

AUGUST 2020

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

**BIG FISHWEIR CREEK
DUVAL COUNTY, FLORIDA
CONTINUING AUTHORITIES PROGRAM
(CAP) SECTION 206 PROJECT**



US Army Corps of Engineers



US Army Corps of Engineers
JACKSONVILLE DISTRICT

FINDING OF NO SIGNIFICANT IMPACT

BIG FISHWEIR CREEK, DUVAL COUNTY, FLORIDA CONTINUING AUTHORITIES PROGRAM (CAP) SECTION 206 PROJECT SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

The U.S. Army Corps of Engineers, Jacksonville District (Corps), has conducted a supplemental environmental assessment (EA) in accordance with the National Environmental Policy Act of 1969, as amended, (42 U.S.C. § 4321 et seq.) (NEPA) in order to evaluate changed construction methodologies. The Corps previously assessed the effects of the 2012 Recommended Plan in the Final Integrated Detailed Project Report and Environmental Assessment (DPR/EA) for the Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 project in Duval County, Florida. A Finding of No Significant Impact (FONSI) was signed on January 26, 2013, and the DPR/EA was approved by South Atlantic Division, U.S. Army Corps of Engineers on February 19, 2013. The 2012 final recommendation is contained in the DPR/EA and is incorporated herein by reference. Based on changed site conditions, the 2012 Recommended Plan has been updated to develop the 2020 Recommended Plan, which consists of removing sediments in Areas A, B, C and D and barging sediments to the Bartram Island Dredge Material Management Area (DMMA).

In addition to the “no action” alternative, the 2012 Authorized Plan was evaluated against the updated 2020 Recommended Plan. The proposed update to the 2012 Recommended Plan still achieves ecosystem restoration benefits while being responsive to changes in environmental conditions to achieve the objective of the study. The 2020 Recommended Plan meets all of the project objectives and is the environmentally preferable alternative. Failure to improve the quality of the environment could lead to additional impacts to the aquatic ecosystem and surrounding habitat. There is not a locally preferred plan.

All practicable means to avoid and minimize adverse environmental effects have been incorporated into the 2020 Recommended Plan. Environmental commitments as detailed in the DPR/EA will be implemented to minimize impacts.

Pursuant to the Coastal Zone Management Act of 1972 (16 U.S.C. § 1451 et seq.) (CZMA), a Federal Consistency Determination will be submitted to the state of Florida for review. The Corps determined that the Recommended Plan is consistent with the applicable policies of the Florida Coastal Management Program and the Federal

Consistency Determination is included in Appendix D.

A General Permit (Water Quality Certification) shall be obtained from the State of Florida, and the proposed work would be performed in compliance with Water Quality Certification conditions. A final determination of whether the project is consistent with the Florida Coastal Management Program shall be made by the State with issuance of the permit.

The project has two components implicated pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA): dredging and disposal of the dredged material into the Bartram Island DMMA. The dredging component of the project will be coordinated with National Marine Fisheries Service (NMFS) through the South Atlantic Regional Biological Opinion dated March 27, 2020. No effects to federally listed threatened and endangered species under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction are expected from disposal activities. The Corps has determined that dredging may affect but is not likely to adversely affect the West Indian manatee. The USFWS 2011 Standard Manatee Conditions for In-Water Work will be included in the project plans and specifications and will be implemented by the contractor during in-water work. Applicable terms and conditions resulting from the ESA consultation will be implemented. Pertinent correspondence is found in Appendix A.

The Corps has determined that the Recommended Plan would have a negligible adverse effect on Essential Fish Habitat (EFH) and minor temporary effects on federally managed fish species. An EFH assessment is included in the Supplemental EA. Measures, as described in the Supplemental EA, will be in place during construction to eliminate, reduce, or avoid adverse impacts below the threshold of significance to fish and wildlife resources. The Corps will request concurrence with these determination from NMFS Habitat Conservation Division (HCD) concurrent with the noticing of the Supplemental EA.

Pursuant to section 106 of the National Historic Preservation Act of 1966, as amended, the Recommended Plan has been coordinated with the City of Jacksonville, Florida State Historic Preservation Officer (SHPO), Miccosukee Tribe of Indians of Florida, Seminole Nation of Oklahoma, Seminole Tribe of Florida, and Thlopthlocco Tribal Town via letter dated May 11, 2020 and consideration given under the NEPA. The Corps determined there would be no adverse impacts to cultural resources. SHPO responded to the Corps' determination via email dated June 29, 2020 concurring with the Corps' determination of no effect. The Seminole Tribe of Florida provided a letter with no objections on June 9, 2020. Other contacted tribes did not respond to the Corps' consultation requests. (Pertinent correspondence is included in Appendix A.)

The Corps released the proposed FONSI, draft Supplemental EA, and associated appendices for a 30-day public and agency review. A copy of the comments received, as well as a summary matrix of the comments and Corps' responses, will be included in Appendix B of the final NEPA document.

The Corps considered all applicable laws, executive orders, and regulations in the evaluation of the alternatives. Based on this Supplemental EA, previous reports, the reviews by other Federal, State and local agencies, and the review by my staff, it is my determination that the Recommended Plan would not significantly affect the human environment; therefore, preparation of an Environmental Impact Statement is not required. A copy of these documents will be made available to the public at the following website, _____ under _____ Duval _____ County: <http://www.saj.usace.army.mil/About/DivisionsOffices/Planning/EnvironmentalBranch/EnvironmentalDocuments.aspx>.

Date

Andrew D. Kelly, Jr.
Colonel, U.S. Army
District Commander

TABLE OF CONTENTS

1	PROJECT PURPOSE AND NEED	1
1.1	PROJECT DESCRIPTION.....	1
1.1.1	PROJECT DESCRIPTION	4
1.2	PROJECT AUTHORITY.....	5
1.3	PROJECT NEED OR OPPORTUNITY	5
1.4	RELATED ENVIRONMENTAL DOCUMENTS.....	5
1.5	DECISIONS TO BE MADE	6
1.6	SCOPING AND ISSUES.....	6
1.6.1	ISSUES ELIMINATED FROM FURTHER ANALYSIS.....	6
1.6.2	ISSUES TO BE FURTHER ADDRESSED	6
1.7	WATER QUALITY CERTIFICATION AND COASTAL ZONE MANAGEMENT ACT (CZMA) FEDERAL CONSISTENCY DETERMINATION (FCD) CONCURRENCE	6
1.8	PUBLIC INTEREST FACTORS	7
2	ALTERNATIVES	9
2.1	2020 SUPPLEMENTAL EA ALTERNATIVES	9
2.1.1	NO-ACTION ALTERNATIVE – ALTERNATIVE A	10
2.1.2	2012 AUTHORIZED PLAN – ALTERNATIVE B	10
2.1.3	2020 PLAN – ALTERNATIVE C	11
2.2	ISSUES AND BASIS OF CHOICE	12
3	EXISTING ENVIRONMENT	23
4	ENVIRONMENTAL EFFECTS.....	26
4.1	SUMMARY OF EFFECTS.....	26
4.2	Threatened & Endangered SPECIES	27
4.2.1	Alternative C	27
4.2.2	Material Placement in Bartram Island DMMA	27
4.3	PLANT COMMUNITIES	27
4.3.1	Alternative C	27
4.3.2	Material Placement in Bartram Island DMMA	27
4.4	FISH AND WILDLIFE RESOURCES	28
4.4.1	Alternative C	28
4.4.2	Material Placement in Bartram Island DMMA	28
4.5	ESSENTIAL FISH HABITAT	28

4.5.1	Alternative C	28
4.5.2	Material Placement in Bartram Island DMMA	28
4.6	WATER QUALITY	28
4.6.1	Alternative C	28
4.6.2	Material Placement in Bartram Island DMMA	29
4.7	AIR QUALITY	29
4.7.1	Alternative C	29
4.7.2	Material Placement in Bartram Island DMMA	29
4.8	CULTURAL RESOURCES.....	29
4.8.1	Alternative C	29
4.8.2	Material Placement in Bartram Island DMMA	30
4.9	UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS.....	30
5	PUBLIC AND AGENCY COORDINATION.....	31
5.1	SCOPING AND DRAFT SUPPLEMENTAL EA.....	31
5.2	COMMENTS RECEIVED AND CORPS' RESPONSES.....	31
6	ENVIRONMENTAL COMMITMENTS AND COMPLIANCE	32
7	LIST OF PREPARERS	37
8	ACRONYM LIST	38
9	REFERENCES.....	39

LIST OF APPENDICES

- Appendix A – Project Correspondence
- Appendix B – Public and Agency Project Comments and Corps' Responses
- Appendix C – Clean Water Act Section 404(b)(1) Guidelines Evaluation

LIST OF FIGURES

Figure 1. Project vicinity.	2
Figure 2. Map of project location.	2
Figure 3. Map of project areas.	3
Figure 4. Secondary Access Location.....	4

LIST OF TABLES

Table 2. Summary and comparison of the potential environmental consequences associated with the implementation of Alternative A (No Action), Alternative B (2012 Recommended Plan), and Alternative C (2020 Recommended Plan).	14
Table 3. Maximum potential in-water acreage affected by construction and temporary work platform activities.	26
Table 6. Summary of U.S. Army Corps of Engineers, Jacksonville District (Corps) responses to comments received during the agency and public review and comment period of the proposed Finding of No Significant Impact (FONSI) and draft Supplemental Environmental Assessment (EA) for the Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project.....	44

SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

BIG FISHWEIR CREEK, DUVAL COUNTY, FLORIDA CONTINUING AUTHORITIES PROGRAM (CAP) SECTION 206 PROJECT

1 PROJECT PURPOSE AND NEED

1.1 PROJECT DESCRIPTION

At the request of the City of Jacksonville (COJ), the U.S. Army Corps of Engineers (Corps) conducted a study to restore healthy aquatic habitat in Big Fishweir Creek (BFWC) and Little Fishweir Creek (LFWC) by providing ecological benefits. An integrated Detailed Project Report and Environmental Assessment (DPR/EA) was prepared and a Finding of No Significant Impact (FONSI) was signed by the District Engineer on January 26, 2013. Subsequently, the DPR/EA was approved by South Atlantic Division, U.S. Army Corps of Engineers on February 19, 2013.

BFWC is an urban tributary of the St. Johns River, located approximately four (4) miles south of downtown Jacksonville, Duval County, Florida. It is influenced by the tidal signal that enters the St. Johns River just north of the Ortega River. LFWC is incidental to this study. It discharges to the north side of BFWC; approximately 1,500 feet from the mouth of BFWC. Big and Little Fishweir Creek is surrounded by residential and commercial properties along the banks of the creek (**Figure 1** and **Figure 2**). Also located in the project area is the Herschel Street Bridge which crosses BFWC and is operated by Florida Department of Transportation (FDOT).

Big Fishweir Creek – CAP Section 206

▲ Project Location

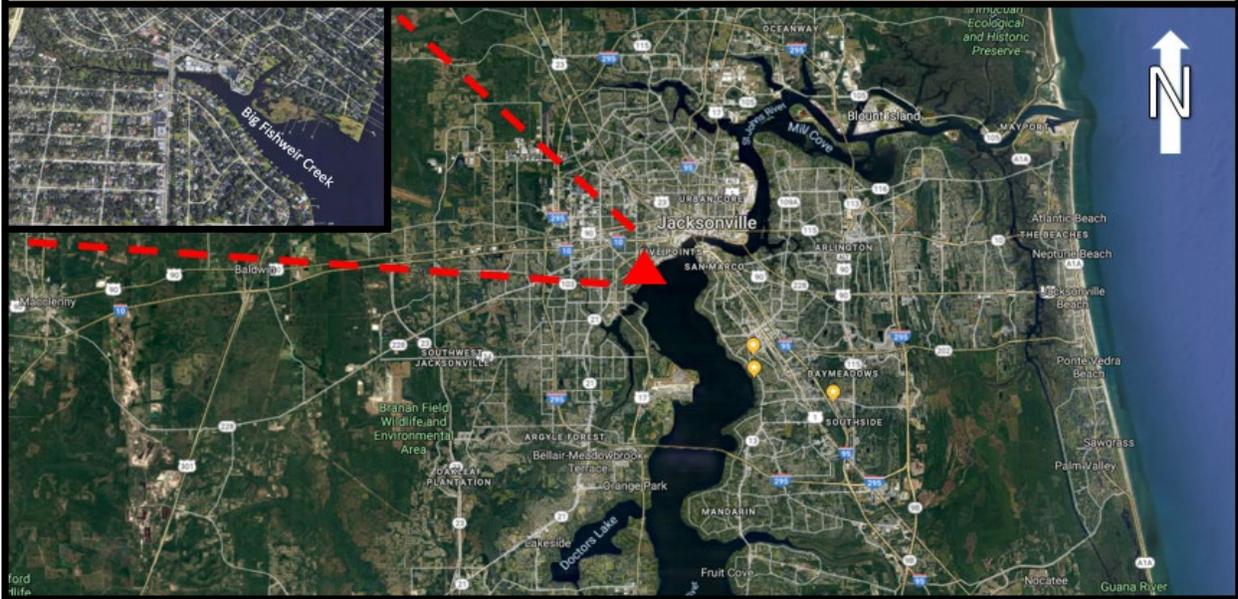


Figure 1. Project vicinity.

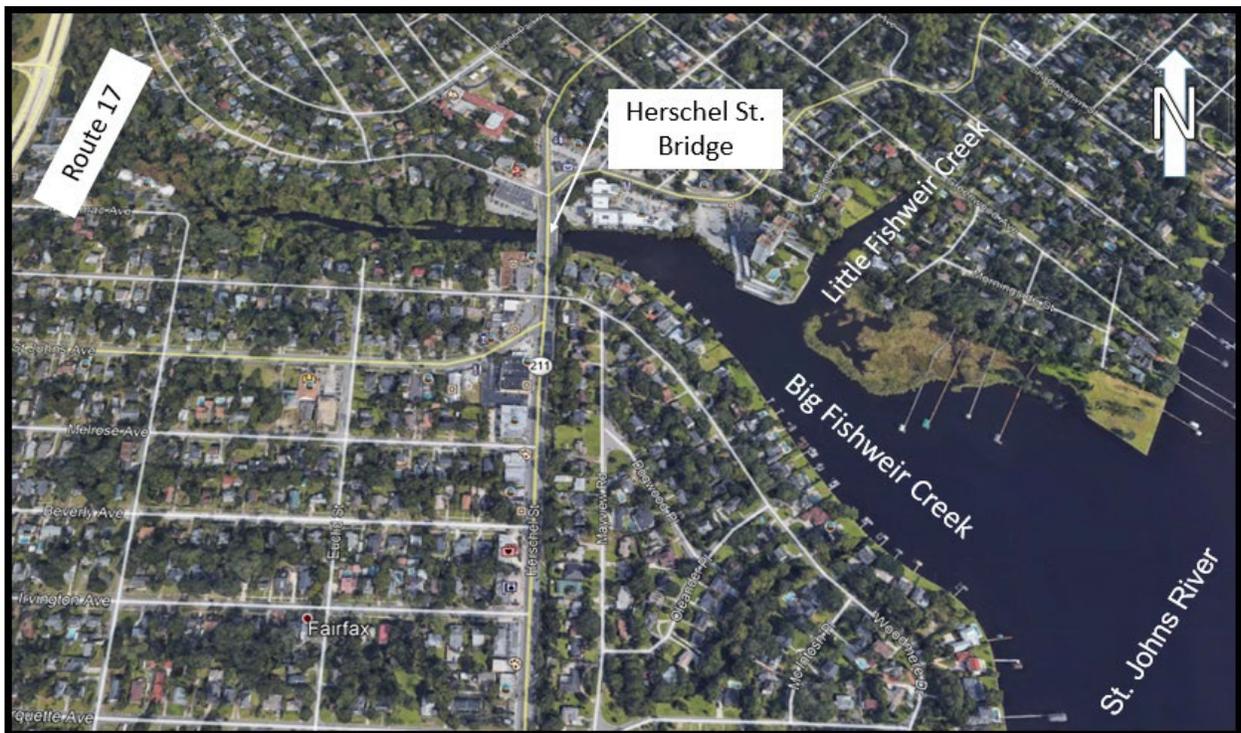


Figure 2. Map of project location.

The 2012 DPR/EA looked at BFWC and LFWC. The project was divided into four segments along the stream course, based upon physical characteristics comprising each area (**Figure 3**). These areas include:

- Area A (Red Polygon in Figure 3) – Upper Stream; includes Mixed Hardwood Bottomland, Portion of Freshwater Marsh
- Area B – Mid-section of stream transition zone from fresh to brackish water; includes Mixed Hardwood Bottomland, Freshwater Marsh, Freshwater/Brackish Water Marsh, and Tidal Flat
- Area C – LFWC tributary stream; includes Freshwater/Brackish Water Marsh
- Area D – Lower Stream and confluence with St Johns River; includes Freshwater/Brackish Water Marsh.

The purpose of the project is to restore healthy aquatic habitat to the creek system.

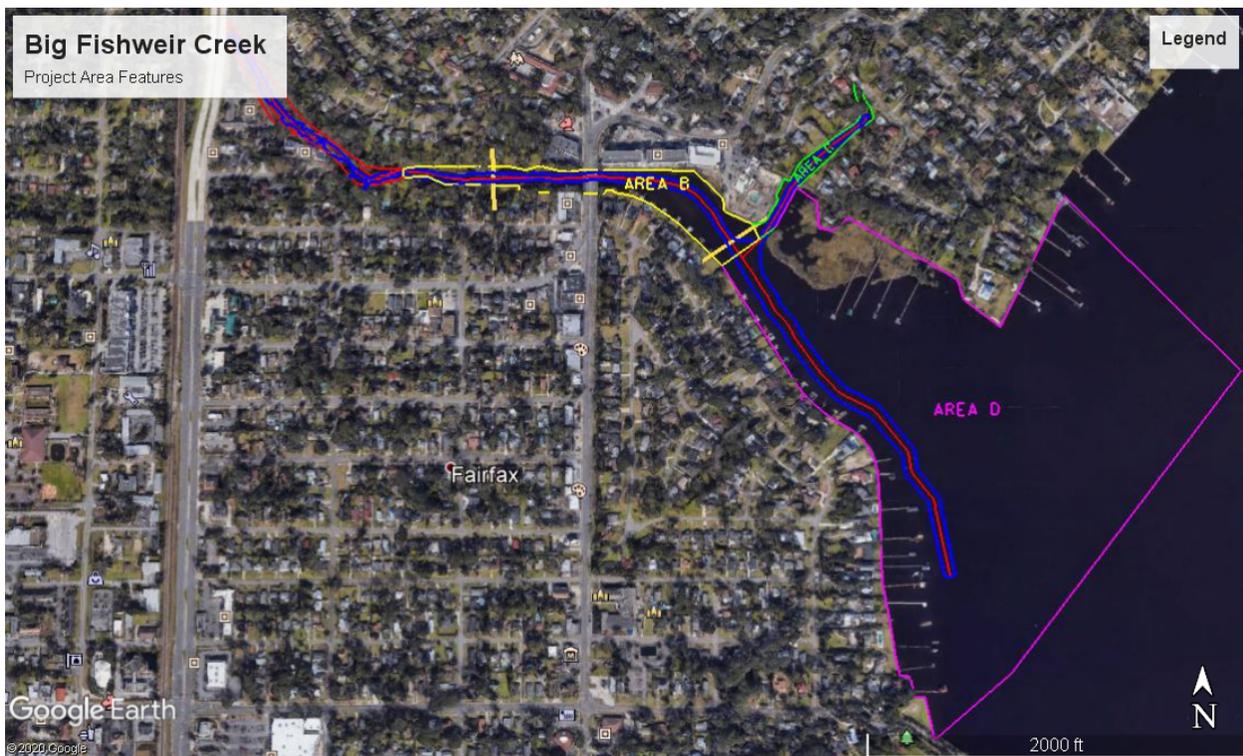


Figure 3. Map of project areas.

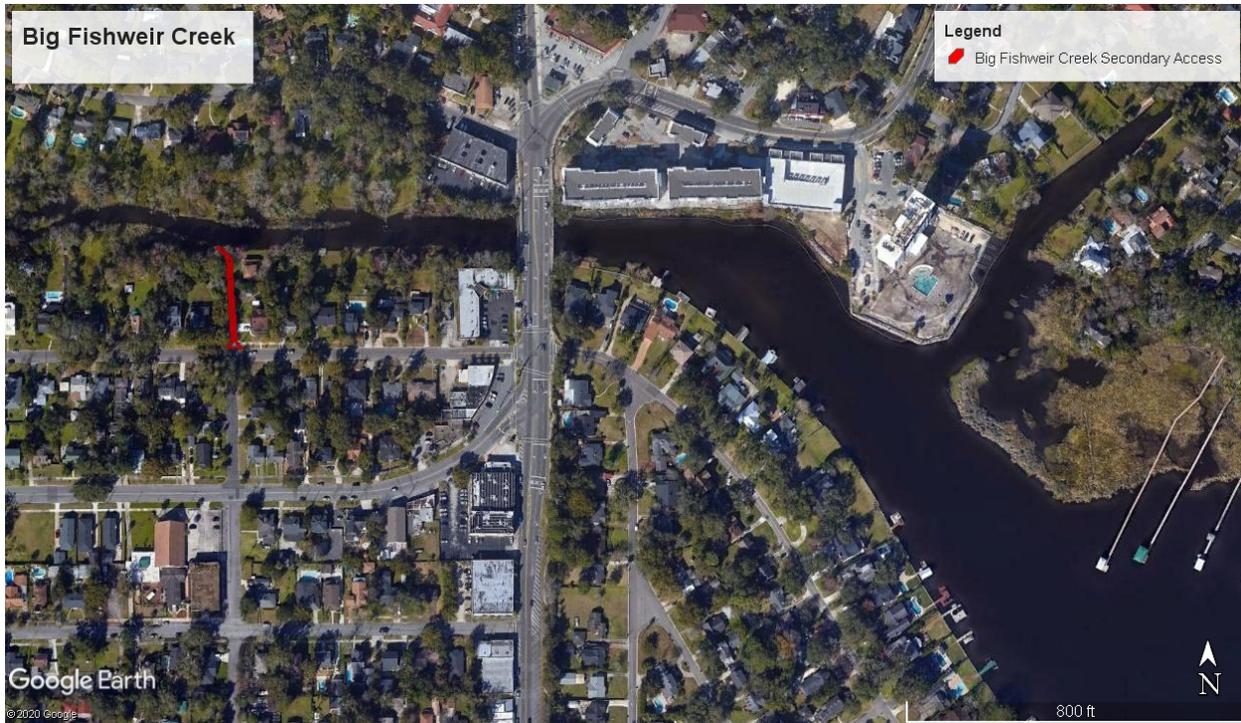


Figure 4. Secondary Access Location

1.1.1 PROJECT DESCRIPTION

The 2012 DPR/EA authorized plan included:

- Area A - Cutting through a berm located in Area A to reconnect the wetlands; removing exotic vegetation; and removing sediments by dredging.
- Area B – Removing exotic vegetation and planting emergent vegetation; and removing sediments by dredging.
- Area C – Removing exotic vegetation and planting emergent vegetation; and removing sediments by dredging.
- Area D – Planting emergent and submerged aquatic vegetation; removing sediments by dredging; and creating a marsh island. The sediments from Areas A, B, and C would be used to create the marsh island.

During the Design and Implementation (D&I) phase, additional information was obtained from the sponsor and through geotechnical investigations and site visits. Additional geotechnical investigation determined the sediments within BFWC contained peat. Since peat liquefies very easily when exposed to water, building a marsh island with sediments within BFWC is no longer an engineeringly viable option and dredged sediment would need to be barged to the Bartram Island DMMA site. Additional investigations by Corps biologists determined that removing exotic and invasive species and planting emergent vegetation (EV) and submerged aquatic vegetation (SAV) is no longer a viable option due to existing environmental conditions. The 2020 Plan (Alternative C) proposes the removal of sediment from Areas A through D and barging sediment to the Bartram Island Dredge Material Management Area (DMMA) as discussed in Section 2 to address these

concerns.

The use of equipment and/or methods not covered by the project's National Environmental Policy Act of 1969, as amended, (42 U.S.C. § 4321 et seq.) (NEPA) documents and/or required authorizations (e.g. water quality certification) may require reinitiation of consultation with regulating agencies and/or additional coordination. Final details for best management practices (BMPs) and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods.

1.2 PROJECT AUTHORITY

Authority and funds for this report were provided by Section 206 of the Water Resources Development Act of 1986, as amended (Public Law 99-662) – Project Modifications for Improvement of the Environment. Section 206 projects are part of a larger Continuing Authorities Program (CAP) under which the Secretary of the Army, acting through the Chief of Engineers, is authorized to plan, design, and implement certain types of water resources projects without additional project-specific authorization. Section 206 authority allows the Corps to develop aquatic ecosystem restoration projects that improve the quality of the environment, are in the public interest, and are cost effective.

1.3 PROJECT NEED OR OPPORTUNITY

The overall purpose of the project is to restore a healthy aquatic habitat in the creek by providing ecological benefits including: the removal of anthropogenic sediment accumulations, restoration of habitat for listed species, and the reestablishment of intertidal and sub-tidal benthic communities.

Implementation of the objectives listed above, in combination, would significantly improve Essential Fish Habitat (EFH), macroinvertebrate communities, increased clarity of water, and provide additional forage/refuge for the Federally endangered West Indian Manatee (*Trichechus manatus*), hereafter called "Manatee".

1.4 RELATED ENVIRONMENTAL DOCUMENTS

The Final DPR/EA (2012) for the Big Fishweir Creek CAP Section 206 Project can be found at the following link (click on Duval, scroll down to the project):

<http://www.saj.usace.army.mil/About/Divisions-Offices/Planning/Environmental-Branch/Environmental-Documents/>

All discussions and conclusions contained in the 2012 DPR/EA are hereby incorporated by reference into this document.

Additional related documents:

- Jacksonville Harbor Operation & Maintenance Dredged Material Management Plan (DMMP) 2012 to 2031 Update. 2013

1.5 DECISIONS TO BE MADE

This supplemental EA specifically considers potential effects from updates to the authorized plan described in the 2012 DPR/EA as a result of additional analyses and data gathering completed during the D&I phase. The proposed updates include decreased dredging in Area B; removal of EV and SAV plantings; removal of the marsh island and barging sediment to the Bartram Island DMMA. This proposed work is reasonably foreseeable due to changed materials and methods as a result of updated engineering foreseen at the beginning of the project's D&I phase, after the completion of the Final DPR/EA.

The decision to be made by this supplemental EA is whether decreased dredging in Area B; removal of EV and SAV plantings; removal of the marsh island and barging sediment to the Bartram Island DMMA will result in significant effects on the human environment. The need for mitigation measures or BMPs to reduce any potentially adverse effects, particularly in regard to Endangered Species Act (ESA) listed species, will be determined based upon the analysis contained within this Supplemental EA. The Corps will make the decision to sign the FONSI and move forward with the Recommended Plan if no significant impacts on the human environment are identified and project benefits will still be achieved. If significant impacts are identified, the Corps can choose to implement mitigation measures to reduce the impacts to a lower-than-significant threshold, proceed with the Notice of Intent to prepare an Environmental Impact Statement, or not implement the Recommended Plan.

1.6 SCOPING AND ISSUES

1.6.1 ISSUES ELIMINATED FROM FURTHER ANALYSIS

The following issues were adequately addressed in the 2012 DPR/EA and are eliminated from further analysis in this supplemental EA: (1) general setting; (2) physical environmental (i.e. hydrology, sea level, climate); (3) natural environmental (i.e. air quality, noise, aesthetics, and recreation resources); and (4) socioeconomic environment (i.e. local economy and demographics, land use).

1.6.2 ISSUES TO BE FURTHER ADDRESSED

Pursuant to NEPA and with regard to environmental requirements, the Corps is providing an update on the project's compliance with the ESA, Magnuson-Stevens Fishery Conservation and Management Act of 1976 (Public Law 94-265), Clean Water Act of 1972 (Public Law 92-500) (CWA) (Section 401 and Section 404(B)1), Coastal Zone Management Act of 1972 (Public Law 92-583) (CZMA), and National Historic Preservation Act of 1966 (Public Law 89-665) (NHPA). Additionally, the Corps will address fish and wildlife resources (other than threatened and endangered (T&E) species), cultural resources, irreversible and irretrievable commitment of resources within this supplemental EA. (Pertinent correspondence is included in Appendix A.)

1.7 WATER QUALITY CERTIFICATION AND COASTAL ZONE MANAGEMENT ACT (CZMA) FEDERAL CONSISTENCY DETERMINATION (FCD) CONCURRENCE

In accordance with 33 CFR 336.1(c)(3), the Corps evaluated the 2020 Proposed Plan Supplemental EA for Big Fishweir Creek CAP Section 206 Project

September 2020

based on the procedures in 33 CFR 336.1(b)(9). The Corps will submit the federal consistency determination (FCD) to State of Florida. (Pertinent correspondence is included in Appendix A.)

An updated 404(B)(1) Guidelines Evaluation is included in Appendix C. An application for water quality certification pursuant to section 401 of the CWA, 33 U.S.C. § 1341, will be submitted to the State of Florida. All conditions of the WQC will be implemented in order to minimize adverse impacts to water quality.

1.8 PUBLIC INTEREST FACTORS

While the Corps does not process and issue permits for its own activities, pursuant to 33 C.F.R. §336.1, the Corps meets all applicable substantive legal requirements, including public notice, and opportunity for public hearing where its activities result in regulated discharges. As part of its review, the Corps evaluates potential effects of the proposed activity and its intended use and/or effect on public interest. All factors which may be relevant to the proposal must be considered. These factors may include:

- General Environmental Concerns;
- Conservation;
- Wetlands;
- Fish and Wildlife Values;
- Water Quality;
- Historic Properties;
- Economics;
- Aesthetics;
- Recreation;
- Energy Needs;
- Mineral Needs;
- Consideration of Property Ownership;
- Safety;
- Navigation;
- Shore Erosion and Accretion;
- Needs and Welfare of the People.

The following factors were considered, but were determined to be not applicable to this project:

- Flood Hazards;
- Flood Plain Values;
- Food and Fiber Production.
- Land Use;
- Water Supply and Conservation;

Section 3 of the 2012 DPR/EA describes the existing conditions. Section 6 of the 2012 DPR/EA and Section 4 of this 2020 EA describes potential effects to these factors from the implementation of the proposed project. The Corps determined that 2020

Recommended Plan will not result in significantly different effects to the human environment than identified in the 2012 DPR/EA. The proposed action will result in short term adverse effects to fish and wildlife, water quality, aesthetics, safety, and energy and mineral needs. These short-term adverse effects will cease with the completion of construction. Long-term beneficial effects associated with the action are expected to be general environmental conditions, wetlands, and fish and wildlife. These long-term benefits would be expected to remain for years following construction as discussed in Section 4.

Based on the analysis provided in the 2012 DPR/EA and this 2020 Supplemental EA, the Corps concludes that the proposed activity is in the public interest.

2 ALTERNATIVES

The alternative formulation process for the Big Fishweir Creek CAP Section 206 Project, as well as its potential effects, were described within the 2012 DPR/EA. In summary, the 2012 DPR/EA stated that the final array of alternatives considered for implementation were evaluated for their success in meeting the Planning Objectives, including Purpose and Need, and the Planning Constraints, including technical and environmental feasibility, environmental acceptability, and habitat analysis. The evaluation criteria were then considered in screening the alternatives according to their overall acceptability.

The following alternative plans and combinations were evaluated in the 2012 DPR/EA:

- No Action.
- Alternative 1: Cut through a berm located in Area A to reconnect the wetlands. Plant emergent vegetation in Areas B, C, and D. Plant SAV in Area D. Remove exotic vegetation from Areas A, B, and C.
- Alternative 2: Cut through a berm located in Area A to reconnect the wetlands. Plant emergent vegetation in Areas B, C, and D. Plant SAV in Area D. Remove exotic vegetation from Areas A and B.
- Alternative 2A: Plant emergent vegetation in Area D. Plant SAV in Area D. Remove exotic vegetation from Areas A and B. Remove sediments in Areas A, B, C, and D. Create a marsh island in Area D.
- Alternative 3 (Recommended Plan): Cut through a berm located in Area A to reconnect the wetlands. Plant emergent vegetation in Areas B, C, and D. Plant SAV in Area D. Remove exotic vegetation from Areas A, B, and C. Remove sediments in Areas A, B, C, and D. Create a marsh island in Area D.

The 2012 authorized plan (Alternative 3) provides the best solution to developing an aquatic ecosystem restoration project that improves the quality of the environment and is in the public interest. Additional information can be found in Section 6 of the 2012 DPR/EA.

2.1 2020 SUPPLEMENTAL EA ALTERNATIVES

As a result of additional geotechnical investigations in the D&I phase, the 2012 Recommended Plan's approved design needs to be updated. The use of equipment and/or methods not covered by the project's NEPA documents and/or required authorizations (e.g. water quality certification) may require re-initiation of consultation with regulating agencies and/or additional coordination. Final details for BMPs and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods.

The project site remains in need of environmental restoration. As a result of these changes, this supplemental EA has been prepared to confirm that construction of the authorized plan, with the inclusion of barging sediments to the Bartram Island DMMA (2020 Recommended Plan), will not result in significant effects on the human environment (See section 4 for discussion of effects). The names of the alternatives for the 2020 Recommended Plan have been labeled “A”, “B”, and “C” to differentiate from the alternatives discussed within the 2012 DPR/EA. It should be noted that Alternative 3 (the recommended plan from 2012) is the same as Alternative B in the 2020 plan. The recommended plan in this SEA (Alternative C) is a modification of Alternative 3 from the 2012 DPR/EA.

In addition to the “no action” alternative (A), the 2012 Authorized Plan (B) was evaluated against the updated 2020 Recommended Plan (C). Alternative C accommodates the changed conditions (removal of the marsh island), barging sediments to the Bartram Island DMMA, but is otherwise unchanged from Alternative B, which meets the objectives of the study. Both Alternatives B and C provide a resilient solution to the environmental restoration of BFWC and LFWC. Additionally, both B and C are economically justified.

2.1.1 NO-ACTION ALTERNATIVE – ALTERNATIVE A

NEPA regulations refer to the No Action Alternative as the continuation of existing conditions of the affected environment without implementation of, or in the absence of, the Recommended Plan. The No Action Alternative would result in no changes to BFWC and LFWC. BFWC and LFWC would remain as it currently is and as was described in the 2012 DPR/EA. The No Action Alternative provides a benchmark to allow for a comparison of the environmental effects of the proposed action and any reasonable action alternatives.

2.1.2 2012 AUTHORIZED PLAN – ALTERNATIVE B

The 2012 Authorized Plan consists of the following:

- Cutting through a berm located in Area A to reconnect the wetlands.
- Planting emergent vegetation in Areas B, C, and D.
- Planting SAV in Area D.
- Removing exotic vegetation from Areas A, B, and C.
- Removing sediments in Areas A, B, C, and D.
- Creating a marsh island in Area D.

This alternative includes removal of approximately 32,000 cubic yards of sediment to create two channels at the mouth of Big Fishweir Creek that will converge to form one channel heading upstream to the project limit. The target depth of the channel(s) would be four to six feet below mean low water in the lower and central portion of the stream, and at least four feet in the upper channel. The pattern of the channels near the mouth of the stream would be routed around the proposed created marsh island before joining the St John’s River.

Dredged material from the channels would constitute the foundation of the marsh island and is expected to encompass some 2.3 acres at the mouth of BFWC. The material will be encased in geo-textile tubes that will be configured to form the foundation of the island. In addition, sand substrate from the upper portion of the stream will be used to cap the newly formed island and will provide the proper medium for vegetation plantings. A sediment trap will be dredged at the base of the island to manage sediment loading by controlling current velocity, thus decreasing future maintenance of the stream.

The construction sequence for the project is anticipated to involve the installation of erosion and sediment control features including silt fence along the work perimeters and floating turbidity barriers within the BFWC and LFWC. Access for the project will be via the existing project limits, along the channel. The staging/stockpiling area will also be located within the existing project limits. All construction and maintenance access can use the existing project limits from the original 206 project.

2.1.3 2020 PLAN – ALTERNATIVE C

The 2020 Plan consists of the following:

- Dredging in Areas A and upstream B will occur up to 1,875 LF with a target depth of four (4) feet below Mean High Water (MHW), with 0.5 foot of overdraft. The bottom width is four (4) feet, with an estimated side slope of approximately one vertical on four horizontal (1V:4H), but can be higher based upon variable sediment composition. The final dredged top width after natural side slope settling will likely span the entire channel in some locations.
- Dredging in Area C (LFWC) will occur up to 1,079 LF with target depth of four (4) feet below MHW, with 0.5 foot of overdraft. The bottom width is six (6) feet, with an estimated side slope of approximately one vertical on four horizontal (1V:4H), but can be higher based upon variable sediment composition. The final dredged top width after natural side slope settling will likely span the entire channel in some locations.
- Dredging in Area D will start with a 220-ft by 122-ft basin at the confluence of BFWC (upstream Area D) and LFWC (Area C), and approximately 2,000 LF of channel. The confluence basin has target depth of five and a half (5.5) feet below MHW, with 0.5 foot of overdraft. The basin will transition into the channel, which is to be dredged to a target depth of 7.5 feet below MHW, with 0.5 foot of overdraft, with a bottom width of forty (40) feet, and an estimated side slope of approximately one vertical on four horizontal (1V:4H), but can be higher based upon variable sediment composition. After natural settling, the final channel top width will be over 104 feet wide.
- The proposed plan includes removal of approximately 30,000 cy of sediment by dredging from all areas of the project, to be hauled by barge to Bartram Island DMMA for disposal.

Alternative C (2020 Plan) accommodates the changed conditions including decreased dredging in Area B; removal of EV and SAV plantings; and removal of the marsh island as per the 2012 Recommended Plan by removing sediment from Areas A through D and barging the sediment to Bartram Island DMMA. Alternative C meets the objectives of the study to restore an aquatic ecosystem and improve the quality of the environment in BFWC through sediment removal within BFWC and LFWC.

Although the Corps does not typically dictate means and methods to the Contractor, it is assumed that the construction of the project will likely need to include cutback or removal of vegetation at the access site. Additionally, a secondary access point has been identified within this SEA (Figure 4) to allow for flexibility in ingress and egress to the project site locations. The Contractor and the City of Jacksonville will be responsible for gaining any property rights necessary to utilize the secondary access point.

BMPs and methods to manage turbidity during the dredging of the creek will ensure minimized and controlled turbidity. Final details for BMPs and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods. Prior to any construction activity turbidity curtains, silt fences, and/or other BMP measures will be installed.

2.2 ISSUES AND BASIS OF CHOICE

The potential effects of the authorized 2012 project as well as the No Action Alternative are thoroughly evaluated within the 2012 DPR/EA and are hereby incorporated by reference (Corps 2012). Therefore, the analysis in this 2020 EA addresses only the effects associated with the proposed changes including decreased dredging in Area B; removal of EV and SAV plantings; removal of the marsh island; and the inclusion of barging sediments to the Bartram Island DMMA, which were not previously evaluated.

Table 2 lists the potentially affected factors considered in this EA and provides a brief comparison of the No Action Alternative (Alternative A), the 2012 Recommended Plan (Alternative B), and the 2020 Plan (Alternative C). Section 4 provides the analysis of the major features and consequences of the No Action Alternative in comparison to Alternative C, which was carried forward for evaluation. The No Action Alternative is carried forward as a basis of comparison for NEPA purposes. It is noted however, that the No Action Alternative would not allow the Corps to construct a Section 206 project to provide ecosystem restoration benefits.

Implementation of Alternative B is no longer possible due to the changed site conditions discussed previously. Alternative C will implement BMPs to reduce any potentially adverse effects, particularly in regard to removing and barging sediments to a disposal location. (See Chapter 4 for the effects of Alternative C.) The Corps and its contractors commit to avoiding and minimizing adverse effects during construction activities. Environmental commitments, as discussed in Chapter 6, will be included in the contract specifications.

In consideration of applicable factors listed in 33 C.F.R. § 320.4 (as discussed in this EA's section 1.8) and the analysis completed in Section 4 of this EA, the Corps determined Alternative C is not contrary to public interest and would not significantly affect the quality of the human environment; therefore, Alternative C is carried forward as this EA's Recommended Plan. The Recommended Plan (Alternative C) is also the environmentally acceptable alternative.

Table 1. Summary and comparison of the potential environmental consequences associated with the implementation of Alternative A (No Action), Alternative B (2012 Recommended Plan), and Alternative C (2020 Recommended Plan).

Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>
Environmental Quality (EQ)			
Geology & Soils	No Effect Expected.	Dredging of the creek would benefit native soils beneath the area of sediment removal and will be preserved in place with the island.	Dredging of the creek would benefit native soils beneath the area of sediment removal and peat will be removed from the creek. Due to the discovery of peat in the creek, the island cannot be constructed.
Climate	No Effect Expected.	No Effects Expected.	No Effects Expected.
Plant Communities			
Freshwater/ Brackish Marsh	Continued degradation from compromised hydrology and encroaching invasive or undesirable species.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include increased spatial wetland replacement, significant increase in biodiversity of native vegetation, significant sediment and nutrient attenuation by vegetation root- mass, increased dissolved oxygen (DO) in stream, increased aesthetic quality.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include increased DO with flushing of creek.

Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>
Mixed Hardwood Bottomland	Continued degradation from compromised hydrology and encroaching invasive or undesirable species.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include minor biodiversity of native vegetation, removed competition for remaining existing species, more appropriate species composition for type of plant community, re-establishment of adequate hydroperiod for riparian and forested wetland system by cuts in berm and sediment removal.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include increased flushing of creek to improve hydrology
Freshwater Marsh	Continued degradation from compromised hydrology and invasive undesirable species.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include increased spatial wetland replacement, significant biodiversity of native vegetation, significant sediment and nutrient attenuation by vegetation root-	There will be temporary disturbance to vegetation during construction activities. It is expected adjacent marsh vegetation would benefit from increased flow in the creek including increased DO in stream.

		mass, increased DO in stream, increased aesthetic quality.	
Tidal Flats	No Effect Expected.	There will be temporary disturbance to vegetation during construction activities. Long term benefits include significant biodiversity of native vegetation, significant sediment and nutrient attenuation by vegetation root-mass, habitat enhancement to wildlife, increased DO in stream, increased aesthetic quality.	There will be temporary disturbance to vegetation during construction activities.
Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>
Fish and Wildlife Resources			
Fish and Wildlife	Continued degradation from sediment deposition, decreased foraging, spawning, and nesting opportunities,	There will be a temporary displacement of wildlife usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased nesting, forage potential, spawning areas, additional cover by vegetation.	There will be a temporary displacement of wildlife usage during construction activities. Long term benefits include increased usage due to improved quality of habitat.

	degraded water quality issues (biochemical oxygen demand (BOD), turbidity, nutrient loading).		
Invertebrates	Continued degradation from sediment deposition; steady decrease in population, degraded water quality issues (BOD, turbidity, nutrient loading).	There will be a direct and indirect temporary effect to benthic community during dredging and construction. There will be permanent effects at footprint of created marsh island. Long term benefits include exposure of desirable substrate for re-establishing and increasing species populations.	Direct and indirect temporary effects to benthic community during dredging and construction.
Amphibians and Reptiles	Continued degradation from sediment deposition, decreased foraging and nesting opportunities, degraded water quality issues (BOD, turbidity, nutrient loading).	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased forage potential, spawning areas, additional cover by vegetation.	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat.
Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D;</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>

		<i>and creating a marsh island in Area D.</i>	
Fish	Continued declining populations and species diversity from degrading stream water quality (Decreased DO, BOD, turbidity, nutrient loading).	There will be a temporary displacement of wildlife usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased forage potential, spawning areas, additional cover by vegetation. Increased DO, water clarity.	There will be a temporary displacement of wildlife usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased DO, water clarity.
Birds (Migratory, Songbirds, Raptors, Shore, etc)	Continued declining usage of area for foraging, nesting, nurturing young, decreased species diversity, declining populations	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased forage and loafing, potential nesting areas, additional cover by vegetation.	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat.
Mammals	Continued declining usage of area for foraging, nesting, nurturing young, decreased species diversity, declining populations.	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat. Increased forage and loafing, potential nesting areas, additional cover by vegetation.	There will be a temporary displacement of species usage during construction activities. Long term benefits include significantly increased usage due to improved quality of habitat.

Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>
Essential Fish Habitat (EFH)	Continued declining fish populations and usage, degradation from loss of habitat and impaired water quality.	There will be a temporary disruption of fish usage during construction activities. Long term benefits include significantly improved quality of habitat. Increased foraging of benthic invertebrates and spawning areas. Increased DO, water clarity.	There will be a temporary disruption of fish usage during construction activities. Long term benefits include significantly improved quality of habitat. Increased foraging of benthic invertebrates and spawning areas. Increased DO, water clarity.
Threatened and Endangered Species			
West Indian manatees	No usage by manatees due to inaccessibility.	No anticipated effects. No usage by manatees due to inaccessibility. Post-dredged channels will have increased boat usage. Long term benefits include increased depth, accessibility to safe haven upstream, significant increased foraging area and food resources. Improved drinking water resource and visibility with enhanced water quality. Created island provides more forage resources.	No anticipated effects. No usage by manatees due to inaccessibility. Post-dredged channels will have increased boat usage. Long term benefits include increased depth, accessibility to safe haven upstream, significant increased foraging area and food resources. Improved drinking water resource and visibility with enhanced water quality.

wood stork	No usage by wood stork at this time. Continued degradation to ecosystem further erodes potential usage for foraging or nesting.	There will be no effects to the wood stork as no sightings of this species has occurred within the project area. Long term benefits include potential usage as a result of improved quality of habitat. Potential foraging areas, increased possible usage by marsh island creation.	There will be no effects to the wood stork as no sightings of this species has occurred within the project area. Long term benefits include potential usage as a result of improved quality of habitat.
Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>
Other Resources			
Water Quality	Water quality at the project site has been projected to continually degrade without the proposed work. Increased sediment deposition will exponentially reduce the water quality at the site and downstream without corrective action.	There will be temporary isolation of sediments and increased flushing improve water quality.	There will be temporary isolation of sediments and increased flushing improve water quality.

Air Quality	No Effects Expected	There will be temporary exhaust emissions from equipment during construction and dredging activities. There will be no long-term change to air quality expected.	There will be temporary, anticipated emissions within national ambient air quality standards. There will be no long-term change to air quality expected.
Noise	No Effects Expected	There will be temporary noise from equipment during construction and dredging activities.	Temporary noise from equipment during construction and dredging activities.
Aesthetics	Continued degradation will steadily decrease overall aesthetic appeal from turbid water, encroaching undesirable vegetation, declined wildlife usage, and degraded fish habitat.	There will be a temporary effect of heavy equipment in areas during construction and dredging activities. The long-term benefits include restored appropriate native vegetation within plant community type of system, increased wildlife usage. Improved water clarity and visual quality. Additional marsh island improves overall landscape of area.	There will be a temporary effect of heavy equipment in areas during construction and dredging activities. The long-term benefits include improved water clarity and visual quality.
Environmental Factor	Alternative A	Alternative B	Alternative C
	(No Action)	(2012 DPR/EA Recommended Plan)	(2020 Recommended Plan)
		<i>Cutting through a berm located in Area A to reconnect the wetlands; planting emergent vegetation in Areas B, C, and D; planting SAV in Area D; removing exotic vegetation from Areas A, B, and C; removing sediments in Areas A, B, C, and D; and creating a marsh island in Area D.</i>	<i>Removing sediments in Areas A, B, C, and D and barging sediments to Bartram Island disposal area.</i>

Hazardous, Toxic, & Radiological Waste (HTRW)	HTRW is relatively uniformly present throughout the project area. Moving contaminated sediment from one spot to another of equal or greater contamination is being discussed with FDEP.	As noted in the 2012 EA, HTRW is relatively uniformly present throughout the project area. Moving contaminated sediment from one spot to another of equal or greater contamination is being discussed with FDEP. Two clean areas will provide clean fill for the top of the island, for clean vegetation.	Material will be moved off site to a disposal area.
Land Use	No change to adjacent land use.	There will be a temporary effect from equipment during construction and dredging activities. The long-term benefits include removal of berm will retain land use as wetland with moderately improved overall quality. Addition of marsh island will change land use occurring within the stream channel from open water to wetland (total 2.5 acres).	There will be a temporary effect from equipment during construction and dredging activities.
Cultural Resources	No Effects	There will be no effects if known submerged artifacts are avoided or archaeological monitoring takes place at time of dredging.	There will be no effects if known submerged artifacts are avoided or archaeological monitoring takes place at time of dredging.

3 EXISTING ENVIRONMENT

This section summarizes the general existing physical and biological features of the BFWC project area. The reader is encouraged to access the 2012 DPR/EA for additional information on the affected environment. Section 1.4 contains the link for accessing the 2012 DPR/EA.

Site conditions at the BFWC CAP Section 206 project changed from what was described in the 2012 Final DPR/EA as a result of additional geotechnical investigations during the D&I phase. An updated engineering analysis was conducted following the additional geotechnical investigations, which occurred after the completion of the 2012 DPR/EA. Initial design selected during the development of the 2012 Recommended Plan included the creation of a marsh island and trucking of dredged sediments off site; however, the updated geotechnical analysis determined that construction of the marsh island is not feasible and the dredged sediments should be barged to the Bartram Island DMMA. The updated geotechnical analysis showed the presence of peat in the BFWC. Since peat liquefies very easily when exposed to water, this significantly changed the side slope characteristics of the dredged channel as well as the ability to construct the island, thus necessitating changing the channel location to avoid potential property damage.

The water quality and habitat within BFWC and LFWC are deteriorated, and the BFWC continues to remain in need of environmental restoration. Without action, the BFWC is likely to continue a downward trend of overall quality degradation, as a result of sediment build-up, and impairment to surface water quality.

However, aggregating silt accumulation will continue to amplify the adverse effects of the remaining bacteria entering into the stream basin. Additionally, increased turbidity and suspended solids from accumulating silt deposition, along with continuous sediment and contaminant suspension, could also result in future non-compliance with the Florida Class III surface water quality standards.

Fish and wildlife usage of BFWC is anticipated to continue declining due to poor habitat quality. Further sediment loading in the stream channel, over time, will discourage benthic organism development; this will directly affect available foraging resources for the wood stork, shore and wading birds, and waterfowl. Presently, manatees are unable to access Big Fishweir Creek due to the obstruction created by the over-abundance of sediment within the stream channel. This restriction will continue to impede manatee utilization of this waterway, which in turn further imperils this endangered species.

The hydrology of these systems will be further compromised by a fluctuating water table from frequent flooding that allows untreated silt-laden stormwater to runoff rather than be attenuated by a restored riparian wetland (USEPA 2005). This scenario will allow encroachment by inappropriate upland species, ultimately altering the character,

function, and value of these aquatic resources. Native plant communities such as the mixed hardwood bottomland and freshwater/brackish water marsh will continue to decline in quality as encroaching invasive and inappropriate plant species discourage natural regeneration of native vegetation, leading to reduced diversity (IFAS website, USEPA, 2005). Due to the rapid and multiple growth techniques, “weedy” characteristics, and lack of natural predators, the invasive exotic plants present in the BFWC project boundaries will outcompete native plants for resources at some time in the future (IFAS website). The loss of native habitat will push plant and animal species out of the BFWC project area in the near future.

At the present time there are a relatively low number of invasive exotic species, approximately two acres in the project boundaries. Species like Chinese tallow and camphor tree produce an abundance of fruit that is spread by birds and other animal species throughout their home range (Nelson, 1994). These two trees displace desirable native plants and form dense monoculture stands in just a few years. Vine species, such as air potato and Japanese honeysuckle, grow up and over native trees blocking sun light causing forest health to decline. This will inevitably lead to the extinction of native plants (IFAS website). Failure to control these invasive plant species now will exponentially increase future and overall management costs and will fail to maintain the health of the existing forest, further imperiling the native communities.

Additional Construction - As discussed in previous sections, several studies have been conducted with regards to addressing the water quality of this project’s associative watershed basins. Contamination point and non-point sources have been identified for stormwater discharges and bacteriological/fecal coliform introductions. Programs have been developed and implemented to reduce fecal coliform contamination of the watershed in the future. Programs discussed include the following:

- Additional inspections and operator requirements of lift stations by the City of Jacksonville (COJ);
- JEA programs, including Fats, Oils, and Grease (FOG) Reduction Program, SSO Root Cause Program, Non-Destructive Testing Program, and Time-Out Program;
- Tributary Assessment Team (TAT)-Directed Reconnaissance of Sewer Infrastructure and Associated Sampling by JEA and COJ, which includes regular intensive localized sampling;
- Water and Sewer Expansion Authority’s (WSEA’s) role in addressing Septic System Failure Areas;
- National Pollution Discharge Elimination System MS4 Permit Monitoring Plan;
- Maintenance of Stormwater Conveyance Systems by COJ;

Currently, the City of Jacksonville is updating its Master Stormwater Management Plan (MSMP) to address water quantity and quality issues. Through this effort the City is addressing flooding concerns as well as water quality goals established by the Lower St Johns River Basin Management Action Plan for TMDL. The City’s MSMP will result in a reduction of approximately 5 MT TN/year in the Lower St Johns River Upstream of Trout Watershed Basin, which includes Big Fishweir Creek.

The City has identified a potential project in the Big Fishweir sub-basin. The project involves the installation of an in-line pond and widening the downstream channel to a 25ft bottom width with 3:1 side slopes from Hamilton to Plymouth St.

This potential City project will assist in alleviating flooding for 6 structures in the 100-yr floodplain. It is anticipated the installation of the in-line pond and widening of the downstream channel will slow channel flows and result in reduced sedimentation downstream at the stream mouth.

4 ENVIRONMENTAL EFFECTS

This section provides the analysis of the anticipated changes to the existing environment (including direct and indirect effects) for the No Action Alternative, Alternative B (2012 Recommended Plan), and Alternative C (2020 Recommended Plan).

Environmental effects caused by dredging in Areas A, B, C, and D; EV and SAV plantings; construction of the marsh island and potential environmental effects of the No Action Alternative are thoroughly evaluated within the 2012 DPR/EA and are hereby incorporated by reference (Corps 2012). The reader is encouraged to access the 2012 DPR/EA for additional information.

Due to the required changes in project design caused by the recent geotechnical investigations, it is assumed that the construction of the project will likely need to decrease dredging in Area B; remove EV and SAV plantings; remove the marsh island and barge sediment to the Bartram Island DMMA (2020 Recommended Plan). Therefore, the analysis in this section addresses only the effects associated with the decreased dredging in Area B; removal of EV and SAV plantings; removal of the marsh island and barging sediment to the Bartram Island DMMA, which were not previously evaluated.

4.1 SUMMARY OF EFFECTS

The differences between the 2012 Recommended Plan and the 2020 Recommended Plan is that the project would include decreasing dredging in Area B; removing EV and SAV plantings; removing the marsh island and barging sediment to the Bartram Island DMMA. A summary of the potential maximum in-water acreage effects are provided in Table 2:

Table 2. Maximum potential in-water acreage affected by construction and temporary work platform activities.

Location	Construction Activities
Area A and B	Dredging approximately 1,875 LF, for a target depth of 4 feet below Mean High Water (MHW), with a potential total depth of 4.5 feet below MHW
Area C	Dredging approximately 1,079 LF, for a target depth of 4 feet below Mean High Water (MHW), with a potential total depth of 4.5 feet below MHW
Area D	Dredging in Area D will include a 220-ft by 122-ft basin at the confluence of Area D and C, and approximately 2,000 LF of channel. The confluence basin has a target depth of 5.5 feet below Mean High Water (MHW), with a potential total depth of 6.0 feet below MHW. The basin will transition into the channel, which is to be dredged to a target depth of 7.5 feet below MHW, with a potential total depth 8.0 feet below MHW
Bartram Island DMMA	Disposal of approximately 30,000 cy of sediment

4.2 THREATENED & ENDANGERED SPECIES

4.2.1 ALTERNATIVE C

Pursuant to Section 7 of the ESA, the Corps consulted with USFWS and NMFS for potential effects to listed T&E species. The Corps will include a soft-start ramp up procedure during dredging. Therefore, the Corps determined that by including these protection measures, the project “may affect, but is not likely to adversely affect” the following listed species:

- West Indian (Florida) manatee (*Trichechus manatus*)
- Wood stork (*Mycteria americana*)

The original 2012 Recommended Plan provided the creation of the marsh island and the planting of natural vegetation, resulting in a functional lift to wood stork foraging habitat. The 2012 Recommended Plan stated that it was unlikely that wood storks would nest in the project footprint, but that the proposed work would ultimately benefit the species through increased diversity of native vegetation species. The 2020 Recommended Plan has removed the creation of the marsh island and vegetation plantings, opting for the dredging of the creek as the only viable path forward. This will reduce the functional lift provided to the wood stork but will still provide a benefit to the species. Increased water quality and wetland function in the vicinity will provide an increase to foraging opportunities to the birds. Reduction in accumulated sediments will provide foraging habitat for the birds, as prey species will recolonize the available new habitat. Although the 2020 Recommended Plan reduces the potential for benefits to the wood stork in the project area, the overall impact will be positive.

4.2.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

The placement of material within the Bartram Island DMMA will be subject to the Bartram Island DMMA Site Management and Monitoring Plan. Effects to threatened and endangered species were evaluated within the environmental impact statement for the Bartram Island DMMA. Effects discussed within the EIS are still valid and incorporated by reference. All disposal of dredged material will abide by the terms and conditions within the management plan pertaining to the protection of threatened and endangered species.

4.3 PLANT COMMUNITIES

4.3.1 ALTERNATIVE C

Additional investigations by Corps biologists determined that removing exotic and invasive species and planting EV and SAV is no longer an acceptable option. Alternative C removes the connection to the freshwater marsh in Area A, decreases the dredging in area B, removes planting EV and SAV, does not remove invasive and exotic species and removes the marsh island in Area D. This alternative does not include any freshwater marsh creation.

4.3.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

The placement of material within the Bartram Island DMMA will be subject to the Bartram

Island DMMA Site Management and Monitoring Plan. Effects to plant communities were evaluated within the environmental impact statement for the Bartram Island DMMA. Effects discussed within the EIS are still valid and incorporated by reference. A

4.4 FISH AND WILDLIFE RESOURCES

4.4.1 ALTERNATIVE C

Fish and wildlife within the dredging area would be temporarily displaced during construction. Any fish or birds displaced during dredging would be expected to return following completion of construction. All dredging will occur below mean low water within open water, so upland bird nesting and foraging habitat will not be impacted from the dredging operations. In addition, some opportunistic foraging during dredging is expected by some fish and bird species.

4.4.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

The placement of material within the Bartram Island DMMA will be subject to the Bartram Island DMMA Site Management and Monitoring Plan. Effects to fish and wildlife resources were evaluated within the EIS for the Bartram Island DMMA. Effects discussed within the EIS are still valid and incorporated by reference. All disposal of dredged material will abide by the terms and conditions within the management plan pertaining to the protection of these resources.

4.5 ESSENTIAL FISH HABITAT

4.5.1 ALTERNATIVE C

The proposed dredging could affect the marine water column and substrate. The Corps has determined that the proposed action would only have a negligible adverse effect on EFH or federally managed fisheries along the east coast of Florida. This determination was based on the depth of the water column, and lack of submerged aquatic vegetation. Turbidity could affect vision of marine life within the sediment plume as well as those marine organisms with gills, but these effects would be temporary as they would be limited to the duration of the dredge operations. In addition, it is important to note that the dredging area encompasses a fraction of the entire water body, and similar habitat occurs immediately adjacent. EFH coordination for the proposed action with the NMFS will be initiated concurrent with noticing of this draft NEPA document.

4.5.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

The placement of material within the Bartram Island DMMA will be subject to the Bartram Island DMMA Site Management and Monitoring Plan. Effects to essential fish habitat were evaluated within the EIS for the Bartram Island DMMA. Effects discussed within the EIS are still valid and incorporated by reference. All disposal of dredged material will abide by the terms and conditions within the management plan pertaining to the protection of these resources.

4.6 WATER QUALITY

4.6.1 ALTERNATIVE C

The primary anticipated change in water quality at the project site would be a temporary

increase in turbidity during dredging. All dredging would occur within BFWC and would not impact the St. Johns River. No appreciable effects on dissolved oxygen, pH, or temperature are anticipated. Any resultant water column turbidity would be short term and during the dredging operation. The project will be coordinated with the State of Florida for water quality certification to ensure compliance with State of Florida water quality standards.

4.6.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

A barge would transit the material from the dredging site to the disposal location within the Bartram Island DMMA and release dredged material. Typically, the disposal of dredged material will result in short-term, localized effects to water quality parameters.

4.7 AIR QUALITY

4.7.1 ALTERNATIVE C

The short-term effects from emissions by the dredge and other construction equipment associated with the project are not anticipated to affect onshore or offshore air quality significantly. Exhaust emissions from vehicles, vessels, and construction equipment associated with the project would have a temporary and localized effect on air quality.

4.7.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

Vessels associated with the dredge and disposal are one in the same and would not significantly affect air quality in the area. The contract specifications would require the contractor to minimize pollution of air resources such as controlling particulates or excess machinery emissions.

4.8 CULTURAL RESOURCES

4.8.1 ALTERNATIVE C

Prior to the 2012 DPR/EA, the Corps contracted with Southeastern Archaeological Research, Inc. (SEARCH) to conduct a remote-sensing survey of the NEPA study area. The SEARCH survey, documented in a report titled "Historic Assessment and Remote Sensing Survey of the Big Fishweir Creek Section 206 Aquatic Ecosystem Restoration, Jacksonville, Duval County, Florida." Based on this report, the Corps determined there were two potential historic properties within the study area, a shipwreck (archaeological site 8DU19048) and a possible submerged canoe. In the Section 106 consultation for the 2012 DPR/EA, the Corps determined both features would be avoided by project activities and established 100-foot buffer zones in which project activities could not occur. Florida SHPO concurred on this finding of no adverse effect of the project to historic properties by letter on October 7, 2007 (DHR Project File No.: 2007-7680).

As these buffer zones could potentially not be avoided, the Corps conducted an additional study to determine if the cultural resource and potential cultural resource documented in the 2012 DPR/EA were historic properties. The Corps determined the Area of Potential Effects (APE) consisted of areas with possible dredging under the project alternatives. The Corps contracted with LG2ES, Inc. to conduct a diver identification study of within the Area of Potential Effects (APE). The resulting study, titled "Submerged Cultural

Resources Evaluation of Two Targets Supporting the Big Fishweir Creek Aquatic Ecosystem Restoration Project” provided the Corps with additional information to determine the significance of the two features. The shipwreck is a barge of common type and construction and is appropriate age and design to have been used to construct the docks lining Fishweir Creek. The possible canoe seen in the remote sensing survey was determined to be a log or piling.

The Corps determined no historic properties were present within the APE and the proposed project posed no adverse effects to historic properties. The Corps consulted on this finding by letter with the certified local government of Jacksonville, Florida, the Florida SHPO, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town on May 11, 2020. The Seminole Tribe of Florida provided a letter with no objections on June 9, 2020 (THPO No.: 0032444). The SHPO concurred with the Corps’ finding by letter on June 29, 2020 (DHR Project File No.: 2020-2666).

4.8.2 MATERIAL PLACEMENT IN BARTRAM ISLAND DMMA

The placement of material within the Bartram Island DMMA will be subject to the Bartram Island DMMA Site Management and Monitoring Plan. There are no anticipated impacts to cultural resources within the Bartram Island DMMA.

4.9 UNAVOIDABLE ADVERSE ENVIRONMENTAL EFFECTS

Under the No Action Alternative, continued sedimentation may result in adverse effects to the environment in the BFWC ultimately continuing to degrade habitat and water quality.

Implementation of Alternative B is no longer possible due to the changed site conditions. Therefore, Alternative C is the 2020 Recommended Plan. Alternative C would be expected to result in temporary adverse impacts to water quality, recreation, and navigation resources. Operations could temporarily displace wildlife in the area. Protective measures shall be implemented to protect threatened and endangered species during construction activities. Dredging and placement activities would result in turbidity, and these activities shall be monitored per the terms and conditions of the water quality certification.

5 PUBLIC AND AGENCY COORDINATION

5.1 SCOPING AND DRAFT SUPPLEMENTAL EA

A Notice of Availability for the proposed FONSI, draft supplemental EA, and associated appendices was coordinated with pertinent agencies and interested stakeholders for 30 calendar days to allow for review and comment. The project is in compliance with the National Environmental Policy Act of 1969, as amended, 42 U.S.C. §4321, *et seq.* Public Law 91-190 upon completion of this review.

5.2 COMMENTS RECEIVED AND CORPS' RESPONSES

A copy of all comments received during the public and agency review and comment period, as well as a summary matrix of the comments and Corps' responses, will be included in the final EA's Appendix B.

6 ENVIRONMENTAL COMMITMENTS AND COMPLIANCE

Pursuant to NEPA, the Corps is providing an update on the project's compliance with applicable environmental acts and/or Executive Orders (E.O.s) which are affected by the required project changes. This Supplemental EA has been prepared pursuant to NEPA and its implementing regulations.

Environmental effects caused by dredging in Areas A, B, C, and D; EV and SAV plantings; construction of the marsh island and potential environmental effects of the No Action Alternative are thoroughly evaluated within the 2012 DPR/EA and are hereby incorporated by reference (Corps 2012). The Corps and its contractors commit to avoiding and minimizing for adverse effects during construction activities by including the commitments from the 2012 DPR/EA in the contract specifications. The reader is encouraged to access the 2012 DPR/EA for additional information. Compliance with applicable environmental acts and/or E.O.s documented in the 2012 DPR/EA are still valid except for updates as noted below.

National Environmental Policy Act of 1969 (42 U.S.C. §4321 et seq.)

This EA has been prepared pursuant to NEPA and its implementing regulations. A Notice of Availability for the proposed FONSI, draft supplemental EA, and associated appendices was coordinated with pertinent agencies and interested stakeholders for 30 calendar days to allow for review and comment. This public coordination and the final NEPA document comply with the intent of NEPA.

Endangered Species Act of 1973 (16 USC §1531 et seq.)

Consultation has not yet been initiated under Section 7 of the ESA with NMFS. Consultation was initiated for Section 7 of the ESA with USFWS. A Biological Assessment was submitted to the US FWS on 30 August 2011. This project will be fully coordinated under the Endangered Species Act for full compliance with the Act.

Fish and Wildlife Coordination Act of 1958, As Amended (16 USC § 661 et seq.)

Coordination with the USFWS occurred with the initial 2012 EA. Updated coordination with USFWS will be conducted upon noticing of this draft EA to ensure no additional recommendations are needed based on review of the current EA and changes identified. The provisions of the Fish and Wildlife Coordination Act of 1958, as amended (48 Stat. 401; 16 U.S.C. 661 et seq.) will be adhered to as required. The project complies with this Act.

Clean Water Act of 1972, Section 401 and Section 404(B) (33 U.S.C. §1341 and 33 U.S.C. §1344(b))

In consideration of the project changes, updates to the project's WQC application and the CWA Section 404(b)(1) Guidelines Evaluation is required. An application for water quality certification pursuant to section 401 of the CWA, 33 U.S.C. § 1341, will be submitted. An updated copy of the project's 404(B)(1) Guidelines Evaluation is included in Appendix C. All conditions of the water quality certification will be implemented in order

to minimize adverse impacts to water quality. The WQC will be obtained from the State of Florida. All conditions of the WQC will be implemented in order to minimize adverse impacts to water quality. The project complies with the Act.

Clean Air Act of 1963 (42 USC § 7401 et seq.)

Vehicular emission and airborne dust particulates resulting from construction activities shall be controlled. No air quality permits will be required. This project will be coordinated with EPA, and will be in compliance with this Act.

Coastal Zone Management Act of 1972 (16 U.S.C. §1451 et seq.)

A federal consistency determination in accordance with 15 CFR 930 Subpart C is included in this report as Appendix D. State consistency review will be performed as part of the coordination of the EA and the State to determine that the project is consistent with the Florida Coastal Zone Management Program. (Pertinent correspondence is included in Appendix A.)

Farmland Protection Policy Act of 1981 (7 USC § 4201 et seq.)

No prime or unique farmland would be impacted by the dredging. Therefore, this Act is not applicable to the project.

Wild and Scenic River Act of 1968 (16 USC §1271 et seq.)

No designated Wild and Scenic river reaches would be affected by project related activities. This Act is not applicable.

Marine Mammal Protection Act of 1972 (16 USC § 1361 et seq.)

Incorporation of the safeguards used to protect threatened or endangered species during dredging and material disposal operation would also protect any marine mammals in the area. Therefore, this project is in compliance with the Act. The Corps does not anticipate the take of any marine mammal during any activities associated with the project. Appropriate actions will be taken to avoid listed and protected marine mammal species effects during project construction. If a marine mammal is identified within the project boundaries, they will be provided protections equal the ESA species that have had consultations completed, and as a result of this the project is in compliance with this Act.

Estuary Protection Act of 1968 (16 USC §§ 1221-26)

There are no estuaries of national significance in the vicinity of the project. This Act is not applicable to this project.

Magnuson-Stevens Fishery Conservation and Management Act

This act requires preparation of an Essential Fish Habitat (EFH) Assessment and coordination with the National Marine Fisheries Service (NMFS). An independent EFH Assessment may be coordinated prior to preparation of the NEPA document. Alternatively, the NEPA document (EA or EIS) may serve as this assessment if it includes the required elements as follows: (1) a description of the proposed action (parts of chapters 1.0 and 2.0); (2) analysis of individual and cumulative effects on EFH, Federally managed fisheries, and associated species such as major prey species, including

affected life history stages (parts of chapters 3.0 and 4.0); (3) the District's view regarding effects; and (4) proposed mitigation, if applicable. Information on essential fish habitat, managed species, and life history stages can be obtained from the NMFS web sites as follows: for the Gulf of Mexico <http://galveston.ssp.nmfs.gov/efh/>, for the South Atlantic <http://www.safmc.noaa.gov/safmcweb/Habitat/habitat.html>, and for the Caribbean <http://www.caribbeanfmc.com/>.

The NMFS may reply to the EFH Assessment with recommendations, objections, or other comments. The district would have 30 days to respond (or at least provide an interim response). If we indicate that we do not intend to follow the recommendations of the NMFS, the act gives them the opportunity to elevate that decision to higher authority (SAD or HQ).

The Corps will initiate coordination with NMFS under the EFH provisions of the Magnuson-Stevens Fishery Conservation and Management Act during the public comment period under the NEPA process.

National Historic Preservation Act of 1966 (54 U.S.C. §300101 et seq.)

The proposed action is in compliance with Section 106 of the National Historic Preservation Act, as amended (Public Law 89-665) (NHPA). As part of the requirements and consultation process contained within the NHPA implementing regulations of 36 C.F.R. 800, this project is also in compliance through ongoing consultation with the Archeological and Historic Preservation Act, as amended (Public Law 93-291), Archeological Resources Protection Act (Public Law 96-95), American Indian Religious Freedom Act (Public Law 95-341), Native American Graves Protection and Repatriation Act (NAGPRA) (Public Law 101-601), Executive Order 11593, 13007, and 13175, the Presidential Memo of 1994 on Government to Government Relations and appropriate Florida Statutes. The Corps determined, on the basis of data gathered in two identification efforts, no historic properties were present within the Area of Potential Effect (APE). On this basis, the Corps determined proposed action will have no adverse effect to historic properties and provided this finding by letter to the certified local government of Jacksonville, Florida, the Florida SHPO, the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, the Seminole Tribe of Florida, and Thlopthlocco Tribal Town. The Seminole Tribe of Florida provided a letter with no objections on June 9, 2020 (THPO No.: 0032444). The SHPO concurred with the Corps' finding by letter on June 29, 2020 (DHR Project File No.: 2020-2666).

Federal Water Project Recreation Act of 1965, As Amended (16 USC §§ 460(L)(12)-460(L)(21))

The proposed project will provide recreational benefits to the area. The principles of the Federal Water Project Recreation Act have been followed. The project is in compliance with this Act.

Submerged Lands Act of 1953 (43 USC § 1301 et seq.)

The project will occur on submerged lands of the State of Florida. The project will be coordinated with the State and will be in compliance with the Act.

Coastal Barrier Resources Act and Coastal Barrier Improvement Act (16 USC § 3501 et seq.)

The proposed dredging and placement areas occur outside of any Coastal Barrier Resource System. Therefore, this Act is not applicable to the project.

Rivers and Harbors Act of 1899, Section 10 (33 USC § 403 et seq.)

The proposed work could temporarily obstruct navigable waters of the United States but would ultimately improve navigability of these waters. The proposed action will be subjected to a public notice and other evaluations normally conducted for activities subject to the Act. The project is in full compliance with this Act.

Anadromous Fish Conservation Act of 1965, As Amended (16 USC §§ 757A-757G)

Anadromous fish species would not be affected. The project and Corps' determination of effect will be coordinated with the NMFS and will be in compliance with this Act.

Migratory Bird Treaty Act of 1918 (16 USC §§ 703-712) and Migratory Bird Conservation Act of 1929 (16 USC §§ 715-715d, 715e, 715f-715r)

There are no impacts anticipated to areas where migratory birds are located or nesting. The project is in compliance with these Acts.

Marine Protection, Research, and Sanctuaries Act of 1972 (16 USC § 1431 et seq. AND 33 USC § 1401 et seq.)

The project will not involve marine resources. This Act is not applicable.

Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 USC § 4601 et seq.)

This project will require the temporary real estate rights from landowners within the project boundaries. There will be no acquisition of any permanent real estate interests from private property owners. The project is in compliance with this Act.

E.O. 11990, Protection of Wetlands

Temporary impacts to existing wetlands will occur during restoration activities associated with this project. No permanent impacts will occur to wetlands as a result of this action. This project is in compliance with the goals of the Order.

E.O. 11988, Flood Plain Management

The project is in the base flood plain (100-year flood) and is being evaluated in accordance with this Executive Order. The Project will be in compliance with the Order.

E.O. 12898, Environmental Justice

The proposed action would not result in adverse human health or environmental effects, nor would the activity impact substance consumption of fish or wildlife. Project is in compliance with the Order.

E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks

The proposed action does not affect children disproportionately from other members of the population and would not increase any environmental health or safety risks to

children. The project complies with the Order.

E.O. 13089, Coral Reef Protection

This project would not impact those species, habitats, and other natural resources associated with coral reefs, including hardbottom habitats. The project complies with this Order.

E.O. 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

The project does not impact areas inhabited or utilized by migratory birds. The project complies with this Order.

E.O. 13112, Invasive Species

The proposed action would not introduce invasive species and will comply with EO 13112 by observing the guidance in the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 *et seq*), Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 U.S.C. 4701 *et seq*), Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 *et seq*), Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq*), and other pertinent statutes for the prevention of the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause. The project is in compliance with the Order.

Consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan (ISMP) is pending along with the Florida Exotic Pest Plant Council.

7 LIST OF PREPARERS

Name	Organization	Expertise	Role in Preparation
Chrissie Figueroa, Hydraulic Engineer	Corps	NEPA	Primary Author
Christopher Altes, Archeologist	Corps	Cultural Resources	Contributing Author
Cem Goral, Attorney	Corps	Office of Counsel	Document Reviewer
Meredith Moreno, Senior Archeologist	Corps	Cultural Resources	Document Reviewer
Juliana Matiz Project Manager	Corps	Project Management	Document Reviewer
Melissa Reynolds, Engineer Team Lead	Corps	Engineer	Document Reviewer
Mike Hollingsworth Senior Water Quality Specialist	Corps	Water Quality	Document Reviewer
Jason Spinning, Coastal Section Chief	Corps	Supervisory Biologist	Document Reviewer
Angela Dunn, Environmental Branch Chief	Corps	Supervisory Biologist	Document Reviewer

8 ACRONYM LIST

BDO	Biochemical Oxygen Demand
BMPs	Best Management Practices
CAP	Continuing Authorities Program
CE/ICA	Cost-effectiveness/Incremental Cost Analysis
C.F.R.	Code of Federal Regulations
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
DNER	Department of Natural and Environmental Resources
DO	Dissolved Oxygen
EA	Environmental Assessment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
FCD	Federal Consistency Determination
FONSI	Finding of No Significant Impact
FR	Federal Register
HNR	Humacao Natural Reserve
HTRW	Hazardous, Toxic, and Radioactive Waste
M	Meters
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NMFS	National Marine Fisheries Service
T&E	Threatened and endangered
U.S.	United States
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
WQC	Water Quality Certification

9 REFERENCES

U.S. Army Corps of Engineers (Corps). 2012. Final Integrated Detailed Project Report and Environmental Assessment, Big Fishweir Creek, Duval County, Florida, Continuing Authorities Program (CAP) Section 206 Project. Jacksonville, FL.

Jacksonville Harbor Operation & Maintenance Dredged Material Management Plan (DMMP) 2012 to 2031 Update. 2013

APPENDIX A

Project Correspondence

Supplemental Environmental Assessment Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project



U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

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APPENDIX B

Public and Agency Project Comments and Corps' Responses

Supplemental Environmental Assessment Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project



**U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT**

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Table 3. Summary of U.S. Army Corps of Engineers, Jacksonville District (Corps) responses to comments received during the agency and public review and comment period of the proposed Finding of No Significant Impact (FONSI) and draft Supplemental Environmental Assessment (EA) for the Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project.

#	Commenter	Comment	Response
1			
2			
3			
4			

APPENDIX C

Clean Water Act 404(b)(1) Guidelines Evaluation

Supplemental Environmental Assessment Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project



U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

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404(b)(1) Guidelines Evaluation

**BIG FISHWEIR CREEK
CONTINUING AUTHORITIES PROGRAM (CAP) SECTION 206 PROJECT
DUVAL COUNTY, FLORIDA**

September 2020

1. Technical Evaluation Factors

a. Physical and Chemical Characteristics of the Aquatic Ecosystem (40 C.F.R. §§ 230.20-230.25)(Subpart C)

	N/A	Not Significant	Significant
(1) Substrate impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(2) Suspended particulates/turbidity impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Water Quality Control	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Alteration of current patterns and water circulation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Alteration of normal water fluctuations/hydroperiod	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(6) Alteration of salinity gradients	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The purpose of the Big Fishweir Creek project is to restore a healthy aquatic habitat in the creek by providing ecological benefits including: the removal of anthropogenic sediment accumulations, restoration of habitat for listed species, and the reestablishment of intertidal and sub-tidal benthic communities.

Temporary turbidity will occur during project construction. Impacts will be temporary and localized, lasting only as long as construction takes place. Best Management Practices (BMPs) and methods to manage turbidity during the construction activities will ensure minimized and controlled turbidity. The use of equipment and/or methods not covered by the project's National Environmental Policy Act (NEPA) documents and/or required authorizations (e.g. water quality certification) may require re-initiation of consultation with regulating agencies and/or additional coordination. Final details for BMPs and methods will be determined during the permitting and contracting process. The contractor will be given criteria to determine and achieve acceptable means and methods.

b. Biological Characteristics of the Aquatic Ecosystem (40 C.F.R. §§ 230.30-230.32) (Subpart D)

	N/A	Not Significant	Significant
(1) Effect on threatened/endangered species and their habitat	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | |
|---|--------------------------|-------------------------------------|--------------------------|
| (2) Effect on the aquatic food web | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (3) Effect on other wildlife (mammals, birds, reptiles, and amphibians) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

The Corps has concluded that the project may affect, but is not likely to adversely affect, the following federally listed species:

- West Indian manatee (*Trichechus manatus*)

The Corps has determined that the project will have no effect on the following federally-listed species:

- Wood stork (*Mycteria americana*)

The project is will incorporate the USFWS' 2011 standard in-water conditions for the manatee. The Corps will coordinate with USFWS upon the noticing of the draft EA.

c. Special Aquatic Site (40 C.F.R. §§ 230.40-230.45) (Subpart E)

	N/A	Not Significant	Significant
(1) Sanctuaries and refuges	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Wetlands	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Mud flats	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(4) Vegetated shallows	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(5) Coral reefs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(6) Riffle and pool complexes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The project site consists of wetlands. The proposed project will result in an overall beneficial effect to the wetlands onsite and in the surrounding landscape. The impacts to the special aquatic sites will be temporary.

d. Human Use Characteristics (40 C.F.R. §§ 230.50-230.54) (Subpart F)

	N/A	Not Significant	Significant
(1) Effects on municipal and private water supplies	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(2) Recreational and Commercial fisheries impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(3) Effects on water-related recreation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(4) Aesthetic impacts	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(5) Effects on parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Evaluation of Dredged or Fill Material (40 C.F.R. § 230.60) (Subpart G)

- a. The following information has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. (**Check only those appropriate**)

- (1) Physical characteristics
- (2) Hydrography in relation to known or anticipated sources of contaminants
- (3) Results from previous testing of the material in the vicinity of the project
- (4) Known, significant, sources of persistent pesticides from land runoff or percolation
- (5) Spill records for petroleum products or designated (Section 311 of CWA) hazardous substances
- (6) Other public records of significant introduction of contaminants from industries, municipalities or other sources
- (7) Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge/fill
- (8) Other sources (specify)

There is potential for contaminants to be present in the dredged material. The identified contaminants are at a generally lower level and will not pose a threat at the disposal site. Geotechnical testing identified peat within the project footprint. Peat is an organic material that liquefies readily when exposed to water. A water quality certification will be obtained prior to construction.

- b. An evaluation of the appropriate information in 2a above indicated that there is reason to believe the proposed dredged or fill material is not a carrier of contaminants, of that levels of contaminants are substantively similar at extraction and disposal sites and not likely to exceed constraints. The material meets the testing exclusion criteria.

YES NO

3. Disposal Site Delineation (40 C.F.R. § 230.11(f))

- a. The following factors, as appropriate, have been considered in evaluating the disposal site.

- (1) Depth of water at disposal site
- (2) Current velocity, direction, and variability at disposal site
- (3) Degree of turbulence
- (4) Water volume stratification
- (5) Discharge vessel or fill speed and direction
- (6) Rate of discharge/fill
- (7) Dredged material characteristics (constituents, amount, and type of material, settling velocities)

- (8) Number of discharges/fill per unit of time
- (9) Other factors affecting rates and patterns of mixing (specify)

The dredged material will be disposed of within the Bartram Island DMMA, which has been previously authorized and is regulated through a management plan.

- b. An evaluation of the appropriate factors in 4a above indicates that the disposal site and/or size of mixing zone are acceptable.

YES NO

4. Actions to Minimize Adverse Effects (40 C.F.R. §§ 230.70-230.77)(Subpart H)

All appropriate and practicable steps have been taken, through application of recommendation of Section 230.70-230.77 to ensure minimal adverse effects of the proposed discharge/fill.

YES NO

5. Factual Determination (40 C.F.R. § 230.11)

A review of appropriate information as identified in items 2-5 above indicates that there is minimal potential for short or long-term environmental effects of the proposed discharge/fill as related to:

- a. Physical substrate at the disposal site
- b. Water circulation, fluctuation & salinity
- c. Suspended particulates/turbidity
- d. Contaminant availability
- e. Aquatic ecosystem structure and function
- f. Disposal site
- g. Cumulative impact on the aquatic ecosystem
- h. Secondary impacts on the aquatic ecosystem

6. Review of Compliance (40 C.F.R. § 230.10(a)-(d) (Subpart B)

A review of the permit application indicates that:

- a. The discharge/fill represents the least environmentally damaging practicable alternative and if in a special aquatic site, the activity associated with the discharge/fill must have direct access or proximity to, or be located in the aquatic ecosystem to fulfill its basic purpose (if no, see section 2 and information gathered for EA alternative);

YES NO

- b. The activity does not appear to 1) violate applicable state water quality standards or effluent standards prohibited under Section 307 of the CWA; 2) jeopardize the existence of Federally designated marine sanctuary (if no, see section 2b and check responses from resource and water quality certifying agencies); YES NO
- c. The activity will not cause or contribute to significant degradation of waters of the U.S. including adverse effects on human health, life stages of organisms dependent on the aquatic ecosystem, ecosystem diversity, productivity and stability, and recreational, aesthetic, and economic values (if no, see section 2); YES NO
- d. Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge/fill on the aquatic ecosystem (if no, see section 5); YES NO

7. Findings

- a. The proposed disposal site for discharge of dredged or fill material complies with the Section 404 (b)(1) guidelines
- b. The proposed disposal site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:
- c. The proposed disposal site for discharge of dredged or fill material does not comply with the Section 404(b)(1) guidelines for the following reason(s):
- (1) There is a less damaging practicable alternative
 - (2) The proposed discharge/fill will result in significant degradation of the aquatic ecosystem
 - (3) The proposed discharge/fill does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem

FINDING OF COMPLIANCE
FOR THE 404(b) EVALUATION FOR
BIG FISHWEIR CREEK
CONTINUING AUTHORITIES PROGRAM (CAP) SECTION 206 PROJECT
DUVAL COUNTY, FLORIDA

1. No significant adaptations of the guidelines were made relative to this evaluation.
2. The DMMA is the placement site available for this project. Use of this site will not result in significant impacts to water level fluctuation, circulation or currents.
3. The planned disposal of dredged material at the DMMA will not violate any applicable State water quality standards with the possible exception of turbidity. Therefore, turbidity standards will be monitored per the Water Quality Certification issued by the State of Florida. If a turbidity violation is noted, then those activities causing the violation shall be terminated. The disposal operation will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
4. Use of the DMMA will not jeopardize the continued existence of any species listed as threatened or endangered or result in the likelihood of destruction or adverse modification of any critical habitat as specified by the Endangered Species Act of 1973, as amended. Consultation with the U.S. Fish and Wildlife Service will be completed prior to construction.
5. The proposed disposal of dredged material will not result in significant long-term adverse effects on human health and welfare, including municipal and private water supplies, recreation and commercial fishing, plankton, fish, shellfish, wildlife, and special aquatic sites. Significant adverse effects on life stages of aquatic life and other wildlife, aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values will not occur.
6. Appropriate steps shall be taken to minimize potential adverse impacts of the discharge on aquatic systems.
7. On the basis of the guidelines, the proposed disposal site for the discharge of dredged material is specified as complying with the inclusion of appropriate and practical conditions to minimize pollution or adverse effects to the aquatic ecosystem.

APPENDIX D

Coastal Zone Management Consistency

Supplemental Environmental Assessment Big Fishweir Creek Continuing Authorities Program (CAP) Section 206 Project



U.S. Army Corps of Engineers
JACKSONVILLE DISTRICT

**FLORIDA COASTAL MANAGEMENT PROGRAM
FEDERAL CONSISTENCY EVALUATION PROCEDURES**

**BIG FISHWEIR CREEK
CONTINUING AUTHORITIES PROGRAM (CAP) SECTION 206 PROJECT
DUVAL COUNTY, FLORIDA**

1. Chapter 161, Beach and Shore Preservation. The intent of the coastal construction permit program established by this chapter is to regulate construction projects located seaward of the line of mean high water and which might have an effect on natural shoreline processes.

Response: The proposed plans and information will be submitted to the State in compliance with this chapter. There is no coastal construction associated with the proposed action.

2. Chapters 163(part II), 186, and 187, County, Municipal, State and Regional Planning. These chapters establish the Local Comprehensive Plans, the Strategic Regional Policy Plans, and the State Comprehensive Plan (SCP). The SCP sets goals that articulate a strategic vision of the State's future. Its purpose is to define in a broad sense, goals, and policies that provide decision-makers directions for the future and provide long-range guidance for an orderly social, economic and physical growth.

Response: The proposed project will be coordinated with various Federal, State and local agencies during the planning process. The project meets the primary goal of the State Comprehensive Plan through insurance of navigation and provision of social, economic and physical growth.

3. Chapter 252, Disaster Preparation, Response and Mitigation. This chapter creates a State emergency management agency, with the authority to provide for the common defense; to protect the public peace, health and safety; and to preserve the lives and property of the people of Florida.

Response: The proposed project involves the restoration of Big Fishweir Creek, which will increase water quality and ecological function at the project site. Therefore, this project is consistent with the efforts of Division of Emergency Management.

4. Chapter 253, State Lands. This chapter governs the management of submerged State lands and resources within State lands. This includes archeological and historical resources; water resources; fish and wildlife resources; beaches and dunes; submerged grass beds and other benthic communities; swamps, marshes and other wetlands; mineral resources; unique natural features; submerged lands; spoil islands; and artificial reefs.

Response: The proposed project complies with State regulations pertaining to the above resources. The work complies with the intent of this chapter.

5. Chapters 253, 259, 260, and 375, Land Acquisition. This chapter authorizes the State to acquire land to protect environmentally sensitive areas.

Response: Since the affected property already is in public ownership, with the exception of small areas of private ownership on the stream banks. The project complies with the intent of these chapters.

6. Chapter 258, State Parks and Aquatic Preserves. This chapter authorizes the State to manage State parks and preserves. Consistency with this statute would include consideration of projects that would directly or indirectly adversely impact park property, natural resources, park programs, management or operations.

Response: The proposed project is not located near any State Parks or Aquatic Preserves. The project would not directly or indirectly adversely impact park property, natural resources, park programs, management, or operations.

7. Chapter 267, Historic Preservation. This chapter establishes the procedures for implementing the Florida Historic Resources Act responsibilities.

Response: This project has been coordinated with the State Historic Preservation Officer (SHPO). A determination of no effects to historic properties was made by the Corps and the appropriate Tribes and agencies were contacted to provide comments and input. The project is consistent with this chapter.

8. Chapter 288, Economic Development and Tourism. This chapter directs the State to provide guidance and promotion of beneficial development through encouraging economic diversification and promoting tourism.

Response: The proposed project will result in the ecological restoration of a natural area and encourages recreational use that in turn provides economic benefits to the area. This will be compatible with tourism for this area and therefore, is consistent with the goals of this chapter.

9. Chapters 334 and 339, Transportation. This chapter authorizes the planning and development of a safe balanced and efficient transportation system.

Response: The restoration work will not affect the state transportation system. The project has been designed to incorporate a buffer around the Florida Department of Transportation (FDOT) bridge located within the project site. The project is consistent with the goals of these chapters.

10. Chapter 370, Saltwater Living Resources. This chapter directs the State to preserve, manage and protect the marine, crustacean, shell and anadromous fishery resources in State waters; to protect and enhance the marine and estuarine environment; to regulate fishermen and vessels of the State engaged in the taking of such resources within or without State waters; to issue licenses for the taking and processing products of fisheries; to secure and maintain statistical records of the catch of each such species; and, to conduct scientific, economic, and other studies and research.

Response: The proposed work will not have a substantial adverse impact on saltwater living resources. The proposed work is within a freshwater system and the effects to saltwater resources

is minor, if not beneficial from increased downstream water quality. Based on the overall impacts of the project, the project is consistent with the goals of this chapter.

11. Chapter 372, Living Land and Freshwater Resources. This chapter establishes the Fish and Wildlife Conservation Commission and directs it to manage freshwater aquatic life and wild animal life and their habitat to perpetuate a diversity of species with densities and distributions which provide sustained ecological, recreational, scientific, educational, aesthetic, and economic benefits.

Response: The project will have a beneficial impact on living land and freshwater resources. The project is consistent with the goals of this chapter.

12. Chapter 373, Water Resources. This chapter provides the authority to regulate the withdrawal, diversion, storage, and consumption of water.

Response: This project does not involve water resources as described by this chapter.

13. Chapter 376, Pollutant Spill Prevention and Control. This chapter regulates the transfer, storage, and transportation of pollutants and the cleanup of pollutant discharges.

Response: The contract specifications will prohibit the contractor from dumping oil, fuel, or hazardous wastes in the work area and will require that the contractor adopt safe and sanitary measures for the disposal of solid wastes. A spill prevention plan will be required.

14. Chapter 377, Oil and Gas Exploration and Production. This chapter authorizes the regulation of all phases of exploration, drilling, and production of oil, gas, and other petroleum products.

Response: This project does not involve the exploration, drilling or production of gas, oil or petroleum product and therefore, this chapter does not apply.

15. Chapter 380, Environmental Land and Water Management. This chapter establishes criteria and procedures to assure that local land development decisions consider the regional impact nature of proposed large-scale development. This chapter also deals with the Area of Critical State Concern program and the Coastal Infrastructure Policy.

Response: The proposed work will be coordinated with the local regional planning commission. Therefore, the project is consistent with the goals of this chapter.

16. Chapters 381 (selected subsections on on-site sewage treatment and disposal systems) and 388 (Mosquito/Arthropod Control). Chapter 388 provides for a comprehensive approach for abatement or suppression of mosquitoes and other pest arthropods within the State.

Response: The project shall not further the propagation of mosquitoes or other pest arthropods.

17. Chapter 403, Environmental Control. This chapter authorizes the regulation of pollution of the air and waters of the State by the Florida Department of Environmental Regulation (now a part of the Florida Department of Environmental Protection).

Response: An Environmental Assessment addressing project impacts has been prepared and will be reviewed by the appropriate resource agencies including the Florida Department of Environmental Protection. Environmental protection measures will be implemented to ensure that no lasting adverse effects on water quality, air quality, or other environmental resources will occur. A Water Quality Certification is being sought from the State. The project complies with the intent of this chapter.

18. Chapter 582, Soil and Water Conservation. This chapter establishes policy for the conservation of the State soil and water through the Department of Agriculture. Land use policies will be evaluated in terms of their tendency to cause or contribute to soil erosion or to conserve, develop, and utilize soil and water resources both onsite or in adjoining properties affected by the project. Particular attention will be given to projects on or near agricultural lands.

Response: Agricultural lands do not occur in the vicinity of the project; therefore this chapter does not apply.