



DRAFT MITIGATION PLAN FOR UNAVOIDABLE IMPACTS TO ESSENTIAL FISH HABITAT

FLORIDA DEPARTMENT OF TRANSPORTATION
DISTRICT 4

PROJECT DEVELOPMENT AND ENVIRONMENT STUDY
COUNTY ROAD 510/85 STREET
From County Road 512 (M.P. 0.0) to 58 Ave (M.P. 5.283),
Indian River County, Florida
ETDM Number: 14233
Financial Management Number: 405606-2-22-02
Federal Aid Project No.: 4984-004-S

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. §327 and a Memorandum of Understanding dated December 14, 2016, and executed by the Federal Highway Administration and FDOT.

Prepared for
Florida Department of Transportation
District Four
3400 West Commercial Boulevard
Fort Lauderdale, FL 33309-3421

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Introduction

This Mitigation Plan is intended to provide supplementary information to the Natural Resources Evaluation (NRE) that was produced during the County Road (CR) 510 Project Development and Environment (PD&E) Study. The NRE contains additional detail on project alternatives, baseline conditions, and potential environmental impacts. This Mitigation Plan specifically addresses potential unavoidable impacts to white shrimp Essential Fish Habitat (EFH) and describes mitigation options.

Impact Summary

The extent of potential impacts was assessed by mapping EFH in the project area and overlaying the footprint of the Recommended Alternative. EFH occurs as forested palustrine wetlands in two locations, at the south prong of the St. Sebastian River and at an unnamed tributary approximately 0.4 mile to the west. These wetlands are freshwater and tidally influenced and form EFH for white shrimp. Under the Recommended Alternative there would be a total of approximately 0.65 acres of impacts to these two wetland areas that form EFH.

The wetland area at the south prong of the St. Sebastian River, referred to as AA7 in the NRE, was assigned a Uniform Mitigation Assessment Method (UMAM) score of -0.76. Direct impacts to AA7 under the Recommended Alternative are anticipated to be approximately 0.55 acres, with a UMAM functional loss score of -0.418 for the impact assessment area.

The wetland area at the unnamed tributary, referred to in the NRE as AA5, was assigned a UMAM score of -0.43. Direct impacts under the Recommended Alternative are anticipated to be approximately 0.1 acre, with a UMAM functional loss score of -0.043 for the impact assessment area.

Potential indirect impacts could include displacement of white shrimp during removal of the culvert or bridge construction as well as shading from the bridge. The replacement of the culvert with a bridge is an improvement over existing conditions because it creates more natural conditions that enhance the flow of water and movement of wildlife, including white shrimp.

Avoidance, Minimization, and Mitigation

Impacts to EFH were sequentially avoided and then minimized by limiting the width of right-of-way along the south prong of the St. Sebastian River. FDOT *Standard Specifications for Road and Bridge Construction* will be implemented to further minimize impacts. Because at least part of the project area drains into an OFW, the Indian River Lagoon, the stormwater management system is being planned to achieve 50 percent greater treatment of water than under standard specifications, reducing impacts to downstream EFH. Other minimization measures, which may include reductions in the typical section, use of retaining walls to minimize roadway embankments and similar measures will be considered during the project design phase.

Impacts to EFH will also be minimized and environmental conditions improved by replacing the culvert at the south prong of the St. Sebastian River with a bridge. The replacement of an existing culvert with a bridge covers approximately 0.0396 acres, will provide a Relative Functional Gain of 0.47 and is expected to offset approximately 0.0186 credits worth of impacts.

Mitigation for unavoidable impacts to wetlands, including the wetlands that represent EFH, will be required and is a project commitment. The exact extent of impacts and requisite mitigation will be determined during the project design phase and this mitigation plan can be updated at that time. Wetland mitigation will follow UMAM or another applicable scoring system to gauge the function and value of the impacted wetlands as well as mitigation properties.

Mitigation for EFH will show a preference for being located in the same drainage basin (the central Indian River Lagoon basin) and habitat type (freshwater tidal) as the impacted EFH. Off-site mitigation is anticipated through a previously established mitigation bank. However, at this time no mitigation banks exist in the Central Indian River Lagoon Basin that offer freshwater tidal credits. Through coordination with National Marine Fisheries Service (NMFS) it was determined that mitigation for impacts to EFH could be achieved through an existing bank in the central Indian River Lagoon basin that protects any white shrimp EFH habitat type, but that a mitigation ratio of 2:1 or 1.5:1 would be required if the habitat type could not be matched.

The CGW Mitigation Bank is approximately 7.7 miles southeast of the project and is located in the central Indian River Lagoon drainage basin. General wetland mitigation credits for estuarine wetlands are available from the CGW Mitigation Bank. Because the CGW Mitigation Bank offers estuarine instead of freshwater tidal credits, a mitigation ratio of 2:1 or 1.5:1 is anticipated for the proposed project. The CGW Mitigation Bank application is provided as **Appendix A** and contains details on existing conditions, planned restoration, and monitoring. FDOT District 4 owns 1.35 estuarine/forested wetland credits at the CGW Mitigation Bank that are currently available.

The Basin 22 Mitigation Bank is located within the Central Indian River Lagoon drainage basin, approximately 4.5 miles southwest of the project. Its service area includes the proposed project but it does not offer freshwater tidal credits that also protect EFH. The Basin 22 Mitigation Bank contains approximately 109.58 acres of freshwater herbaceous and freshwater forested state wetland mitigation credits. Other mitigation options may be evaluated in subsequent project phases; however, mitigation requirements for unavoidable impacts to wetlands and EFH will be met so that there is no net loss of habitat function or value.

NMFS Conservation Recommendations

NMFS provided the following conservation recommendations: The FDOT should develop a detailed mitigation plan that compensates fully for unavoidable adverse impacts to EFH. The mitigation plan should include:

- A detailed description of the proposed mitigation, including success criteria. The mitigation plan should contain sufficient detail to ensure no net loss of habitat functions and values as a result of project construction.
- Detailed overview and cross-sectional drawings of the mitigation areas with elevations.
- A vegetative planting plan for the mitigation sites.
- A functional assessment, such as UMAM, should be prepared for evaluating the amount of mitigation needed.

In response to these conservation recommendations FDOT offers this Mitigation Plan and refers to information in the CGW Mitigation Bank Restoration Plan included in **Appendix A**. The proposed mitigation is anticipated to offset approximately 0.65 total acres of impacts to white shrimp EFH in the central Indian River Lagoon drainage basin. Wetlands will be scored using UMAM (or another applicable scoring system) to ensure no net loss of habitat function or values. Mitigation is anticipated through the CGW mitigation bank with a mitigation ratio of 2:1 or 1.5:1. The Restoration Plan in **Appendix A** offers success criteria, a vegetative planting plan, and a monitoring program. That Restoration Plan also provides a detailed overview of the mitigation area, but cross-sectional drawings are not available at this time.

Summary

Up to approximately 0.65 total acres of unavoidable impacts to white shrimp EFH are anticipated as a result of the proposed widening of CR 510 at two locations. That EFH is in the form of tidal, freshwater forested wetlands along the south prong of the St. Sebastian River and an unnamed tributary. It is anticipated that mitigation for impacts to EFH will be achieved through estuarine wetland credits from the CGW Mitigation Bank. The CGW Mitigation Bank is in the proper drainage basin and also protects white shrimp EFH. Because the proposed project impacts would be to freshwater tidal wetlands, and the CGW contains saltwater tidal wetlands, a mitigation ratio of 2:1 or 1.5:1 is anticipated. The extent of wetlands and anticipated impacts will be further refined during the design and permitting phase of this project.

APPENDIX A: CGW MITIGATION BANK