

Appendix 4.3.5-B

Essential Fish Habitat Consultation Letters

September 6, 2013

USACOE, USFWS, and NMFS Meeting Minutes

AMEC Project No. 6063120212

Meeting Date: September 6, 2012

Meeting Location: USACE, Cocoa Office

Meeting Attendees:

Andy Phillips, ACOE
Jose Gonzalez, AAF
Alex Gonzalez, AAF
Lucien Tender, AMEC
Shannon McMorrow, AMEC
John Miklos, Biotech
Heath Rauschenberger, USFWS
Brandon Howard, NMFS
John Wrublik, USFWS

Project overview: Passenger service along the N-S route stopped in 1968. This project is intended to reestablish passenger service (Orlando to Miami) and will require new line from Orlando to Cocoa Beach. All Aboard is sorting through alternatives right now. The project can be broken down in 3 phases:

- Phase 1: Miami to West Palm Beach (Double Track)- this is rehab of existing track and will involve no in-water work or impacts to T&E species- this is covered by the prepared EA (still in draft format).
- Phase 2: Miami to West Palm Beach Bridges- right now we plan on permitting the bridges as nationwides (~ 10 acres of wetland impacts based on HDR report)
- Phase 3: West Palm Beach to Orlando- Individual Permit (~ 100 acres of wetland impacts based on HDR report)

Phase 2 and 3 discussion points:

Phase 2 and 3 will not involved any work outside of the existing Right of Way

Miami to West Palm Beach: 79 MPH, Hourly Train service (tentatively 6AM-9PM), 4 trains.

West Palm Beach to Orlando: 110 MPH, Hourly Train service (tentatively 6AM-9PM), 4 trains.

USFWS comments

- USFWS will require manatee construction conditions, small tooth sawfish construction condition, indigo snake construction conditions, and sea turtle construction conditions (for work areas where these species may occur)- by adhering to these conditions we can assume not likely to affect.
- Biotech will need to perform surveys in areas where there is suitable habitat for scrub jays to determine how the operation of the rail will impact that species.
- Unlikely concerned with red-cockaded wood pecker- but we should verify there is no known cavities in the vicinity of the project area.

Correspondence:

AMEC
404 SW 140th Terrace
Newberry, Florida
USA 32669-3000
Tel + 1 352 332 3318
Fax + 1 352 333 6622

NMFS comments:

- Step 1- identify if there are salinity control structures downstream of any of the bridges- if there are we can eliminate those from consultation for Essential Fish Habitat
- Step 2- identify the habitat at the bridges- mangroves, seagrasses, naturally occurring oyster habitat will require mitigation
- Step 3- narrow our list of fish down based on the habitat present at our sites and address them in the EFH

EFH vs. ESA- Essential fish habitat assessment is for marine fish and impacts will need to be addressed in the EFH, but mitigation is not required. Endangered Species Act Biological Assessment will be required for smalltooth sawfish and Johnson's Seagrass if determined to likely be impacted- The trigger for consultation for small tooth sawfish is impacts to red mangroves- the amount of impacts will trigger the formal consultation- however, by adhering to the smalltoothed sawfish construction conditions we can minimize impacts.

For Miami to WPB we will prepare separate documentation for the bridges, but ACOE will bundle when they consult with NOAA. EFH consultation will take 30 days, ESA consultation can take a long time if there are impacts to Johnson's Seagrass. Mitigation options for seagrass are limited- however if necessary we should contact Broward County West Lake, Palm Beach County, and they didn't have a suggestion for Miami-Dade or we could get creative- John from Biotech seems to have some good ideas- if we need to do this.

The survey period for seagrass ends September 30- so we need to schedule site visits with the regulators to confirm presence/absence- tentatively the week of September 24.

Phase 3- WPB to Orlando Discussion Points:

Corp will assume lead agency at this point and coordinate with USFWS and NMFS

USFWS comments:

- Jonathon Dickinson State Park, St. John's River, Econ- and other conservation areas/state parks along the corridor. Since we are not going outside the existing corridor (ROW) and there is existing vehicular traffic (Train or Car) through the entire corridor, the impacts associated with the operation of the passenger train are not as severe as if we were putting this project in a new corridor- but we need to consider the increased risk of strike with the frequency and speed of the train- also for example- adding the new rail will move the trains closer to the adjacent scrub habitat. Idea- consider fencing around the train to prevent scrub-jays from colliding with the trains- however, this may impede movement of other species.
- Andy (ACOE) requested that USFWS come up with areas for potential wildlife corridors along the route that could be included in the design. Also talk with Steve Tonjes District 5 DOT- he led the planning of the 528 and may have information guidance on wildlife issues they addressed in their design- 386-943-5394
- Impacts to wood stork habitat can be offset with mitigation- can be done through wetland mitigation banks.
- Indigo snakes- no survey requirements- we can assume indigo snake construction conditions and indigo snakes found during the tortoise relocation will be relocated as well.
- Given that the alignment for the rail is already next to road or existing tracks the impacts of habitat fragmentation or wildlife movement already exist.

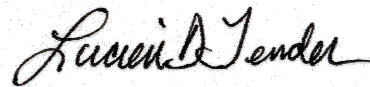
Action Items:

- Brandon (NMFS) will provide Bridge Checklist (already recieved)
- Site visits week of Sept 24
- Oz will provide the guidelines for the alternatives analysis

Sincerely,

AMEC Environment & Infrastructure, Inc.

Charlene Stroehlen, PE
Environmental & Permitting Lead
Direct Tel: + 1 352 333 2620
Direct Fax: + 1 352 333 6622
E-mail: Charlene.Stroehlen@amec.com



Lucien Tender, PE
Project Manager & Engineering Lead
Direct Tel: + 1 813 636 1529
Direct Fax: +1 813 626 4218
E-mail: lucien.tender@amec.com



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926

September 18, 2013

REPLY TO
ATTENTION OF

North Permits Branch
Cocoa Permits Section
SAJ-2012-01564(SP-AWP)

Mr. Miles M. Croom
Assistant Regional Administrator
Southeast Regional Office, Habitat Conservation
NOAA, National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Croom:

The Federal Railroad Administration (FRA) is currently developing an Environmental Impact Statement (EIS) for a privately-proposed project by All Aboard Florida to provide reliable and convenient intercity passenger rail transportation between Orlando and Miami, Florida, by maximizing use of existing transportation corridors. This transportation service would offer a safe and efficient alternative to automobile travel on the Interstate-95 corridor (I-95), add transportation capacity within that corridor and encourage connectivity with other modes of transportation, all without governmental operating subsidies. Because the project may impact waters of the United States within the jurisdiction of the U.S. Army Corps of Engineers (Corps) the Corps has agreed to be a cooperating agency in the development of the EIS. As a cooperating agency; the Corps has assumed responsibility for completing consultation with the National Marine Fisheries Service for the proposed EIS. A draft EIS is expected to be published in the Federal Register in October 2013.

The applicant's preferred alternative for the North/South corridor occurs within the right-of-way of the existing Florida East Coast Railroad from Miami to Cocoa, Florida and proposes improvements at fifteen (15) distinct locations within the project footprint. These improvements are listed in the table below.

Table 1

| <u>Name and Mile Post (MP)</u> | <u>Habitat</u> | <u>Fish Species</u> | <u>Life Stages</u> | <u>Approximate impacts to EFH (square feet)</u> | <u>Impacts to mangroves (square feet)</u> | <u>Compensatory mitigation (Mitigation Bank Credit Purchase)</u> |
|--------------------------------|---|---------------------|---|---|---|--|
| Horse Creek (MP 187.37) | Sand, Shell bottom, planktonic | spiny lobster | larvae (planktonic) | 777 | N/A | N/A |
| | | pink shrimp | Post larvae/juvenile, subadults (sand/shell bottom) | | | |
| Goat Creek (MP 202.59) | Mangrove, mud, sand bottom, planktonic | Goliath grouper | Juvenile (mangrove) | 3500 | 35 | 0.0005 |
| | | Grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | |
| | | Mutton snapper | juvenile (mangrove; mud/sand bottom) | | | |
| | | Spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| North Canal (MP 223.70) | Sand bottom, planktonic | mutton snapper | juvenile (mud/sand bottom) | 1200 | N/A | N/A |
| | | spiny lobster | larvae (planktonic) | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | white shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| South Canal (MP 230.03) | Mud/sand bottom, planktonic | grey snapper | postlarvae/juvenile (mud bottom) | 2300 | N/A | N/A |
| | | mutton snapper | juvenile; subadults (mud/sand bottom) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | larvae (planktonic) | | | |
| Moore's Creek (MP 241.27) | Mangrove, mud/sand bottom, planktonic | goliath grouper | juvenile (mangrove) | 1100 | 70 (trimming) | N/A |
| | | grey snapper | Post larvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | |
| | | mutton snapper | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | white shrimp | larvae (planktonic) | | | |
| Unnamed Creek (MP 259.95) | Mangrove, sand/shell bottom, planktonic | goliath grouper | juvenile (mangrove) | 2500 | 80 (removal) 700 (trimming) | 0.0009 |
| | | grey snapper | Post larvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | |
| | | mutton snapper | larvae (mangrove) | | | |
| | | spiny lobster | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | Pink shrimp | postlarval/juvenile, subadults | | | |

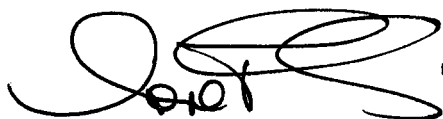
| | | | | | | |
|--|---|-----------------|---|------|------------------------------------|--------|
| | | | (sand/shell bottom) | | | |
| Unnamed Tributary 2 (MP266.58) | Mangrove; Sand Bottom; Planktonic | goliath grouper | juvenile (mangrove) | 931 | 37 (mangrove removal) | 0.0005 |
| | | grey snapper | Postlarvae/juvenile (mangrove); adult (mangrove) | | | |
| | | mutton snapper | larvae (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Postlarvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | Postlarvae/juvenile; subadults (mud/sand bottom) | | | |
| Unnamed Tributary 1 (MP 266.86) | Mangrove; Mud/Sand Bottom; Planktonic | goliath grouper | juvenile (mangrove) | 3400 | 230 (non mangrove wetland removal) | 0.0029 |
| | | grey snapper | Postlarvae/juvenile (mangrove/mud bottom); adult (mangrove) | | | |
| | | mutton snapper | juvenile (mangrove; mud/sand bottom) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | Postlarvae/juvenile; subadults (mud/sand bottom)) | | | |
| Tributary to Manatee Creek 2 (MP 267.34) | Sand Bottom; Planktonic | Mutton snapper | juvenile (mangrove; mud/sand bottom) | 1200 | N/A | N/A |
| | | Spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Postlarvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | Postlarvae/juvenile; subadults (mud/sand bottom)) | | | |
| Tributary to Manatee Creek 1 (MP 267.70) | Sand Bottom; Planktonic | Mutton snapper | juvenile (mangrove; mud/sand bottom) | 2300 | 220(non mangrove wetland removal) | 0.0227 |
| | | Spiny lobster | larvae (planktonic) | | | |
| | | Brown shrimp | Postlarvae/juvenile; subadults (mud/sand bottom) | | | |
| | | White shrimp | Postlarvae/juvenile; subadults (mud/sand bottom)) | | | |
| Hillsboro River (MP 326.58) | Mangrove; Sand/Shell bottom; Planktonic | goliath grouper | juvenile (mangrove) | 3200 | 66 (trimming) | N/A |
| | | grey snapper | Postlarvae/juvenile; adult (mangrove) | | | |
| | | mutton snapper | Juvenile (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | pink shrimp | Post larvae/juvenile; subadults (sand/shell bottom) | | | |
| N. Fork of Middle River (MP 337.91) | Mangrove; Sand/Shell bottom; Planktonic | goliath grouper | juvenile (mangrove) | 5600 | 220 (removal) | 0.0029 |
| | | grey snapper | Postlarvae/juvenile; adult (mangrove) | | | |
| | | mutton snapper | Juvenile (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | pink shrimp | Post larvae/juvenile; subadults (sand/shell bottom) | | | |
| S. Fork of Middle River (MP 338.52) | Mangrove; Sand/Shell bottom; Planktonic | goliath grouper | juvenile (mangrove) | 6700 | 50 (removal) 200 (trimming) | 0.0006 |
| | | grey snapper | Postlarvae/juvenile; adult (mangrove) | | | |
| | | mutton snapper | Juvenile (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | pink shrimp | Postlarvae/juvenile; subadults (sand/shell bottom) | | | |
| Oleta River | Mangrove; | goliath grouper | juvenile (mangrove) | 2600 | 75 | 0.0011 |
| | | grey snapper | Postlarvae/juvenile; adult | | | |

| | | | | | | |
|---------------------------|--|-----------------|---|-----|---------------------------------|-----|
| (MP 352.74) | Sand/Shell bottom; Planktonic | | (mangrove) | | (removal) 1300 (trimming) | |
| | | mutton snapper | Juvenile (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | pink shrimp | Postlarvae/juvenile; subadults (sand/shell bottom) | | | |
| Arch Creek (MP 356.53) | Mangrove; Mud/Sand Bottom; Planktonic | goliath grouper | juvenile (mangrove) | 500 | 650 (trimming) | N/A |
| | | grey snapper | Postlarvae/juvenile; adult (mangrove) | | | |
| | | mutton snapper | Juvenile (mangrove) | | | |
| | | spiny lobster | larvae (planktonic) | | | |
| | | pink shrimp | Postlarvae/juvenile; subadults (sand/shell bottom) | | | |

This letter initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The proposal would impact approximately 2.0 acres of habitat type utilized by various life stages of federally managed species listed above. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or Federally managed fisheries as described in Table 1 above. This determination is supported the Essential Fish Habitat Assessment completed by the applicant and included as Attachment 1. The Corps has reviewed the EFH Assessment and concurs with its findings. The applicant has completed a functional assessment and proposed compensatory loss to off-set unavoidable impacts to trust resources. Our final determination relative to project impacts and the need for additional mitigation measures is subject to review by and coordination with your office.

Please advise if you agree with the above determination or provide a written request for additional information. If you have any questions regarding this letter, please contact Andrew Phillips at the letterhead address, by telephone at 321-504-3771 extension 14, or by electronic mail at andrew.w.phillips@usace.army.mil.

Sincerely,



Irene Sadowski
Chief, Cocoa Permits Section

Copy Furnished w/o enclosure: (electronically)

FRA; Mary Hassell



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

October 28, 2013

F/SER47:BH/pw

(Sent via Electronic Mail)

Colonel Alan M. Dodd, Commander
Jacksonville District Corps of Engineers
Cocoa Regulatory Field Office
400 High Point Drive, Suite 600
Cocoa, Florida 32926

Attention: Andrew W. Phillips

Dear Colonel Dodd:

NOAA's National Marine Fisheries Service (NMFS) reviewed the Essential Fish Habitat (EFH) Assessment and letter, dated September 18, 2013, prepared by the Jacksonville District for the proposal by the Federal Railroad Administration (FRA) to construct a high speed rail system connecting Miami International Airport and Orlando International Airport with stops in West Palm Beach and Ft. Lauderdale (SAJ-2012-01564(SP-AWP)). FRA expects to release an Environmental Impact Statement (EIS) for the project before the end of 2013. The Jacksonville District is serving as a cooperating agency in development of the EIS and conducting the EFH consultation. The Jacksonville District's initial determination is the proposed high speed rail would not have a substantial adverse impact on EFH or federally managed fishery species based on the proposed mitigation. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Fish and Wildlife Coordination Act.

The proposed rail system has two portions. The North-South portion would be within the existing 100-foot Florida East Coast Railroad (FEC) right-of-way between Miami and Cocoa Beach. The East-West portion would be along State Road 528 between Cocoa Beach and Orlando. The North-South portion would include replacing and expanding existing bridges within the FEC right-of-way. These bridge expansions would require removal of 0.02 acres of mangroves and trimming of 0.09 acres of mangroves.

The EFH Assessment notes the South Atlantic Fishery Management Council (SAFMC) designates mangroves a Habitat Area of Particular Concern (HAPC) for snappers and groupers with inshore life stages, including gray snapper (*Lutjanus griseus*), goliath grouper (*Epinephelus itajara*), and gag grouper (*Mycteroperca microlepis*). HAPC's are subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. The proposed rail system would also impact approximately one acre of sand bottom, which SAFMC designates as EFH for inshore snappers



and groupers, white shrimp (*Litopenaeus setiferus*), brown shrimp (*Farfantepenaeus aztecus*), and pink shrimp (*Farfantepenaeus duorarum*). Sand bottom and mangroves directly benefit fishery resources by providing nursery and foraging habitat. Mangroves also stabilize shorelines and produce and export detritus (decaying organic material), which is an important component of marine and estuarine food chains. SAFMC's *Fishery Ecosystem Plan of the South Atlantic Region* (available at www.safmc.net) provides further information about mangrove and sand bottom habitats and the support these habitats provide to fishery species.

Impacts to Essential Fish Habitat

NMFS staff conducted site inspections on January 23, 2013, and May 1, 2013. The impacts would occur at fifteen bridge crossings along the FEC right-of-way (Table 1). The proposed mangrove trimming would be performed in accordance with the State of Florida's Mangrove Trimming and Preservation Act.

| Location and Mile Post | Sand Bottom (feet²) | Mangrove (feet²) |
|----------------------------------|---------------------------------------|------------------------------------|
| Horse Creek (MP 187.37) | 777 | 0 |
| Goat Creek (MP 202.59) | 3,500 | 35 removal |
| North Canal (MP 223.70) | 1,200 | 0 |
| South Canal (MP 230.03) | 2,300 | 0 |
| Moore's Creek (MP 241.27) | 1,100 | 70 trimming |
| Unnamed Creek (MP 259.95) | 2,500 | 80 removal, 700 trimming |
| Unnamed Creek (MP 266.58) | 931 | 37 removal, 285 trimming |
| Unnamed Creek (MP 266.86) | 3,400 | 230 removal, 950 trimming |
| Manatee Creek Trib. (MP 267.34) | 1,200 | 0 |
| Manatee Creek Trib. (MP 267.70) | 2,300 | 220 removal |
| Hillsboro River (MP 326.58) | 3,200 | 66 trimming |
| N. Fork Middle River (MP 337.91) | 5,600 | 220 removal |
| S. Fork Middle River (MP 338.52) | 6,700 | 50 removal, 200 trimming |
| Oleta River (MP 352.74) | 2,600 | 75 removal, 1,300 trimming |
| Arch Creek (MP 356.53) | 500 | 650 trimming |

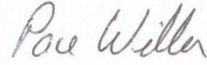
Compensatory Mitigation and Conclusion

FRA proposes to provide compensatory mitigation at three mitigation banks. Credits would be purchased from the CGW Mitigation Bank to offset impacts to mangroves at Goat Creek. Mangrove impacts at Moore's Creek, the unnamed creeks, and Manatee Creek would be provided at Bear Point Mitigation Bank, and mangrove impacts at the Hillsboro River, Middle River, Oleta River and Arch Creek would be provided at the Everglades Mitigation Bank. All three of these mitigation banks were authorized using different functional assessment methods. NMFS is familiar with all three functional assessments and agrees with the scoring used to determine the number of credits needed for this project, a total of 0.0121 credits. Further, credits from these banks would offset the impacts within the project's watersheds.

NMFS agrees with the Jacksonville District's determination that the proposed project would not have a substantial adverse impact on EFH, and NMFS offers no conservation recommendations pursuant to the EFH provisions of the Magnuson-Stevens Act. Further consultation on this matter is not necessary unless modifications are proposed and the District concludes adverse impacts to EFH may result from the action.

We appreciate the opportunity to provide these comments. Questions should be directed to the attention of Mr. Brandon Howard in our West Palm Beach Field Office at 400 North Congress Avenue, Suite 120, West Palm Beach, FL 33401. He also may be reached by telephone at (561) 249-1652, or by email at Brandon.Howard@noaa.gov.

Sincerely,



/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc:

COE, Andrew.W.Phillips@usace.army.mil
FWS, John_Wrublik@fws.gov
AMEC, Charlene.Stroehlen@amec.com
AMEC, Shannon.McMorrow@amec.com
F/SER4
F/SER47, Karazsia, Getsinger, Howard



July 14, 2014

Mr. Andrew Philips
United States Army Corps of Engineers
Cocoa Permits Section
400 High Point Drive, Suite 600
Cocoa, Florida, 32926

**Subject: Addendum 1 to AAF NOAA Fisheries Essential Fish Habitat Assessment
dated September 3, 2013**

Dear Mr. Phillips:

AMEC Environment & Infrastructure, Inc. (AMEC), on behalf of All Aboard Florida – Operations LLC (AAF), submitted the *Essential Fish Habitat Assessment (EFH) for the All Aboard Florida Passenger Rail Project from Orlando to Miami, Florida* to the United States Army Corps of Engineers (USACE) on September 3, 2013 (EFH Assessment). Following submission of this document, further study was conducted by representatives of AAF that examined the capability of existing bridges and 6 bridges were identified as requiring additional assessment. The results of the additional assessment concluded that each of the four (4) railroad bridges crossing the Eau Gallie River, Crane Creek, Turkey Creek, and the Sebastian River would eventually require replacement while the movable bridges crossing the Loxahatchee River and St. Lucie River would eventually require more substantial refurbishment than initially proposed. The locations of the aforementioned bridges are illustrated on Figure 1 (Attachment 1).

This proposed additional bridge work (Bridge Projects) includes the proposal to (a) construct new bridges within the alignment of the existing structures at the following locations: the Eau Gallie River, Crane Creek, Turkey Creek, and the Sebastian River; and (b) complete additional work at the bridges crossing the Loxahatchee River and St. Lucie River. The following summary details the proposed activities at each crossing as part of the Bridge Projects:

1. Mile Post (MP) 282.50 (Loxahatchee River movable bridge) – Rehabilitation or replacement of existing structural steel girders, and mechanical and electrical systems. The process will return the span back to a movable double track bridge. Rehabilitation of existing concrete piers. Rehabilitation of existing piers will entail crack and spall repair, primarily above water; however there is a possibility that some is required under water. At this time, no additional piles are anticipated for the piers. However, a new protective fender system will be required at Loxahatchee. This will involve pulling the old fender piles and driving the new fender piles into the riverbed.
2. MP 260.93 (St. Lucie River movable bridge) – Rehabilitation of existing structural steel, and mechanical and electrical systems. Rehabilitation of existing concrete piers. Rehabilitation of

Correspondence:

AMEC
404 SW 140th Terrace
Newberry, Florida
USA 32669-3000
Tel + 1 352 332 3318
Fax + 1 352 333 6622

existing piers will entail crack and spall repair, primarily above water; however there is a possibility that some is required under water. At this time, no additional piles are anticipated for the piers. However, a new protective fender system will be required at St. Lucie. This will involve pulling the old fender piles and driving the new fender piles into the riverbed.

3. MP 212.07 (Sebastian River) - Construction of twin new 1,265-ft independent ballast deck structures located on the alignment of the existing railroad bridge. The ballast deck structures will be supported by concrete piers, built through phased demolition of the existing bridge.
4. MP 197.70 (Turkey Creek) – Construction of new twin 181-ft independent ballast deck structures located on the alignment of the existing bridge. The ballast deck structures will be supported by concrete piers, built through phased demolition of the existing bridge.
5. MP 194.36 (Crane Creek) – Construction of one new 650-ft independent ballast deck structure located on the alignment of the existing railroad bridge and one new single track bridge in the footprint of the removed western bridge. The new structures will be supported by concrete piers, built through phased demolition of the existing bridge.
6. MP 190.47 (Eau Gallie River) - Construction of twin new 575-ft independent ballast deck structures located on the alignment of the existing railroad bridge. The ballast deck will be supported by concrete piers, built through phased demolition of the existing bridge.

The above referenced Bridge Projects will be incorporated into the Proposed Project (as defined in the EFH Assessment), this addendum has been prepared to provide information regarding these additional bridge assessment areas (Bridge Assessment Areas) and potential impacts to protected species associated with the Proposed Project. The proposed bridge designs are under review and not finalized at this time. All details provided in this addendum are the best estimate provided at this time. Final details associated with bridge design and construction drawings will be provided with the USACE 404 Permit applications.

1.0 Method/Results of On-site Inspections

The proposed alignment for the Project from Miami to Cocoa may require in-water work on account of the Bridge Projects (Figure 1). Wetland delineations and snorkeling surveys were conducted at each of the six Bridge Assessment Areas to evaluate the type and quality of aquatic habitats and associated substrates [i.e., submerged aquatic vegetation (SAV) and oyster beds/shell bottom] for EFH determinations and to evaluate potential impacts to wetlands and other sensitive habitats. The results of these inspections were used to evaluate potential impacts to EFH and the managed species as a result of construction of the Bridge Projects.

1.1 Results of Field Investigation

Table 1 summarizes the manner in which the Proposed Action would be affected by the incorporation of the Bridge Projects and the results of the field assessment at each of the six Bridge Assessment Areas over water bodies containing EFH.

2.0 EFH and Managed Species

The proposed Bridge Projects will require in-water work for the enhancement or replacement of the railroad bridges over water bodies containing EFH, including three sites containing Habitat Areas of Particular Concern (HAPC) for Snapper-Grouper complex (mangroves in the Eau Gallie River, St. Lucie River and Loxahatchee River). A literature review was conducted and regulatory agency personnel were contacted to evaluate the EFH and managed species known to occur in the vicinity

of the Bridge Assessment Areas. The results of the literature review and an analysis of the effects, including cumulative effects, of the proposed Project on EFH, the managed species, and associated species by life history stage are presented in this section.

Table 1. Proposed Action and Results of Field Investigation

| Bridge Project Area | Proposed Action | Field Investigation Results |
|----------------------------------|--|---|
| Eau Gallie (MP 190.47) | Construction of twin new 575-ft independent ballast deck structures located on the alignment of the existing railroad bridge. The ballast deck will be supported by concrete piers, built through phased demolition of the existing bridge. | Brackish/tidal river with mixture of mud, small rocks, and sand/shell bottom. White mangroves were observed near the Assessment Area. |
| Crane Creek (MP 194.34) | Construction of one new 650-ft independent ballast deck structure located on the alignment of the existing railroad bridge and one new single track bridge in the footprint of the removed western bridge. The new structures will be supported by concrete piers, built through phased demolition of the existing bridge. | Tidally influenced Freshwater creek (during site visit) with mixture of muck and sand/shell bottom. |
| Turkey Creek (MP 197.70) | Construction of new twin 181-ft independent ballast deck structures located on the alignment of the existing bridge. The ballast deck structures will be supported by concrete piers, built through phased demolition of the existing bridge. | Tidally influenced Freshwater creek (during site visit) with muck bottom. |
| Sebastian River (MP 212.07) | Construction of twin new 1,625-ft independent ballast deck structures located on the alignment of the existing railroad bridge. The ballast deck structures will be supported by concrete piers, built through phased demolition of the existing bridge. | Brackish/tidal river with mixture of mud, small rocks, and sand/shell bottom. Mangroves were observed near the Assessment Area. |
| St. Lucie River (MP 260.93) | Rehabilitation of existing structural steel, and mechanical and electrical systems. Rehabilitation of existing concrete piers. Replacement of fender piles. | Brackish/tidal river with mixture of muck and small rocks. Red and white mangroves were observed near the Assessment Area. |
| Loxahatchee River (MP 282.58) | Rehabilitation or replacement of existing structural steel girders, and mechanical and electrical systems. Rehabilitation of existing concrete piers. The process will return the span back to a movable double track bridge. Replacement of fender piles. | Brackish/tidal river with sand/shell bottom. Red and white mangroves were observed near the Assessment Area. |

2.1 Essential Fish Habitat within the Bridge Assessment Areas

The habitats identified in the Bridge Assessment Areas include: estuarine planktonic, mangrove, sand/shell bottom, and mud/sand bottom. These habitats fit into the following EFH types: mangroves fit into the estuarine scrub/shrub EFH; estuarine planktonic fit into the estuarine subtidal open water/water column EFH; and sand/shell and mud/sand bottoms fit into tidal creek EFH. These EFH types and their utilization by fish managed under SAFMC are discussed in the EFH Assessment. Table 2 presents the species with EFH at each of the Bridge Assessment Areas.

Table 2. Species with EFH in the Bridge Assessment Areas

| Bridge Assessment Area | Habitat | Fish Species | Life Stages |
|----------------------------|--|-----------------|--|
| Eau Gallie (MP 190.47) | Mangrove; Mud/Sand Bottom; Sand/Shell Bottom; Planktonic | goliath grouper | juvenile (mangrove) |
| | | grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) |
| | | mutton snapper | juvenile (mangrove; mud/sand bottom) |
| | | spiny lobster | larvae (planktonic) |
| | | brown shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| | | white shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| Crane Creek (194.34) | Sand/Shell Bottom; Planktonic | pink shrimp | post larval/juvenile, subadults (sand/shell bottom) |
| | | spiny lobster | larvae (planktonic) |
| Turkey Creek (197.70) | Sand Bottom; Planktonic | mutton snapper | juvenile (mud/sand bottom) |
| | | spiny lobster | larvae (planktonic) |
| | | brown shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| | | white shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| Sebastian River (212.07) | Mangrove; Mud/Sand Bottom; Sand/shell Bottom; Planktonic | goliath grouper | juvenile (mangrove) |
| | | grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) |
| | | mutton snapper | juvenile (mangrove; mud/sand bottom) |
| | | spiny lobster | larvae (planktonic) |
| | | brown shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| | | white shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| St Lucie River (260.93) | Mangrove; Mud/Sand Bottom; Planktonic | pink shrimp | post larval/juvenile, subadults (sand/shell bottom) |
| | | goliath grouper | juvenile (mangrove) |
| | | grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) |
| | | mutton snapper | juvenile (mangrove; mud/sand bottom) |
| | | spiny lobster | larvae (planktonic) |
| | | brown shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| Loxahatchee River (282.58) | Mangrove; Sand/Shell bottom; Planktonic | white shrimp | postlarvae/juvenile; subadults (mud/sand bottom) |
| | | goliath grouper | juvenile (mangrove) |
| | | grey snapper | postlarvae/juvenile, adult (mangrove) |
| | | mutton snapper | juvenile (mangrove) |
| | | spiny lobster | larvae (planktonic) |
| | | pink shrimp | post larval/juvenile, subadults (sand/shell bottom) |

2.2 Construction Methods

Detailed construction drawings and methodology are not finalized for the six Bridge Assessment Areas; however, it is anticipated construction methods will be similar to those outlined in the EFH Assessment Section 4.1.

In addition, silt fence and floating turbidity barriers will be installed and maintained during construction in accordance with performance standards for erosion and sediment control and stormwater treatment set forth in section 62-40.432, FAC.

2.3 Impacts

Essential fish habitats and HAPCs that potentially could be affected by the proposed incorporation of the Bridge Projects into the Project are Estuarine Intertidal Scrub-shrub (Mangroves), Estuarine Subtidal Open Water/Water Column (Estuarine Planktonic) and Tidal Creeks (Mud/sand and Sand/Shell Bottom). Within each of the Bridge Assessment Areas, EFH is equivalent to wetland and/or surface water habitats. The wetlands and/or surface waters within the Bridge Assessment Areas were identified as jurisdictional wetlands and/or waters.

Construction of the Bridge Projects as part of the proposed Project could involve unavoidable impacts to EFH (mud/sand bottom, sand/shell bottom, and estuarine planktonic). No impacts to mangrove (EFH/HAPC) are anticipated as part of the proposed work for the Bridge Projects at the six Bridge Assessment Areas. Direct impacts associated with the incorporation of the Bridge Projects into the proposed Project would include placement of rip-rap/fill for the bridge approaches, placement of structures at the locations of bridge pilings, removal of existing pilings, and shading from the new bridge(s). The placement of pilings would have a variable effect on the managed species. Pilings could ultimately result in a beneficial effect to species/life stages that prefer such structures as habitat, such as adult goliath grouper, gray snapper, and mutton snapper. However, permanent impact to bottom substrate and wetlands could adversely affect species/life stages that prefer these habitats. Lifecycle functions will not be affected by the proposed activities.

The design for the bridges is not final yet; however, direct wetland and surface water impacts have been estimated based on the proposed footprint of the proposed bridges and preliminary design sketches for the bridges included within the Bridge Projects (Table 3). The proposed restoration of the existing movable bridges at the Loxahatchee River and St. Lucie River crossings are currently designed to have no direct impact on EFH; however, there is potential for temporary in-water work pending construction design. At this time, the fender piles are proposed to be replaced at Loxahatchee River and St. Lucie River Bridges which will require in-water work. A summary of the estimated wetland and surface water impacts at the six Bridge Assessment Areas is outlined in Table 3.

Indirect, temporary, and cumulative impacts associated with the proposed work for the Bridge Projects at the six Bridge Assessment Areas are similar to those outlined in the EFH Assessment Section 4.3, 4.4., and 4.5. Because an active railroad bridge is currently located at all of the Bridge Assessment Areas, it was determined that indirect impacts would be minimal and best management practices (BMPs) will be utilized during construction to avoid impacts to water quality as well as shoreline erosion.

3.0 Avoidance, Minimization and Proposed Mitigation

The three EFH types in the vicinity of the Bridge Assessment Areas are Estuarine Intertidal Scrub-shrub (Mangroves), Estuarine Subtidal Open Water/Water Column (Estuarine Planktonic) and Tidal Creeks (Mud/sand and Sand/Shell Bottom). The effects to these EFH types would be the placement of pilings, placement of rip-rap/fill at the location of abutments, removal of existing pilings, and shading resulting from bridge construction. The design for the bridges is not final yet; however, impacts have been estimated based on the proposed footprint of the proposed bridges and preliminary design sketches for the bridges. The estimated impacts are outlined below, but are subject to change once designs are finalized. The impact of piling placement will be limited to the total footprint of pilings placed in EFH, totalling approximately 2000 square feet (0.05 acre), across the six bridge locations. New piling will be installed in the same footprint as existing pilings; therefore, temporary impacts to EFH associated with the removal of existing piles is the same as the impact area for installation of new pilings presented above. The adverse impacts of the rip-rap/fill at the location of the abutments have been calculated as the total area of rip-rap/fill place in surface waters and totals approximately 8,300 square feet (0.19 acre). Approximately 1.4 acre of the substrate will be shaded (area has been previously shaded by existing bridges). Approximately 300 square feet (0.007 acre) of wetland (non-mangrove) will be impacted. Impacts to mangroves will be avoided and minimized; any necessary trimming will be in accordance to FDEP Mangrove Trimming Guidelines, which are designed to avoid defoliation, removal, or destruction of the mangrove tree itself. It is expected that the pilings might actually serve as an attractant to some fish species in the area and may enhance the habitat in several of these systems. The details of these impacts at each bridge area summarize in Table 3.

To mitigate for these impacts, work required for construction of the bridges would be conducted in a manner to reduce erosion and sedimentation through implementation of BMPs (such as the use of silt fences and turbidity curtains) in accordance with an approved Erosion and Sedimentation Control Plan to prevent further impacts to EFH. The placement of fill and rip-rap in wetlands resulting from bridge construction are considered permanent impacts to jurisdictional wetlands. As a result, an appropriate Clean Water Act Section 404 permit would be obtained from the USACE prior to construction, and mitigation would be implemented as required by wetland permit conditions. The numbers provided are an estimate and construction drawings with more details will be provided with the 404 permit.

Table 3. Anticipated Impacts, Wetland Assessment and Proposed Mitigation for each of the Six Bridge Assessment Areas surveyed along the North-South Corridor

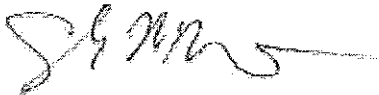
| Site | Surface Water Impact (pilings) | | Surface Water Impacts (riprap) | | Surface Water Impact (shading) | | Temporary Surface Water Impact (removal of existing piling) | | Wetland Impact | | Mangrove Trimming | | Functional Loss | Mitigation Credits to be Purchased |
|-------------------|--------------------------------|-------------|--------------------------------|-------------|--------------------------------|-------------|---|-------------|----------------|-------------|-------------------|-------------|-----------------|------------------------------------|
| | Acres | Square Feet | Acres | Square Feet | Acres | Square Feet | Acres | Square Feet | Acres | Square Feet | Acres | Square Feet | UMAM | |
| Eau Gallie River | 0.0071 | 311.08 | 0.06900 | 3018.31 | 0.2049 | 8938.82 | 0.0071 | 311.08 | - | - | - | - | - | - |
| Crane Creek | 0.0051 | 222.20 | 0.07310 | 3179.50 | 0.3419 | 14914.25 | 0.0051 | 222.20 | 0.0069* | 300* | - | - | 0.0028 | 0.0028 |
| Turkey Creek | 0.0020 | 88.88 | 0.00300 | 113.46 | 0.0860 | 3834.52 | 0.0020 | 88.88 | - | - | - | - | - | - |
| Sebastian River | 0.0214 | 933.24 | 0.04600 | 1994.79 | 0.7906 | 34422.89 | 0.0214 | 933.24 | - | - | - | - | - | - |
| St. Lucie River | 0.0050 | 200.00 | - | - | - | - | 0.0050 | 200.00 | - | - | - | - | - | - |
| Loxahatchee River | 0.0050 | 200.00 | - | - | - | - | 0.0050 | 200.00 | - | - | - | - | - | - |
| Total | 0.0457 | 1955.40 | 0.1911 | 8306.06 | 1.4233 | 62110.48 | 0.0457 | 1955.40 | 0.0069 | 300.00 | 0.0000 | 0.00 | 0.0028 | 0.0028 |

*Non-mangrove wetlands

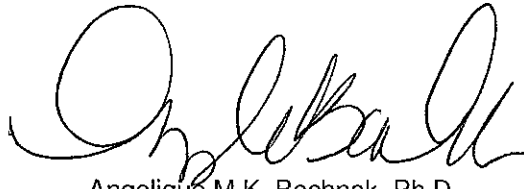
The wetland at Crane Creek was evaluated through the Uniform Mitigation Assessment Method (UMAM) (Chapter 62-345, FAC). This assessment method serves as a standardized method to assess wetland structure, function, and health. Details of the wetland evaluation are included in Appendix 4. The anticipated functional losses and proposed mitigation is summarized in Table 3 (note that the acreage is an estimate and will be modified prior to submittal of the 404 permit). Mitigation credits are proposed to be purchased at CGW Mitigation Bank.

Sincerely,

AMEC Environment & Infrastructure, Inc.



Shannon McMorrow
Project Coordinator
Direct Tel: + 1 352 333 3634
Direct Fax: + 1 352 333 6622
E-mail: shannon.mcmorrow@amec.com

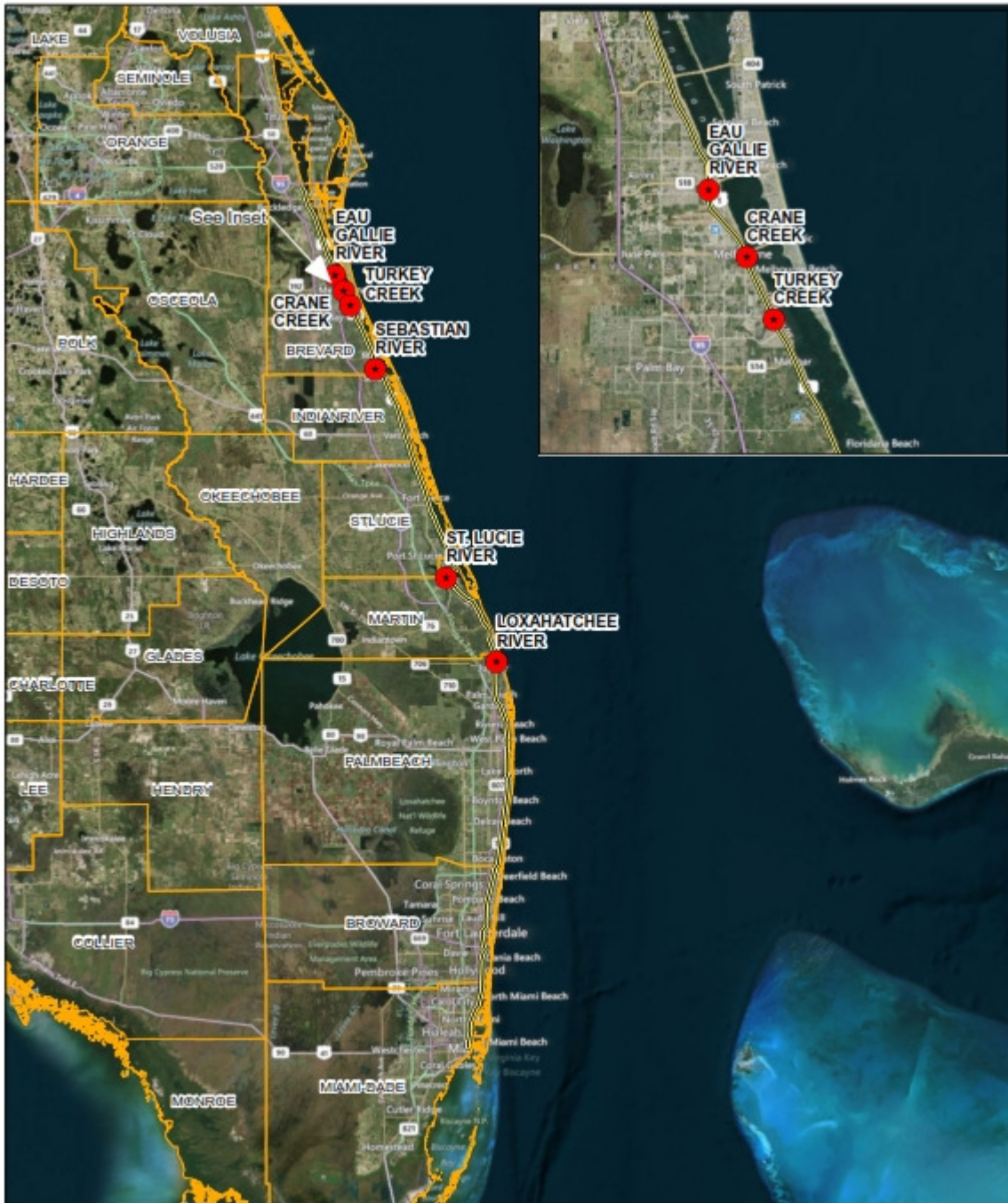


Angelique M.K. Bochnak, Ph.D.
Senior Scientist
Direct Tel: + 1 352 332 2616
Direct Fax: +1 352 333 6622
E-mail: angelique.bochnak@amec.com

Attachments:

- Attachment 1- Figures
- Attachment 2- Photograph Log
- Attachment 3- Aerial Photographs
- Attachment 4- Crane Creek UMAM

Attachment 1
Figures



Explanation of Features

- Bridges
- N-S Corridor

Data Sources: ESRI Bing Maps 2012 Imagery, FRA 2012, AMEC 2013

| Six New Bridge Assessment Areas | | | |
|---|------------|-------|--|
| All Aboard Florida Intercity Passenger Rail Project | | | |
| Drawn | Date | | |
| DLA | 04/09/2013 | | |
| Checked | Date | | |
| ARB | 04/09/2013 | Fig 1 | |

File: F:\P051F02_020602068\Figures\1_EFC\Project Location Map1.mxd

Project: 6063120212

Attachment 2
Photograph Log



Photograph 1. Eau Gallie River (Mile Post: 190.47),
Facing south across the Eau Gallie River



Photograph 2. Eau Gallie River (Mile Post: 190.47),
White mangrove and saw palmetto growing beneath the bridge



Photograph 3. Crane Creek Bridge (Mile Post: 194.47),
Facing south from the northern bank



Photograph 4. Crane Creek Bridge (Mile Post: 194.47),
Facing north toward to the waterside park



Photograph 5. Turkey Creek Bridge (Mile Post 170.70), View facing north.



Photograph 6. Turkey Creek Bridge (Mile Post 170.70), View facing south



Photograph 7. Sebastian River (Mile Post: 212.07), Sebastian River FEC Railroad Bridge



Photograph 8. Sebastian River (Mile Post: 212.07), South Side of the Sebastian River Railroad Bridge



Photograph 9. Sebastian River (Mile Post: 212.07), In-water benthic survey



Photograph 10. St. Lucie River Bridge (Mile Post 260.93), Facing north across the St. Lucie River



Photograph 11. St. Lucie River Bridge (Mile Post 260.93), Disturbed mangrove wetland located on the northern bank of the river



Photograph 12. St. Lucie River Bridge (Mile Post 260.93), Turbid condition of the water throughout the St. Lucie River



Photograph 13. Loxahatchee River Bridge (Mile Post 282.58),
Facing north across the Loxahatchee River



Photograph 14. Loxahatchee River Bridge (Mile Post 282.58),
Example of the sandy covered benthos within the project area



Photograph 15. Loxahatchee River Bridge (Mile Post 282.58),
Sandy bottom with algae covered shells and rocks



Photograph 16. Loxahatchee River Bridge (Mile Post 282.58), Puffer fish and sergeant
majors schooling near the algae cover rip rap near the southern shoreline.

Attachment 3
Aerial Photographs



Explanation of Features

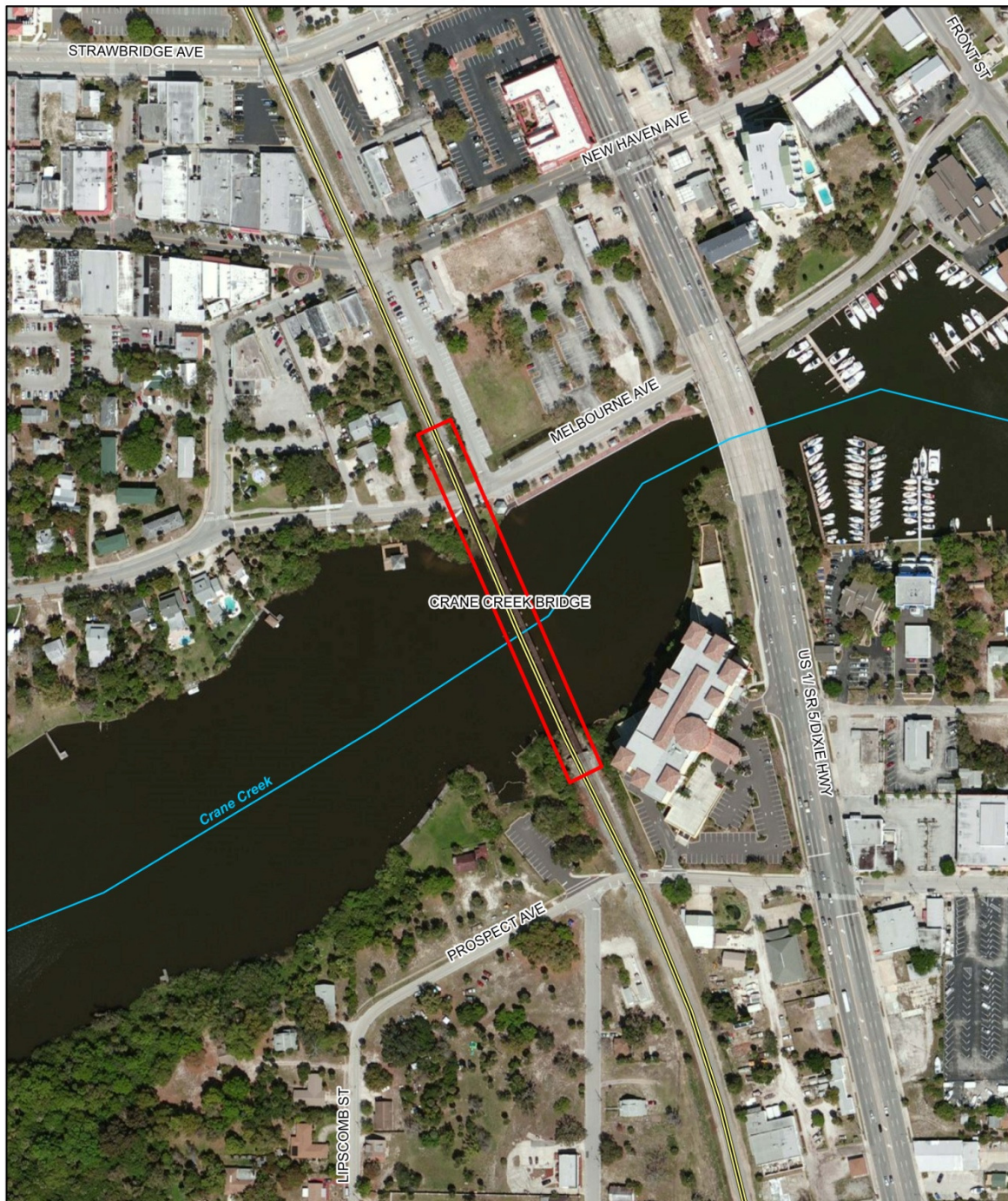
- Project Area (1.94 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery,
 NWI 2012, AAF 2012, AMEC 2012

| Eau Gallie River Bridge Site Map | | | |
|--|------------|--|-----------------|
| Bridge Over Eau Gallie River at Milepost 190.47 Along AAF Rail Corridor | | | |
| Drawn | Date | | |
| TSK | 09/18/2013 | | |
| Checked | Date | | |
| GWC | 10/30/2012 | | |
| | | | Figure 1 |

Path: P:\PROJECTS\06063120212\Permitting\ACCE\06063120212\06063120212\figure 1 Site Map.mxd

Project # 6063-12-0212



Explanation of Features

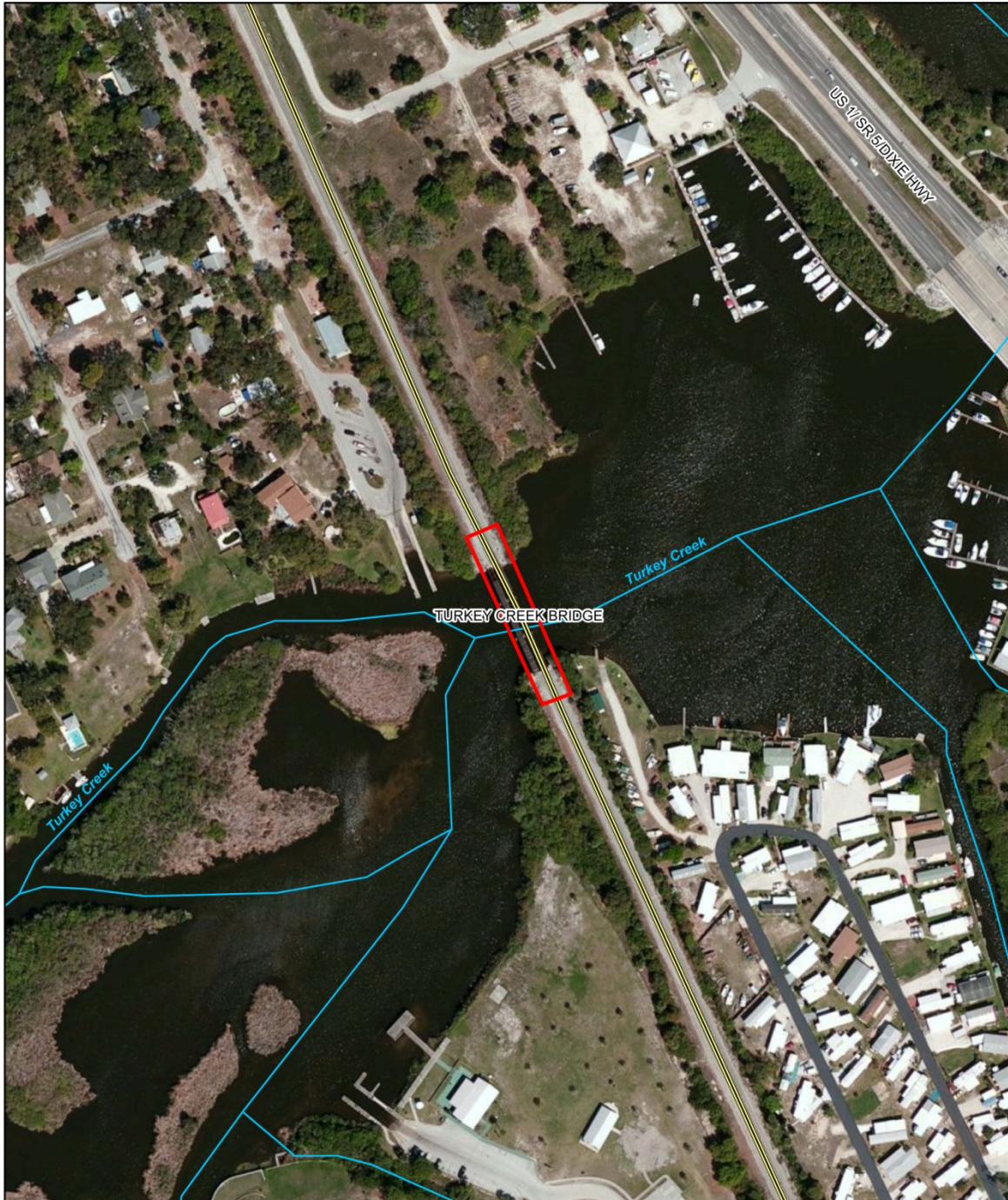
- Project Area (1.20 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery , AAF 2012

| Crane Creek Bridge Site Map | | | |
|---|---------------------|--|-----------------|
| Bridge Over Crane Creek at Milepost 194.47 Along AAF Rail Corridor | | | |
| <small>Drawn</small> | <small>Date</small> | | |
| <small>TSK</small> | 09/18/2013 | | |
| <small>Checked</small> | <small>Date</small> | | |
| <small>GWC</small> | 09/18/2013 | | |
| | | | Figure 1 |

Path: P:\PROJECTS\0063120212\Permitting\ACOE\Crane Creek\Figure 1 Site Map.mxd

Project # 6063-12-0212



Explanation of Features

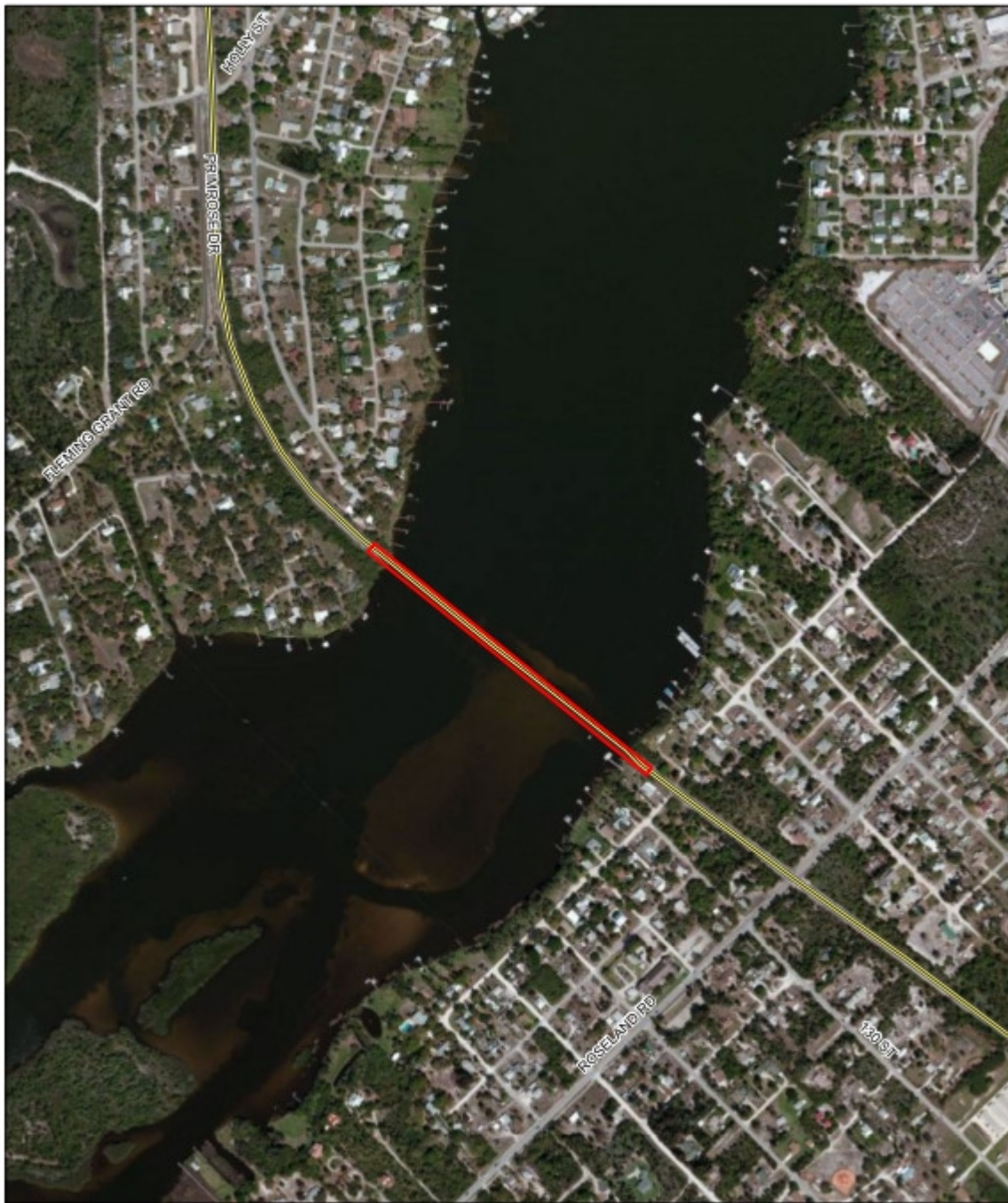
- Project Area (0.33 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery,
 NWI 2012, AAF 2012

| Turkey Creek Bridge Site Map | | | |
|---|------------|------------------------------------|--|
| Bridge Over Turkey Creek at Milepost 197.70 Along AAF Rail Corridor | | | |
| Drawn | Date | N 0 100 200 ft | |
| TSK | 09/18/2013 | | |
| Checked | Date | | |
| GWC | 09/18/2013 | Figure 1 | |

Path: F:\P\ECI\ECI_0063120212\Permitting\ACCE\Turkey Creek\Figure 1 Site Map.mxd

Project # 6063-12-0212

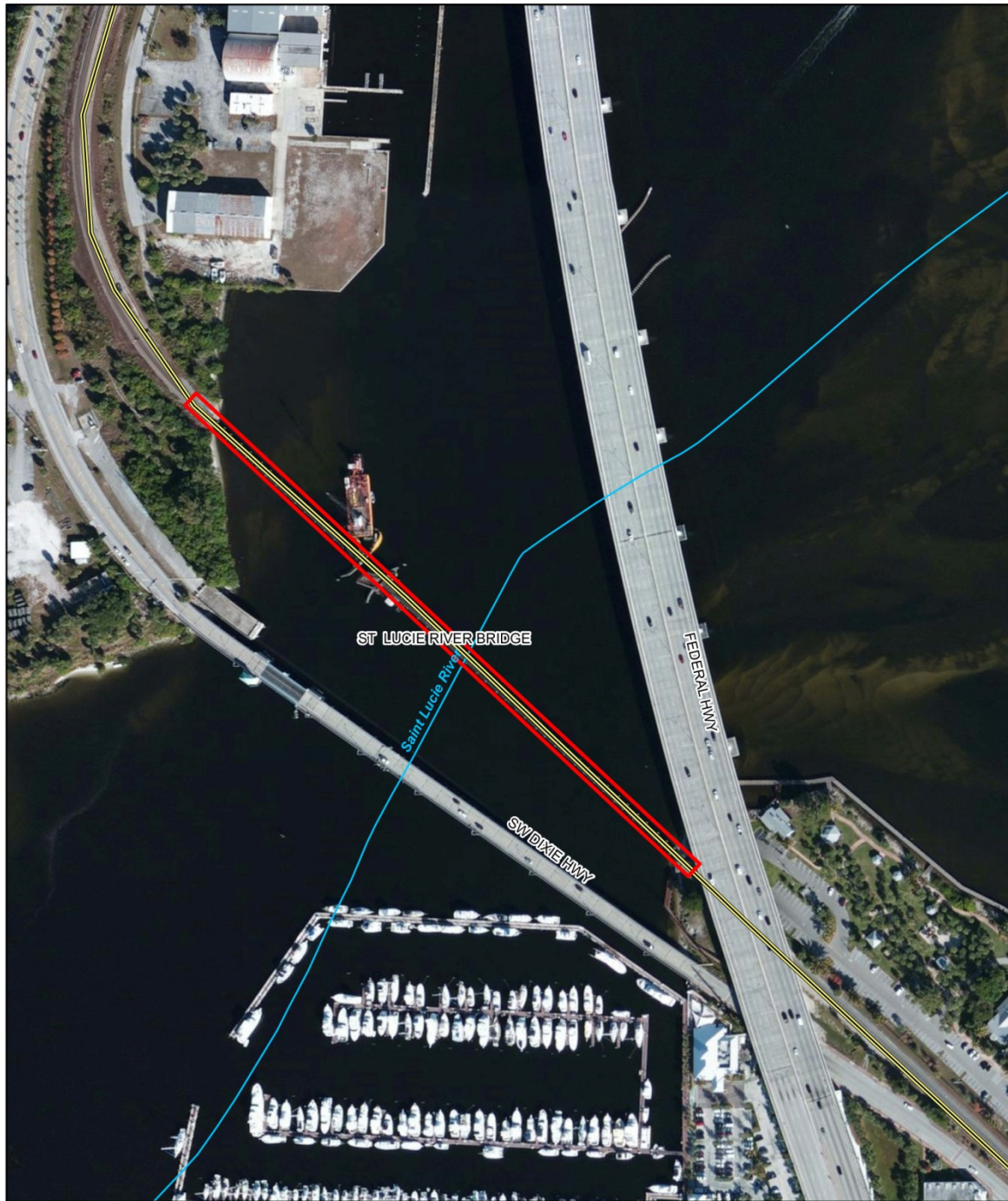


Explanation of Features

- Project Area (1.61 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery , AAF 2012

| Sebastian River Bridge Site Map | | | | | | | | | | |
|---|------------|---|-------------|------------|---------|------|-----|------------|--|--|
| Bridge Over Sebastian River at Milepost 212.07 Along AAF Rail Corridor | | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="font-size: 8px;">Drawn</th> <th style="font-size: 8px;">Date</th> </tr> <tr> <td style="font-size: 8px;">TSH</td> <td style="font-size: 8px;">09/19/2013</td> </tr> <tr> <th style="font-size: 8px;">Checked</th> <th style="font-size: 8px;">Date</th> </tr> <tr> <td style="font-size: 8px;">GWC</td> <td style="font-size: 8px;">09/19/2013</td> </tr> </table> | Drawn | Date | TSH | 09/19/2013 | Checked | Date | GWC | 09/19/2013 | <div style="text-align: center;"> </div> | |
| Drawn | Date | | | | | | | | | |
| TSH | 09/19/2013 | | | | | | | | | |
| Checked | Date | | | | | | | | | |
| GWC | 09/19/2013 | | | | | | | | | |
| | | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center; font-weight: bold;">Figure 1</td> </tr> </table> | Figure 1 | | | | | | | |
| Figure 1 | | | | | | | | | | |



Explanation of Features

- Project Area (1.0 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery,
 NWI 2012, AAF 2012

| St. Lucie River Bridge Site Map | | | |
|--|------------|--------------------------------|--|
| Bridge Over St. Lucie River at Milepost 260.93 Along AAF Rail Corridor | | | |
| Drawn | Date | N 0 100 200 ft | |
| TSK | 09/19/2013 | | |
| Checked | Date | | |
| GWC | 09/19/2013 | Figure 1 | |

Path: F:\PROJECTS\06063120212\Permitting\ACOE\St. Lucie River\figure 1 Site Map.mxd

Project # 6063-12-0212



Explanation of Features

- Project Area (0.84 ac.)
- North/South Study Area Line

Data Sources: ESRI Bing Maps 2012 Imagery,
 NWI 2012, AAF 2012, AMEC 2012

| Loxahatchee River Bridge Site Map | | | | | | | | | |
|---|------------|------|-----|------------|---------|------|-----|------------|---|
| Bridge Over Loxahatchee River at MP 282.58 Along AAF Rail Corridor | | | | | | | | | |
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">Drawn</th> <th style="text-align: left;">Date</th> </tr> <tr> <td>TJK</td> <td>09/19/2013</td> </tr> <tr> <th style="text-align: left;">Checked</th> <th style="text-align: left;">Date</th> </tr> <tr> <td>GWG</td> <td>09/19/2013</td> </tr> </table> | Drawn | Date | TJK | 09/19/2013 | Checked | Date | GWG | 09/19/2013 | <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;"> <p>N</p> </div> <div style="margin-right: 10px;"> <p>0 100 200</p> <p>ft</p> </div> <div style="margin-right: 10px;"> </div> <div style="border: 1px solid black; padding: 2px;"> <p style="text-align: center; margin: 0;">Figure 1</p> </div> </div> |
| Drawn | Date | | | | | | | | |
| TJK | 09/19/2013 | | | | | | | | |
| Checked | Date | | | | | | | | |
| GWG | 09/19/2013 | | | | | | | | |

Attachment 4
Crane Creek UMAM

**PART I – Qualitative Description
(See Section 62-345.400, F.A.C.)**

| | | | | | |
|--|---|--|--|--|--------------------------------|
| Site/Project Name Crane Creek at Mile Post 194.36 | | Application Number | | Assessment Area Name or Number Crane Creek Project Site | |
| FLUCCs code 812 (Transportation) | | Further classification (optional) 642 (Coastal Marsh) | | Impact or Mitigation Site? Impact | Assessment Area Size 0.0069 |
| Basin/Watershed Name/Number Northern Indian River Lagoon/21 | Affected Waterbody (Class) Class III | | Special Classification (i.e.OFW, AP, other local/state/federal designation of importance) None | | |
| <p>Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands</p> <p>The assessment area includes Crane Creek , located in downtown Melbourne, Florida . The City of Melbourne maintains a small park on the north side of Crane Creek that bounds the aforementioned bridge on the east side. The approach from the south side of the bridge is bound on its east and west sides by commercial and industrial facilities. Due to the abrupt changes in elevation along Crane Creek within the assessment area, the</p> <p>Assessment area description</p> <p>The assessment area is classified as "Other surface water". The creek bottom substrate was small rocks (less than 0.5 inches in diameter), crushed shells, and highly decomposed organic matter. Although, the bridge is located in a tidally influenced portion of Crane Creek, the observed vegetation (Common Reed (Phragmites australis), Pennywort (Hydrocotyle spp), and Maidencane (Panicum hem.) is indicative of a freshwater system.</p> | | | | | |
| Significant nearby features Indian River Lagoon | | | <p>Uniqueness (considering the relative rarity in relation to the regional landscape.)</p> <p>Many of the tidally influence tributaries within Brevard county are surrounded by residential development and have been channelized, including Crane Creek; therefore, this is not a unique system.</p> | | |
| Functions The assessment area functions as habitat for marine and avian fauna and marine and terrestrial flora. | | | <p>Mitigation for previous permit/other historic use</p> <p align="center">Not present</p> | | |
| <p>Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)</p> <p>Various wading birds (such as egrets, herons, rails, and sandpipers), american alligator, mud turtle, diamondback terrapin, marine turtles, water snake, sheepshead, mosquito fish, snook, marsh killifish, and various crabs</p> | | | <p>Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)</p> <p>Manatee (federally E; resting, foraging; no manatees observed; habitat appeared marginal for the manatee) and sea turtle species (federally E and T (Loggerhead); foraging; no Sea turtles observed; habitat appeared marginal for sea turtles)</p> | | |
| <p>Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):</p> <p align="center">Wildlife observed during the September site visit included: anhinga's (Anhinga anhinga) and kingfishers (Megaceryle alcyon)</p> | | | | | |
| Additional relevant factors: | | | | | |
| Assessment conducted by: Jeremy Paris/Shannon McMorrow | | | Assessment date(s): 10/9/2013 | | |

PART II – Quantification of Assessment Area (impact or mitigation)
(See Sections 62-345.500 and .600, F.A.C.)

| | | |
|--|---|---|
| Site/Project Name AAF Crane Creek at MP194.36 | Application Number | Assessment Area Name or Number Crane Creek at MP194.36 |
| Impact or Mitigation Impact | Assessment conducted by: Jeremy Paris/Shannon McMorrow | Assessment date: 9-Oct-13 |

| |
|---|
| 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 | <p>CURRENT: The area is currently being impacted by the existing railroad bridge and associated structures. Regarding support for wildlife from habitats outside the assessment area; there is residential and commercial land uses surrounding the assessment area with minimal natural landuse. Upstream of the assessment area, the landuse surrounding Crane Creek provides more natural buffers. The Assessment Area provides minimal habitat value for marine and avian species. Wading birds could access the assessment area by flight. Wildlife could potentially access the assessment area from the creek itself (upstream and downstream). Crane Creek has the potential to be utilized by the manatee to access upstream habitats. Crane Creek passes beneath US Highway 1 just east (approximately 500 feet) of the assessment area. Crane Creek is hydrologically connected to Indian River Lagoon (~2000 feet E of assessment area). The assessment area provides minimal benefits to downstream fish and wildlife, habitats, and other hydrologically connected areas. Exotic Brazilian pepper and Lead Trees were common within the assessment area. Impacts of land use outside the assessment area to fish and wildlife: noise, people, domesticated animals, boats, automobiles and other vehicles, and runoff of pollutants reduce the quality of the habitat within the assessment area.</p> <p>WITH IMPACT: The proposed action will include construction of two new single track railroad bridges. The noise and vibration impacts associated with the existing railroad bridge, will increase with the additional traffic, potentially reducing support to wildlife and wildlife access to and from the assessment area. As a result of the avoidance and minimization practices implemented during the design of the proposed development, non-permanently impacted Landscape and Location Support resources within the assessment area will maintain their current ecological function and value.</p> | |
| | w/o pres or current | with |
| 4 | 0 | |

| | | |
|--|---|------|
| .500(6)(b) Water Environment (n/a for uplands) | <p>CURRENT: Standing (flowing) freshwater was observed in the assessment area during the site visit. Crane Creek, in the assessment area, has generally consistent water levels & flows, depth, and currents for a tidally influenced creek. Higher water level indicators were noted by water staining of the ballast. Due to commercial and residential landuse surrounding the assessment area, water quality within the assessment area is moderate/minimal. The steep banks of the creek prevents the natural movement of water into the surrounding ecosystem.</p> <p>WITH IMPACTS: The proposed bridge replacement is unlikely to permanently alter water quality within the assessment area. During the bridge construction phase, the implementation of Best Management Practices will limit or eliminate the transport of sediment and debris outside the project area. (As a result of the avoidance and minimization practices implemented during the design of the proposed development, the non permanently impacted wetland resources within the assessment area will maintain their current ecological function and value as they pertain to the water environment)</p> | |
| | w/o pres or current | with |
| 4 | 0 | |

| | | |
|--|--|------|
| .500(6)(c) Community structure 1. Vegetation and/or 2. Benthic Community | <p>CURRENT: Plant cover and species in the assessment area was limited so far as structure (vegetation primarily in shrub layer); species diversity was minimal. Although, the bridge is located in a tidally influenced portion of Crane Creek, the observed vegetation Common Reed (<i>Phragmites australis</i>), Pennywort (<i>Hydrocotyle</i> spp), and Maidencane (<i>Panicum hem.</i>) at the foot of the abutments of the bridge are indicative of freshwater systems. Mangroves were not observed within or near the project area. Exotic species including Brazilian pepper (<i>Schinus terebinthifolius</i>) and Lead Tree (<i>Leucaena leucocephala</i>) were common. Plant condition was generally minimal, due to the presence of ballast along the creek bank and the existing structures. The current substrate is small rocks, crushed shells, and highly decomposed organic matter. No evidence of coarse woody debris, snag, den and cavity habitat were observed. The land mgmt practices (maintaining rail bridge and rail ROW) are adversely affecting vegetation in the assessment area (presence of ballast, steep slopes). Submerged aquatic vegetation was not observed.</p> <p>WITH IMPACT: Permanent impacts associated with installation of riprap along the abutment from the new bridges will result in loss of coastal wetlands. No mangroves will be impacted.</p> | |
| | w/o pres or current | with |
| 4 | 0 | |

| | |
|---|------|
| Score = sum of above scores/30 (if uplands, divide by 20) | |
| current or w/o pres | with |
| 0.4 | 0 |

| |
|----------------------------------|
| If preservation as mitigation, |
| Preservation adjustment factor = |
| Adjusted mitigation delta = |

| |
|-----------------------------|
| For impact assessment areas |
| FL = delta x acres = 0.0028 |

| |
|------------------------|
| Delta = [with-current] |
| -0.4 |

| |
|-----------------------|
| If mitigation |
| Time lag (t-factor) = |
| Risk factor = |

| |
|---------------------------------|
| For mitigation assessment areas |
| RFG = delta/(t-factor x risk) = |



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE

Southeast Regional Office

263 13th Avenue South

St. Petersburg, Florida 33701-5505

<http://sero.nmfs.noaa.gov>

October 24, 2014

F/SER47:BH/pw

(Sent via Electronic Mail)

Colonel Alan M. Dodd, Commander
Jacksonville District Corps of Engineers
Cocoa Regulatory Field Office
400 High Point Drive, Suite 600
Cocoa, Florida 32926

Attention: Andrew W. Phillips

Dear Colonel Dodd:

NOAA's National Marine Fisheries Service (NMFS) reviewed public notice SAJ-2012-01564 (SP-AWP), dated October 7, 2014. All Aboard Florida -- Operations, LLC (AAF), proposes to construct a high speed rail system connecting Miami International Airport and Orlando International Airport with stops in West Palm Beach, Ft. Lauderdale, and Miami. In addition to the public notice, NMFS has reviewed the Jacksonville District's letter dated September 24, 2014, reinitiating essential fish habitat (EFH) consultation for the project and providing additional information on EFH within the area and the potential impacts to EFH from the high speed rail system¹. The Jacksonville District's initial determination is the proposed high speed rail system would not have a substantial adverse impact on EFH or federally managed fishery species based on the proposed mitigation. As the nation's federal trustee for the conservation and management of marine, estuarine, and anadromous fishery resources, the following comments and recommendations are provided pursuant to authorities of the Fish and Wildlife Coordination Act and Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

On October 28, 2013, NMFS provided the Jacksonville District with comments on the original EFH Assessment. The proposed rail system has two portions. The North-South portion would be within the existing 100-foot Florida East Coast Railroad (FEC) right-of-way between Miami and Cocoa Beach. The East-West portion would be along State Road 528 between Cocoa Beach and Orlando. The North-South portion would include replacing and expanding existing bridges within the FEC right-of-way. These bridge expansions would require removal of 0.021 acre of mangroves and trimming of 0.09 acre of mangroves.

Both EFH Assessments note the South Atlantic Fishery Management Council (SAFMC) designates mangroves a Habitat Area of Particular Concern (HAPC) for snappers and groupers with inshore life stages, including gray snapper (*Lutjanus griseus*), goliath grouper (*Epinephilus itajara*), and gag grouper (*Mycteroperca microlepis*). HAPC's are subsets of EFH that are rare, particularly susceptible to human-induced degradation, especially important ecologically, or located in an environmentally stressed area. The proposed rail system would also impact 2.57 acres of sand bottom, which SAFMC designates as EFH

¹ On September 26, 2014, the Federal Railroad Administration (FRA) published a draft Environmental Impact Statement (EIS) for this high speed rail system. The Jacksonville District is assisting FRA with the EIS by serving as a cooperating agency under the National Environmental Policy Act and by conducting the EFH consultation with NMFS on behalf of FRA. In that capacity, the Jacksonville District initiated EFH consultation for this project on September 18, 2013, and NMFS provided comments on October 28, 2013. NMFS will comment on the recent draft EIS via separate correspondence, and those comments will address impacts to freshwater wetlands.



for inshore snappers and groupers, white shrimp (*Litopenaeus setiferus*), brown shrimp (*Farfantepenaeus aztecus*), and pink shrimp (*Farfantepenaeus duorarum*). Sand bottom and mangroves directly benefit fishery resources by providing nursery and foraging habitat. Mangroves also stabilize shorelines and produce and export detritus (decaying organic material), which is an important component of marine and estuarine food chains. SAFMC’s *Fishery Ecosystem Plan of the South Atlantic Region* (available at www.safmc.net) provides further information about mangrove and sand bottom habitats and the support these habitats provide to fishery species.

Impacts to Essential Fish Habitat

NMFS staff conducted site inspections on January 23, 2013; May 1, 2013; and April 2, 2014. The original EFH Assessment proposed impacts at fifteen bridge crossings along the FEC right-of-way. The new proposal adds modifications to six additional bridge crossings. The impacts are captured in Table 1, and the six new bridge crossings are highlighted in gray. The proposed mangrove trimming would be performed in accordance with the State of Florida’s Mangrove Trimming and Preservation Act. Impacts to 2.57 acres of sand bottom would occur due to riprap installation, piling removal, piling installation, and shading (2.16 acres). The fishery support function of sand bottom would not be impacted by shading since forage species at the sites are not light dependent. There would not be a net loss of sand bottom habitat from piling installation because piling installation and removal acreages are the same. Riprap placement would impact 0.30 acre of sand bottom distributed among 21 sites and would not cause a substantial impact at any one site.

Table 1. Impacts by habitat and location from the proposed Miami/Orland High Speed Rail System.

| Location and Mile Post | Sand Bottom (feet ²) | Mangrove (feet ²) |
|----------------------------------|----------------------------------|--------------------------------|
| Horse Creek (MP 187.37) | 777 | 0 |
| Eau Gallie River (MP 190.47) | 12,580 | 0 |
| Crane Creek (MP 194.34) | 18,538 | 300 removal (tidal freshwater) |
| Turkey Creek (197.70) | 4,125 | 0 |
| Goat Creek (MP 202.59) | 3,504 | 35 removal |
| Sebastian River (212.07) | 38,284 | 0 |
| North Canal (MP 223.70) | 1,177 | 0 |
| South Canal (MP 230.03) | 2,267 | 0 |
| Moore’s Creek (MP 241.27) | 1,055 | 70 trimming |
| Unnamed Creek (MP 259.95) | 2,532 | 80 removal, 700 trimming |
| St. Lucie River (MP 260.93) | 400 | 0 |
| Unnamed Creek (MP 266.58) | 932 | 37 removal, 285 trimming |
| Unnamed Creek (MP 266.86) | 3,410 | 230 removal, 950 trimming |
| Manatee Creek Trib. (MP 267.34) | 1,200 | 0 |
| Manatee Creek Trib. (MP 267.70) | 2,301 | 220 removal |
| Loxahatchee River (MP 282.58) | 400 | 0 |
| Hillsboro River (MP 326.58) | 3,142 | 66 trimming |
| N. Fork Middle River (MP 337.91) | 5,638 | 220 removal |
| S. Fork Middle River (MP 338.52) | 6,787 | 50 removal, 200 trimming |
| Oleta River (MP 352.74) | 2,576 | 75 removal, 1,300 trimming |
| Arch Creek (MP 356.53) | 495 | 650 trimming |

Compensatory Mitigation and Conclusion


AAF proposes to provide compensatory mitigation at three mitigation banks. Credits would be purchased from the CGW Mitigation Bank to offset impacts to mangroves at Goat Creek and Crane Creek.

Mangrove impacts at Moore’s Creek, the unnamed creeks, and Manatee Creek would be provided at Bear Point Mitigation Bank, and mangrove impacts at the Hillsboro River, Middle River, Oleta River and Arch Creek would be provided at the Everglades Mitigation Bank. All three of these mitigation banks were

authorized using different functional assessment methods. NMFS is familiar with all three functional assessments and agrees with the scoring used to determine the number of credits needed for this project, a total of 0.0149 credits. Further, credits from these banks would offset the impacts within the project's watersheds. Accordingly, NMFS offers no conservation recommendations pursuant to the EFH provisions of the Magnuson-Stevens Act and further consultation on this matter is not necessary unless modifications are proposed and the District concludes adverse impacts to EFH may result from the action.

We appreciate the opportunity to provide these comments. Questions should be directed to the attention of Mr. Brandon Howard in our West Palm Beach Field Office at 400 North Congress Avenue, Suite 120, West Palm Beach, FL 33401. He also may be reached by telephone at (561) 249-1652, or by email at Brandon.Howard@noaa.gov.

Sincerely,



/ for

Virginia M. Fay
Assistant Regional Administrator
Habitat Conservation Division

cc:

COE, Andrew.W.Phillips@usace.army.mil
FWS, Ashleigh_Blackford@fws.gov
AMEC, Charlene.Stroehlen@amec.com
AMEC, Shannon.McMorrow@amec.com
F/SER4
F/SER47, Karazia, Getsinger, Howard



DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926

September 24, 2014

REPLY TO
ATTENTION OF

North Permits Branch
Cocoa Permits Section
SAJ-2012-01564(SP-AWP)

Mr. Miles M. Croom
Assistant Regional Administrator
Southeast Regional Office, Habitat Conservation
NOAA, National Marine Fisheries Service
263 13th Avenue South
St. Petersburg, Florida 33701

Dear Mr. Croom:

Reference is made to U.S. Army Corps of Engineers (Corps) request for consultation dated September 18, 2013, for the development of an Environmental Impact Statement (EIS) for a private intercity commuter rail project proposed by All Aboard Florida (AAF). Since submittal of our consultation request AAF has determined railroad bridges crossing the Eau Gallie River, Crane Creek, Turkey Creek, and the Sebastian River would eventually require replacement and the bridges crossing the Loxahatchee and St. Lucie Rivers would eventually require more substantial refurbishment than initially proposed. Given this new information AAF is seeking authorization to perform in-water work and construction of new bridges alongside existing structures within the Eau Gallie River, Crane Creek, Turkey Creek, and the Sebastian River. Additionally activities could include structural repairs which may require in-water work at Loxahatchee and St. Lucie Rivers. A summary of the effects at each site is listed in Table 1 below.

Table 1

| <u>Name and Mile Post (MP)</u> | <u>Habitat</u> | <u>Fish Species</u> | <u>Life Stages</u> | <u>Approximate impacts to EFH (acre)</u> | | <u>Impacts to mangroves (square feet)</u> | <u>Compensatory mitigation (Mitigation Bank Credit Purchase)</u> |
|--------------------------------|---|---------------------|--|--|----------------------|---|--|
| | | | | <u>Wetland</u> | <u>Surface water</u> | | |
| Loxahatchee River (MP 282.50) | Mangrove; Sand/Shell bottom; Planktonic | goliath grouper | juvenile (mangrove) | 0.0 | 0.01 | No | N/A |
| | | grey snapper | postlarvae/juvenile, adult (mangrove) | | | | |
| | | mutton snapper | juvenile (mangrove) | | | | |
| | | spiny lobster | larvae (planktonic) | | | | |
| | | pink shrimp | post larval/juvenile, subadults (sand/shell bottom) | | | | |
| St. Lucie River (MP 260.93) | Mangrove, mud, sand bottom, planktonic | Goliath grouper | Juvenile (mangrove) | 0.0 | 0.01 | No | N/A |
| | | Grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | | |
| | | Mutton snapper | juvenile (mangrove; mud/sand bottom) | | | | |
| | | Spiny lobster | larvae (planktonic) | | | | |
| | | Brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| | | White shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| Sebastian River (MP 212.07) | Sand bottom, planktonic | Goliath grouper | Juvenile (mangrove) | 0.0 | 0.88 | N/A | 0.10 |
| | | Grey snapper | postlarvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | | |
| | | mutton snapper | juvenile (mud/sand bottom) | | | | |
| | | spiny lobster | larvae (planktonic) | | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| | | white shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| | | Pink shrimp | Post larval/juvenile, subadults (sand/shell bottom) | | | | |

| | | | | | | | |
|------------------------------------|--|--------------------|--|-------|-------|-----|-----|
| Turkey Creek (MP 197.70) | Mud/sand bottom, planktonic | mutton snapper | juvenile (mud bottom) | 0.0 | 0.093 | N/A | N/A |
| | | spiny lobster | larvae (planktonic) | | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| | | white shrimp | Post larvae/juvenile; subadults (mud/sand bottom) | | | | |
| Crane Creek (MP 194.36) | Mangrove, mud/sand bottom, planktonic | spiny lobster | larvae (planktonic) | 0.425 | 0.007 | No | N/A |
| | | pink shrimp | Post larvae/juvenile; subadults (sand/sell bottom) | | | | |
| Eau Gallie River (MP 190.47) | Mangrove, sand/shell bottom, planktonic | goliath grouper | juvenile (mangrove) | 0.00 | 0.288 | No | N/A |
| | | grey snapper | Post larvae/juvenile (mangrove; mud bottom); adult (mangrove) | | | | |
| | | mutton snapper | larvae (mangrove) | | | | |
| | | spiny lobster | Larvae (planktonic) | | | | |
| | | brown shrimp | Post larvae/juvenile; subadults (mud/mud bottom) | | | | |
| | | pink shrimp | postlarval/juvenile, subadults (sand/shell bottom) | | | | |
| | | White shrimp | Post larvae/juvenile; subadults (mud/mud bottom) | | | | |

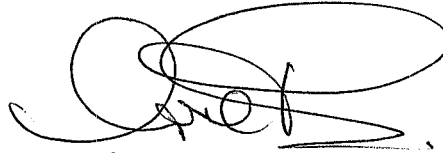
This letter re-initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. The additional work would impact approximately 1.71 acres of habitat type utilized by various life stages of federally managed species listed above. Our initial determination is that the proposed action would not have a substantial adverse impact on EFH or Federally managed fisheries described in Table 1 above. This determination is supported by the EFH Assessment completed by the applicant and included as Attachment 1. The Corps has reviewed the EFH Assessment and concurs with its findings. The applicant has not completed a functional assessment at the additional work area; however, the need for compensatory mitigation will be determined at the time of permitting. Our final determination relative to project impacts and the need for additional mitigation measures is subject to review by and coordination with your office.

Please note your October 28, 2013, concurrence letter references a proposal by Federal Railroad Administration (FRA) to construct a high speed rail system connecting Miami International Airport to Orlando International Airport with stops in West Palm Beach and Ft. Lauderdale. It is important to note this proposal is being initiated by AAF not the FRA. The FRA is the lead federal agency (40 CFR Part 1508.16) and the Corps is a cooperating agency (40 CFR Part 1508.05) in the development of an Environmental

Impact Statement for the proposal. The project limits will extend from **downtown Miami** to the Orlando International Airport.

Please advise if you agree with the above determination or provide a written request for additional information. If you have any questions regarding this letter, please contact Andrew Phillips at the letterhead address, by telephone at 321-504-3771 extension 14, or by electronic mail at andrew.w.phillips@usace.army.mil.

Sincerely,

A handwritten signature in black ink, appearing to read 'Irene Sadowski', with a large, stylized flourish above the name.

Irene Sadowski
Chief, Cocoa Permits Section

Copy Furnished w/o enclosure: (electronically)

FRA; John Winkle