

WETLAND EVALUATION
TECHNICAL MEMORADUM
FOR THE ALL ABOARD FLORIDA PASSENGER RAIL PROJECT
WEST PALM BEACH TO MIAMI, FLORIDA

Prepared Pursuant to Section 404 of the Clean Water Act of 1972; and
Presidential Executive Order 11990, entitled "Protection of Wetlands", dated May 23, 1977

by

All Aboard Florida – Stations LLC and All Aboard Florida – Operations LLC

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1.0 INTRODUCTION

All Aboard Florida (AAF) project is an intercity passenger rail service that will provide a necessary transportation solution for millions of Floridians and tourists, connecting downtown West Palm Beach (MP 299.6 +/-) to downtown Miami (MP 365.5 +/-) with one stop in downtown Fort Lauderdale (MP 341.2 +/-).

The existing FEC corridor between Miami and West Palm Beach is approximately 100 feet wide and has supported freight and/or passenger service on a continuous basis for more than 100 years. The FEC corridor was originally built as a double-track railroad, but today it is a single track railroad with several long sidings. The roadbed for the second track in the corridor still exists today and would be used for the additional track improvements.

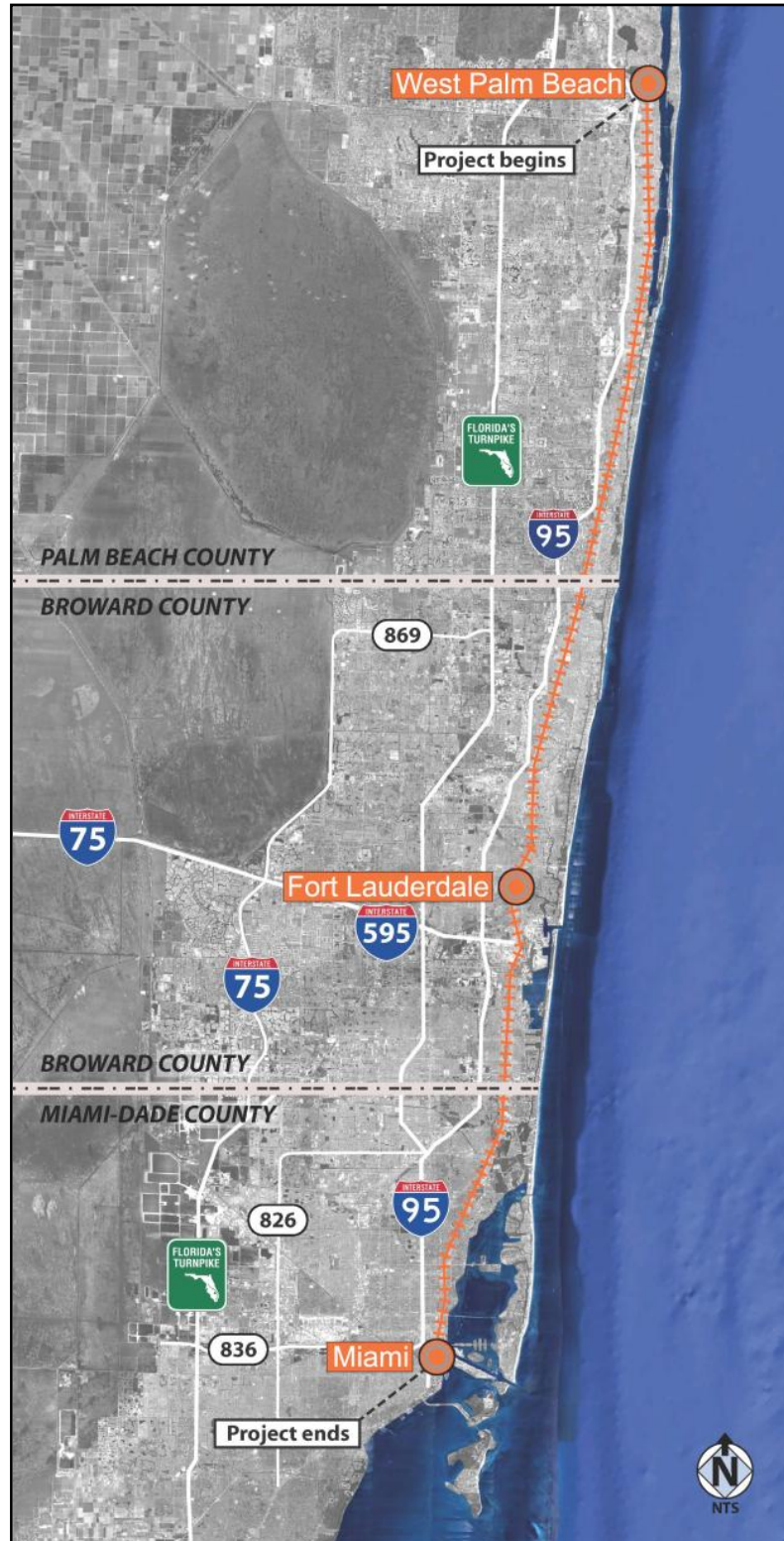
In 2006, FECR moved approximately 26 through freight trains per day over this segment, in addition to local trains serving customers along the line. Today, the number of daily through freight trains is 14. The new intercity passenger rail system would provide hourly service (consisting of approximately 16 roundtrip trains that will be approximately 725 feet long. Trains will operate at speeds up to 79 mph, but will likely average 60 mph. The current FRA Class IV track conditions along the FEC corridor would permit passenger train trains to operate up to a maximum speed of 79 mph today.

The existing track is FRA Class IV track, permitting 60 mile per hour freight and 80 mile per hour passenger operations. The project will maintain this class of track and will require only minor infrastructure improvements for the main line, including replacement of the second main line track, reconstruction of existing crossovers and the addition of crossovers to facilitate operational improvements. No additional right of way is anticipated to complete these improvements. Further, no bridge structures located over bodies of water will be touched.

AAF plans to complete all infrastructure improvements for the main line track for the project within the existing FEC corridor that is approximately 100 feet wide throughout this segment (i.e. no additional right-of way acquisition is expected). Three existing bridge structures will have an additional second main track added to the existing deck, but no improvements to the structure's footprint will need to be made. Seven existing bridges will remain single track and will not be expanded to accommodate two tracks. Additionally, 49.2 miles of new track will be constructed in the corridor and 8.3 miles of existing track will be rehabilitated. See Project Location Map, Figure 1.

The proposed downtown Miami station will be situated on an approximately nine-acre site that is currently owned by AAF's affiliate. This proposed site was once the location of the original Florida East Coast Miami Station built by Henry Flagler. Likewise, the proposed stations at Fort Lauderdale and West Palm Beach stations will be situated on downtown sites, providing easy access for auto, bike and pedestrians.

Figure 1. Project Location Map



The purpose of this technical memorandum is to present the findings of a wetland evaluation for the proposed action and to meet the requirements of Section 404 of the Clean Water Act of 1972; Presidential Executive Order 11990, entitled "Protection of Wetlands", dated May 23, 1977; and United States Department of Transportation (USDOT) Order 5660.1A, "Preservation of the Nation's Wetlands", dated August 24, 1978, which requires all Federally funded projects to protect wetlands to the fullest extent possible. In addition, Sections 401, 402, and 404 of the Clean Water Act (CWA) provide protections for Waters of the United States and wetlands.

Although no wetland impacts are anticipated as part of the proposed action, it was anticipated that federal requirements would need to be met as part of the permitting process; therefore, the proposed actions were evaluated in compliance with federal requirements for any wetlands that have potential involvement with this project.

2.0 ALTERNATIVE DEVELOPMENT

This section discusses those alternatives developed and considered during the EA process. As per NEPA and CEQ guidance, the No-Build Alternative will remain a reasonable and feasible alternative throughout this evaluation. The No-Build Alternative represents "no change" from current conditions and a continuation of the present course of planned and funded actions until that action is changed.

For an alternative to be considered worthy of evaluation, the following criteria were deemed essential:

- Geographic location in close proximity to the Downtown core or Central Business District (CBD) as well as the FECR right-of-way;
- For West Palm Beach and Fort Lauderdale Stations – ability for the FEC ROW to accommodate the addition of a second main line track necessary for both passenger rail and freight operations, as well as gauntlet tracks through the platform zones for use by periodic high and wide freight trains;
- For Miami Station – necessity to maintain railroad infrastructure for continued Port Lead freight operations;
- Availability of land within the FEC ROW for workable track alignment and platform zones; and
- Availability of land adjacent to the designated stations to accommodate customer access (pedestrian and vehicular) and minimum on-site passenger-oriented facilities.

Several sites initially nominated for evaluation did not pass this test. Thus, they were dismissed from further analysis.

2.1 No Build Alternative

The No-Build Alternative, which involves no changes to the transportation facilities within the FEC corridor beyond those that have been currently planned and programmed, was evaluated as part of this study. Under this scenario, the existing freight operations and maintenance infrastructure by FECR would be maintained. Specifically, the No-Build Alternative would maintain FECR's operations as a freight provider within the FEC corridor assuming an annual growth of approximately 5%-7% between today and 2016 due to current FEC projects at the Port of Miami and Port Everglades and 3% after 2016. Routine maintenance, safety improvements and as-needed track work would continue as planned. Also, the No-Build Alternative would include future planned and programmed roadway, transit, air and other intermodal improvements within the study area.

In the absence of passenger service within the FEC corridor, the need for stations and station-associated development is negated. It is assumed that land use development would continue consistent within the approved and adopted local comprehensive, master and/or visioning plans of each municipality but that only planned and programmed improvements will be completed.

Although the No-Build Alternative does not meet the purpose and need for the project, it was retained for detailed analysis in order to evaluate potential benefits and impacts associated with the proposed action in comparison to taking no action.

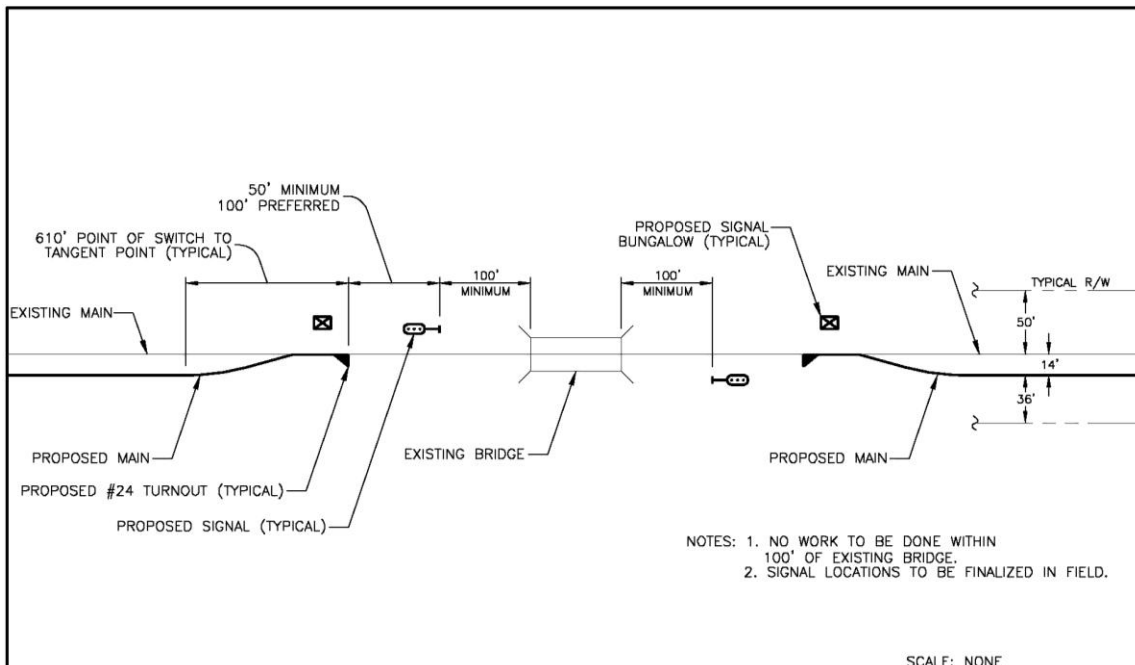
2.2 System Build Alternative

The proposed system build alternative will return the existing FEC corridor to a dual-track system allowing for the development and re-introduction of passenger service to southeast Florida. Infrastructure improvements are planned to be completed within the existing right-of-way (i.e. no additional right-of way acquisition is anticipated). Three existing bridge structures will have an additional second main track added to the existing deck, but no improvements to the structure's footprint will need to be made. See Figure 2 for typical existing bridge structure proposed for second track. Seven existing bridges will remain single track and will not be expanded to accommodate two tracks. See Figure 3 for typical bridge transition. Additionally, 49.2 miles of new track will be constructed in the corridor and 8.3 miles of existing track will be rehabilitated.

Figure 2. Typical Existing Bridge Structure for Double Track (MP 319.55)



Figure 3. Typical Track Configuration at Single Track Bridge



2.3 Station Alternatives

Station alternatives are defined as those alternatives in West Palm Beach, Fort Lauderdale, and Miami for the development of stations and ancillary development needed to support the AAF project.

2.3.1 Downtown West Palm Beach

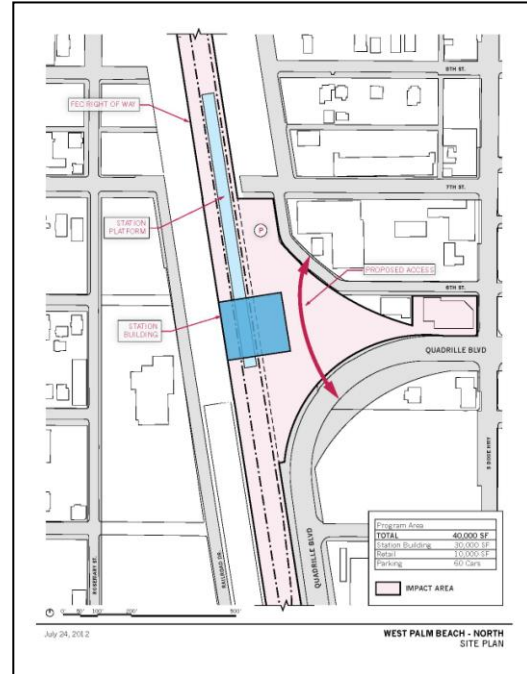
2.3.1.1 West Palm Beach – North

For this site location alternative, the AAF station would be located in the northern portion of Downtown West Palm Beach roughly between Third and Seventh Streets proximate to the 15th Judicial Circuit Courthouse Complex, County Courthouse, County Administration Building and City Hall.

The station's 800-foot long, 35-foot wide high-level platform would be located well north of Third Street because the platform must be on tangent track north of the curve. This site would take advantage of an uninterrupted stretch of FEC ROW without the need for new street closure, although it would block NW 7th Street which City Planners have identified for circulation improvement study.

The station would extend to the east side of the FEC ROW on unimproved, publicly controlled properties situated along Quadrille Boulevard including a parcel with frontage on S. Dixie Highway. The two-story station building would face the east. On-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

West Palm Beach North Station



2.3.1.2 West Palm Beach – Central

For this site location alternative, the AAF station would be located further south than the option described above, roughly between Clematis Street and Fern Street. The two-story station building would be located to the west side of the FEC ROW on privately controlled property fronting Evernia Street. On-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

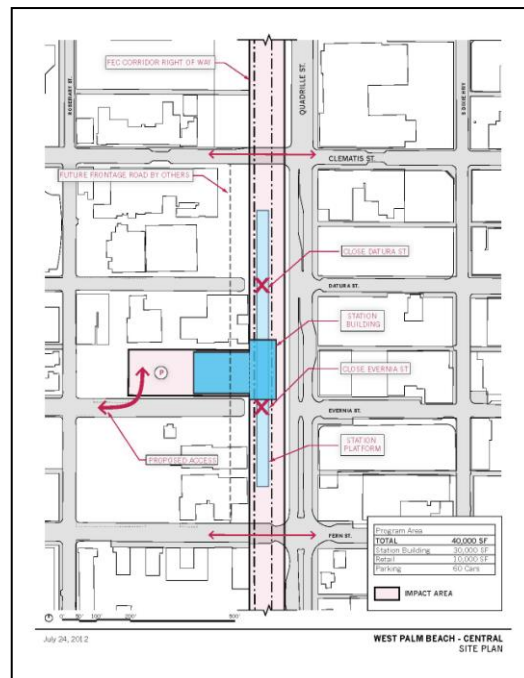
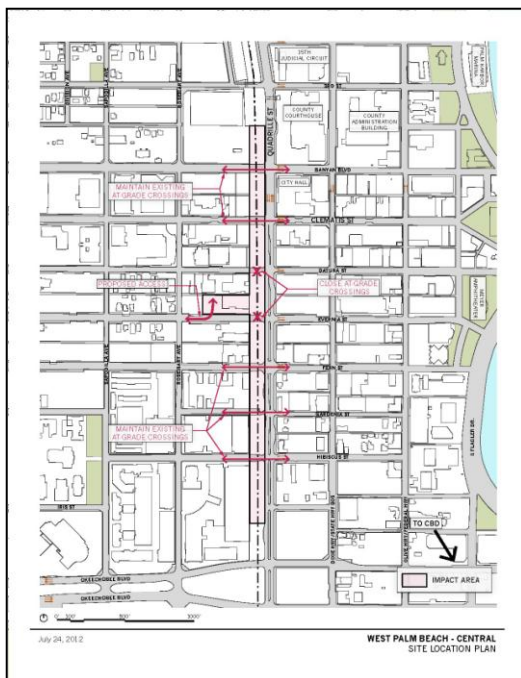
Within the FEC ROW, both main line tracks may be subject to alignment considerations subject to additional ROW from FDOT. The tracks could remain or would shift to the west side of the FEC ROW to avoid a portion of the ROW that was previously sold to FDOT. Both main line tracks would come back on existing alignment through Okeechobee Boulevard.

The north edge of the 35-foot wide center island platform would commence just south of Clematis Street and end north of Fern Street. The high-level platform would physically block the intersections at Datura and Evernia Streets, thus two street closures would be required, due to the short block grid. The City of West Palm Beach is receptive to this need.

On the west side of the ROW closures could be mitigated by creating a frontage road. The City's Master Plan notes "Incentives are offered for the dedication of right-of-way (ROW) which will allow for the construction of a new road adjacent to the west side of the FEC ROW between Gardenia Street and Clematis Street."

For this site's three-block edge along Quadrille Boulevard, significant streetscaping and traffic calming would be considered to support FDOT's desire to transform Quadrille Boulevard into a pedestrian-friendly corridor.

West Palm Beach Central Station



2.3.2 Downtown Fort Lauderdale

2.3.2.1 Fort Lauderdale – North

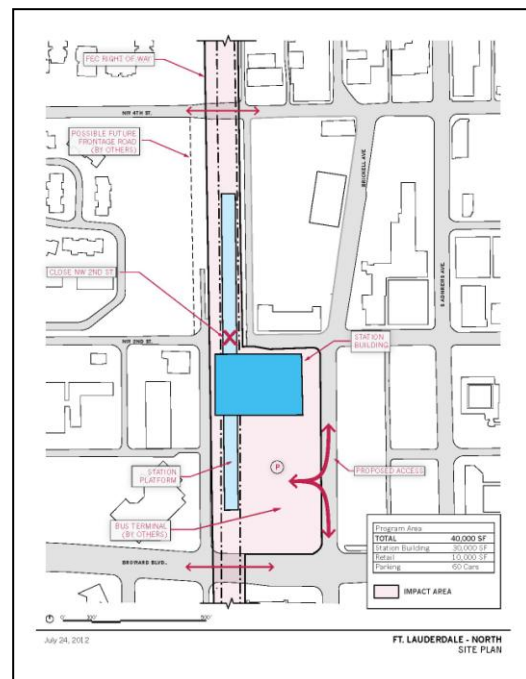
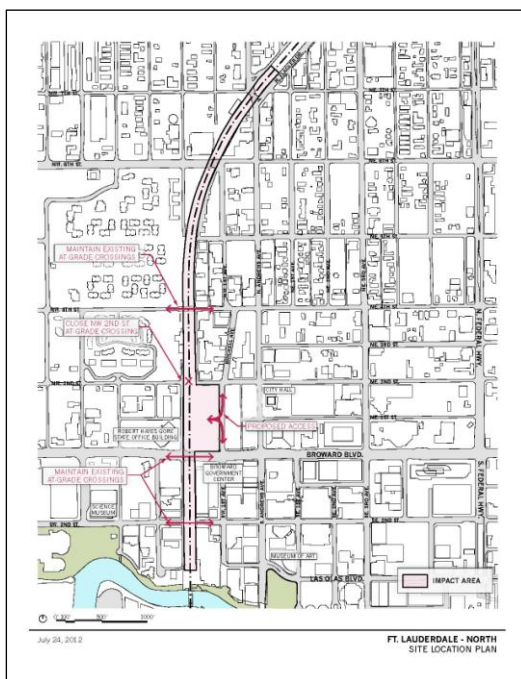
For this site location alternative, the AAF station would be located north of Broward Boulevard. The station's 800-foot long, 35-foot wide platform would be located north of Broward Boulevard and south of NW Fourth Street. The high-level platform would block one intersection and thus NW Second Street would be closed. The City is receptive to this need.

The station would extend to the east side of the FEC ROW onto the existing Broward Transit Center property bounded by Broward Avenue, NW First Avenue and NW Second Street. Along with the County

and City, AAF would jointly redevelop the existing bus terminal site and other sites to accommodate, AAF passenger rail, regional and local buses, and future WAVE (light rail service).

AAF’s on-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station.

Fort Lauderdale North Station

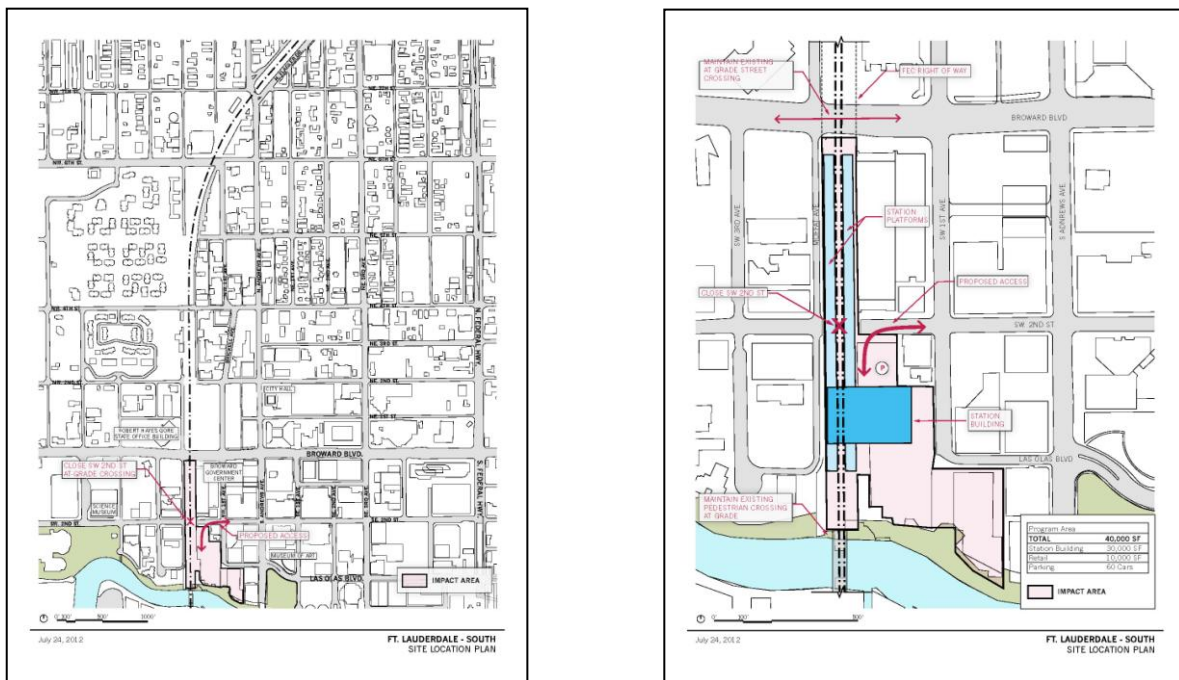


2.3.2.2 Fort Lauderdale – South

For this site location alternative, the AAF station would be located just south of Broward Boulevard and north of the existing railroad bridge over the New River. No track work would be undertaken within 100 feet of the existing bridge. To tie into the existing track alignment over the river crossing, the station would employ a side platform configuration in lieu of the center island platform described for the Fort Lauderdale-North alternative as well as those alternatives in West Palm Beach . The 800-foot long high-level platforms would block one intersection. The City has indicated that closing Broward Boulevard would be out of the question. In all likelihood closing SW Second Street would also be highly problematic. The latter is a necessity for the success of this station location alternative.

The station would extend to the east side of the FEC ROW onto the privately controlled Las Olas Riverfront property. AAF's on-site customer facilities would include ticketing, secure waiting area for ticketed passengers located in space above the platform level, and retail. Parking to support the retail would be provided on site. No dedicated passenger parking would be provided on-site; the City supports use of existing parking capacity available within a close radius of the station. The existing at-grade pedestrian crossing across the FEC tracks would be preserved.

Fort Lauderdale South Station



2.3.3 Downtown Miami / Government Center

Miami's downtown station will be located on a multi-block, nine-acre site owned by AAF's affiliate. This site was the location of the original Florida East Coast Miami Station built by Henry Flagler. The site is centrally situated at the heart of the City's Government Center district, an area characterized by a concentration of City, County, State and Federal government facilities, as well as cultural and civic uses. The Overtown neighborhood is located to the north of the site, and the Flagler Street retail corridor is to the south.

The area possesses strong transit connections the north and south (there are two Metrorail stations) and excellent connectivity with other destinations Downtown (there are two MetroMover stations) plus multiple convenient and well-used bus routes.

2.3.3.1 Miami – South At Grade

This station alternative is an at-grade option. At the north end, two main line tracks would pass under the Dolphin Expressway overpass at grade. The Port Lead would remain in service; the single track would peel off the main line at Eighth Street and head east into the Port of Miami. The passenger track arrangement would fan out to four tracks between Eighth and Fifth Streets, allowing for platforms south of 5th Street.

The Miami layout provides a combination of side and center island platforms. All four tracks would be accessed also by a low-level service platform. The 1,000-foot long platforms would be located between Fifth Street, which would remain open, and Third Street, which would need to be closed. Therefore the entire track and station platform footprint would realize its full width at the south edge of Fifth Street. Four tracks would cross Sixth and Fifth Streets at grade.

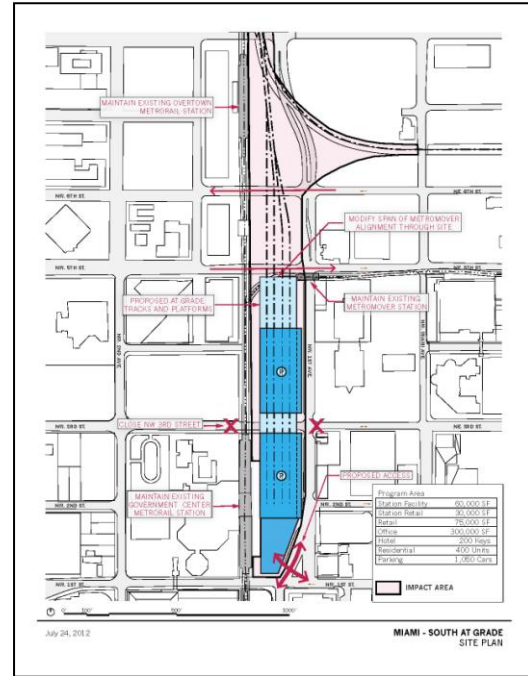
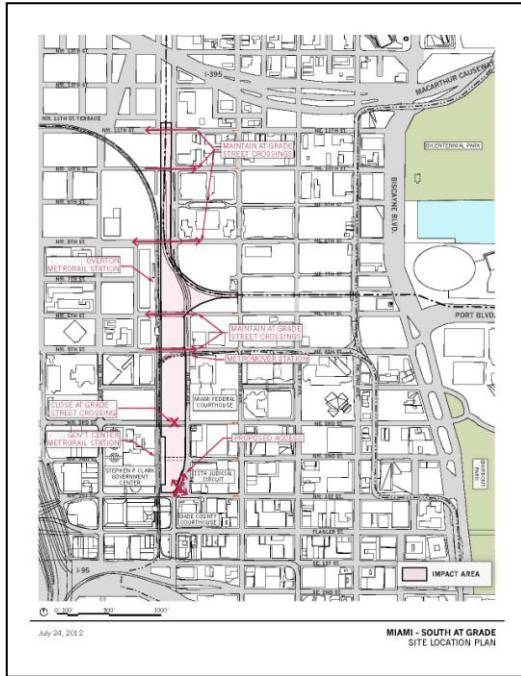
This alternative would not impact the existing Overtown Metrorail Station or existing Government Center Metrorail and Metromover Stations. The existing Metromover station at NE Fifth Street would also be maintained. However, it would not be possible to squeeze four passenger rail tracks and platforms under the existing Metromover alignment without altering the existing pier spacing; hence, the Metromover span through the property owned by AAF's affiliate would be rebuilt.

The AAF station would have multiple points of pedestrian access. Passenger facilities would be located at the south end of the platforms. Mixed-use development would be situated on the property south of the station platforms, incorporating the station's primary entry at NW First Street and NW First Avenue. The following TOD uses are anticipated:

- Retail
- Office
- Limited Service Hotel
- Residential
- Parking

The architectural program would be accommodated in several building masses. A fifteen-story office building would anchor the southern end of the property. A thirty-story residential and hotel tower would front on NW First Avenue at Third Street. Structured parking garages would be built in the air rights over the station platforms between Second and Third Streets and between Third and Fourth Streets.

Miami South at Grade Station



2.3.3.2 Miami – Central Elevated

This alternative is an elevated option. The station layout assumes the same passenger and service platform configuration as the at-grade alternative described above, except the station platform footprint would be accommodated entirely on an elevated viaduct structure approximately 45 feet above grade. This alternative shifts the platform closer toward the northern portion of the property owned by AAF's affiliate.

At the north end, the main line tracks would pass under the Dolphin Expressway overpass at grade, and single Port Lead track would peel off the main line at Eighth Street and heads east to the Port of Miami. Unlike the previous alternative, here the two Station Lead tracks would then immediately commence a maximum 3% incline onto the viaduct. The existing at-grade crossings at NW Eleventh and NW Tenth Streets would be eliminated due to the climbing passenger tracks; these streets would become blocked by a retaining wall.

Closure of Tenth and Eleventh Streets would be carefully mitigated and balanced by road capacity enhancements. For example, the frontage road located immediately west of the FECR ROW could potentially be extended to connect the street grid in the Overtown neighborhood to the existing Thirteenth or Fourteenth Street at-grade crossings under I-395 and the proposed viaduct underpass at Eighth or Ninth Streets.

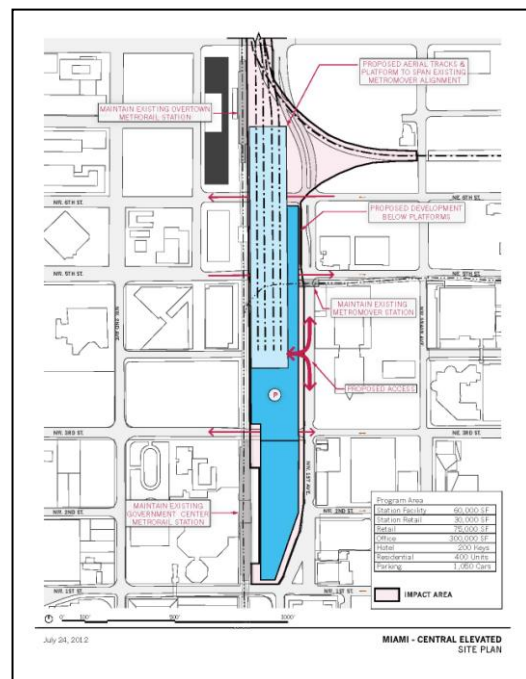
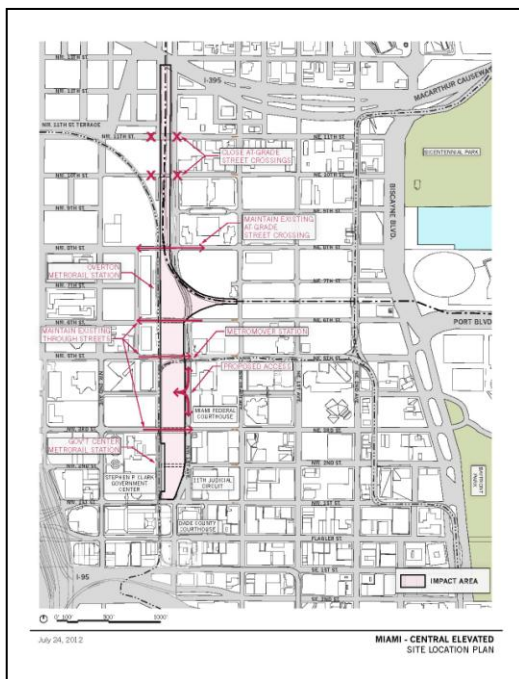
By Ninth Street the elevated railroad approaching the station would transition from retained embankment to viaduct structure. The Port Lead track would remain at grade for continued freight operations. A minimum overhead clearance of 23'-6" above top of rail would be maintained as the Port Lead track passes under the elevated Station Lead tracks.

After the Station Lead tracks fan out into four tracks, the 1,000-foot long platform zone would commence just south of Seventh Street and end just south of Fourth Street. The entire track and station platform footprint thus would pass over Eighth Street, the Port Lead, Sixth Street, Fifth Street, and the Metromover. This alternative would not impact the major through streets of Eighth, Sixth and Fifth Street, the existing Overtown Metrorail Station or existing Government Center Metrorail and Metromover Stations.

The AAF station would have multiple points of pedestrian access. The headhouse's primary entry would front NW First Avenue opposite the Federal Courthouse. A three to four story liner of passenger-oriented functions and retail would create a continuous street wall extending to the north. Structured parking would be concealed behind the liner, under the tracks and platforms.

Mixed-use development would be situated immediately south of the station headhouse. The same TOD programs as the at-grade alternative described for the at-grade scenario would be anticipated, in roughly the same massing.

Miami Central Elevated Station



3.0 METHODOLOGY

In order to determine the approximate locations and boundaries of existing wetland communities within or adjacent to the FEC Railway ROW, existing site-specific data was collected and reviewed. The following information was collected and analyzed:

- South Florida Water Management District (SFWMD) Land Use GIS data (2008) based on the FDOT Florida Land Use, Cover and Forms Classification System (FLUCCS), (third ed.) 1999.
- National Wetland Inventory (NWI) GIS data (2011) based on the aerial extent of wetlands as defined by the USFWS.
- Aerial photographs of the project area.

Using the above information, the approximate boundaries of wetland communities were mapped on color aerial images for the station alternatives and rail alignment alternatives. Wetland boundary accuracy and presence was then increased through a field evaluation of the rail line ROW and proposed station locations on July, 13, 2012, that compared the GIS data to on-site conditions. New wetland boundaries and more accurate existing wetland boundaries were determined during the field ground-truthing efforts. Wetlands were then classified using the FLUCCS and the USFWS classification system as described in Cowardin's "Classification of Wetlands and Deepwater Habitats of the United States".

4.0 WETLAND COMMUNITIES

Wetlands are located adjacent to or abutting the FEC railway right-of-way, in areas adjacent to sections of track that will be rehabilitated or where new track will be constructed. The majority of these wetlands are associated with excavated drainage ponds, as well as, rivers, creeks, and canals that cross beneath the FEC railway right-of-way.

Based on the current NWI and SFWMD mapping, there are no jurisdictional wetlands that exist within the FEC ROW. However, based on the field investigations and review of aerial photography, new wetland boundaries were mapped within the FEC ROW in three locations as shown in Table 1 and Figures 4 - 6. These wetlands were not mapped by resource agencies and were delineated utilizing field notes and aerial photography. Each one of these newly mapped wetlands within the FEC ROW represents less than 1/3 acre and total less than 0.5 acre.

Wetlands in the project area are basically comprised of low energy intertidal habitats dominated by broad-leaved evergreen woody vegetation less than 20 feet tall, such as red mangroves (*Rhizophora mangle*) and white mangroves (*Laguncularia racemosa*). (USFWS: E2SS3Pd; FLUCCS: 612 – Mangrove Swamp).

Table 1. Wetlands within FEC ROW

County	Milepost	Acres within FEC ROW	Location	Comment
Broward	338.5	0.07	East edge of ROW abutting Colohatchee Park boundary	Proposed double track on opposite side.
		0.06	West edge of ROW near Middle River (South Fork) bridge	No proposed bridge work
Miami-Dade	353.7	0.05	West edge of ROW near Oleta River bridge.	No proposed bridge work or double tracking
Miami-Dade	354.3	0.29	East edge of ROW between NE 172 St and Snake Creek Canal	Proposed double track on opposite side. Wetland restoration site.
Total		0.47		

These wetlands provide some of the following hydrologic functions: water quality enhancement/pollution abatement - capacity to retain or absorb waterborne particulates or chemical compounds; and flood and erosion control - capacity to regulate surface water runoff. In addition, the adjacent Colohatchee park provides recreational and scientific uses, the Oleta River is part of the Biscayne Bay Aquatic Preserve (Outstanding Florida Water), and the wetland area between NE 172nd Street and Snake Creek Canal is identified as a restoration site.

These wetland areas do not have food and fiber (timber) uses, public water supply system uses and they have been subjected to physical influences resulting from human activities which have affected the structure and/or function of the wetlands. These influences include exotic species infestations, and point and non-point pollution sources. These wetlands are important to the surrounding biological community since they provide primary wetland functions (e.g., wildlife habitat, erosion control, etc.). However, because these areas are part of larger contiguous wetland systems, the relative importance of these functions to the total wetland resources of the area and the uniqueness of these wetlands are minor.

The fringe mangrove wetlands at the identified locations are along the perimeter edge of the ROW and no work is proposed in the immediate vicinity of these wetlands. It is anticipated that any intrusion into these edge wetlands can be avoided or minimized through project design, such as using cross-sections of minimum practicable width. Furthermore, best management practices would be employed during construction to avoid temporary impacts to the wetland system.

Figure 4. Middle River (South Fork) – Colohatchee Park

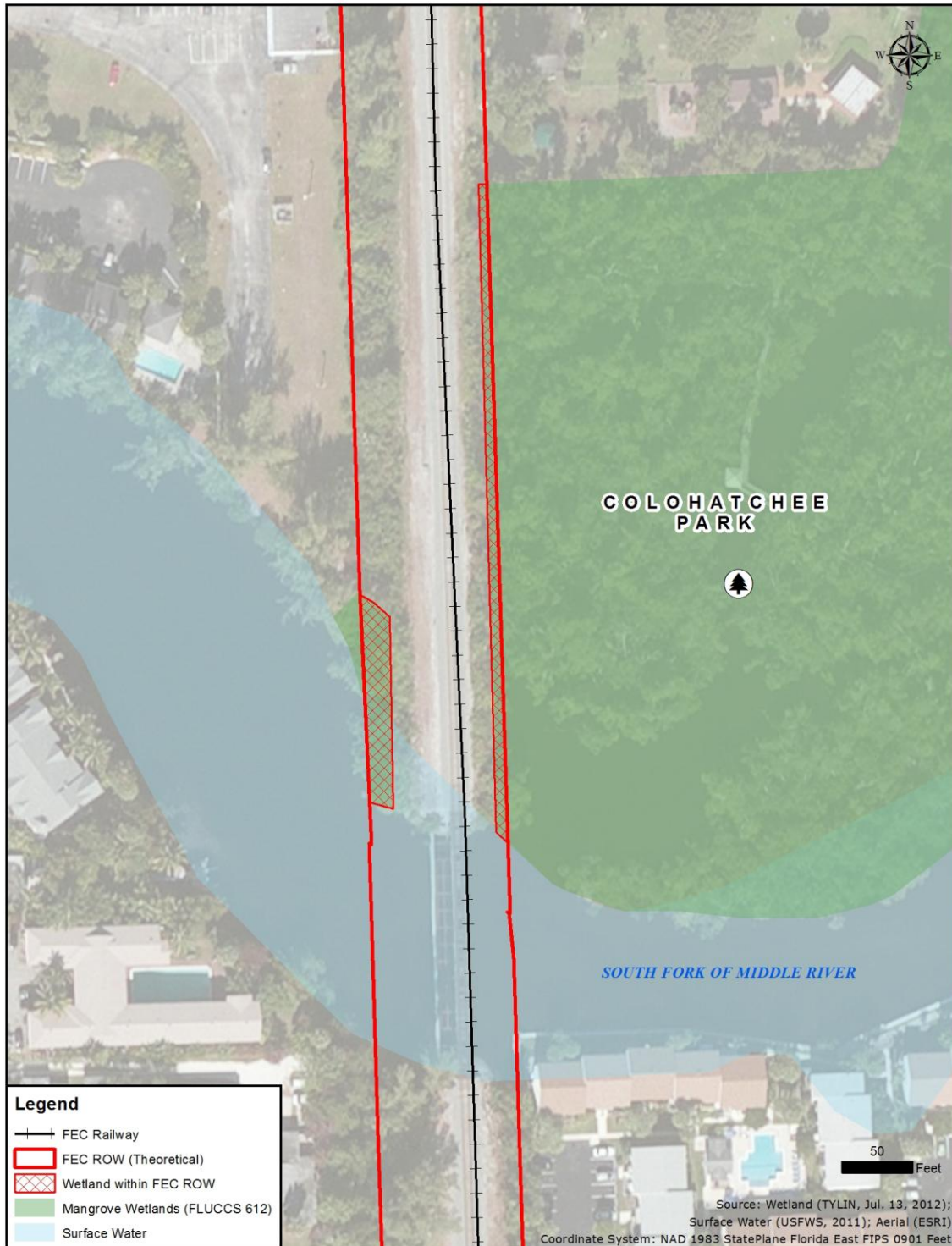


Figure 5. Oleta River

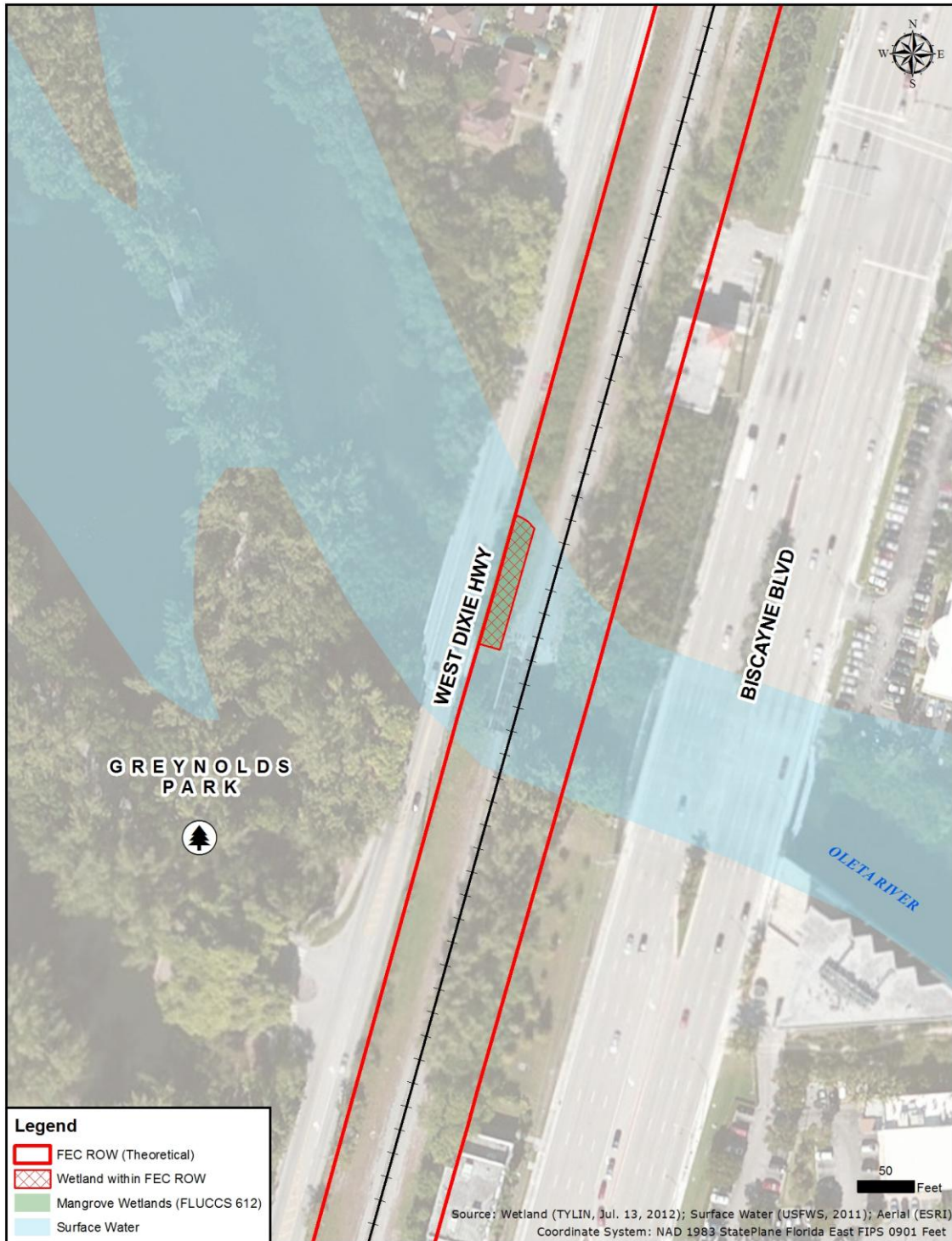
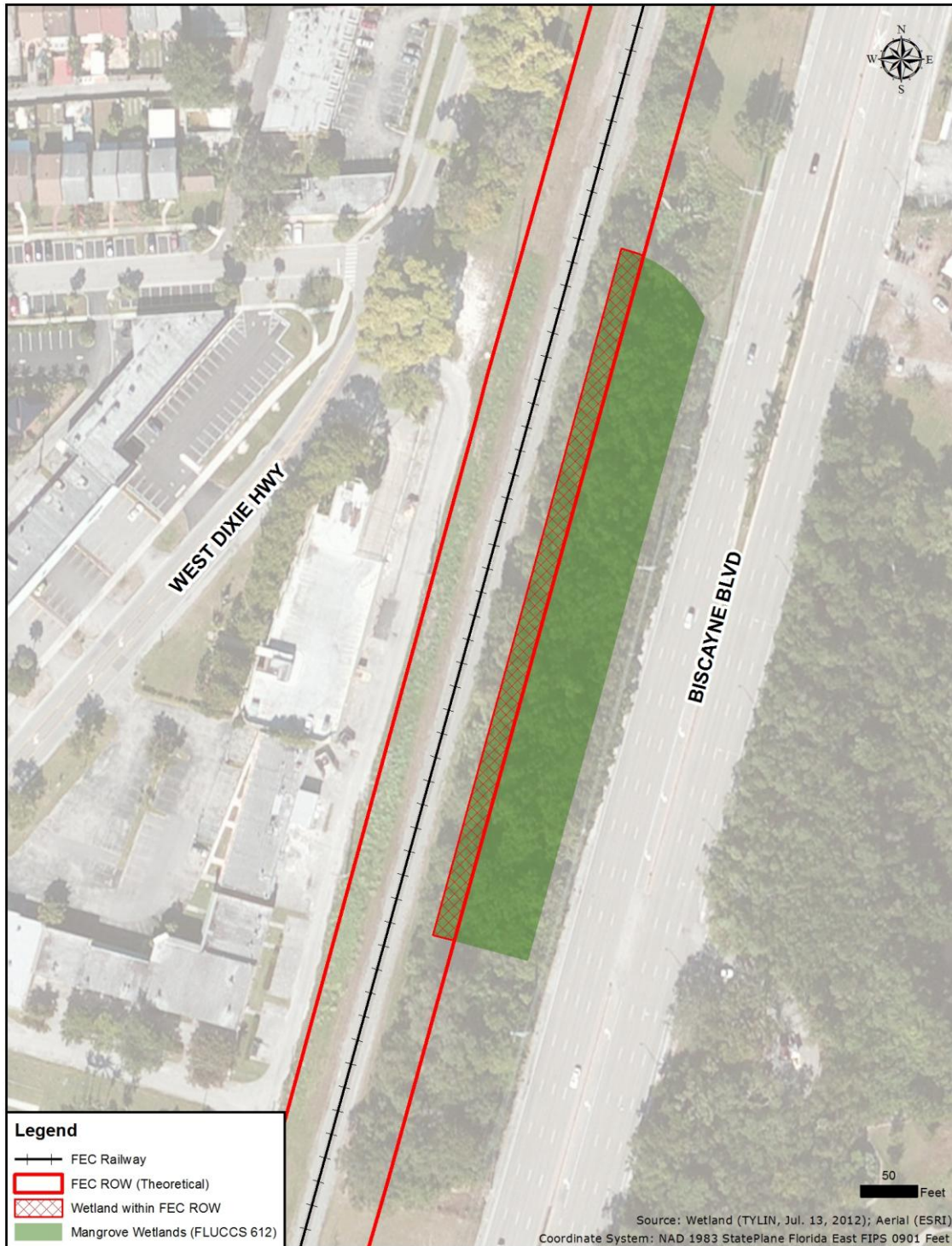


Figure 6. NE 172 St and Snake Creek Canal



Since the proposed project is not anticipated to impact wetlands in the project area, no Uniform Mitigation Assessment Methodology (UMAM) or Wetland Rapid Assessment Procedure (WRAP) assessments were performed.

5.0 CONCLUSIONS

Wetlands that exist adjacent to or abutting the FEC ROW are limited to sporadic fringe mangrove wetlands, associated in most cases, with larger wetland systems (waterways). No bridge modifications or bridge replacements are proposed for the mainline, and any mainline modifications to accommodate the increase in train speeds or additional capacity (proposed segments of double tracking) will occur within the existing FEC ROW, predominately on already established trackbed. The only bridge work (placement of additional track) that is proposed is at locations where concrete structures and ballast rock is already in place. Furthermore, no wetlands were identified at any of the proposed station alternatives or maintenance facility alternative. Based on these findings, the proposed project would not adversely affect wetlands.

Discharges of fill material into waters of the United States require the authorization of the USACE. Although not anticipated, any wetland impacts that would result from the construction of this Project would be mitigated pursuant to S. 373.4137 F.S. to satisfy all mitigation requirements of Part IV, Chapter 373, F.S. and 33 U.S.C. §1344. Any mitigation requirements would be coordinated further during permitting. Because of the wetland mitigation required for state and federal permit efforts, the total potential wetland impact (less than 0.5 acre) provides a nominal effect on the environment.