Specific Purpose Survey is not valid without the signature and the original raised seal of the signing Florida licensed surveyor and mapper.

2) The Specific Purpose of this survey was to locate and map Wetland Jurisdictional Delineations (as determined by others) in relation to the approximate boundary of the site, in conformance with Chapters 62-343 and 5J-17 Florida Administrative Code.

3) Lands shown hereon were not abstracted for ownership, rights-of-way, easements or other matters of title by this firm, nor were any such documents provided by client.

4) The boundary delineation was provided by the client and is approximate. This specific purpose survey is Not a Boundary Survey of the site.

5) This survey was performed using a combination of Global Positioning System and conventional survey methodology. The horizontal accuracy is at the sub-meter level.

6) Coordinates of wetland flags shown hereon are relative to the Florida State Plane Coordinate System, East Zone (901) , North American Datum of 1983/2007 Adjustment.

7) Wetland jurisdictional delineations were determined and flagged by Golder Associates, Gainesville, Florida.

8) The wetland flag descriptions shown hereon correspond to the numbers shown on each flag located in the field.

9) This survey is certified to:
- Florida Power and Light Company,
- Golder Associates, Inc.

10) Except as shown hereon, interior improvements were not located.

11) The Geo-Referenced imagery utilized herein, dated 04/13/2009, was obtained from the Land Boundary Information Systems Website, (LABINS) .

SHEET INDEX:

SHEET	DESCRIPTION
1.00	Cover Sheet
1.10	Overall Vicinity Map/Sheet Index
2.00 - 13.00	Wetlands along Riviera Beach Lateral Preferred Corridor
14.00	Wetlands flag Coordinates Values and area Acreages

LEGEND:

SR = State Road
ST = Street
= Wetlands Jurisdictional Delineation Line
ID = Identification
1.00 = Sheet Number
= Wetlands Jurisdictional Delineation Area within Corridor

County: Palm Beach
Field Book/Page: 1065 / 22-25
Photo Date: 04/13/2009
Last date in field: 07/15/2010

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Wetland Jurisdictional Delineation
Florida Power and Light Company
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Palm Beach County, Florida

DATE	BY	DESCRIPTION
		REVISION

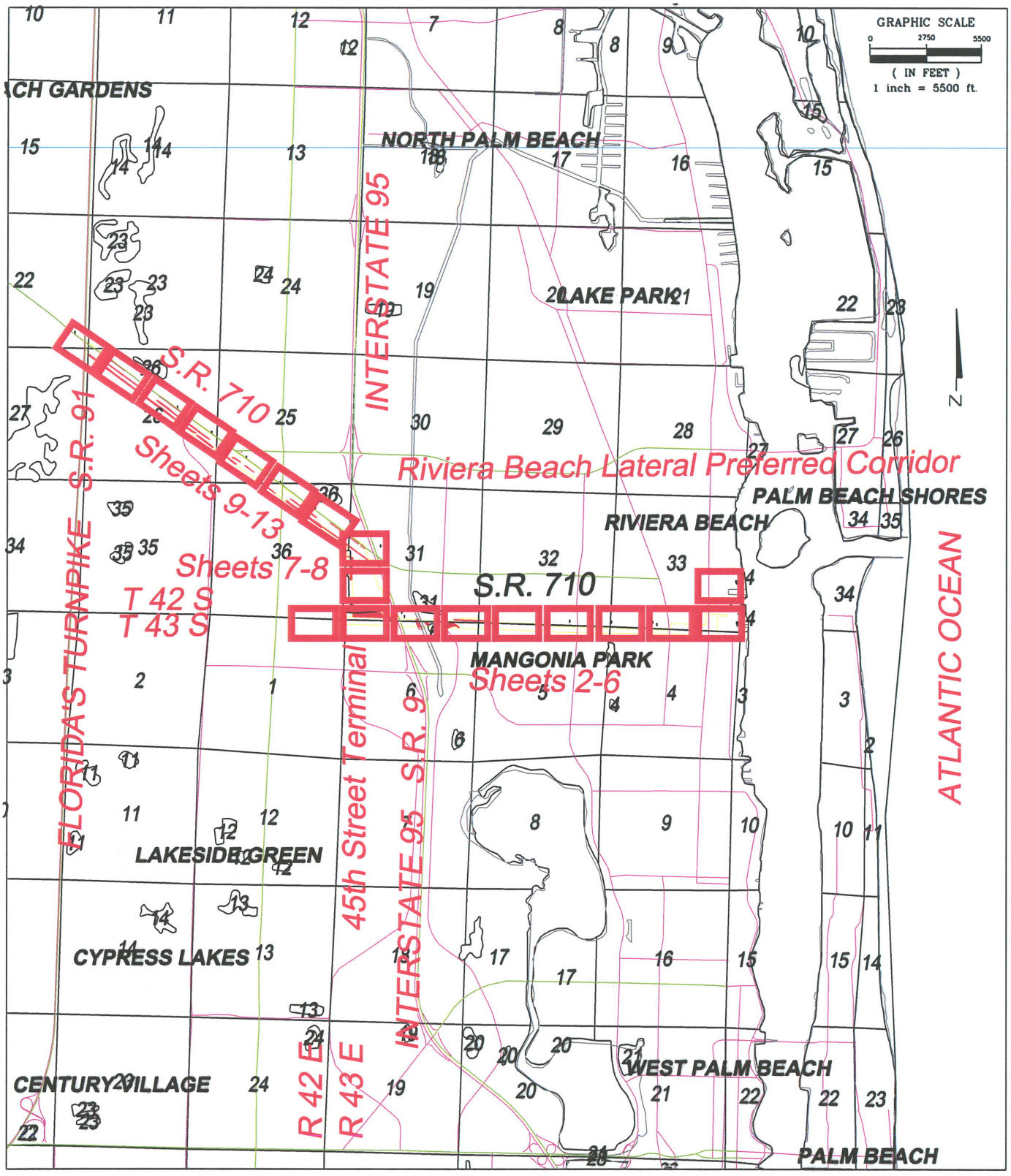
DRAWN BY: C.V.H. DATE: 07/22/2010
CHKD. BY: R.M.J. DATE: 07/22/2010
JOB No. 6374100463
SCALE: N.A.
SHT. 1.00
DRAWING NAME:Riv10463-Wetland.dwg

PREPARED BY:
MACTEC
MACTEC Engineering & Consulting, Inc.
4150 North John Young Parkway Orlando, Florida 32804-2620
Phone: 407.522.7570 Fax: 407.522.7576
CERTIFICATE OF AUTHORIZATION: LB 6969

ROBERT M. JONES
FLORIDA PROFESSIONAL SURVEYOR AND MAPPER
LICENSE No. LS 4201

PREPARED FOR:
Golder Associates
Gainesville, Florida
GOLDER ASSOCIATES
6026 N.W. 1st Place
GAINESVILLE, FLORIDA 32607

VICINITY MAP/SHEET INDEX



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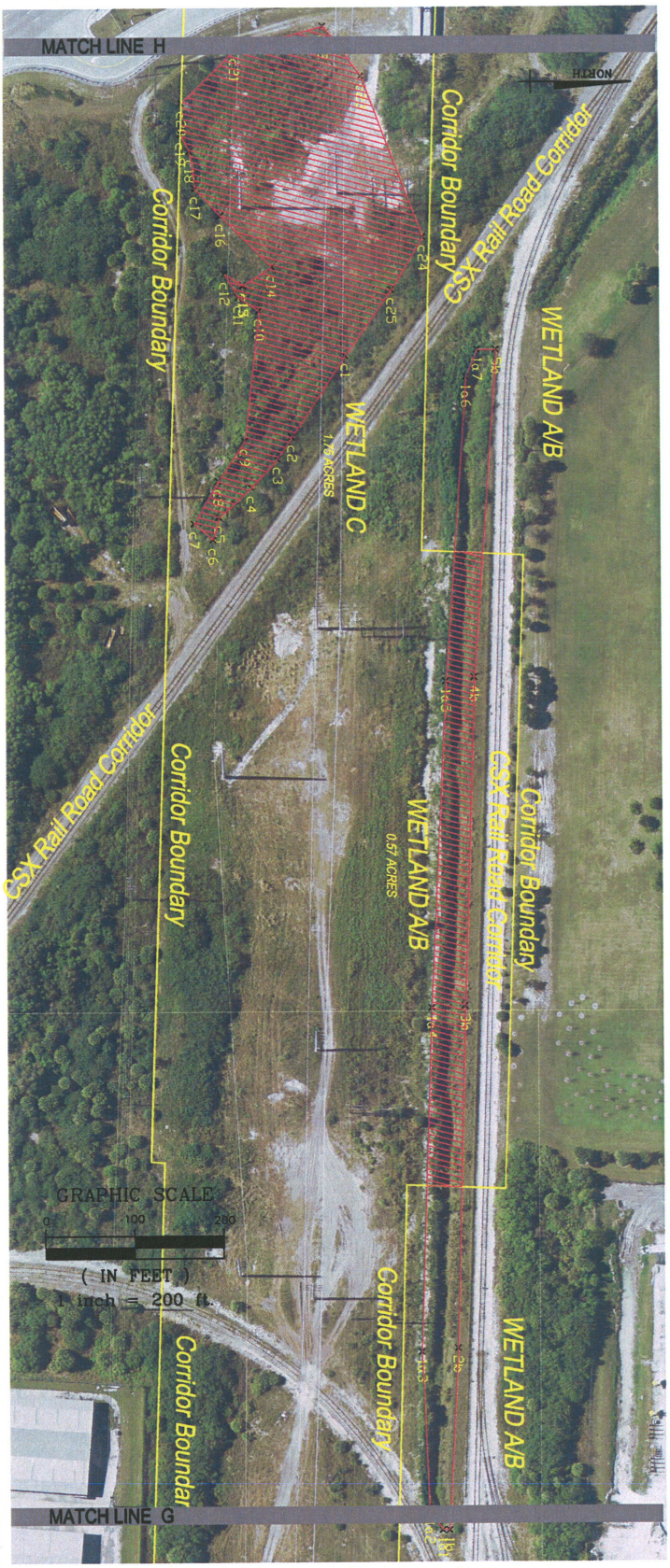

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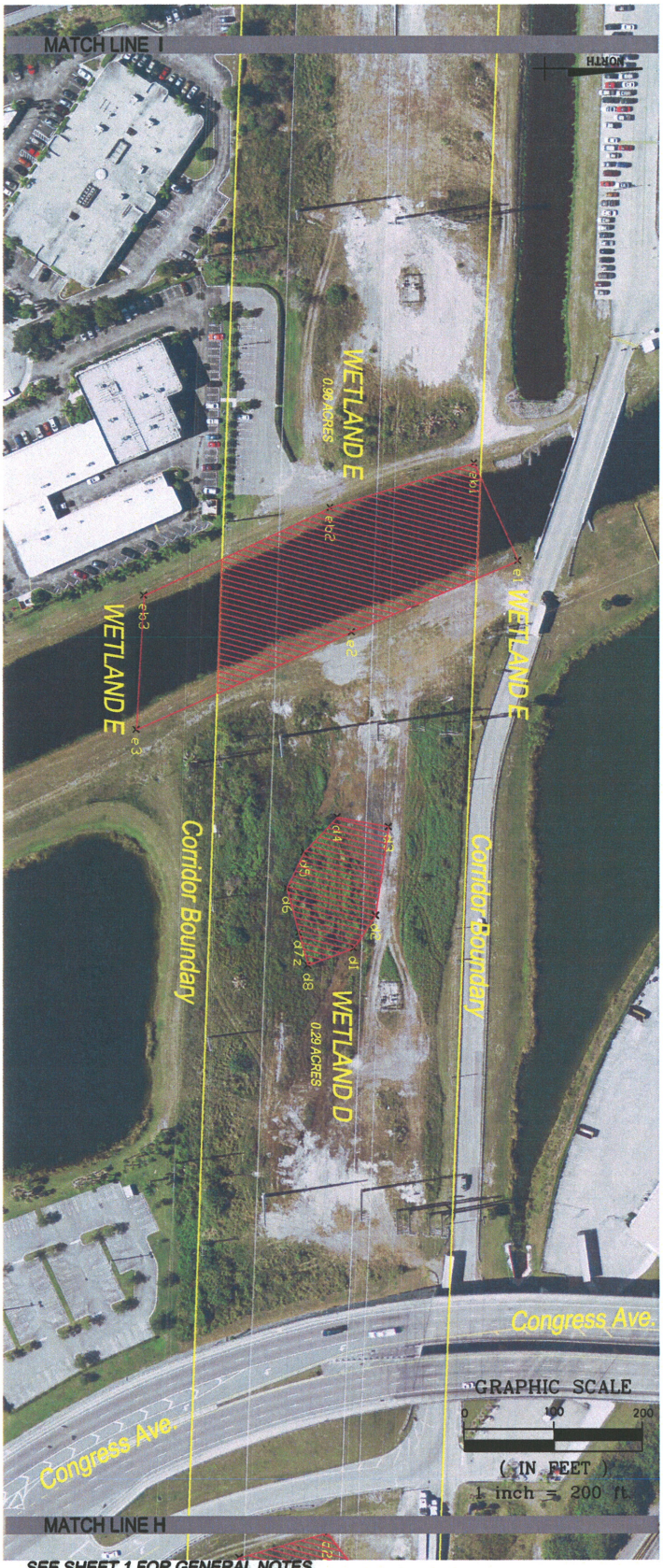

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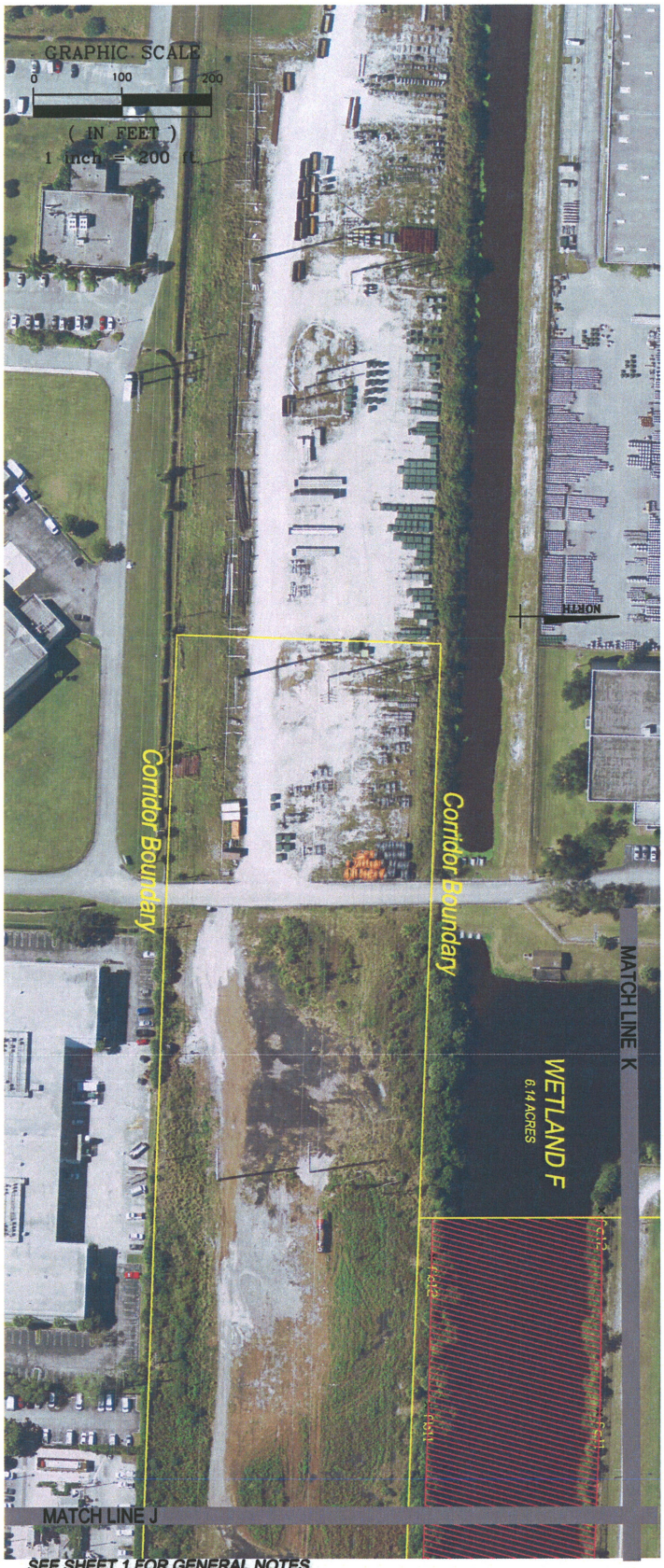

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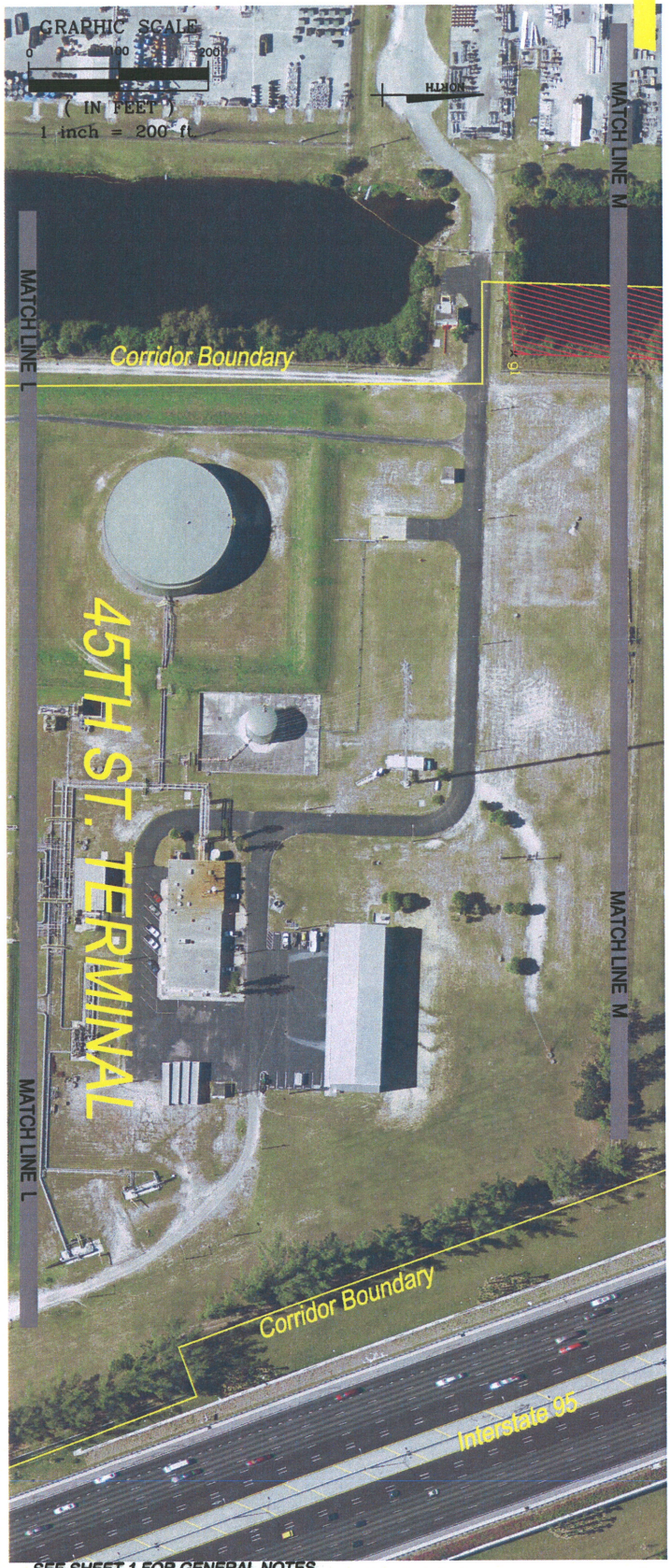

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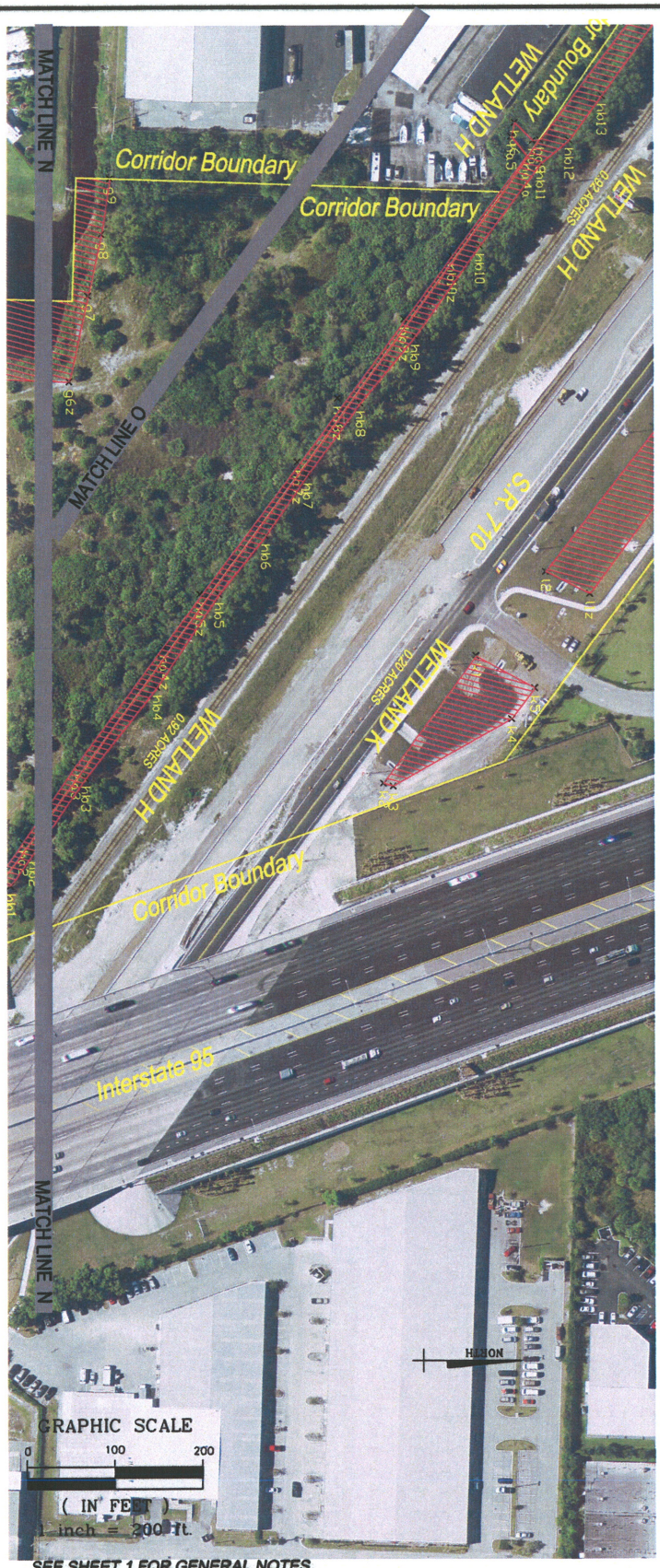

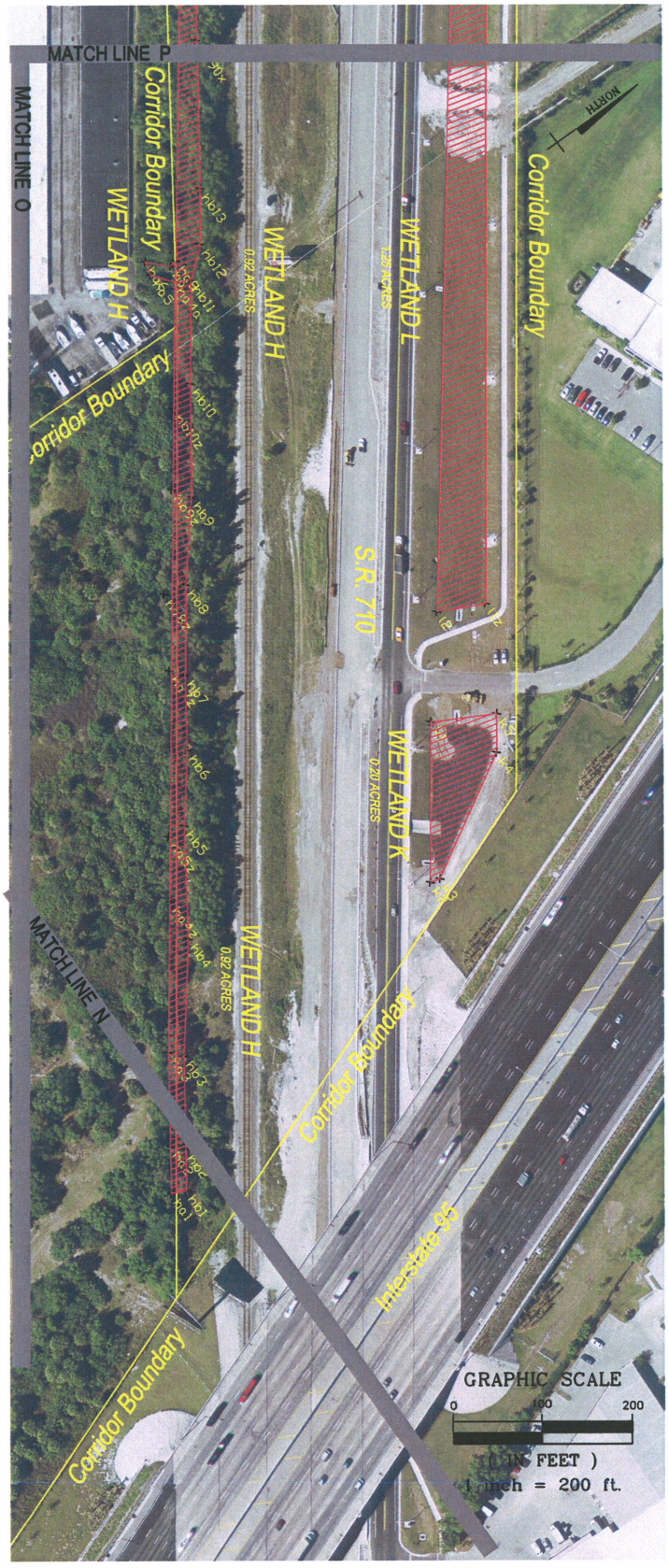

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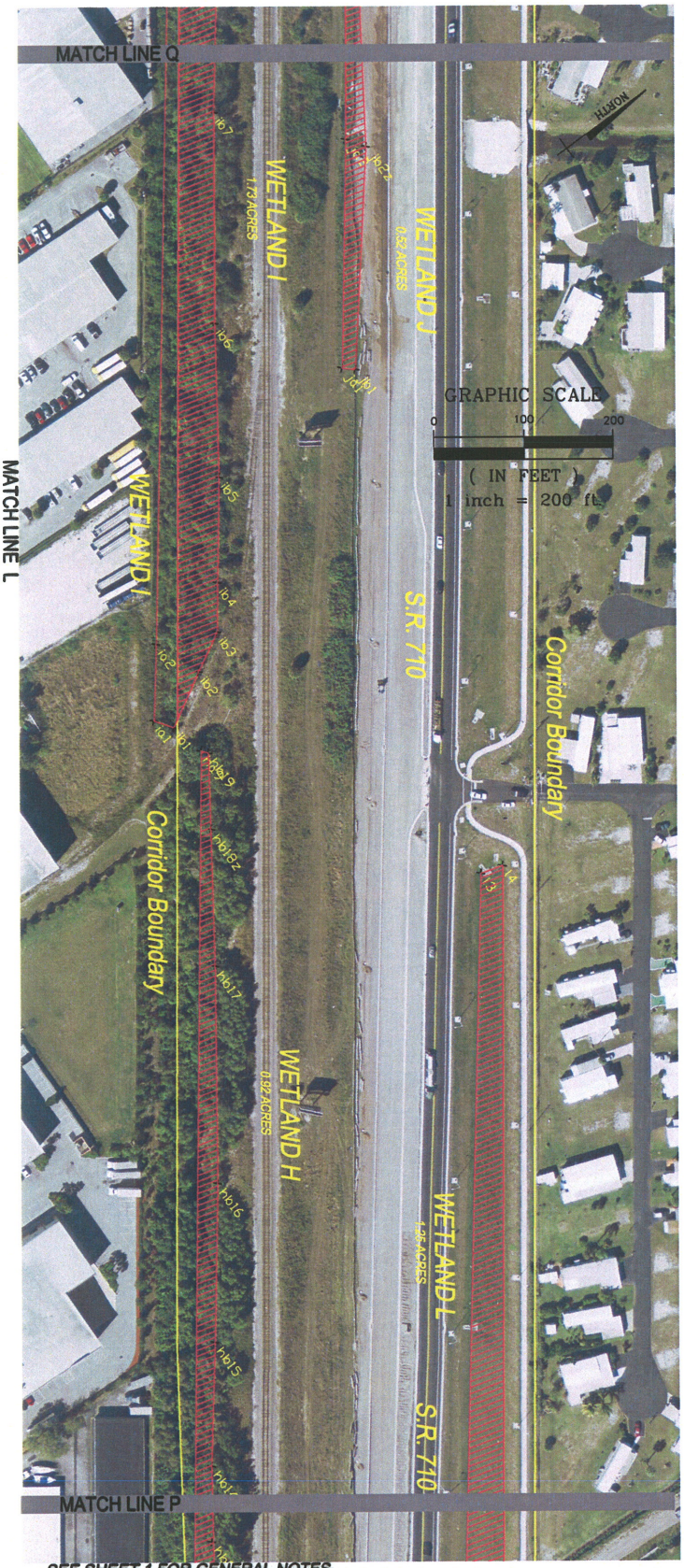

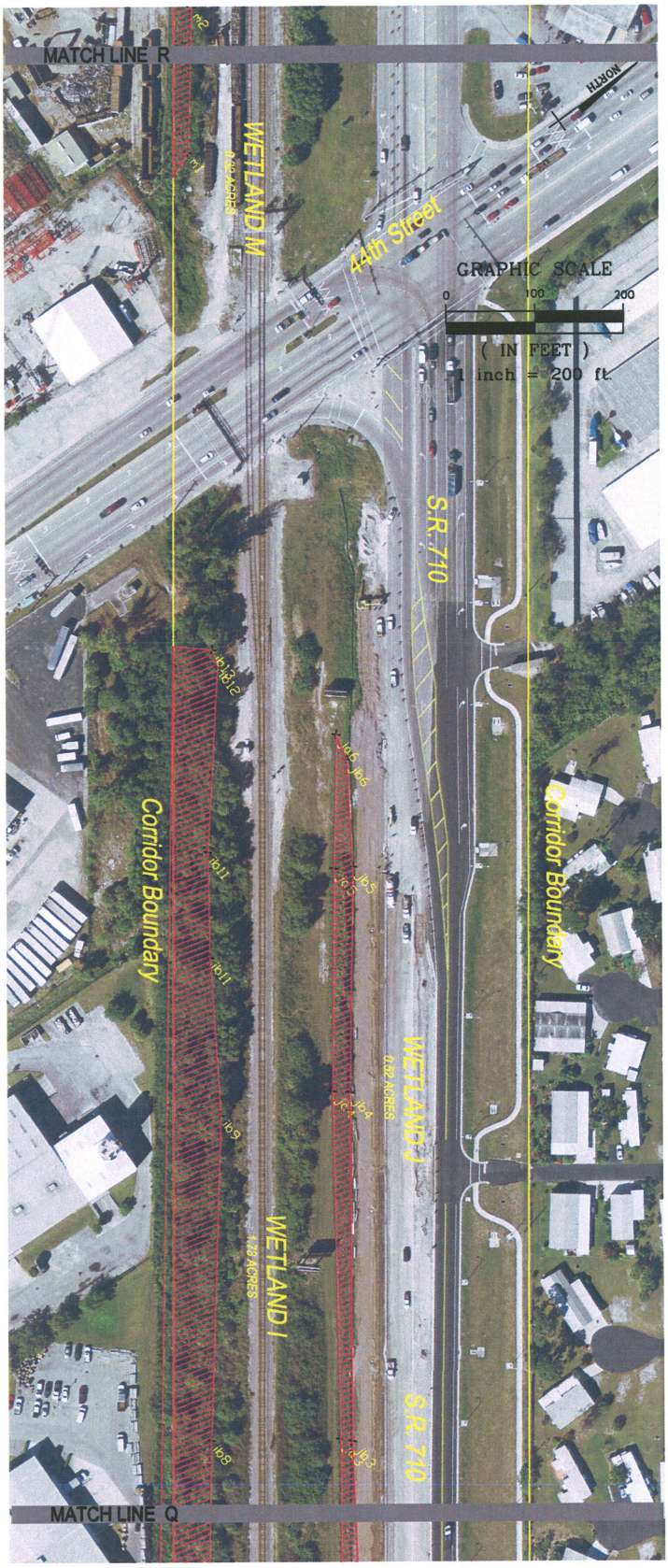

SEE SHEET 1 FOR GENERAL NOTES

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Palm Beach County, Florida

DATE	BY	DESCRIPTION

REVISION

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SCALE: 1"=200
SHT. 10.00
DRAWING NAME:Riv10463-Wetland.dwg

PREPARED BY:
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MACTEC Engineering & Consulting, Inc.
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CERTIFICATE OF AUTHORIZATION: LB 6969

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LICENSE No. LS 4201

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GOLDER ASSOCIATES
6026 N.W. 1st Place
GAINESVILLE, FLORIDA 32607

SEE SHEET 1 FOR GENERAL NOTES

PROJECT TITLE:
Specific Purpose Survey of Wetland Jurisdictional Delineation
Florida Power and Light Company
Florida EnergySecure Line
Riviera Beach Lateral Preferred Corridor
Palm Beach County, Florida

DATE	BY	DESCRIPTION
		REVISION

DRAWN BY: C.V.H. DATE: 07/22/2010
CHKD. BY: R.M.J. DATE: 07/22/2010
JOB No. 6374100463
SCALE: 1"=200
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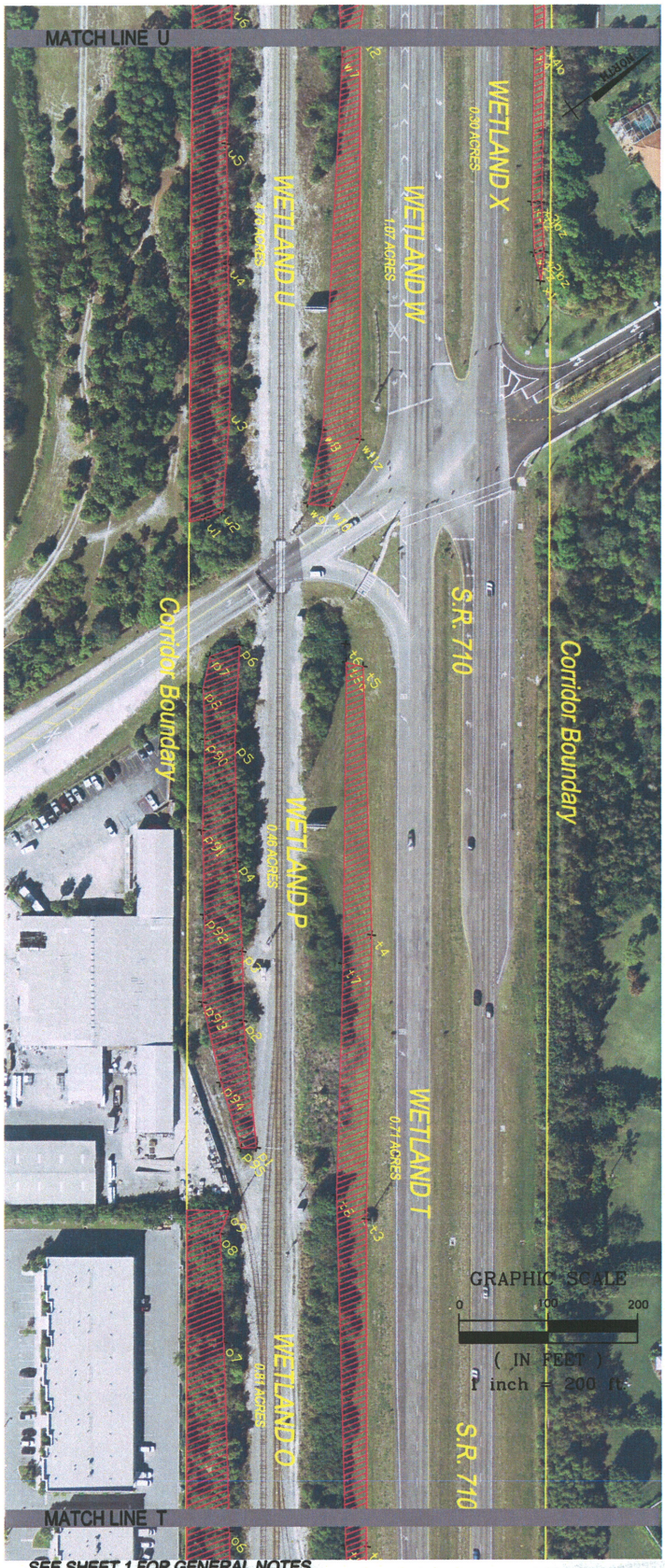

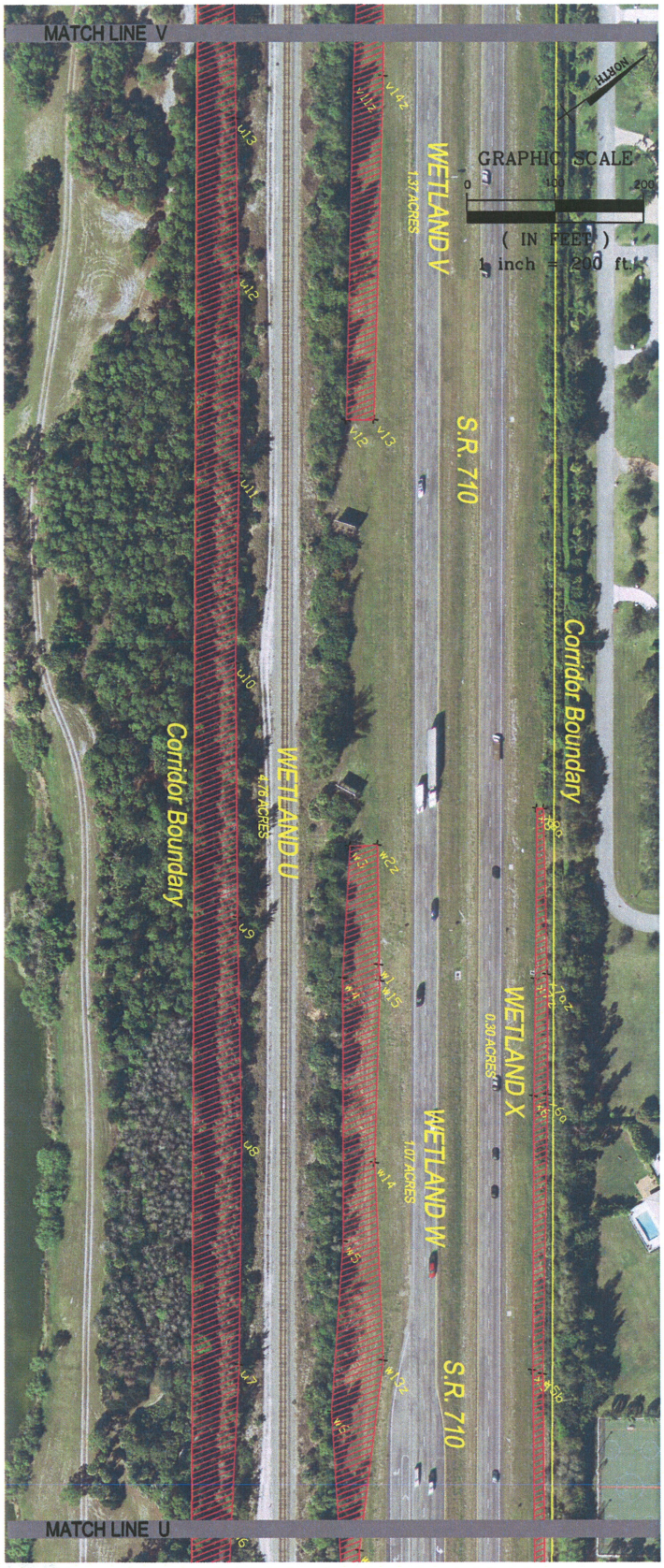

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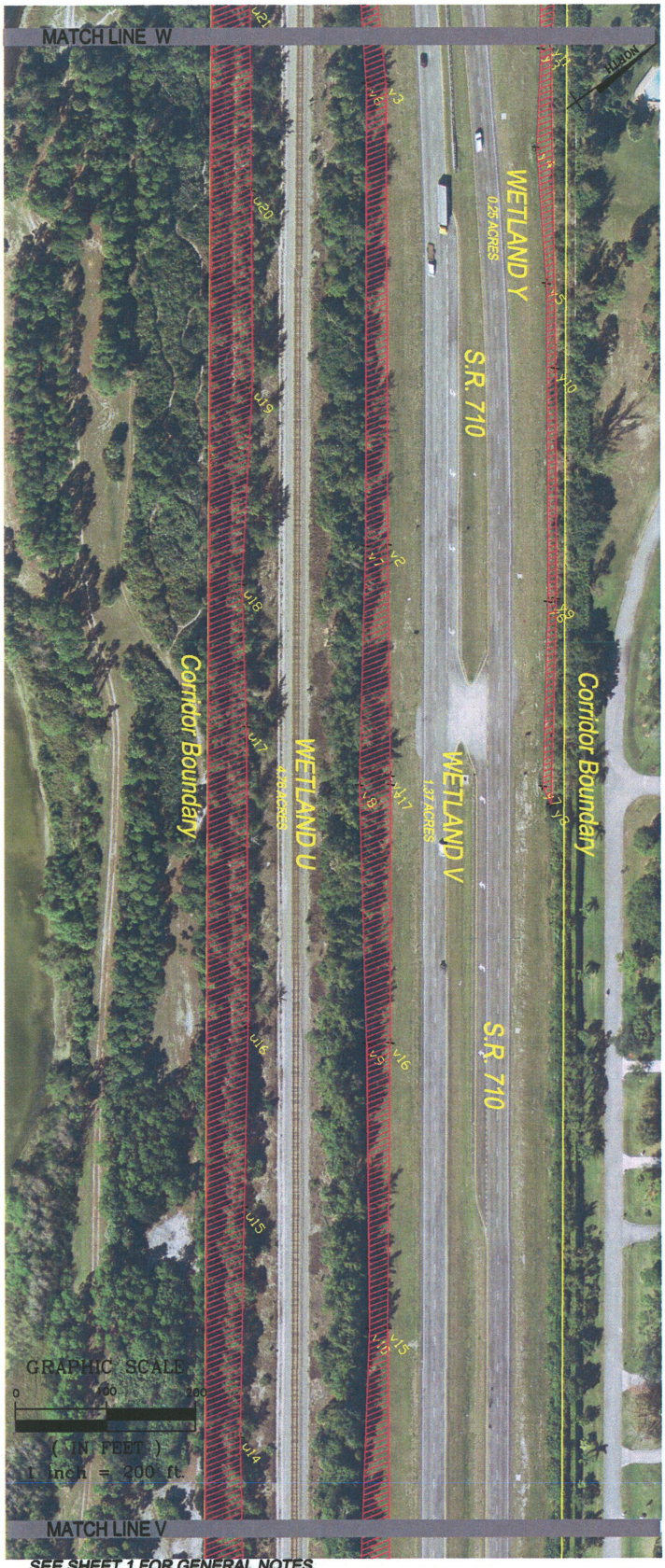

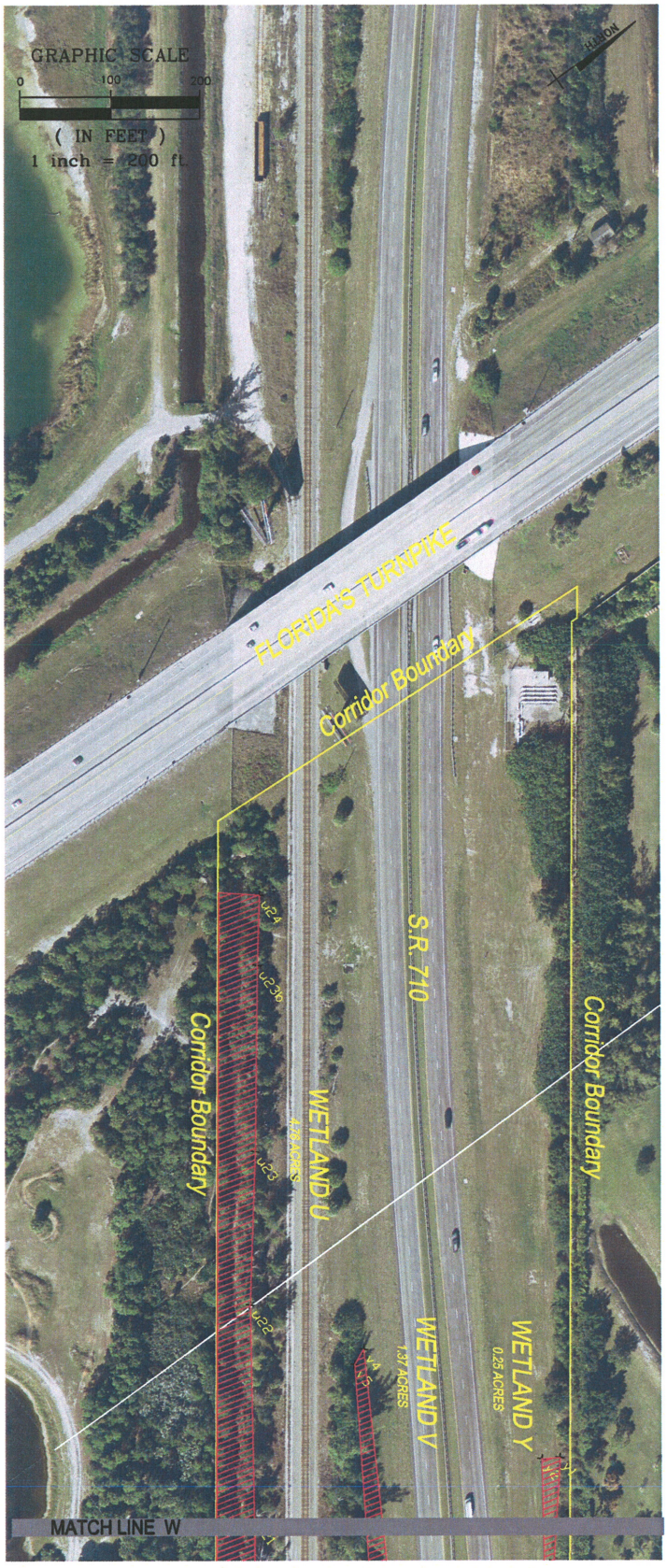

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Wetland Flag Coordinate Values

WETLAND "A/B" 0.57 ACRES

1a1 N 884890 E 955578
1a2 N 884875 E 955560
1a3 N 884868 E 955380
1a4 N 884881 E 954996
1a5 N 884899 E 954632
1a6 N 884924 E 954293
1a7 N 884936 E 954262
1b N 884897 E 955578
2b N 884908 E 955376
3b N 884919 E 954994
4b N 884931 E 954628
5b N 884957 E 954262

WETLAND "C" 1.75 ACRES

c1 N 884788 E 954268
c10 N 884691 E 954218
c11 N 884668 E 954203
c12 N 884653 E 954177
c13 N 884673 E 954189
c14 N 884706 E 954169
c15 N 884673 E 954190
c16 N 884648 E 954112
c17 N 884620 E 954082
c18 N 884614 E 954040
c19 N 884604 E 954021
c2 N 884727 E 954359
c20 N 884605 E 953986
c21 N 884665 E 953928
c22 N 884764 E 953900
c23 N 884807 E 953956
c24 N 884876 E 954136
c25 N 884840 E 954195
c3 N 884711 E 954383
c4 N 884681 E 954415
c5 N 884646 E 954448
c6 N 884638 E 954473
c7 N 884617 E 954455
c8 N 884644 E 954408
c9 N 884674 E 954363

WETLAND "D" 0.29 ACRES

d1 N 884794 E 953249
d2 N 884818 E 953212
d3 N 884833 E 953113
d4 N 884775 E 953102
d5 N 884738 E 953141
d6 N 884718 E 953182
d7 N 884732 E 953231
d8 N 884742 E 953268

WETLAND "E" 0.96 ACRES

e1 N 884978 E 952817
e2 N 884791 E 952896
e3 N 884551 E 953004
eb1 N 884929 E 952708
eb2 N 884767 E 952757
eb3 N 884560 E 952855

WETLAND "F" 6.14 ACRES

fa1 N 884949 E 951749
fa2 N 884716 E 951831
fb1 N 884699 E 951783
fb10 N 885030 E 950743
fb11 N 885042 E 950391
fb12 N 885047 E 950226
fb2 N 884757 E 951763
fb3 N 884838 E 951719
fb4 N 884928 E 951688
fb5 N 884975 E 951680
fb6 N 884989 E 951661
fb7 N 885000 E 951548
fb8 N 885015 E 951279
fb9 N 885025 E 950990
fc1 N 885063 E 951714
fc10 N 885228 E 950579
fc11 N 885234 E 950400
fc12 N 885237 E 950175
fc2 N 885073 E 951543
fc3 N 885088 E 951383
fc4 N 885110 E 951353
fc5 N 885190 E 951355
fc6 N 885201 E 951266
fc7 N 885202 E 951133
fc8 N 885214 E 950980
fc9 N 885220 E 950776

WETLAND "G" 1.85 ACRES

g1 N 886533 E 950150
g2 N 886729 E 950158
g3 N 886937 E 950170
g4 N 887156 E 950179
g5 N 887276 E 950186
g6 N 887421 E 950193
g7 N 887443 E 950096
g8 N 887458 E 950026
g9 N 887468 E 949964

WETLAND "H" 0.92 ACRES

ha1 N 887338 E 950757
ha2 N 887368 E 950714
ha3 N 887428 E 950628
ha4 N 887941 E 949939
ha5 N 887923 E 949917
ha6 N 887927 E 949901
ha7 N 887948 E 949921
ha8 N 887956 E 949920
ha9 N 888630 E 949017
hb1 N 887354 E 950763
hb10 N 887888 E 950040
hb11 N 887956 E 949947
hb12 N 887989 E 949921
hb13 N 888025 E 949871
hb14 N 888168 E 949666
hb15 N 888253 E 949557
hb16 N 888360 E 949417
hb17 N 888501 E 949220
hb18 N 888587 E 949094
hb19 N 888635 E 949024
hb2 N 887380 E 950726
hb3 N 887440 E 950641
hb4 N 887521 E 950539
hb5 N 887592 E 950434
hb6 N 887644 E 950368
hb7 N 887692 E 950299
hb8 N 887752 E 950218
hb9 N 887814 E 950143
hb90 N 888118 E 949734

WETLAND "I" 1.73 ACRES

ia1 N 888608 E 948959
ia2 N 888660 E 948891
ib1 N 888621 E 948978
ib11 N 889497 E 947862
ib11 N 889565 E 947766
ib12 N 889696 E 947605
ib13 N 889703 E 947587
ib2 N 888680 E 948944
ib3 N 888723 E 948921
ib4 N 888756 E 948876
ib5 N 888827 E 948783
ib6 N 888924 E 948641
ib7 N 889062 E 948451
ib8 N 889180 E 948296
ib9 N 889403 E 948011

WETLAND "J" 0.52 ACRES

ja1 N 889011 E 948767
ja2 N 889165 E 948563
ja3 N 889297 E 948380
ja4 N 889520 E 948063
ja5 N 889668 E 947864
ja6 N 889759 E 947745
jb1 N 889022 E 948777
jb2 N 889179 E 948583
jb3 N 889307 E 948390
jb4 N 889535 E 948075
jb5 N 889687 E 947875
jb6 N 889752 E 947774

WETLAND "K" 0.20 ACRES

k1 N 887884 E 950504
k2 N 887778 E 950648
k3 N 887789 E 950651
k4 N 887924 E 950575
k5 N 887949 E 950540

WETLAND "L" 1.25 ACRES

l1 N 888012 E 950434
l2 N 887962 E 950409
l3 N 888802 E 949312
l4 N 888827 E 949320

WETLAND "M" 0.32 ACRES

m1 N 890009 E 947124
m2 N 890108 E 946996
m3 N 890286 E 946763
m4 N 890369 E 946650
m5 N 890406 E 946627

WETLAND "N" 0.42 ACRES

n1 N 891168 E 945588
n2 N 891284 E 945437
n3 N 891454 E 945209
n4 N 891448 E 945195
n5 N 891347 E 945295

WETLAND "O" 0.81 ACRES

o1 N 891816 E 944664
o2 N 891862 E 944623
o3 N 891920 E 944572
o4 N 891968 E 944495
o5 N 892054 E 944396
o6 N 892127 E 944294
o7 N 892246 E 944120
o8 N 892314 E 944020
o9 N 892336 E 944006

WETLAND "P" 0.46 ACRES

p1 N 892403 E 943966
p2 N 892474 E 943843
p3 N 892519 E 943780
p4 N 892573 E 943696
p5 N 892649 E 943587
p6 N 892717 E 943502
p7 N 892684 E 943493
p8 N 892656 E 943517
p90 N 892624 E 943564
p91 N 892563 E 943645
p92 N 892509 E 943723
p93 N 892450 E 943800
p94 N 892414 E 943885
p95 N 892389 E 943957

WETLAND "Q" 0.08 ACRES

q1 N 891446 E 945451
q2 N 891389 E 945523
q3 N 891364 E 945495
q4 N 891409 E 945429

WETLAND "R" 0.13 ACRES

r1 N 891293 E 945648
r2 N 891227 E 945748
r3 N 891236 E 945759
r4 N 891399 E 945543
r5 N 891374 E 945534

WETLAND "S" 0.14 ACRES

s1 N 890825 E 946288
s2 N 890832 E 946292
s3 N 891104 E 945930
s4 N 891090 E 945919
s4 N 891090 E 945919
s5 N 890907 E 946170
s6 N 890859 E 946245

WETLAND "T" 0.71 ACRES

t10 N 892135 E 944519
t1 N 892145 E 944524
t2 N 892240 E 944397
t3 N 892455 E 944103
t4 N 892646 E 943850
t5 N 892815 E 943602
t6 N 892814 E 943571
t7 N 892601 E 943857
t8 N 892443 E 944062
t9 N 892222 E 944383

WETLAND "U" 4.76 ACRES

u1 N 892770 E 943365
u10 N 893700 E 942148
u11 N 893828 E 941980
u12 N 893958 E 941800
u13 N 894058 E 941659
u14 N 894182 E 941482
u15 N 894337 E 941278
u16 N 894458 E 941119
u17 N 894654 E 940846
u18 N 894744 E 940715
u19 N 894883 E 940543
u2 N 892791 E 943370
u20 N 895011 E 940366
u21 N 895135 E 940193
u22 N 895271 E 939999
u23 N 895377 E 939863
u24 N 895550 E 939635
u3 N 892864 E 943283
u4 N 892957 E 943151
u5 N 893035 E 943041
u6 N 893130 E 942920
u7 N 893243 E 942781
u8 N 893396 E 942577
u9 N 893534 E 942378

WETLAND "V" 1.37 ACRES

v1 N 894753 E 940986
v10 N 894370 E 941470
v11 N 894188 E 941702
v12 N 893959 E 942003
v13 N 893984 E 942020
v14 N 894218 E 941717
v15 N 894387 E 941481
v16 N 894577 E 941227
v17 N 894747 E 940994
v2 N 894902 E 940775
v3 N 895205 E 940357
v4 N 895346 E 940114
v5 N 895327 E 940121
v6 N 895187 E 940346
v7 N 894882 E 940763
v8 N 894719 E 940974
v9 N 894555 E 941212

WETLAND "W" 1.07 ACRES

w1 N 893630 E 942513
w10 N 892891 E 943436
w11 N 892961 E 943395
w12 N 893229 E 943027
w13 N 893374 E 942872
w14 N 893497 E 942689
w15 N 893621 E 942528
w2 N 893708 E 942405
w3 N 893682 E 942388
w4 N 893589 E 942502
w5 N 893417 E 942739
w6 N 893295 E 942884
w7 N 893196 E 943039
w8 N 892934 E 943363
w9 N 892872 E 943419

WETLAND "X" 0.30 ACRES

x1 N 893227 E 943371
x2b N 893249 E 943347
x2z N 893240 E 943341
x3b N 893280 E 943300
x3z N 893271 E 943294
x4 N 893374 E 943157
x4b N 893385 E 943161
x5 N 893502 E 942978
x5b N 893509 E 942988
x6 N 893683 E 942732
x6a N 893697 E 942740
x7a N 893775 E 942632
x7z N 893761 E 942628
x8 N 893874 E 942476
x8a N 893880 E 942480

WETLAND "Y" 0.25 ACRES

y1 N 895453 E 940342
y10 N 895170 E 940727
y11 N 895379 E 940431
y2 N 895435 E 940331
y3 N 895367 E 940429
y4 N 895298 E 940515
y5 N 895217 E 940644
y6 N 895010 E 940933
y7 N 894883 E 941096
y8 N 894879 E 941117
y9 N 895019 E 940935

Total Wetland Area: 27.00 Acres +/-

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ATTACHMENT D

ACOE WETLAND DATASHEETS, ACOE JD FORMS, AND UMAM FUNCTIONAL ASSESSMENT FORMS

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 15, 2010

Applicant/Owner: FPL State: FL Sampling Point: AB

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.765 Long: -80.085 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 72
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: AB

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Pistia stratiotes	5	no	OBL
2. Nuphar luteum	10	yes	OBL
3. Bidens spp.	5	no	FACW
4. Panicum repens	2	no	FACW
5. Ludwigia spp.	2	no	OBL
6. Sorghum halapense	10	yes	FACU
7.			
8.			
9.			
10.			
11.			
12.			
	34	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalance Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x1=	
FACW species		x2=	
FAC species		x3=	
FACU species		x4=	
UPL species		x5=	
Column Totals:	(A)		(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: AB

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 15, 2010

Applicant/Owner: FPL State: FL Sampling Point: C

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 27.765 Long: -80.087 Datum: WGS84

Soil Map Unit Name: Sanibel muck NWI classification: scrub-shrub wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch, shrub wetland, wet prairie complex

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓ No _____	Depth (inches): 0 -36
Water Table Present?	Yes _____ No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓ No _____	Depth (inches): 0 -12

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: C

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	30	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	30	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	15	no	FACW
2. Sabal palmetto	5	no	FAC
3. Melaleuca quinquenervia	20	yes	FAC
4.			
5.			
6.			
7.			
	40	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Sambucus canadensis	5	yes	FACW
2. Myrica cerifera	5	yes	FAC
3. Cephalanthus occidentalis	10	yes	OBL
4. Baccharis halimifolia	5	yes	FAC
5.			
6.			
7.			
	25	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Pluchea spp.	20	yes	FACW
2. Osmunda regalis	20	yes	OBL
3. Rhynchospora colorata	20	yes	OBL
4. Sagittaria lancifolia	10	no	OBL
5. Typha spp.	5	no	OBL
6. Conoclium coelstinum	5	no	FAC
7. Lachnanthes caroliniana	5	no	OBL
8. Lemna spp.	2	no	OBL
9. Nuphar luteum	2	no	OBL
10. Phyla nodiflora	5	no	FACW
11. Cladium spp.	5	no	OBL
12.			
	99	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	10	no	FAC
2. Lygodium japonicum	30	yes	FAC
3.			
4.			
5.			
	40	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 10 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Sanibel

SOIL Sampling Point: C

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
12-0	N 2/0							black muck
0-3	N 2/0							black sand
3-6	N 2/0		10 YR 3/1; 10 YR 4/2					mixed black sand
6-20	10 YR 6/1							gray sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
✓ Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline | City/County: Palm Beach | Sampling Date: June 16, 2010

Applicant/Owner: FPL | State: FL | Sampling Point: D

Investigator(s): Colleen Cunningham, Stacy Rizzo | Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A | Local relief (concave, convex, none): none | Slope (%): _____

Subregion (LRR or MLRA): LRR U | Lat: 26.765 | Long: -80.09 | Datum: WGS84

Soil Map Unit Name: Basinger fine sand | NWI classification: scrub-shrub wetland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Shrub wetland

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	✓ Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- ✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0 -12

Wetland Hydrology Present? **Yes ✓** **No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: D

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Schinus terebinthifolius	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Sambucus canadensis	2	no	FACW
2. Myrica cerifera	5	yes	FAC
3. Cephalanthus occidentalis	5	yes	OBL
4.			
5.			
6.			
7.			
	12	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Sagittaria lancifolia	10	yes	OBL
2. Lachnanthes caroliniana	5	yes	OBL
3. Osmunda regalis	10	yes	OBL
4. Cyperus spp.	5	yes	FACW
5. Ludwigia spp.	5	yes	OBL
6. Rhyncospora spp.	5	yes	FACW
7. Panicum hemitomon	5	yes	OBL
8. Kosteletzkya virginica	5	yes	OBL
9.			
10.			
11.			
12.			
	50	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	5	no	FAC
2. Lygodium japonicum	80	yes	FAC
3.			
4.			
5.			
	85	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 12 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: D

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 16, 2010

Applicant/Owner: FPL State: FL Sampling Point: E

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.765 Long: -80.091 Datum: WGS84

Soil Map Unit Name: Water NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: SFWMD C-17 Canal with maintained banks

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓ No _____	Depth (inches): 24 -120	
Water Table Present?	Yes _____ No ✓	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No ✓	Depth (inches): _____	**Wetland Hydrology Present?** **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: E

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Bidens spp.	5	yes	FACW
2. Setaria spp.	5	yes	FAC
3. Cyperus spp.	5	yes	FACW
4. Nuphar luteum	2	no	OBL
5. Eichhornia sp.	2	no	OBL
6. Helianthus spp.	5	yes	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	24	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Water

SOIL Sampling Point: E

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ___✓___ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 16, 2010

Applicant/Owner: FPL State: FL Sampling Point: F

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.766 Long: -80.097 Datum: WGS84

Soil Map Unit Name: Water NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch/canal system

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓ No _____	Depth (inches): 36-48	
Water Table Present?	Yes _____ No ✓	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No ✓	Depth (inches): _____	**Wetland Hydrology Present?** **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: F

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Sabal palmetto	10	no	FAC
2. Schinus terebinthifolius	90	yes	FAC
3.			
4.			
5.			
6.			
7.			
	100	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	10	yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	10	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Ludwigia peruviana	50	yes	OBL
2. Ludwigia spp.	10	no	OBL
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cyperus spp.	20	yes	FACW
2. Thelypteris spp.	20	yes	FACW
3. Acrostichum spp.	5	no	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	50	yes	FAC
2. Lygodium japonicum	10	no	FAC
3.			
4.			
5.			
	60	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Water

SOIL Sampling Point: F

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ___✓___ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 16, 2010

Applicant/Owner: FPL State: FL Sampling Point: G

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.771 Long: -80.099 Datum: WGS84

Soil Map Unit Name: Water NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Canal

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓ No _____	Depth (inches): 72-120	
Water Table Present?	Yes _____ No ✓	Depth (inches): _____	
Saturation Present? (includes capillary fringe)	Yes _____ No ✓	Depth (inches): _____	**Wetland Hydrology Present?** **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: G

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Casuarina equisetifolia	20	yes	FACU
2. Sabal palmetto	10	no	FAC
3. Schinus terebinthifolius	20	yes	FAC
4.			
5.			
6.			
7.			
	50	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Ludwigia peruviana	10	yes	OBL
2. Chrysobalanus icaco	5	no	FACW
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Osmunda regalis	5	no	OBL
2. Polygonum spp.	10	yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	20	yes	FAC
2. Lygodium japonicum	50	yes	FAC
3. Mikania scandens	5	no	FACW
4.			
5.			
	75	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.33 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ___.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Water

SOIL Sampling Point: G

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
___Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ___✓___ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 16, 2010

Applicant/Owner: FPL State: FL Sampling Point: H, I

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E, 36, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.776 Long: -80.103 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: ditches

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 12-48
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: H, I

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix spp.	30	yes	FACW
2. Sabal palmetto	10	no	FAC
3. Schinus terebinthifolius	30	yes	FAC
4. Melaleuca quinquenervia	30	yes	FAC
5.			
6.			
7.			
	100	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	30	yes	OBL
2. Myrica cerifera	30	yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Lemna spp.	10	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	30	yes	FAC
2. Lygodium japonicum	5	no	FAC
3. Mikania scandens	5	no	FACW
4.			
5.			
	40	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: H, I

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 16, 2010

Applicant/Owner: FPL State: FL Sampling Point: J

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 36, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.778 Long: -80.105 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: ditches

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-12

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: J

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	1	no	FACW
2. Melaleuca quinquenervia	2	yes	FAC
3.			
4.			
5.			
6.			
7.			
	3	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis halimifolia	1	no	FAC
2. Myrica cerifera	5	yes	FAC
3.			
4.			
5.			
6.			
7.			
	6	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Andropogon glomeratus	10	yes	FACW
2. Rhyncospora spp.	2	no	FACW
3. Panicum hemitomon	1	no	OBL
4. Ludwigia peruviana	1	no	OBL
5. Ambrosia spp.	1	no	FAC
6. Hydrocotyle umbellata	1	no	OBL
7. Pluchea spp.	3	no	FACW
8. Rhynchospora colorata	10	yes	OBL
9. Centella asiatica	3	no	FACW
10. Hypericum spp.	15	yes	FACW
11. Conoclium coelstinum	5	no	FAC
12.			
	52	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Vitus rotundifolia	2	no	FAC
2. Lygodium japonicum	10	yes	FAC
3. Mikania scandens	1	no	FACW
4. Toxicodendron radicans	1	no	FAC
5.			
	14	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: J

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 17, 2010

Applicant/Owner: FPL State: FL Sampling Point: K, L

Investigator(s): Colleen Cunningham, Stacy Rizzo Section, Township, Range: 31, 42S, 43E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.774 Long: -80.098 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: stormwater rentention ponds

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	✓ Saturation Visible on Aerial Imagery (C9)
✓ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0-12
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No _____	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: K, L

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cyperus spp.	90	yes	FACW
2. Typha spp.	5	no	OBL
3. Rhyncospora spp.	10	no	FACW
4. Hydrocotyle umbellata	10	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	115	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: K, L

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: M

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 25, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.78 Long: -80.109 Datum: WGS84

Soil Map Unit Name: Myakka fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch - Dumping of railroad and landscape debris in the ditch have altered the hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
_____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
_____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
_____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
_____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 3

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: M

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	60	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	15	yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	15	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Sorghum halapense	30	yes	FACU
2. Bidens spp.	5	no	FACW
3. Ambrosia spp.	2	no	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	37	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Parthenocissus quinquefolia	5	yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

___ Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Myakka

SOIL Sampling Point: M

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	N 2/0							black crushed sand
3-7	10 YR 2/1		10 YR 4/1; 10 YR 7/1					black crushed sand
7-26	10 YR 6/1		10 YR 3/1; 10 YR 3/2				few streaks	gray sand
26-31	5 YR 2/1; 5 YR 2/2							black sand with dark reddish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: N

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 25, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.783 Long: -80.113 Datum: WGS84

Soil Map Unit Name: Urban land NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch - Dumping of railroad and landscape debris in the ditch have altered the hydrology. Very sparsely vegetated under Brazilian pepper.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 3

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: N

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	60	yes	FAC
2. Sabal palmetto	10	no	FAC
3. Salix spp.	10	no	FACW
4.			
5.			
6.			
7.			
	80	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Wedelia trilobata	1	yes	FACU
2. Bidens spp.	1	yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	2	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Parthenocissus quinquefolia	5	yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).
Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Urban Land

SOIL Sampling Point: N

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
_✓_Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** _✓_ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: O

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.785 Long: -80.117 Datum: WGS84

Soil Map Unit Name: Myakka fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch - intermittent areas of open water

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	
____ High Water Table (A2)	____Aquatic Fauna (B13)	
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____Surface Soil Cracks (B6)
- ____Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ____Moss Trim Lines (B16)
- ____Dry-Season Water Table (C2)
- ____Crayfish Burrows (C8)
- ____Saturation Visible on Aerial Imagery (C9)
- ____Geomorphic Position (D2)
- ____Shallow Aquitard (D3)
- ____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0-6
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: O

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	60	yes	FAC
2. Sabal palmetto	10	no	FAC
3. Salix spp.	5	no	FACW
4. Casuarina equisetifolia	5	no	FACU
5. Melaleuca quinquenervia	5	no	FAC
6. Pinus palustrus	5	no	FACU
7.			
	90	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Blechnum serrulatum	1	yes	FACW
2. Bidens spp.	1	yes	FACW
3. Lemna spp.	1	yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	3	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Parthenocissus quinquefolia	1	yes	FAC
2. Vitus rotundifolia	1	yes	FAC
3. Smilax spp.	1	yes	FAC
4.			
5.			
	3	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Myakka

SOIL Sampling Point: O

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	N 2/0							black crushed sand
3-7	10 YR 2/1		10 YR 4/1; 10 YR 7/1					black crushed sand
7-26	10 YR 6/1		10 YR 3/1; 10 YR 3/2				few streaks	gray sand
26-31	5 YR 2/1; 5 YR 2/2							black sand with dark reddish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: P

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.786 Long: -80.118 Datum: WGS84

Soil Map Unit Name: Basinger and Myakka sands, depressional NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Ditch between two rail lines with culvert under HaverHull Road.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	____ Water-Stained Leaves (B9)	
_____ High Water Table (A2)	____ Aquatic Fauna (B13)	
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	
_____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	
_____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	
_____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	
_____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	
_____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ FAC Neutral Test (D5) X

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 2

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: P

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	60	yes	FAC
2. Sabal palmetto	5	no	FAC
3.			
4.			
5.			
6.			
7.			
	65	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Cephalanthus occidentalis	1	yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	1	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Thalia spp.	5	yes	OBL
2. Bidens spp.	1	no	FACW
3. Pluchea spp.	1	no	FACW
4. Arundinaria gigantea	5	yes	FACW
5. Cyperus spp.	1	no	FACW
6. Eupatorium capillifolium	1	no	FACU
7. Panicum repens	5	yes	FACW
8. Typha spp.	1	no	OBL
9.			
10.			
11.			
12.			
	20	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Parthenocissus quinquefolia	1	yes	FAC
2. Smilax spp.	1	yes	FAC
3.			
4.			
5.			
	2	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: P

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: Q

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 25, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.783 Long: -80.113 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Retention pond

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	
____ High Water Table (A2)	____Aquatic Fauna (B13)	
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____Surface Soil Cracks (B6)
- ____Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ____Moss Trim Lines (B16)
- ____Dry-Season Water Table (C2)
- ____Crayfish Burrows (C8)
- ____Saturation Visible on Aerial Imagery (C9)
- ____Geomorphic Position (D2)
- ____Shallow Aquitard (D3)
- ____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No ✓	Depth (inches): 6-8
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): _____

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Q

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Panicum repens	90	yes	FACW
2. Pluchea spp.	2	no	FACW
3. Bidens spp.	1	no	FACW
4. Ludwigia peruviana	1	no	OBL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	94	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: Q

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: R

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 25, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.783 Long: -80.113 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie in roadside swale. Receives overflow from wetland Q.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- ✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: R

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Hydrocotyle umbellata	10	yes	OBL
2. Cyperus spp.	40	yes	FACW
3. Sagittaria lancifolia	2	no	OBL
4. Rhynchospora colorata	10	yes	OBL
5. Centella asiatica	10	yes	FACW
6. Diodia virginiana	5	no	FACW
7. Phyla nodiflora	10	yes	FACW
8. Panicum repens	10	yes	FACW
9. Coreopsis spp.	2	no	FACW
10. Bidens spp.	5	no	FACW
11.			
12.			
	104	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: R

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: S

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 25, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.782 Long: -80.111 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie in roadside swale.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	____ Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
_____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Surface Soil Cracks (B6)
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	____ Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
_____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Moss Trim Lines (B16)
_____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Dry-Season Water Table (C2)
_____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Crayfish Burrows (C8)
_____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ Saturation Visible on Aerial Imagery (C9)
_____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Geomorphic Position (D2)
		____ Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: S

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Cyperus spp.	30	yes	FACW
2. Panicum repens	20	yes	FACW
3. Phyla nodiflora	10	yes	FACW
4. Rhynchospora colorata	10	yes	OBL
5. Diodia virginiana	10	yes	FACW
6. Ludwigia repens	10	yes	OBL
7. Sagittaria spp.	5	no	OBL
8. Centella asiatica	5	no	FACW
9. Eleocharis spp.	5	no	OBL
10. Setaria spp.	2	no	FAC
11. Coreopsis spp.	2	no	FACW
12. Ludwigia peruviana	2	no	OBL
	111	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: S

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: T

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.786 Long: -80.117 Datum: WGS84

Soil Map Unit Name: Myakka fine sand NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie in roadside swale.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	✓ Drainage Patterns (B10)
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	____ Moss Trim Lines (B16)
✓ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Dry-Season Water Table (C2)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Crayfish Burrows (C8)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Saturation Visible on Aerial Imagery (C9)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Geomorphic Position (D2)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ Shallow Aquitard (D3)
____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: T

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	1	yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	1	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Hydrocotyle umbellata	15	yes	OBL
2. Cyperus spp.	10	no	FACW
3. Sagittaria lancifolia	10	no	OBL
4. Panicum hemitomon	10	no	OBL
5. Centella asiatica	15	yes	FACW
6. Ludwigia repens	5	no	OBL
7. Phyla nodiflora	20	yes	FACW
8. Panicum repens	15	yes	FACW
9. Ludwigia peruviana	2	no	OBL
10. Bidens spp.	10	no	FACW
11. Pontederia cordata	1	no	OBL
12. Pluchea spp.	1	no	FACW
	114	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Myakka

SOIL Sampling Point: T

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	N 2/0							black crushed sand
3-7	10 YR 2/1		10 YR 4/1; 10 YR 7/1				0	black crushed sand
7-26	10 YR 6/1		10 YR 3/1; 10 YR 3/2				few streaks	gray sand
26-31	5 YR 2/1; 5 YR 2/2							black sand with dark reddish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**
___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: U

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.791 Long: -80.125 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Large ditch - mostly open water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	
____ High Water Table (A2)	____Aquatic Fauna (B13)	
____ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	
____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- ____Surface Soil Cracks (B6)
- ____Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- ____Moss Trim Lines (B16)
- ✓ Dry-Season Water Table (C2)
- ____Crayfish Burrows (C8)
- ____Saturation Visible on Aerial Imagery (C9)
- ____Geomorphic Position (D2)
- ____Shallow Aquitard (D3)
- ____FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 48-72
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes _____	No ✓	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: U

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	30	yes	FAC
2. Sabal palmetto	10	no	FAC
3. Melaleuca quinquenervia	30	yes	FAC
4. Casuarina equisetifolia	20	yes	FACU
5. Pinus taeda	5	no	FAC
6.			
7.			
	95	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1. Baccharis sp.	5	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Lygodium japonicum	5	yes	FAC
2. Panicum repens	5	yes	FACW
3. Pluchea spp.	5	yes	FACW
4. Eleocharis spp.	5	yes	OBL
5. Bidens spp.	5	yes	FACW
6. Nymphaea spp.	5	yes	OBL
7. Hypericum spp.	5	yes	FACW
8.			
9.			
10.			
11.			
12.			
	35	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Parthenocissus quinquefolia	5	yes	FAC
2.			
3.			
4.			
5.			
	5	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 11 (A)

Total Number of Dominant Species Across All Strata: 12 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 91.67 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No**_____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
__✓__Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** __✓__ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: V

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.791 Long: -80.125 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie in roadside swale with some marginal areas, although very dark soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

_____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
_____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Sparsely Vegetated Concave Surface (B8)
✓ Saturation (A3)	____ Marl Deposits (B15) **(LRR U)**	✓ Drainage Patterns (B10)
✓ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Moss Trim Lines (B16)
_____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Dry-Season Water Table (C2)
_____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Crayfish Burrows (C8)
_____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Saturation Visible on Aerial Imagery (C9)
_____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ Geomorphic Position (D2)
_____ Inundation Visible on Aerial Imagery (B7)	____ Other (Explain in Remarks)	____ Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: V

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Centella asiatica	10	yes	FACW
2. Hydrocotyle umbellata	5	no	OBL
3. Rhynchospora colorata	10	yes	OBL
4. Phyla nodiflora	15	yes	FACW
5. Setaria spp.	5	no	FAC
6. Panicum repens	5	no	FACW
7. Cyperus spp.	10	yes	FACW
8. Sagittaria spp.	5	no	OBL
9. Mikania spp.	1	no	FACW
10. Pluchea spp.	1	no	FACW
11. Xyris spp.	1	no	OBL
12. Ludwigia repens	5	no	OBL
	73	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

_____ Dominance Test is 50%

_____ Prevalence Index is ≤3.0[1]

_____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: V

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline | City/County: Palm Beach | Sampling Date: June 23, 2010

Applicant/Owner: FPL | State: FL | Sampling Point: W

Investigator(s): Colleen Cunningham, Stephen Larsen | Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A | Local relief (concave, convex, none): none | Slope (%): _____

Subregion (LRR or MLRA): LRR U | Lat: 26.789 | Long: -80.121 | Datum: WGS84

Soil Map Unit Name: Myakka fine sand | NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie in roadside swale possibly connects to other wetland areas via culvert under HaverHill Road

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

✓ Surface Water (A1)	____Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
____ High Water Table (A2)	____Aquatic Fauna (B13)	____Surface Soil Cracks (B6)
✓ Saturation (A3)	____Marl Deposits (B15) **(LRR U)**	____Sparsely Vegetated Concave Surface (B8)
✓ Water Marks (B1)	____Hydrogen Sulfide Odor (C1)	✓ Drainage Patterns (B10)
____ Sediment Deposits (B2)	____Oxidized Rhizospheres on Living Roots (C3)	____Moss Trim Lines (B16)
____ Drift Deposits (B3)	____Presence of Reduced Iron (C4)	____Dry-Season Water Table (C2)
____ Algal Mat or Crust (B4)	____Recent Iron Reduction in Tilled Soils (C6)	____Crayfish Burrows (C8)
____ Iron Deposits (B5)	____Thin Muck Surface (C7)	____Saturation Visible on Aerial Imagery (C9)
____ Inundation Visible on Aerial Imagery (B7)	____Other (Explain in Remarks)	____Geomorphic Position (D2)
		____Shallow Aquitard (D3)
		✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ✓	No _____	Depth (inches): 0-4
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0

Wetland Hydrology Present? **Yes** ✓ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: W

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling Stratum (Plot size:____)			
1. Salix spp.	2	yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
	2	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Centella asiatica	1	no	FACW
2. Ludwigia repens	10	yes	OBL
3. Phyla nodiflora	15	yes	FACW
4. Cyperus surinamensis	5	no	FACW
5. Panicum repens	15	yes	FACW
6. Cyperus spp.	10	yes	FACW
7. Sagittaria lancifolia	1	no	OBL
8. Pluchea spp.	1	no	FACW
9. Rhynchospora colorata	10	yes	OBL
10. Pontederia cordata	15	yes	OBL
11. Eleocharis spp.	1	no	OBL
12. Erianthus giganteus	10	yes	FACW
	94	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Myakka

SOIL Sampling Point: W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	N 2/0							black crushed sand
3-7	10 YR 2/1		10 YR 4/1; 10 YR 7/1					black crushed sand
7-26	10 YR 6/1		10 YR 3/1; 10 YR 3/2				few streaks	gray sand
26-31	5 YR 2/1; 5 YR 2/2							black sand with dark reddish brown sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: X

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.789 Long: -80.121 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Marginally wet ditch with limited channel.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- ✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-1

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: X

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	20	yes	FAC
2. Salix spp.	15	no	FACW
3.			
4.			
5.			
6.			
7.			
	35	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Bidens spp.	10	yes	FACW
2. Setaria spp.	2	no	FAC
3. Phyla nodiflora	10	yes	FACW
4. Carex spp.	5	no	FACW
5. Wedelia trilobata	5	no	FACU
6. Cyperus spp.	10	yes	FACW
7. Sagittaria lancifolia	5	no	OBL
8. Pluchea spp.	2	no	FACW
9. Rhynchospora colorata	10	yes	OBL
10.			
11.			
12.			
	59	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: X

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

WETLAND DETERMINATION DATA FORM - Atlantic and Gulf Coastal Plain Region

Project/Site: FPL Riviera Lateral Pipeline City/County: Palm Beach Sampling Date: June 23, 2010

Applicant/Owner: FPL State: FL Sampling Point: Y

Investigator(s): Colleen Cunningham, Stephen Larsen Section, Township, Range: 26, 42S, 42E

Landform (hillslope, terrace, etc.): N/A Local relief (concave, convex, none): none Slope (%): _____

Subregion (LRR or MLRA): LRR U Lat: 26.794 Long: -80.128 Datum: WGS84

Soil Map Unit Name: Basinger fine sand NWI classification: palustrine emergent

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks)

Are Vegetation_____, Soil_____, or Hydrology_____ significantly disturbed? Are circumstances normal? Yes ✓ No____

Are Vegetation_____, Soil_____, or Hydrology_____ naturally problematic? (If needed, explain any answers in Remarks)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____	
Wetland Hydrology Present?	Yes ✓ No _____	

Remarks: Wet prairie area in roadside swale. Some areas of marginal vegetation and hydrology - wettest near culverts. Connects to two culverts under SR 710.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
✓ Saturation (A3)	Marl Deposits (B15) **(LRR U)**	
✓ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Sparsely Vegetated Concave Surface (B8)
- ✓ Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- ✓ FAC Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No ✓	Depth (inches): _____
Water Table Present?	Yes _____	No ✓	Depth (inches): _____
Saturation Present? (includes capillary fringe)	Yes ✓	No _____	Depth (inches): 0-1

Wetland Hydrology Present? **Yes ✓ No _____**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION - Use scientific names of plants

Sampling Point: Y

Tree Stratum (Plot size:_____)	Absolute % Cover	Dominant Species?	Indicator Status
1. Schinus terebinthifolius	40	yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	40	= Total Cover	
Sapling Stratum (Plot size:____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Shrub Stratum (Plot size:_____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size:_____)			
1. Carex spp.	10	yes	FACW
2. Ludwigia spp.	10	yes	OBL
3. Phyla nodiflora	20	yes	FACW
4. Hydrocotyle umbellata	5	no	OBL
5. Centella asiatica	5	no	FACW
6. Cyperus spp.	10	yes	FACW
7. Sagittaria lancifolia	5	no	OBL
8. Pluchea spp.	1	no	FACW
9. Panicum repens	5	no	FACW
10. Rhynchospora colorata	5	no	OBL
11. Coreopsis spp.	1	no	FACW
12.			
	77	= Total Cover	
Woody Vine Stratum (Plot size:____)			
1. Mikania scandens	1	yes	FACW
2.			
3.			
4.			
5.			
	1	= Total Cover	

Dominance Test Worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalance Index worksheet:

	Total % Cover of:	Multiply by:
OBL species		x1=
FACW species		x2=
FAC species		x3=
FACU species		x4=
UPL species		x5=
Column Totals:	(A)	(B)

Prevalance Index = B/A =

Hydrophytic Vegetation Indicators:

✓ Dominance Test is 50%

Prevalence Index is ≤3.0[1]

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).

Sapling- Woody plants, excluding woody vines, approximately 20 ft (6m) or more in height and less than 3 in. (7.6 cm) DBH.

Shrub- Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.

Herb- All herbaceous (non-woody)plants, including herbaceous vines, regardless of size. Includes woody plants, except woody vines, less than approximately 3 ft (1 m) in height.

Woody vine- All woody vines, regardless of height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** _____.

Remarks: (If observed, list morphological adaptations below).

Percent cover estimates based on meandering survey of the broader community.

County/soil: Palm Beach-Basinger

SOIL Sampling Point: Y

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10 YR 6/1							gray fine sand
4-25	10 YR 8/1		10 YR 3/1				common streaks	white fine sand
25-29	10 YR 4/2							dark grayish brown fine sand
29-36	5 YR 3/4							dark reddish brown fine sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___Histol (A1)
___Histic Epidon (A2)
___Black Histic (A3)
___Hydrogen Sulfide (A4)
___Stratified Layers (A5)
___Organic Bodies (A6) **(LRR P, T, U)**
___5 cm Mucky Mineral (A7) **(LRR P,T,U)**
___Muck Presence (A8) **(LRR U)**
___1 cm Muck (A9) **(LRR P,T)**
___Depleted Below Dark Surface (A11)
___Thick Dark Surface (A12)
___Coast Prairie Redox (A16) **(MLRA 150A)**
___Sandy Mucky Mineral (S1) **(LRR O, S)**
___Sandy Gleyed Matrix (S4)
___Sandy Redox (S5)
___Stripped Matrix (S6)
✓ Dark Surface (S7) **(LRR P, S, T, U)**

___Polyvalue Below Surface (S8) **(LRR S, T, U)**
___Thin Dark Surface (S9) **(LRR S, T, U)**
___Loamy Mucky Mineral (F1) **(LRR O)**
___Loamy Gleyed Matrix (F2)
___Depleted Matrix (F3)
___Redox Dark Surface (F6)
___Depleted Dark Surface (F7)
___Redox Depressions (F8)
___Marl (F10) **(LRR U)**
___Depleted Orchric (F11) **(MLRA 151)**
___Iron-Manganese Masses (F12) **(LRR O, P,T)**
___Umbric Surface (F13) **(LRR P, T, U)**
___Delta Orchric (F17) **(MLRA 151)**
___Reduced Vertic (F18) **(MLRA 150A, 150B)**
___Piedmont Floodplain Soils (F19) **(MLRA 149A)**
___Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils [3]:

___1 cm Muck (a9) **(LRR O)**
___2 cm Muck (A10) **(LRR S)**
___Reduced Vertic (F18) **(outside MLRA 150A, B)**
___Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
___Anomalous Bright Loamy Soils (F20) (MLRA 153B)
___Red Parent Material (TF2)
___Very Shallow Dark Surface (TF12) **(LRR T, U)**
___Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? **Yes** ✓ **No** _____.

Remarks:

Project: FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline
Assessment Area: Wetlands A/B - Y

APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD):

B. DISTRICT OFFICE, FILE NAME, AND NUMBER:

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **FL** County/parish/borough: **West Palm Beach** City: **Riviera Beach**
Center coordinates of site (lat/long in degree decimal format): Lat. **26.78°** N, Long. **-80.108°** W.
Universal Transverse Mercator:
Name of nearest waterbody: **C-17 Canal**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **C-17 Canal**
Name of watershed or Hydrologic Unit Code (HUC): **03090202/C-17**
☐ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form.

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **August 20, 2010**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.
Explain: .

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **Are** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☒ TNWs, including territorial seas **(Wetland E)**
      ☒ Wetlands adjacent to TNWs **(Wetland A/B)**
      ☒ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs **(Wetlands F and G)**
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet: width (ft) and/or acres.
      Wetlands: **9.52** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known): .

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional.
   Explain: **Wetlands C, D, and H through Y are not jurisdictional because they are hydrologically isolated from the C-17 Canal TNWs and RPWs that flow directly or indirectly into the C-17 Canal TNW, and they are not expected to significantly affect the chemical, physical, and biological integrity of the C-17 Canal TNW.**

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW (Wetland E)
Identify TNW: **C-17 Canal**.

Summarize rationale supporting determination: **Wetland E in the pipeline corridor is the C-17 Canal. Based on review of a USGS topographic map, the C-17 Canal flows from the Lake Worth intracoastal waterway north of the Riviera Beach area, south to Lake Mangonia, and further south to Clear Lake in West Palm Beach.**

2. Wetland adjacent to TNW (Wetland A/B)
Summarize rationale supporting conclusion that wetland is "adjacent": **Wetland A/B is separated from the C-17 canal by an approximately 150 foot wide man-made berm. Wetlands separated from other waters of the U.S. by manmade dikes or barriers, natural river berms, beach dunes, and the like are considered to be adjacent.**

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW (Wetlands F and G)

(i) General Area Conditions:
Watershed size: **21,197 acres**
Drainage area: **21,197 acres**
Average annual rainfall: **52** inches
Average annual snowfall: **0** inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☒ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **1 (or less)** river miles from TNW.
Project waters are **1 (or less)** river miles from RPW.
Project waters are **1 (or less)** aerial (straight) miles from TNW.
Project waters are **1 (or less)** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain: .

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

Identify flow route to TNW[5]: **Wetlands G and F make up the EPB-10 Canal which flows directly into the C-17 Canal.**
Tributary stream order, if known: .

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☒ Artificial (man-made). Explain: **canal**.
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: **180** feet
Average depth: **6** feet
Average side slopes: **Vertical (1:1 or less).**

Primary tributary substrate composition (check all that apply):
☐ Silts ☒ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain: .

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain: **Appears stable**.
Presence of run/riffle/pool complexes. Explain: .
Tributary geometry: **Relatively straight**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Perennial flow**
Estimate average number of flow events in review area/year: **20 (or greater)**
Describe flow regime: .
Other information on duration and volume: .

Surface flow is: **Confined.** Characteristics: .

Subsurface flow: **Unknown**. Explain findings: .
☐ Dye (or other) test performed: .

Tributary has (check all that apply):
☒ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain: .

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):
☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:

[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.
[6] A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7] Ibid.

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).
Explain: **Water color is mostly clear.**
Identify specific pollutants, if known: .

(iv) Biological Characteristics. Channel supports (check all that apply):
- ☐ Riparian corridor. Characteristics (type, average width):.
- ☐ Wetland fringe. Characteristics:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:

(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain:.
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain: .

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain: .

Surface flow is**: Pick List**
Characteristics: .

Subsurface flow: **Pick List**. Explain findings: .
- ☐ Dye (or other) test performed: .

(c) Wetland Adjacency Determination with Non-TNW:
- ☐ Directly abutting
- ☐ Not directly abutting
  - ☐ Discrete wetland hydrologic connection. Explain:
  - ☐ Ecological connection. Explain: .
  - ☐ Separated by berm/barrier. Explain: .

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known: .

(iii) Biological Characteristics. Wetland supports (check all that apply):
- ☐ Riparian buffer. Characteristics (type, average width): .
- ☐ Vegetation type/percent cover. Explain:
- ☐ Habitat for:
  - ☐ Federally Listed species. Explain findings: .
  - ☐ Fish/spawn areas. Explain findings: .
  - ☐ Other environmentally-sensitive species. Explain findings: .
  - ☐ Aquatic/wildlife diversity. Explain findings: .

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D: .

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D: .

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☒ TNWs: linear feet width (ft), Or, **0.96** acres. **(Wetland E)**
   - ☒ Wetlands adjacent to TNWs: **0.57** acres. **(Wetland A/B)**

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial: .
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally: .

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet width (ft).
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters: .

3. **Non-RPWs[8] that flow directly or indirectly into TNWs.**
   ☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional waters within the review area (check all that apply):
   ☐ Tributary waters: linear feet width (ft).
   ☐ Other non-wetland waters: acres.
   Identify type(s) of waters: .

4. **Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.
   ☐ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   ☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: .

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

5. **Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**
   ☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

   Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. **Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**
   ☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

   Provide estimates for jurisdictional wetlands in the review area: acres.

7. **Impoundments of jurisdictional waters.[9]**
   As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.
   ☐ Demonstrate that impoundment was created from "waters of the U.S.," or
   ☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or
   ☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]
☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.
☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.
☐ which are or could be used for industrial purposes by industries in interstate commerce.
☐ Interstate isolated waters. Explain: .
☐ Other factors. Explain: .

Identify water body and summarize rationale supporting determination: .

Provide estimates for jurisdictional waters in the review area (check all that apply):
☐ Tributary waters: linear feet width (ft).

[8]See Footnote # 3.
[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.
[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

☐ Other non-wetland waters: acres.
Identify type(s) of waters: .
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.

☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.

☐ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).

☒ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: **Wetlands C, D, and H through Y are not jurisdictional because they are hydrologically isolated from the C-17 Canal TNWs and RPWs that flow directly or indirectly into the C-17 Canal TNW, and they are not expected to significantly affect the chemical, physical, and biological integrity of the C-17 Canal TNW.**

☐ Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: **17.48** acres. **(Wetlands C, D, and H through Y)**

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

☐ Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource: .
☒ Wetlands: **17.48** acres. **(Wetlands C, D, and H through Y)**

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: .
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
☐ Office concurs with data sheets/delineation report.
☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps: .
☐ Corps navigable waters' study: .
☒ U.S. Geological Survey Hydrologic Atlas: .
☒ USGS NHD data.
☒ USGS 8 and 12 digit HUC maps.
☐ U.S. Geological Survey map(s). Cite scale & quad name: .
☐ USDA Natural Resources Conservation Service Soil Survey. Citation: .
☐ National wetlands inventory map(s). Cite name: .
☐ State/Local wetland inventory map(s): .
☐ FEMA/FIRM maps: .
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **ESRI Online Imagery, 2010.**
or ☐ Other (Name & Date): .
☐ Previous determination(s). File no. and date of response letter: .
☐ Applicable/supporting case law: .
☐ Applicable/supporting scientific literature: .
☒ Other information (please specify): **Florida Atlas & Gazetteer, 2006.**

B. ADDITIONAL COMMENTS TO SUPPORT JD: .

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Ditches - A/B, H, I, J, M, N, O, P, U, X

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
511		Existing Condition	10.82 acres (A/B=0.57, H=0.92, I=1.73, J=0.52, M=0.32, N=0.43, O=0.81, P=0.46, U=4.76, X=0.30)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
03090202/C-17		none

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

Ditches of various sizes along roadsides or rail lines

Assessment area description

Ditches varying in level of maintenance, water level, and vegetative cover. Typical species present include exotics such as Brazilian pepper (*Schinus terebinthifolius*), melaleuca (*Melaleuca quinquenervia*), and Australian pine (*Casuarina equisetifolia*). Native species present in the ditches and along the banks include spadderock (*Nuphar* sp.), willow (*Salix caroliniana*), cabbage palm (*Sabal palmetto*), passionflower (*Passiflora incarnata*), marshpennywort (*Hydrocotyle umbellata*), duckweed (*Lemna* sp.), buttonbush (*Cephalanthus occidentalus*), whitetop sedge (*Dichromena colorata*), bulltongue (*Sagittaria lancifolia*), and pickerelweed (*Pontedaria cordata*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 710, rail lines	Not rare in relation to regional landscape

Functions	Mitigation for previous permit/other historic use
water conveyance and storage, wildlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, herpetofauna, fishes	Possible occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), or tricolored heron (SSC).

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

raccoon tracks, mockingbird

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
C. Cunningham, S. Rizzo	Jun-10

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Ditches - A/B, H, I, J, M, N, O, P, U, X
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Existing Condition	C. Cunningham, S. Rizzo	Jun-10

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

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with:	Location and landscape support variable is reduced due to location of excavated ditches adjacent to busy roadway and/or rail line, and adjacent residential and commercial development. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to disturbance from maintenance mowing/herbicide, surrounding development; b) Invasive exotic species = 4, significant coverage; c) Wildlife access to and from outside = 6, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, little benefit, artificial drainageway; e) Impacts to wildlife listed in Part 1 by outside land uses = 6, reduced due to surrounding development and clearing of native habitat; f) Hydrologically connected areas downstream of assessment area = 4, artificial drainage feature; g) Dependency of downstream areas on assessment area = 2, minimal benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 4 with:	The water environment score is reduced due to proximity of roadway, maintenance and herbicide application, artifical hydroperiod resulting from excavation of drainage ditches within surrounding disturbed landscape, and adjacent development. Individual parameter scores: a) water levels and flows = 3, artificial nature of excavated ditch; b) water level indicators = 4, altered hydroperiod due to to excavated ditch; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 4, erosion from roadway, adjacent land uses; e) evidence of fire history = N/A; f) vegetation community zonation = 3, artificial system, significant upland species encroachment; g) hydrologic stress on vegetation = 6, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 5, due to surrounding altered landscape/altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 3, indication of high nutrients, cattails and exotic species; j) direct observation of water quality = 3, high nutrients evident due to nuisance/exotic vegetation; K) existing water quality data = N/A; l) water depth, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with:	The community structure variable is reduced due to significant coverage of exotic/nuisance species, mowing, maintenance, or herbicide application, and excavated, artificial nature of drainage ditches. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, maintenance typically removes shrub/canopy stratum, non-desirable wetland species prevalent; b) invasive exotics or other invasive plant species = 4, significant coverage of exotic/nuisance species; c) regeneration and recruitment = 4, artificial system, recruitment impacted by surrounding development and diminished hydroperiod; d) age & size distribution = 4, typical of artificial drainage ditch, impacted due to maintanence; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 6, reduced due to maintenance and herbicide; g) land management practices = 5, due to alteration of community structure by routine maintenance; h) topographic features = 4, artificial excavated system; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.40 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
0.4	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Canals - E, F, G

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
512		Existing Condition	8.95 acres (E=0.96, F=6.14, G=1.85)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
03090202/C-17		none

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

SFWMD Canals C-17 and Epb-10 and canals associated with 45th Street Terminal - appear to be connected to other surface waters off corridor through culverts.

Assessment area description

Banks of C-17 are mowed and maintained while Epb-10 banks/45th Street Terminal banks are dominated by exotic species such as Brazilian pepper (*Schinus terebinthifolius*), Peruvian primrose willow (*Ludwigia peruviana*), earleaf acacia (*Acacia auriculiformis*), Australian pine (*Casuarina equisetifolia*), and Japanese climbing fern (*Lygodium japonicum*). Native species present include cabbage palm (*Sabal palmetto*), muscadine (*Vitis* sp.), willow (*Salix caroliniana*), and spadderdock (*Nuphar* sp.)

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
I-95, 45th Street Terminal	Not rare in relation to regional landscape

Functions	Mitigation for previous permit/other historic use
Water conveyance and storage, widlife habitat	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, herpetofauna, fishes, manatees	Possible occasional use by wading birds such as white ibis (SSC), little blue heron (SSC), snowy egret (SSC), or tricolored heron (SSC). Also known use of C-17 by manatees (E).

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

snail, tilapia, cormorant, turtle, Canada goose, anhinga

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
C. Cunningham, S. Rizzo	Jun-10

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Canals - E, F, G
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Existing Condition	C. Cunningham, S. Rizzo	Jun-10

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

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with:	Location and landscape support variable is reduced due to location of adjacent roadway and industrial development. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within urban area/transmission line ROW; b) Invasive exotic species = 4, heavy coverage; c) Wildlife access to and from outside = 5, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 5, moderate benefit, artificial drainageways; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding development and clearing of native habitat; f) Hydrologically connected areas downstream of assessment area = 6, artificial drainage features connect to adjacent areas; g) Dependency of downstream areas on assessment area = 5, moderate benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 6 with:	The water environment score is reduced due to artifical hydroperiod resulting from water control measures. Individual parameter scores: a) water levels and flows = 4, artificial nature of canals; b) water level indicators = 5, altered hydroperiod s; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 6, limited erosion from roadways, adjacent land uses; e) evidence of fire history = N/A; f) vegetation community zonation = 3, artificial system, significant upland/exotic species encroachment; g) hydrologic stress on vegetation = 6, upland and transitional species prescent; h) use by animal species with specific hydrological requirements = 6, due to surrounding altered landscape/altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 5, exotic species present; j) direct observation of water quality = 5, high nutrients evident due to exotic vegetation; K) existing water quality data = N/A; l) water depth, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with:	The community structure variable is reduced due to significant coverage of exotic/nuisance species and artificial nature of drainage canals. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, maintenance typically removes shrub/canopy stratum, non-desirable wetland species prevalent; b) invasive exotics or other invasive plant species = 6, significant coverage of exotic/nuisance species; c) regeneration and recruitment = 4, artificial system, recruitment impacted by surrounding development and diminished hydroperiod; d) age & size distribution = 4, typical of artificial drainage ditch, impacted due to maintanence; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 5, reduced due to maintenance and herbicide; g) land management practices = 5, due to alteration of community structure by routine maintenance; h) topographic features = 4, artificial excavated system; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.47 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
0.47	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Reservoirs - K, L, Q

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
534	Stormwater Retention Ponds	Existing Condition	1.53 acres (K=0.20, L=1.25, Q=0.08)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
03090202/C-17		none

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

Stormwater rention ponds within ROW of existing road and rail lines.

Assessment area description

Vegetation within the littoral zone of the stormwater ponds includes torpedo grass (*Panicum repens*), flatsedges (*Cyperus* spp.), cattail (*Typha latifolia*), marsh pennywort (*Hydrocotyle umbellata*), camphorweed (*Pluchea* sp.), and Peruvian primrose willow (*Ludwigia peruviana*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 710, rail line	Not rare in relation to regional landscape

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water treatment and storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, forage fishes, herpetofauna	Possible occasional use by wading birds such as white ibis (SSC), wood stork (E), little blue heron (SSC), snowy egret (SSC), and tricolored heron (SSC).

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

glossy ibis, green heron, snowy egret

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
C. Cunningham, S. Rizzo	June-10

PART II A – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Reservoirs - K, L, Q
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Existing Condition	C. Cunningham, S. Rizzo	Jun-10

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

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with:	Location and landscape support variable is reduced due to location of excavated reservoirs adjacent to roadway and rail line. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to disturbance from maintenance mowing/herbicide, surrounding development; b) Invasive exotic species = 5, significant coverage; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 3, little benefit, apparently isolated retention ponds; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding development and clearing of native habitat; f) Hydrologically connected areas downstream of assessment area = 3, artificial isolated features; g) Dependency of downstream areas on assessment area = 3, minimal benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 5 with:	The water environment score is reduced due to proximity of roadway, artificial hydroperiod resulting from excavation of retention ponds within surrounding disturbed landscape, and adjacent development. Individual parameter scores: a) water levels and flows = 5, artificial nature of excavation; b) water level indicators = 5, altered hydroperiod due to to excavated ponds; c) soil moisture = 6, consistent with expected; d) soil erosion or deposition = 6, limited; e) evidence of fire history = N/A; f) vegetation community zonation = 4, artificial system, limited littoral zone; g) hydrologic stress on vegetation = 6, transitional species prevalent; h) use by animal species with specific hydrological requirements = 7, due to surrounding altered landscape/altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 4, some indication of high nutrients, cattails and exotic species; j) direct observation of water quality = 5, high nutrients evident due to nuisance/exotic vegetation; K) existing water quality data = N/A; l) water depth, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with:	The community structure variable is reduced due to significant coverage of exotic/nuisance species, mowing, maintenance, herbicide application, and excavated, artificial nature of retention ponds. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, maintenance typically removes shrub/canopy stratum, non-desirable wetland species prevalent; b) invasive exotics or other invasive plant species = 4, significant coverage of exotic/nuisance species; c) regeneration and recruitment = 5, artificial system, recruitment impacted by surrounding development and artificial hydroperiod; d) age & size distribution = 4, typical of artificial retention ponds, impacted due to maintanence; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 6, reduced due to maintenance and herbicide; g) land management practices = 5, due to alteration of community structure by routine maintenance; h) topographic features = 4, artificial excavated system; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.43 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
0.43	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Wet Prairie - R, S, T, V, W, Y

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
643		Existing Condition	3.67 acres (R=0.13, S=0.14, T=0.71, V=1.37, W=1.07, Y=0.25)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
03090202/C-17		none

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

Disturbed wet prairie areas in swales between roads and rail lines. Some are isolated and some are connected via culverts.

Assessment area description

Disturbed, mowed wet prairies, vegetated with nuisance/exotic species torpedo grass (*Panicum repens*), as well as bermuda grass (*Cynodon dactylon*), maidencane (*Panicum hemitomon*), marsh pennywort (*Hydrocotyle umbellata*), white-top sedge (*Rhyncosphora colorata*), coinwort (*Centella asiatica*), frogfruit (*Phyla nodiflora*), flatsedges (*Cyperus* spp.), creeping ludwigia (*Ludwigia repens*), buttonweed (*Diodia virginiana*), and maidencane (*Panicum hemitomon*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
SR 710, rail line	Not rare in relation to regional landscape

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water treatment and storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Wading birds, herpetofauna	Potential occasional use by wading birds such as white ibis (SSC), wood stork (E), little blue heron (SSC), snowy egret (SSC) and tricolored heron (SSC).

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

black rat snake

Additional relevant factors:

Assessment conducted by:	Assessment date(s):
C. Cunningham, S. Rizzo	Jun-10

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Wet Prairie - R, S, T, V, W, Y
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Existing Condition	C. Cunningham, S. Rizzo	Jun-10

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

.500(6)(a) Location and Landscape Support w/o pres or current: 4 with:	Location and landscape support variable is reduced due to location of wet prairies within surrounding cleared road and rail ROW. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within road and rail ROW, adjacent development; b) Invasive exotic species = 5, significant coverage; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, minimal benefit; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding development and clearing of native habitat; f) Hydrologically connected areas downstream of assessment area = 4, berms/roadways reduce connections; g) Dependency of downstream areas on assessment area = 4, little benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands) w/o pres or current: 4 with:	The water environment score is reduced due to proximity of development, cleared landscape, and marginal hydrology. Individual parameter scores: a) water levels and flows = 4, marginal hydrology; b) water level indicators = 4, less than typical for assessment area type; c) soil moisture = 5, drier than expected; d) soil erosion or deposition = 4, erosion from roadways, maintenance, adjacent landuses; e) evidence of fire history = N/A; f) vegetation community zonation = 4, upland encroachment evident; g) hydrologic stress on vegetation = 5, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 5, due to surrounding altered landscape/altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 5, some indication of potential high nutrients, torpedo grass dominance; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community w/o pres or current: 4 with:	The community structure variable is reduced due to significant coverage of exotic/nuisance species, mowing, and ROW maintenance. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, maintenance typically removes shrub/canopy stratum, non-desirable wetland species prevalent; b) invasive exotics or other invasive plant species = 5, significant coverage of exotic/nuisance species; c) regeneration and recruitment = 4, recruitment impacted by surrounding development and diminished hydroperiod; d) age & size distribution = 4, typical of wet prairie, impacted due to maintenance; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 4, reduced due to maintenance and herbicide; g) land management practices = 4, due to alteration of community structure by routine maintenance; h) topographic features = 4, altered topography due to landclearing; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)	If preservation as mitigation,	For impact assessment areas
current or w/o pres: 0.40 with:	Preservation adjustment factor =	FL = delta x acres =
	Adjusted mitigation delta =	

Delta = [with-current]	If mitigation	For mitigation assessment areas
0.4	Time lag (t-factor) =	RFG = delta/(t-factor x risk) =
	Risk factor =	

PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Wetland Shrub - C, D

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
631		Existing Condition	2.04 acres (C=1.75, D=0.29)

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
03090202/C-17		none

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

Isolated wetland shrub areas within disturbed transmission line ROW.

Assessment area description

Wetland shrub within cleared transmission line ROW. Typically no inundation, but mucky hydric soils and low growth of woody and herbaceous wetland vegetation, including willow (*Salix caroliniana*), melaleuca (*Melaleuca quinquenervia*), buttonbush (*Cephalanthus occidentalus*), Brazilian pepper (*Schinus terebinthifolius*), Japanese climbing fern (*Lygodium japonicum*), beaksedges (*Rhyncosphora* spp.), camphorweed (*Pluchea* sp.), royal fern (*Osmunda regalis*), white top sedge (*Rhyncosphora colorata*), and passionflower (*Passiflora incarnata*).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
Transmission line ROW, I-95, C-17 Canal	Not rare in relation to regional landscape

Functions	Mitigation for previous permit/other historic use
Wildlife habitat, water treatment and storage	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
herpetofauna, common mammalian and avian species	Potential, but unlikely occasional use by wading birds such as white ibis (SSC), wood stork (E), little blue heron (SSC), snowy egret (SSC) and tricolored heron (SSC).

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

None observed

Additional relevant factors:

Spoil piles present in Wetland C

Assessment conducted by:	Assessment date(s):
C. Cunningham	Jun-10

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

Site/Project Name	Application Number	Assessment Area Name or Number
FPL Riviera Beach Energy Center Natural Gas Lateral Pipeline		Wetland Shrub - C, D
Impact or Mitigation	Assessment conducted by:	Assessment date:
Existing Condition	C. Cunningham, S. Rizzo	Jun-10

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 4 / with:	Location and landscape support variable is reduced due to location of wetland shrub within surrounding cleared transmission line ROW. Individual parameter scores: a) Support to wildlife listed in Part 1 by outside habitats = 4, reduced due to location within cleared transmission line ROW, industrial development; b) Invasive exotic species = 3, high coverage; c) Wildlife access to and from outside = 4, decreased due to limitations imposed by surrounding developed areas; d) functions that benefit fish & wildlife downstream-distance or barriers = 4, limited connections to downstream areas; e) Impacts to wildlife listed in Part 1 by outside land uses = 4, reduced due to surrounding development and clearing of native habitat; f) Hydrologically connected areas downstream of assessment area = 4, limited benefit; g) Dependency of downstream areas on assessment area = 4, limited benefit to downstream areas.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 4 / with:	The water environment score is reduced due to proximity of development, cleared landscape, and marginal hydrology. Individual parameter scores: a) water levels and flows = 4, reduced hydroperiod compared to typical assessment area type; b) water level indicators = 4, less than typical for assessment area type; c) soil moisture = 5, somewhat drier than expected; d) soil erosion or deposition = 6, some erosion from roadways, maintenance, adjacent land uses; e) evidence of fire history = N/A; f) vegetation community zonation = 5, moderate upland encroachment evident; g) hydrologic stress on vegetation = 5, upland and transitional species prevalent; h) use by animal species with specific hydrological requirements = 5, due to surrounding altered landscape/altered hydrology; i) vegetative species tolerant of and associated with water quality degradation = 4, presence of exotics; j) direct observation of water quality = N/A, no water present; K) existing water quality data = N/A; l) water depth wave, wave energy, currents and light penetration = N/A.
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 4 / with:	The community structure variable is somewhat reduced due to presence of exotic/nuisance species and spoil piles. Individual parameter scores: a) plant community species in the canopy, shrub, or ground stratum = 4, non-desirable wetland species prevalent; b) invasive exotics or other invasive plant species = 3, high coverage of exotic/nuisance species; c) regeneration and recruitment = 4, recruitment impacted from altered hydroperiod; d) age & size distribution = 5, altered due to disturbance; e) density and quality of coarse woody debris, snag, den, and cavity = N/A; f) plant condition = 4, reduced due to disturbance; g) land management practices = 5, due to alteration of community structure; h) topographic features = 5, somewhat altered topography due to land clearing and spoil piles; i) siltation or algal growth in submerged aquatic plant communities = N/A.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.40	with:	

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres =

Delta = [with-current]
0.4

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

APPENDIX E

FNAI SPECIES OCCURRENCE

FLORIDA
Natural Areas
INVENTORY

1018 Thomasville Road
Suite 200-C
Tallahassee, FL 32303
850-224-8207
fax 850-681-9364
www.fnai.org

July 6, 2010

Colleen Cunningham
Golder Associates, Inc.
6026 NW 1st Place
Gainesville, FL 32607

Dear Ms. Cunningham,

Thank you for your request for information from the Florida Natural Areas Inventory (FNAI). We have compiled the following information for your project area.

Project:	Proposed Riviera Lateral Pipeline (Project #08387633)
Date Received:	June 29, 2010
Location:	Township 42S, Range 42E, Sections 22, 23, 25-27, 35 &36 Township 42S, Range 43E, Sections 30-34 Township 43S, Range 42 & 43E, Sections 1 & 3-6 Palm Beach County

Element Occurrences

A search of our maps and database indicates that currently we have several Element Occurrences mapped within the vicinity of the study area (see enclosed map and element occurrence table). Please be advised that a lack of element occurrences in the FNAI database is not a sufficient indication of the absence of rare or endangered species on a site.

Federally Listed Species

Our data indicate no federally listed species are present on or very near your site (see enclosed map and element occurrence table for details). This statement should not be interpreted as a legal determination of presence or absence of federally listed species on a property.

The Element Occurrences data layer includes occurrences of rare species and natural communities. The map legend indicates that some element occurrences occur in the general vicinity of the label point. This may be due to lack of precision of the source data, or an element that occurs over an extended area (such as a wide ranging species or large natural community). For animals and plants, Element Occurrences generally refer to more than a casual sighting; they usually indicate a viable population of the species. Note that some element occurrences represent historically documented observations which may no longer be extant. Extirpated element occurrences will be marked with an 'X' following the occurrence label on the enclosed map.

Several of the species and natural communities tracked by the Inventory are considered ***data sensitive****. Occurrence records for these elements contain information that we consider sensitive due to collection pressures, extreme rarity, or at the request of the source of the information. The Element Occurrence Record has been labeled "Data Sensitive." We request that you not publish or release specific locational data about these species or communities without consent from the Inventory. If you have any questions concerning this please do not hesitate to call.*

Florida Resources and Environmental Analysis Center

Institute of Science and Public Affairs

The Florida State University

Likely and Potential Rare Species
In addition to documented occurrences, other rare species and natural communities may be identified on or near the site based on habitat models and species range models (see enclosed Biodiversity Matrix Report). These species should be taken into consideration in field surveys, land management, and impact avoidance and mitigation.

FNAI habitat models indicate areas, which based on land cover type, offer suitable habitat for one or more rare species that is known to occur in the vicinity. Habitat models have been developed for approximately 300 of the rarest species tracked by the Inventory, including all federally listed species.

FNAI species range models indicate areas that are within the known or predicted range of a species, based on climate variables, soils, vegetation, and/or slope. Species range models have been developed for approximately 340 species, including all federally listed species.

The FNAI Biodiversity Matrix Geodatabase compiles Documented, Likely, and Potential species and natural communities for each square mile Matrix Unit statewide.

The Inventory always recommends that professionals familiar with Florida's flora and fauna should conduct a site-specific survey to determine the current presence or absence of rare, threatened, or endangered species.

Please visit www.fnai.org/trackinglist.cfm for county or statewide element occurrence distributions and links to more element information.

The database maintained by the Florida Natural Areas Inventory is the single most comprehensive source of information available on the locations of rare species and other significant ecological resources. However, the data are not always based on comprehensive or site-specific field surveys. Therefore, this information should not be regarded as a final statement on the biological resources of the site being considered, nor should it be substituted for on-site surveys. Inventory data are designed for the purposes of conservation planning and scientific research, and are not intended for use as the primary criteria for regulatory decisions.

Information provided by this database may not be published without prior written notification to the Florida Natural Areas Inventory, and the Inventory must be credited as an information source in these publications. FNAI data may not be resold for profit.

Thank you for your use of FNAI services. If I can be of further assistance, please give me a call at (850) 224-8207.

Sincerely,
Alicia C. Newberry

Alicia C. Newberry
GIS/Data Services Analyst

Encl

Proposed Riviera Lateral Pipeline (Project #08387633)

Site boundaries are approximate.

Palm Beach County

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FLORIDA Natural Areas INVENTORY

Element Occurrences

- Animals
- Plants
- Communities
- Other
- Data Sensitive
- Point Indicates General Vicinity of Element
- U.S. Fish & Wildlife Service Scrub Jay Survey 1992-96

Conservation Lands

- Federal
- State
- Local
- Private
- State Aquatic Preserves

Land Acquisition Projects

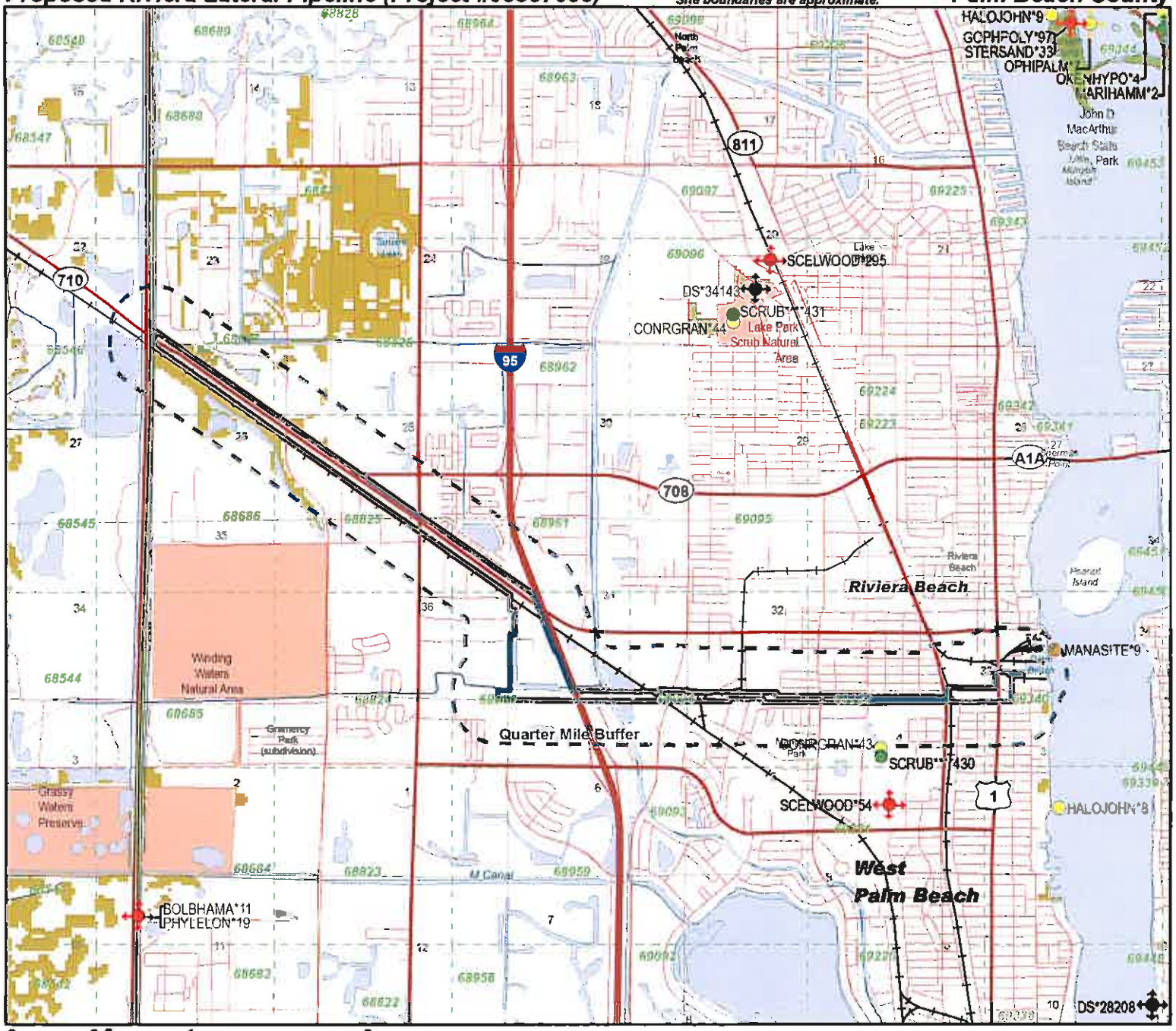
- Florida Forever Board of Trustees Projects

- FNAI Rare Species Habitat
- FNAI Biodiversity Matrix Square Mile Units

- County Boundary
- Interstate
- Turnpike
- Major Highway
- Local Road
- Railroad [Inactive railroads shown in Gray]
- Water

N W E S

NOTE
Map should not be interpreted without accompanying documents.



Map produced by ACN
Map Date: 6 JUL 2010

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR
Proposed Riviera Lateral Pipeline (Project #08387633)

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
DS*28208	Data Sensitive Element	Data Sensitive	G1	S1	LE	LE	1957-08-09	Data Sensitive	Data Sensitive
SCELWOOD*54	Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N	1956-08-22	No general description given	1956-08-22: KING COLLECTED SPECIMEN HERE.
CONRGRAN*43	Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT	1988-06-09	SCRUB DOMINATED BY MATURE SAND PINES AND SCATTEREDSCRUB OAKS. N.W. CORNER OF ST. MARY'S HOSPITAL COMPLEX.	150 PLANTS OVER A LITTLE MORE THAN 3 ACRES. PLANTS FLOWERING. (SEE MAP ATTACHED).
HALOJOHN*8	Halophila johnsonii	Johnson's Seagrass	G2	S2	LT	N	1989-06-16	UNDERWATER LAGOON SEAGRASS BED.	DOMINANT UNDERWATER VEGETATION FOR 200' E OF SEAWALL IS HALOPHILA JOHNSONII. ASSOC. SPP: CAULERPA SERTULARIOIDES, HALODULE WRIGHTII.
SCRUB****431	Scrub		G2	S2	N	N	1999	MATURE SCRUB WITH TOPPLING SAND PINE.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1988-06-09) (U05FNA02FLUS). SAND PINE SCRUB WITH OAKS BEGINNING TO REACH TREE SIZE. SOME AREAS HAVE MIXED SCRUB AND FLATWOODS- -WITHISLAND OF SCRUB ON HIGH
SCRUB****430	Scrub		G2	S2	N	N	1999	DISTURBED SCRUB WITH WEEDY HERB LAYER AND SCATTER-ED SAND PINES AND OAKS.	1999: Update to last obs date was based on interpretation of aerial photography (previous value was 1988-06-09) (U05FNA02FLUS). ONLY SMALL PORTION OF SCRUB LEFT INTACT. (SEE MAP ANDSPECIES LIST ATTACHED).
MANASITE*9	Manatee Aggregation Site		GNR	SNR	N	N	1988	WARM-WATER EFFLUENT INTO W. BANK OF COASTAL "LAKE".	UP TO 272 MANATEES USE THIS SITE DURING THE WINTER.
MARIHAMM*2	Maritime hammock		G3	S2	N	N	2005-03-12	1982-04-13: DISTINCTLY TROPICAL HAMMOCK APPARENTLY DERIVED FROM UNBURNED STRAND. LEE SIDE OF MAIN DUNE ALONG BEACH. SANDY SOIL. LOW CANOPY (B81DUE01FLUS).	2005-03-12: Occurrence at site (PNDTAN01FLUS). 1982-04-13: SEAGRAPE, MASTIC, POISONWOOD, & WHITE STOPPER COMMON. SOME BLOLLY, CORAL BEAN, WHITE TORCHWOOD, FORESTIERA, GULF GREYTWIG (B81DUE01FLUS).
STERSAND*33	Sterna sandvicensis	Sandwich Tern	G5	S2	N	N	1991-06-25	Open water: bay, lagoon, tidal creek or river, including intracoastal waterways	1991-06-25: M.S. Robson, GFC, observed 1 adult loafing.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

ELEMENT OCCURRENCES DOCUMENTED ON OR NEAR
Proposed Riviera Lateral Pipeline (Project #08387633)

Map Label	Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing	Observation Date	Description	EO Comments
GOPHPOLY*97	Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT	1983	NEAR RESIDENCES, ALONG N BOUNDARY OF PARK.	NO POPULATION ESTIMATE, BUT PROBABLY ONLY A FEW INDIVIDUALS.
SCELWOOD*295	Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N	1986-05-09	Coastal scrub	1986-05-09: K.E. Enge, GFC, observation. See Enge et al (1986; Coop Unit Tech Rep No 26).
OPHIPALM*7	Ophioglossum palmatum	Hand Fern	G4	S2	N	LE	1995	1995: in maritime hammock (PNDMIL04FLUS).	1995: many individuals, too numerous to map (PNDMIL04FLUS). NONE GIVEN IN U83DRP01. ALSO REPORTED BY IVERSON IN 1982 (PNDIVE01).
CONRGRAN*44	Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT	1988-06-09	MATURE SCRUB WITH TOPPLING SAND PINE.	200 SCATTERED PLANTS OVER ABOUT 100 ACRES. PLANTS FLOWERING.
HALOJOHN*9	Halophila johnsonii	Johnson's Seagrass	G2	S2	LT	N	1990-06-08	FOUR SEPARATE AREAS.	PLANTS FOUND IN 4-12' OF WATER WHERE THERE IS A MINIMUM OF ORGANICS IN THE SUBSTRATE I.E. NEAR TIDAL FLOW AREAS AND EDGES OF CHANNELS.
OKENHYPO*4	Okenia hypogaea	Burrowing Four-o'clock	G3?	S2	N	LE	2008-09-08	2008-09-08: Beach dune, scattered along base of dune with seagrape, vines, Distichlis spicata, Helianthus debilis and Argusia (F08LOC01FLUS). 1983-04-13: beach dune, broad zone in front of primary dune, to crest of dune. Shi	2008-09-08: 30-140 plants in flower/fruit/bud (F08LOC01FLUS). 1990-04-13: more than 1000 individuals in several patches of 3-200. Along trails, roads other disturbed areas. Few seedling plants seen on beach at base of dune walkover (F90J
DS*34143	Data Sensitive Element	Data Sensitive	G1	S1	LE	LE	2006	Data Sensitive	Data Sensitive
BOLBHAMA*11	Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N	1970-07-12	1970-07-12: No description given (B73WOO01FLUS).	1970-07-12: One specimen was collected by W.T. Rowan (B73WOO01FLUS).
PHYLELON*19	Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N	1989-PRE	1989-Pre: No description given (B89WOO01FLUS).	1989-Pre: Two specimens were collected (B89WOO01FLUS).

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Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Matrix Unit ID: 68686					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mesic flatwoods		G4	S4	N	N
Rostrhamus sociabilis plumbeus	Snail Kite	G4G5T3Q	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE
Matrix Unit ID: 68687					
Likely					
Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Rostrhamus sociabilis plumbeus	Snail Kite	G4G5T3Q	S2	LE	LE
Potential					
Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N

Definitions: *Documented - Rare species and natural communities documented on or near this site.*
Documented-Historic - Rare species and natural communities documented, but not observed/reported within the last twenty years.
Likely - Rare species and natural communities likely to occur on this site based on suitable habitat and/or known occurrences in the vicinity.
Potential - This site lies within the known or predicted range of the species listed.

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Picoides borealis	Red-cockaded Woodpecker	G3	S2	LE	LS
Podomys floridanus	Florida Mouse	G3	S3	N	LS
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 68825

Likely

Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Rostrhamus sociabilis plumbeus	Snail Kite	G4G5T3Q	S2	LE	LE

Potential

Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 68826

Likely

Grus canadensis pratensis	Florida Sandhill Crane	G5T2T3	S2S3	N	LT
Mesic flatwoods		G4	S4	N	N

Potential

Aimophila aestivalis	Bachman's Sparrow	G3	S3	N	N
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT

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FLORIDA Natural Areas INVENTORY

Florida Natural Areas Inventory

Biodiversity Matrix Report

Scientific Name	Common Name	Global Rank	State Rank	Federal Status	State Listing
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 68960

Potential

Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichechus manatus	Manatee	G2	S2	LE	LE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 68961

Potential

Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Nemastylis floridana	Celestial Lily	G2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Rana capito	Gopher Frog	G3	S3	N	LS

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Florida Natural Areas Inventory

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Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichechus manatus	Manatee	G2	S2	LE	LE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE
Matrix Unit ID: 69094					
Likely					
Mesic flatwoods		G4	S4	N	N
Potential					
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichechus manatus	Manatee	G2	S2	LE	LE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE
Matrix Unit ID: 69222					
Documented					
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Scrub		G2	S2	N	N
Potential					
Aphelocoma coerulescens	Florida Scrub-jay	G2	S2	LT	LT
Asimina tetramera	Four-petal Pawpaw	G1	S1	LE	LE
Athene cunicularia floridana	Florida Burrowing Owl	G4T3	S3	N	LS
Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Chamaesyce cumulicola	Sand-dune Spurge	G2	S2	N	LE
Cladonia perforata	Perforate Reindeer Lichen	G1	S1	LE	LE
Coelorachis tuberculosa	Piedmont Jointgrass	G3	S3	N	LT
Dicerandra immaculata	Lakela's Mint	G1	S1	LE	LE
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE

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Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Lechea divaricata	Pine Pinweed	G2	S2	N	LE
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Rana capito	Gopher Frog	G3	S3	N	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Schizachyrium niveum	Scrub Bluestem	G1G2	S1S2	N	LE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

Matrix Unit ID: 69340

Documented

Manatee Aggregation Site		GNR	SNR	N	N

Likely

Halophila johnsonii	Johnson's Seagrass	G2	S2	LT	N

Potential

Bolbocerosoma hamatum	Bicolored Burrowing Scarab Beetle	GNR	S3S5	N	N
Conradina grandiflora	Large-flowered Rosemary	G3	S3	N	LT
Ctenogobius stigmaturus	Spottail Goby	G2	S2	N	N
Dendroica discolor paludicola	Florida Prairie Warbler	G5T3	S3	N	N
Drymarchon couperi	Eastern Indigo Snake	G3	S3	LT	LT
Elytraria caroliniensis var. angustifolia	Narrow-leaved Carolina Scalystem	G4T2	S2	N	N
Encyclia cochleata var. triandra	Clamshell Orchid	G4G5T2	S2	N	LE
Eretmochelys imbricata	Hawksbill	G3	S1	LE	LE
Forestiera segregata var. pinetorum	Florida Pinewood Privet	G4T2	S2	N	N
Glandularia maritima	Coastal Vervain	G3	S3	N	LE
Gopherus polyphemus	Gopher Tortoise	G3	S3	N	LT
Jacquemontia reclinata	Beach Jacquemontia	G1	S1	LE	LE
Lechea cernua	Nodding Pinweed	G3	S3	N	LT
Linum carteri var. smallii	Small's Flax	G2T2	S2	N	LE
Panicum abscissum	Cutthroat Grass	G3	S3	N	LE
Phyllophaga elongata	Elongate June Beetle	G2G4	S2S4	N	N
Polygala smallii	Tiny Polygala	G1	S1	LE	LE
Rallus longirostris scottii	Florida Clapper Rail	G5T3?	S3?	N	N
Rana capito	Gopher Frog	G3	S3	N	LS
Rivulus marmoratus	Mangrove Rivulus	G3	S3	SC	LS
Roystonea elata	Florida Royal Palm	G2G3	S2	N	LE
Sceloporus woodi	Florida Scrub Lizard	G3	S3	N	N
Trichechus manatus	Manatee	G2	S2	LE	LE
Trichomanes punctatum ssp. floridanum	Florida Filmy Fern	G4G5T1	S1	C	LE

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GLOBAL AND STATE RANKS

Florida Natural Areas Inventory (FNAI) defines an **element** as any rare or exemplary component of the natural environment, such as a species, natural community, bird rookery, spring, sinkhole, cave, or other ecological feature. FNAI assigns two ranks to each element found in Florida: the **global rank**, which is based on an element's worldwide status, and the **state rank**, which is based on the status of the element within Florida. Element ranks are based on many factors, including estimated number of occurrences, estimated abundance (for species and populations) or area (for natural communities), estimated number of adequately protected occurrences, range, threats, and ecological fragility.

GLOBAL RANK DEFINITIONS

G1	Critically imperiled globally because of extreme rarity (5 or fewer occurrences or less than 1000 individuals) or because of extreme vulnerability to extinction due to some natural or man-made factor.
G2	Imperiled globally because of rarity (6 to 20 occurrences or less than 3000 individuals) or because of vulnerability to extinction due to some natural or man-made factor.
G3	Either very rare and local throughout its range (21-100 occurrences or less than 10,0000 individuals) or found locally in a restricted range or vulnerable to extinction from other factors.
G4	Apparently secure globally (may be rare in parts of range).
G5	Demonstrably secure globally.
G#?	Tentative rank (e.g., G2?)
G#G#	Range of rank; insufficient data to assign specific global rank (e.g., G2G3)
G#T#	Rank of a taxonomic subgroup such as a subspecies or variety; the G portion of the rank refers to the entire species and the T portion refers to the specific subgroup; numbers have same definition as above (e.g., G3T1)
G#Q	Rank of questionable species - ranked as species but questionable whether it is species or subspecies; numbers have same definition as above (e.g., G2Q)
G#T#Q	Same as above, but validity as subspecies or variety is questioned.
GH	Of historical occurrence throughout its range, may be rediscovered (e.g., ivory-billed woodpecker)
GNA	Ranking is not applicable because element is not a suitable target for conservation (e.g. as for hybrid species)
GNR	Not yet ranked (temporary)
GNRTNR	Neither the full species nor the taxonomic subgroup has yet been ranked (temporary)
GX	Believed to be extinct throughout range
GXC	Extirpated from the wild but still known from captivity/cultivation
GU	Unrankable. Due to lack of information, no rank or range can be assigned (e.g., GUT2).

STATE RANK DEFINITIONS

Definition parallels global element rank: substitute "S" for "G" in above global ranks, and "in Florida" for "globally" in above global rank definitions.

FEDERAL AND STATE LEGAL STATUSES (U.S. Fish and Wildlife Service – USFWS) PROVIDED BY FNAI FOR INFORMATION ONLY.

For official definitions and lists of protected species, consult the relevant state or federal agency.

FEDERAL LEGAL STATUS

Definitions derived from U.S. Endangered Species Act of 1973, Sec. 3. Note that the federal status given by FNAI refers only to Florida populations and that federal status may differ elsewhere.

LE	Listed as Endangered Species in the List of Endangered and Threatened Wildlife and Plants under the provisions of the Endangered Species Act. Defined as any species which is in danger of extinction throughout all or a significant portion of its range.
LE,XN	A non essential experimental population of a species otherwise Listed as an Endangered Species in the List of Endangered and Threatened Wildlife and Plants. LE,XN for Grus americana (Whooping crane), Federally listed as XN (Non essential experimental population) refers to the Florida experimental population only. Federal listing elsewhere for Grus americana is LE.
PE	Proposed for addition to the List of Endangered and Threatened Wildlife and Plants as Endangered Species.
LT	Listed as Threatened Species, defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.
LT,PDL	Species currently listed Threatened but has been proposed for delisting.
PT	Proposed for listing as Threatened Species.
C	Candidate Species for addition to the list of Endangered and Threatened Wildlife and Plants, Category 1. Federal listing agencies have sufficient information on biological vulnerability and threats to support proposing to list the species as Endangered or Threatened.
SAT	Threatened due to similarity of appearance to a threatened species.
SC	Species of Concern, species is not currently listed but is of management concern to USFWS.
N	Not currently listed, nor currently being considered for addition to the List of Endangered and Threatened Wildlife and Plants.

FLORIDA LEGAL STATUSES (Florida Fish and Wildlife Conservation Commission – FFWCC/ Florida Department of Agriculture and Consumer Services – FDACS)

Animals: Definitions derived from "Florida's Endangered Species and Species of Special Concern, Official Lists" published by Florida Fish and Wildlife Conservation Commission - FFWCC, 1 August 1997, and subsequent updates.

LE	Listed as Endangered Species by the FFWCC. Defined as a species, subspecies, or isolated population which is so rare or depleted in number or so restricted in range of habitat due to any man-made or natural factors that it is in immediate danger of extinction or extirpation from the state, or which may attain such a status within the immediate future.
LT	Listed as Threatened Species by the FFWCC. Defined as a species, subspecies, or isolated population which is acutely vulnerable to environmental alteration, declining in number at a rapid rate, or whose range or habitat is decreasing in area at a rapid rate and as a consequence is destined or very likely to become an endangered species within the foreseeable future.
*LT**	Indicates that a species has LT status only in selected portions of its range in Florida. LT* for Ursus americanus floridanus (Florida black bear) indicates that LT status does not apply in Baker and Columbia counties and in the Apalachicola National Forest. LT* for Neovison vison pop. 1 (Southern mink, South Florida population) state listed as Threatened refers to the Everglades population only (Note: species formerly listed as Mustela vison mink pop. 1. Also, priorly listed as Mustela evergladensis).
LS	Listed as Species of Special Concern by the FFWCC, defined as a population which warrants special protection, recognition, or consideration because it has an inherent significant vulnerability to habitat modification,

environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a threatened species.

*LS** Indicates that a species has LS status only in selected portions of its range in Florida. LS* for Pandion haliaetus (Osprey) state listed as LS (Species of Special Concern) in Monroe County only.

PE Proposed for listing as Endangered.

PT Proposed for listing as Threatened.

PS Proposed for listing as a Species of Special Concern.

N Not currently listed, nor currently being considered for listing.

Plants: Definitions derived from Sections 581.011 and 581.185(2), Florida Statutes, and the Preservation of Native Flora of Florida Act, 5B-40.001. FNAI does not track all state-regulated plant species; for a complete list of state-regulated plant species, call Florida Division of Plant Industry, 352-372-3505 or please visit: http://DOACS.State.FL.US/PI/Images/Rule05b.pdf

LE Listed as Endangered Plants in the Preservation of Native Flora of Florida Act. Defined as species of plants native to the state that are in imminent danger of extinction within the state, the survival of which is unlikely if the causes of a decline in the number of plants continue, and includes all species determined to be endangered or threatened pursuant to the Federal Endangered Species Act of 1973, as amended.

PE Proposed by the FDACS for listing as Endangered Plants.

LT Listed as Threatened Plants in the Preservation of Native Flora of Florida Act. Defined as species native to the state that are in rapid decline in the number of plants within the state, but which have not so decreased in such number as to cause them to be endangered. LT* indicates that a species has LT status only in selected portions of its range in Florida.

PT Proposed by the FDACS for listing as Threatened Plants.

N Not currently listed, nor currently being considered for listing.

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INVENTORY

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Tracking Florida's Biodiversity

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Technical Assistance Provided by:
FREAC
FLORIDA RESOURCES & ENVIRONMENTAL ANALYSIS CENTER
AT THE FLORIDA STATE UNIVERSITY

FOR IMMEDIATE RELEASE

FNAI's Biodiversity Matrix Online

The Biodiversity Matrix Map Server is a new **screening tool** from FNAI that provides **immediate, free access** to rare species occurrence information statewide. This tool allows you to zoom to your site of interest and create a report listing documented, likely, and potential occurrences of rare species and natural communities.

The FNAI Biodiversity Matrix offers **built-in interpretation** of the likelihood of species occurrence for each 1-square-mile Matrix Unit across the state. The report includes a site map and list of species and natural communities by occurrence status: Documented, Documented-Historic, Likely, and Potential.

Try it today:

www.fnai.org/biointro.cfm

Please note: FNAI will continue to offer our Standard Data Report service as always. The Standard Data Report offers the most comprehensive information available on rare species, natural communities, conservation lands, and other natural resources.