



Draft Environmental Assessment

Volusia County's Courthouse Annex Seawall

FEMA-4283-DR-FL

Volusia County, Florida

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FEMA

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Region IV – Atlanta, GA

Table of Contents

APPENDICES..... 4

ACRONYMS AND ABBREVIATIONS 5

1.0 INTRODUCTION..... 7

2.0 PURPOSE AND NEED..... 8

3.0 ALTERNATIVES..... 8

3.1. Alternative 1 – No Action Alternative 8

3.2. Alternative 2 – Restoring the Seawall to Pre-Disaster Condition..... 8

3.3. Alternative 3 – Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)..... 8

4.0 AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES 10

4.1. Potential Environmental Consequences 10

4.2. Physical Resources..... 14

4.2.1. Geology and Soils..... 14

4.2.2. Clean Air Act 15

4.2.3. Climate Change..... 16

4.3. Water Resources..... 16

4.3.1. Clean Water Act..... 16

4.3.2. Executive Order 11988 (EO 11988) Floodplain Management 17

4.3.3. Wetlands 18

4.3.4. Drinking Water 19

4.4. Coastal Resources 20

4.4.1. Coastal Zone Management Act (CZMA) 20

4.4.2. Coastal Barrier Resource Act (CBRA)/ Coastal Barrier Improvement Act (CBIA)
20

4.5. Biological Resources..... 21

4.5.1. Fish & Wildlife Resources..... 21

4.5.2. Vegetation..... 22

4.5.3. Threatened and Endangered Species 23

4.5.4. Migratory Bird Treaty Act 24

4.5.5. Magnuson-Stevens Fishery Conservation and Management Act 25

4.5.6. Bald and Golden Eagle Protection Act..... 26

4.6.	Cultural Resources	27
4.6.1.	Alternative 1: No Action Alternative.....	28
4.6.2.	Alternative 2: Restoring the Seawall to Pre-Disaster Condition	28
4.6.3.	Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative).....	28
4.7.	Socioeconomic Resources.....	29
4.7.1.	Land Use and Planning	29
4.7.2.	Noise Control	30
4.7.3.	Transportation.....	31
4.7.4.	Environmental Justice (EO 12898).....	31
4.7.5.	Hazardous Materials/Waste and Solid Waste	32
5.0	Cumulative impacts.....	34
6.0	Permit and project conditions.....	35
7.0	PUBLIC INVOLVEMENT	43
8.0	AGENCY COORDINATION	44
9.0	LIST OF PREPARERS	44
10.0	REFERENCES.....	44

APPENDICES

- A EO 11988 Floodplain Management Checklist
- B Public Notice
- C Floodplain/wetland Map
- D USFWS Statewide Programmatic Biological Opinion (USFWS SPBO)
- E USACE Jacksonville District's Programmatic Biological Opinion (JAXBO)
- F USACE Permit No. SAJ-2019-04454 (NWP-BAW)
- G USFWS Effect Determination Key for the Wood Stork in Central and North Peninsular Florida
- H FDEP Environmental Resource Permit No. ERP 0382458-002-EI
- I FDEP Environmental Resource Permit No. ERP 0382458-003-EM
- J Hydrologic and Hydraulic Study Certification
- K FDEP Amended Emergency Final Order No. 16-1319
- L USACE Memorandum for Record

ACRONYMS AND ABBREVIATIONS

APE	Area of Potential Effects
BFE	Base Flood Elevation
BGEPA	Bald and Golden Eagle Protection Act
BO	Biological Opinion
CBRA	Coastal Barrier Resource Act
CFR	<i>Code of Federal Regulations</i>
CWA	Clean Water Act
CY	Cubic Yards
CZMA	Coastal Zone Management Act
EA	Environmental Assessment
EFO	Emergency Final Order
EO	Executive Order
ESA	Endangered Species Act
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FGS	Florida Geological Service
FMSF	Florida Master Site File
GHGs	Greenhouse gases
JAXBO	Jacksonville District's Programmatic Biological Opinion
LF	Linear Feet
MBTA	Migratory Bird Treaty Act
MFR	Memorandum for Record
MSA	Magnusson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NPS	National Park Service
NRHP	National Register of Historic Places
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resource Conservation Service
OPA	Otherwise Protected Area
PA	Public Assistance
PL	Public Law
RHA	Rivers and Harbors Act
SHPO	State Historic Preservation Office

Environmental Assessment
Volusia County's Courthouse Annex Seawall

SPBO Statewide Programmatic Biological Opinion
SF Square Feet
Stafford Act Robert T. Stafford Disaster Relief and Emergency Assistance Act
USACE United States Army Corps of Engineers

1.0 INTRODUCTION

Hurricane Matthew impacted Florida between October 3, 2016 to October 19, 2016, bringing strong wave action and storm surge. President Obama signed a disaster declaration (FEMA-4283-DR-FL) on October 8, 2016, authorizing the Department of Homeland Security's Federal Emergency Management Agency (FEMA) to provide federal assistance to designated areas of Florida. This assistance was provided pursuant to the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), and Public Law (PL) 93-288, as amended. Section 406 of the Stafford Act authorizes FEMA's Public Assistance (PA) Program to repair, restore, and replace state and local government and certain private nonprofit facilities damaged as a result of the event.

Volusia County, Florida (Applicant) was designated in Hurricane Matthew to receive federal assistance for this disaster. The county has applied through the PA Program to receive funding to restore a compromised seawall and adjacent eroded shoreline along the Halifax River in front of the county's Courthouse Annex on City Island, Daytona Beach, Florida. Strong wave action and storm surge resulted in water overtopping the seawall, which was constructed of stacked concrete bags bonded together. Once the seawall was overtopped, the area behind the seawall eroded and the bond between the concrete bags broke down, reducing the system to consist of loose blocks, leaving little to no protection to the shoreline. Approximately 560 feet of seawall was compromised, with the embankment losing approximately 4,500 cubic yards (CY) of material, both of which require repairs. In addition, an associated drainage outfall pipe and adjacent improved properties, including a sidewalk and portion of an asphalt parking lot were damaged, and also require repairs. The existing seawall was originally constructed in 1989.

Volusia County made temporary repairs in order to reduce risk to public safety and adjacent improved property immediately following Hurricane Matthew which included stabilizing the area by utilizing riprap and sod to restore 4,500 CY of embankment, repairing 25 linear feet (LF) of concrete sidewalk, and repairing 160 square feet (SF) of an existing parking lot back to their pre-disaster condition.

The construction, maintenance, and repair of the seawall, eroded shoreline, drainage outfall pipe, and adjacent improved property is the legal responsibility of Volusia County, and is authorized by the U.S. Army Corps of Engineers (USACE). USACE authorized a permit on May 19, 2021 SAJ-2019-04454 (NWP-BAW) for the county's proposed seawall project (Appendix F). This project is also authorized by the Florida Department of Environmental Protection (FDEP), Permit No. ERP 0382458-002-EI (Appendix H) and Permit No. ERP 0382458-003-EM (Appendix I).

The proposed action presented by Volusia County does not qualify for use of Department of Homeland Security Categorical Exclusion N4 for Federal Assistance for Actions Involving Stream Work and Modification and Floodways because the project activities involve stream bank work or alteration of more than 300 linear feet. Therefore, this Environmental Assessment (EA) has been prepared by FEMA in accordance with the National Environmental Policy Act (NEPA) (PL 91-190, as amended) and its implementing regulations at 40 Code of Federal Regulations (CFR) Parts 1500 to 1508, promulgated by the President's Council on Environmental Quality (CEQ). Recent changes to the President's CEQ regulations implementing the NEPA (40 CFR Parts 1500 to 1508) became effective on September 14, 2020, per 85 Federal Register 43304-76 (July 16, 2020). As

stated in 40 CFR Part 1506.13, the new regulations apply to any NEPA process begun after September 14, 2020. This EA substantively commenced prior to that date; therefore, this EA conforms to the CEQ NEPA implementing regulations that were in place prior to September 14, 2020, and procedures adopted pursuant to Department of Homeland Security Directive 023-01, Rev. 01, and FEMA Directive 108-1.

2.0 PURPOSE AND NEED

The objective of FEMA's PA Grant Program is to assist the community in recovering from the damage caused by natural disasters. As a result of Hurricane Matthew, Volusia County's Courthouse Annex seawall, associated shoreline, drainage outfall pipe, and adjacent improved property experienced damage from strong wave action and storm surge. The purpose of this project is to address erosion along this shoreline to withstand future damage. The county has identified the need to protect improved property, which includes the community's courthouse and parking facilities.

3.0 ALTERNATIVES

The alternatives considered in addressing the purpose and need stated are the No Action Alternative, Restoring the Seawall to Pre-Disaster Condition, and Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative).

3.1. Alternative 1 – No Action Alternative

Under Alternative 1, the seawall and adjacent shoreline would not be repaired. Consequently, the adjacent area consisting of improved property would not be protected from future storm events and ongoing erosion would continue along the vulnerable shoreline. With the No Action Alternative, continued negative impacts on nearby property and the community may be experienced.

3.2. Alternative 2 – Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, the county would repair the seawall and adjacent eroded shoreline to their pre-disaster design, location, capacity, and function. The damaged improved property and drainage outfall pipe would also be repaired to their pre-disaster condition. FEMA PA funding would be made available to Volusia County for repairs. While this alternative provides more protection than Alternative 1, it would still leave the shoreline and nearby improved properties vulnerable to repetitive damages from future storm events and potentially require additional federal funding.

3.3. Alternative 3 – Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, the county would replace the seawall with a hazard mitigation proposal in order to protect the embankment while minimizing scouring and future damages. The hazard mitigation proposal includes replacing the original stacked concrete bag seawall with a 740-foot composite sheet-pile seawall from GPS coordinates (29.2112151, -81.0143560) to (29.2108200, -81.0122763). New or reused riprap would be installed, commencing at the toe of new seawall,

extending no more than 10 feet waterward from the toe of seawall, and backfilling the eroded shoreline. The county also proposes to incorporate a new drainage system and a 30-inch reinforced concrete pipe (RCP) stormwater outfall through the new seawall, replacing the damaged drainage outfall pipe. FEMA PA funding would be made available to Volusia County for temporary repairs made to the adjacent sidewalk, asphalt parking lot, and embankment that were already completed, as well as the proposed mitigation measures designed to reduce the impact of storms and erosion in the future.

Preparatory work and operations would be necessary prior to replacing the seawall. Three sections of concrete sidewalk, totaling 137 LF, would be removed. 30 LF of an existing, adjacent timber pedestrian observation pier and six existing piles would also be removed. The remaining pier structure and its terminal observation platform would not be removed or altered. Existing riprap, placed as temporary repairs following Hurricane Matthew, would be removed from the proposed wall limits to landward extent, in addition to trees and vegetation along the embankment as needed. A segment of existing asphalt on the north corner of the courthouse parking lot would be removed in addition to an existing 41 LF RCP drainage pipe.

During initial demolition, hauling, and disposal activities for the existing seawall, existing riprap would be stored onsite for placement in front of the new proposed seawall. All demolition materials would be disposed of at an approved upland disposal site. Once all sheet piles have been driven for the seawall, the county would place the new and recycled riprap over Type D1 filter fabric. Backfill material shall be from an upland source and shall be clean, construction-quality sand, free from organics, oils, grease and debris. A newly constructed bridge, Veteran's Memorial Bridge, was built adjacent to the south east end of the proposed seawall in August 2020. The county proposes to connect the bridge's seawall with the Courthouse Annex seawall, to provide continuous protection along the embankment.

Following completion of the seawall construction, the contractor would reconstruct segments of the sidewalk, asphalt parking lot and adjacent timber pedestrian observation pier, which would be removed during demolition. Two segments of the removed concrete sidewalk would be replaced within the original footprints to restore their function. A third segment of concrete sidewalk, accounting for 79 LF, would be replaced with sod and asphalt in order to accommodate the proposed parking lot modifications. The north corner of the courthouse parking lot would be replaced within the original footprint but would be narrower than it was previously. 30 LF of the timber pedestrian observation pier would be replaced with concrete sidewalk and connected with a flush transition to the remaining segments of the original timber pedestrian pier. Sod would also be placed along the embankment between the asphalt parking lot and the newly constructed seawall.

This alternative addresses the concern of direct and indirect impacts on adjacent improved properties in the project area due to continued erosion. With this option, the shoreline protection would be enhanced and likely minimize future damages from storm events.

4.0 AFFECTED ENVIRONMENT AND POTENTIAL CONSEQUENCES

The seawall is located along the Halifax River in front of Volusia County’s Daytona Beach Courthouse Annex on City Island, Daytona Beach, Florida. The Halifax River is part of the Atlantic Intracoastal Waterway, located in northeast Volusia County, Florida. Landward of the project area consists of improved property, such as the courthouse, a parking facility, and portions of a sidewalk. To the immediate south east of the end of the proposed seawall is a newly constructed Veteran’s Memorial Bridge. Near the north west end of the proposed seawall is a pedestrian observation pier.

Impact significance and context evaluation criteria for potential impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected and there would be no impact, OR changes or benefits would either be non-detectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, but the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes to the resource would be readily measurable and would have substantial consequences/benefits on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Potential Environmental Consequences

The potential environmental consequences as a result of Alternatives 1, 2 and 3 are summarized in Table 4.1.

Table 4.1 Potential Environmental Consequences on Resources for Each Alternative

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
Physical Resources	Geology and Soils	No impact	Minor, short term impacts to soils due to disturbance from construction activities	Minor, long term impacts to geology due to disturbance of undisturbed ground and embankment will be hardened; Minor, short term impacts to soils due to disturbance from construction activities
Physical Resources	Clean Air Act	No impact	Minor, short term impacts to air quality due to exhaust from construction equipment	Minor, short term impacts to air quality due to exhaust from construction equipment
Physical Resources	Climate Change	No impact	Minor impact from construction equipment used	Minor impact from construction equipment used
Water Resources	Clean Water Act (CWA)	No impact	Minor impact from construction equipment used	Minor impact from construction equipment used
Water Resources	Floodplain Management (EO 11988)	No impact, risk to human life and improved property continues at the current level	Minor impact as the seawall may fail again, preventing it from reducing flood risk to adjacent improved property	Moderate impact as the seawall would be upgraded and would reduce flood risk to adjacent infrastructure and improved properties
Water Resources	Protection of Wetlands (EO 11990)	No impact	Short term minor impacts from construction	Short term minor impacts from construction, long term minor impacts from new construction

Environmental Assessment
Volusia County's Courthouse Annex Seawall

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
Water Resources	Drinking Water	No impact	No impact	No impact
Coastal Resources	Coastal Zone Management (CZMA)	No impact	Minor impact due to construction activities	Minor impact due to construction activities
Coastal Resources	Coastal Barrier Resource Act (CBRA)	No impact	No impact	No impact
Biological Resources	Fish & Wildlife Resources	No impact	Minor, short term impacts would occur to species that live in, or utilize, the Halifax River. During construction, the species are expected to display avoidance of the project area. After construction, these species would return to their normal behavior.	Minor, short term impacts would occur to species that live in, or utilize, the Halifax River. During construction, the species are expected to display avoidance of the project area. After construction, these species would return to their normal behavior.
Biological Resources	Vegetation	Minor impact, as continued erosion could lead to further loss of embankment vegetation	No Impact	Minor impact to vegetation as a result of construction activity and embankment hardening
Biological Resources	Threatened and Endangered Species	No impact	Minor impacts due to construction activity. Potential for incidental take during construction minimized by application of measures set forth	Minor impacts due to construction activity. Potential for incidental take during construction minimized by application of measures set

Environmental Assessment
Volusia County's Courthouse Annex Seawall

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
			in the U.S. Fish and Wildlife Service (USFWS) Biological Opinion (BO) and USACE Jacksonville District's Programmatic Biological Opinion (JAXBO) with the National Marine Fisheries Service (NMFS).	forth in U.S. Army Corps of Engineers (USACE) permit conditions, including conditions from the USACE JAXBO with the NMFS.
Biological Resources	Migratory Bird Treaty Act (MBTA)	No impact	Minor impacts minimized by application of measures set forth in the USFWS BO	Minor impacts minimized by application of measures set forth in USACE permit conditions
Biological Resources	Magnusson-Stevens Fisheries Conservation Act (MSA)	No impact	No impact as essential fish habitat is not present	No impact as essential fish habitat is not present
Biological Resources	Bald and Golden Eagle Protection Act (BGEPA)	No impact	No impact	No impact
Cultural Resources	Historic and Archaeological Resources	No impact	No Adverse Effect to Historic Properties, repairs meet programmatic allowances in applicable executed Programmatic Agreement, dated September 10, 2014	No Adverse Effect to Historic Properties, concurrence from SHPO received on 10/13/2020. Six federally recognized tribes consulted; no comments were received
Socioeconomic Resources	Land use and planning	No impact	Minor long-term beneficial impacts	Minor long-term beneficial

Resource Type	Resource	Alternative 1	Alternative 2	Alternative 3
			from protecting current land use	impacts from protecting current land use
Socioeconomic Resources	Noise	No impact	Minor short-term impacts by equipment used	Minor short-term impacts by equipment used
Socioeconomic Resources	Transportation	Minor impacts, as continuous erosion would decrease protection to the adjacent parking facility	Minor short-term impacts from construction equipment and activity, long term benefit from restoring the protection to the adjacent parking facility	Minor short-term impacts from construction equipment and activity, long term benefit from enhanced protection to the adjacent parking facility
Socioeconomic Resources	Environmental Justice (EO 12898)	Minor impacts, as negative impacts to the community could result from future storms	No impact	Moderate impact by storm damage reduction to improved properties, including the county’s courthouse, which is protected by the seawall
Socioeconomic Resources	Hazardous Materials/Waste and solid waste	No impact	Minor short-term impact due to potential for spills during construction.	Minor short-term impact due to potential for spills during construction.

4.2. Physical Resources

4.2.1. Geology and Soils

According to the Florida Geological Survey (FGS), the landform in which the project area is located is considered Eastern Valley, and the Florida Stratigraphic Geology of the project area is from the Pleistocene, within the Quaternary period. The coastal areas of the City of Daytona Beach consist of Qa and Qbd sediments, and the project area falls within Qa sediments. According to Natural Resources Conservation Service (NRCS) soil data, soils underlying the project area are classified as Urban Land (National Map unit 2x9fc), described as knolls on marine terraces, rises on marine terraces, flatwoods on marine terraces, hills on marine terraces, and ridges on marine terraces. The soil has a 0 to 2 percent slope. These map units are not classified as prime farmland

by the NRCS. Prime farmland is defined as land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is available for these uses.

4.2.1.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities or regrading, thus there would be no impact to existing geology and soil conditions.

4.2.1.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, the seawall restoration would have no long-term impacts on the geology and soils as clean fill and in-kind materials would be used during construction and repairs would remain within the previously existing footprint. Short-term impacts due to construction activities would be minimized by implement best management practices and by following the conditions of applicable permits.

4.2.1.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, the proposed action would have minor long-term impacts on the geology and soils as there would be minor new ground disturbance due to the extension of the seawall's original footprint. The extension is required to connect the upgraded seawall to the newly constructed seawall associated with the new adjacent bridge. Short-term impacts due to construction activities would be minimized by implementing best management practices and by following the conditions of the project's USACE and FDEP permits.

4.2.2. Clean Air Act

The Clean Air Act requires the Environmental Protection Agency (EPA) to establish national ambient air quality standards for certain common and widespread pollutants based on standards set for the following six common "criteria pollutants:" particle pollution, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead. Areas that meet the air quality standard for the criteria pollutants are designated as being in attainment. Areas that do not meet the air quality standard for one of the criteria pollutants are designated as being in nonattainment for that standard. All counties in the state of Florida are currently in attainment with all criteria pollutants.

4.2.2.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impacts to air quality.

4.2.2.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would have a minor short-term impact on air quality due to the temporary use of construction equipment resulting in temporary air emissions from fuel usage.

4.2.2.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would have a minor short-term impact on air quality due to the temporary use of construction equipment resulting in temporary air emissions from fuel usage. Due to more extensive construction activities occurring under Alternative 3, fuel usage would be required for a longer period of time as compared to Alternative 2, but the emissions would not have a long-term impact on air quality.

4.2.3. Climate Change

Greenhouse gases (GHGs) are emitted by both natural processes and human activities, and their accumulation in the atmosphere regulates temperature. GHGs include water vapor, carbon dioxide, methane, nitrous oxides, and other compounds. There are no established thresholds or standards for GHGs.

4.2.3.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore no GHGs would be emitted.

4.2.3.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would result in minor short-term impacts from temporary air emissions due to fuel usage by the construction equipment. These temporary emissions would be expected to be below regulatory standards and would have a minor impact.

4.2.3.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would result in minor short-term impacts from temporary air emissions due to fuel usage by the construction equipment. Due to more extensive construction activities occurring under Alternative 3, fuel usage would be required for a longer period of time (approximately 30 days) compared to Alternative 2. These temporary emissions would be expected to be below regulatory standards and would have a minor impact.

4.3. Water Resources

4.3.1. Clean Water Act

Section 401/404 of the Clean Water Act (CWA)/Section 10 of Rivers and Harbors Act (RHA) Existing Conditions: The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters (<https://www.epa.gov/laws-regulations/summary-clean-water-act>). Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit

before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

4.3.1.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impacts to waters of the United States.

4.3.1.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, the seawall restoration would have minor short-term impacts to waters of the United States due to the temporary use of equipment and potential for spills during construction. Short-term impacts due to construction activities would be minimized by implementing best management practices, including the use of a floating turbidity barrier, and by following the conditions of the applicable USACE permit.

4.3.1.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, the proposed action would have minor short-term impacts to waters of the United States due to the temporary use of equipment and potential for spills during construction. Short-term impacts due to construction activities would be minimized by implementing best management practices, including the use of turbidity curtains and silt fencing, and by following the conditions of USACE Permit No. SAJ-2019-04454 (NWP-BAW). See Appendix F.

4.3.2. Executive Order 11988 (EO 11988) Floodplain Management

EO 11988, Floodplain Management, amended January 29, 2015, and as implemented in 44 CFR Part 9, requires federal agencies to “avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” The 100-year floodplain is the area covered by water in the event of a 100-year flood, which is a flood that has a 1 percent annual chance of being equaled or exceeded in magnitude in any given year. The 500-year floodplain is the area covered by water in the event of a 500-year flood, which is a flood that has a 0.2 percent annual chance of being equaled or exceeded in magnitude in any given year. The VE zone is the coastal area subject to a velocity hazard (wave action) where Base Flood Elevations (BFEs) are provided. The VE zones as well as the 100- and 500-year floodplains are mapped on FEMA Flood Insurance Rate Maps.

4.3.2.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impacts to floodplains. Improved property adjacent to the project area would remain at risk from future flooding events.

4.3.2.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Work under Alternative 2 would occur within the floodplain. The seawall would serve to reduce flood risk to the areas landward of the existing embankment, including improved property. Alternative 2 would provide partial protection as the original seawall would be fully restored to pre-disaster condition and would remain vulnerable to repetitive damages. The seawall is functionally dependent upon its location within the floodplain, as outlined in 44 CFR Part 9. An 8-step checklist, as required by 44 CFR Part 9, would be completed for Alternative 2 if chosen.

4.3.2.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Work under Alternative 3 would occur within the floodplain. The upgraded seawall would serve to reduce the flood risk to the areas landward of the existing shoreline, including improved property. Alternative 3 would provide greater protection as the composite sheet-pile seawall would provide added protection against future flooding. In addition, connecting the upgraded seawall to the new seawall adjacent to the bridge will provide continuous erosion protection for the nearby improved property as well as the entire embankment. The seawall is functionally dependent upon its location within the floodplain, as outlined in 44 CFR Part 9. An 8-step checklist (Appendix A), as required by 44 CFR Part 9, has been completed for Alternative 3 (Preferred Alternative). Additionally, the proposed repairs would not have any upstream or downstream affects, according to the certification letter signed and stamped by a Professional Engineer in the state of Florida (Appendix J).

4.3.3. Wetlands

EO 11990, Protection of Wetlands, requires federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Information about the wetlands potentially affected by the proposed project was gathered from USFWS National Wetlands Inventory (NWI) Web Map Services. According to the maps in Appendix C, the project area is directly adjacent to a designated estuarine and marine deep-water wetland.

4.3.3.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impacts to the adjacent wetland.

4.3.3.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, and due to the location of the seawall being within a designated wetland, the construction activity would cause temporary impacts to the wetland from soil displacement during construction. Short-term impacts due to construction activities would be minimized by implementing best management practices, including the use of a floating turbidity barrier. The restoration activity would occur within the current seawall footprint thus making long term impacts

to wetlands negligible. An 8-step checklist, as required by 44 CFR Part 9, would be completed for Alternative 2 if chosen.

4.3.3.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, and due to the location of the seawall being within a designated wetland, the construction activity would cause temporary impacts to the wetland from soil displacement during construction. Short-term impacts due to construction activities would be minimized by implementing best management practices, including the use of a turbidity curtains and silt fencing. Minor, long term impacts would occur due to new ground disturbance for 180 LF of newly constructed seawall connecting the courthouse annex seawall to the newly constructed seawall adjacent to the bridge. The remaining 560 LF of construction activity is within the current seawall footprint thus making the impacts to wetlands negligible. An 8-step checklist (Appendix A), as required by 44 CFR Part 9, has been completed for Alternative 3 (Preferred Alternative).

4.3.4. Drinking Water

The Safe Water Drinking Act, passed in 1974, authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants that may be found in drinking water. According to the EPA's Map of Sole Source Aquifer Locations (<https://www.epa.gov/dwssa/map-sole-source-aquifer-locations>), the City of Daytona Beach is located within the Volusia-Floridan Aquifer.

4.3.4.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to drinking water resources.

4.3.4.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The Alternative 2 project is within the boundaries of the Volusia-Floridan Aquifer, however, there is no expected potential for contamination. Construction activities would follow best management practices, minimizing the potential for impacts on sole source aquifer and other drinking water sources due to construction activities. Therefore, the Volusia-Floridan Aquifer and drinking water quality would not be impacted.

4.3.4.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The Alternative 3 project is within the boundaries of the Volusia-Floridan Aquifer, however there is no expected potential for contamination. Construction activities would follow best management practices, minimizing the potential for impacts on sole source aquifer and other drinking water sources due to construction activities. In addition, the project's permit conditions would prevent potential contamination from occurring. Under this alternative, a drainage outfall pipe would be upgraded, however, the function or capacity would not change. Therefore, the Volusia-Floridan Aquifer and drinking water quality would not be impacted.

4.4. Coastal Resources

4.4.1. Coastal Zone Management Act (CZMA)

The Coastal Zone Management Act (CZMA) provides for the management of the nation's coastal resources. The CZMA defines the coastal zones where development must be managed to protect areas of natural resources unique to coastal regions. States are required to define the area that will comprise coastal zone and develop management plans that will protect these unique resources through enforceable policies of state coastal zone management programs. As defined in the Act, the coastal zone includes coastal waters extending to the outer limit of state submerged land title and ownership, adjacent shorelines, and land extending inward to the extent necessary to control shorelines. Federal as well as local actions must be determined to be consistent with the coastal zone management plans and policies before they can proceed.

4.4.1.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to the coastal zone.

4.4.1.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, activity and construction would occur in the coastal zone and would result in minor, temporary impacts due to construction activities. Volusia County's repairs under Alternative 2 would fall under the FDEP Amended Emergency Final Order (EFO) No. 16-1319 (Appendix K), which includes terms and conditions for the proposed repairs. Utilization of the EFO constitutes a consistency review for Volusia County.

4.4.1.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, activity and construction would occur in the coastal zone and would result in minor, temporary impacts due to construction activities. Volusia County obtained an ERP from FDEP's Permitting and Waste Cleanup Program on March 31, 2020 (Permit Number: 0382458-002-EI), which includes construction conditions and requirements for 560 LF of the proposed seawall repairs as well as the proposed drainage outfall pipe upgrade (Appendix H). In addition, Volusia County obtained a secondary ERP from FDEP on December 11, 2020 (Permit Number: 0382458-003-EM), authorizing construction of the additional 180 LF section of proposed seawall (Appendix I). The issuance of these permits constitutes a consistency review for Volusia County.

4.4.2. Coastal Barrier Resource Act (CBRA)/ Coastal Barrier Improvement Act (CBIA)

The Coastal Barrier Resources Act of 1982 and subsequent amendments are designed to address problems caused by coastal barrier development by restricting most Federal expenditures and financial assistance that tend to encourage such development. Three important goals of CBRA are to minimize loss of human life by discouraging development in high risk areas, reduce wasteful expenditure of federal resources, and protect the natural resources associated with coastal barriers.

The Coastal Barrier Improvement Act of 1990 reauthorized the CBRA and added new units. The CBIA, an addition to the CBRA, also designated a new category of lands called “otherwise protected areas” (OPAs). OPAs are based on areas established under federal, state, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, or natural resource conservation purposes.

This project is not located within the boundary of a Coastal Barrier Resource System (CBRS) Unit.

4.4.2.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to the coastal barrier system.

4.4.2.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The Alternative 2 project is not located within a CBRS Unit, therefore there would be no impact to the coastal barrier system.

4.4.2.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The Alternative 3 project is not located within a CBRS Unit, therefore there would be no impact to the coastal barrier system.

4.5. Biological Resources

4.5.1. Fish & Wildlife Resources

The Halifax River is part of the Atlantic Intracoastal Waterway. It originates at Tomoka Bay and connects to the Atlantic Ocean via the Ponce de Leon Inlet. The Halifax River and its surrounding environment is suitable for fish and wildlife, including avian and aquatic species.

4.5.1.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no direct impact to wildlife or fish populations.

4.5.1.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would have minor short-term impacts to fish and wildlife species as the construction activities may temporarily disrupt their normal behavior. Avian species may be deterred by the construction activities from foraging in or near the project areas. During construction, wildlife species would be expected to display avoidance of the project area. After construction, these species would return to their normal behavior. Impacts to species would be minimized by following procedures in the USFWS 2007 Statewide Programmatic Biological Opinion (USFWS PBO; Appendix D) and USACE Jacksonville District's Programmatic Biological Opinion (JAXBO; Appendix E) Project Design Criteria (PDC). The project may also have some beneficial impact to fish species by preventing silt deposition into the adjacent aquatic habitat.

4.5.1.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would have minor long-term impacts on fish and wildlife by reducing the area of sandy loam and vegetation at the water's edge where some amphibious animals may reproduce and where some animals may feed on aquatic vegetation. Construction activities would have minor short-term impacts as they would temporarily disrupt the normal behavior and routines of species and potentially deter avian species from feeding in or near the project area. During construction, wildlife species would be expected to display avoidance of the project area. After construction, these species would return to their normal behavior. Impacts to species would be minimized by implementing the conditions set forth in the USACE Permit No. SAJ-2019-04454 (NWP-BAW). The project may also have some beneficial impact to fish species by preventing silt deposition into the adjacent aquatic habitat.

4.5.2. Vegetation

Vegetation is the biological foundation of terrestrial ecosystems and is highly influenced by environmental factors, such as soil texture, depth, and landform type. It is important for the health of environments and biodiversity, as vegetation provides habitat for a wealth of organisms, including threatened and endangered species.

4.5.2.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to vegetation. Vegetation along the embankment may recede due to the potential for ongoing erosion.

4.5.2.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, repairing the seawall to its pre-disaster condition would temporarily disrupt grasses and other vegetation located along the embankment within the project area during construction activity. Permanent repairs along the embankment, including the placement of riprap, would have no impact to vegetation in the area, as those repairs would be within the existing footprint and would not result in new ground disturbance. Sod would be installed to replace some of the lost vegetation due to damages and construction activities.

4.5.2.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, the seawall replacement construction activities would temporarily disrupt grasses and other vegetation located along the embankment within the project area. Preparatory actions, such as clearing and grubbing, would result in the removal of trees and vegetation along the embankment as needed and would occur prior to the start of construction activities. Permanent repairs along the embankment, including the placement of riprap, would have minor, long-term impacts to vegetation in the area. Sod would be installed to replace some of the lost vegetation due to damages and construction activities. This alternative would also increase the surface area of

vegetation within the project area, due to the proposed sidewalk and asphalt parking lot modifications.

4.5.3. Threatened and Endangered Species

The Endangered Species Act (ESA) of 1973 provides for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead Federal agencies for implementing ESA are the USFWS and the U.S. National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS). As relevant to the proposed action, the USFWS has regulatory authority for species occurring on land within the project area. The law requires federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes a “take” of any listed species of endangered fish or wildlife. A “take” includes the following actions: “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.”

In accordance with Section 7 of the Endangered Species Act (ESA) of 1973, the project was evaluated for the potential impact to federally listed threatened and endangered species that may be present in the project area identified by accessing the USFWS Information for Planning and Consultation (IPaC) database on March 10, 2020. The threatened species likely to occur in the project area are the West Indian manatee (*Trichechus manatus*), green sea turtle (*Chelonia mydas*) and loggerhead sea turtle (*Caretta caretta*). The endangered species likely to occur in the project area are hawksbill sea turtle (*Eretmochelys imbricata*) and leatherback sea turtle (*Dermochelys coriacea*). The proposed project location is not within designated critical habitat for any species. The project area is not suitable nesting habitat for the listed sea turtles or suitable foraging habitat for shorebirds.

Other federally threatened and endangered species with the potential to occur in or near the area include the wood stork (*Mycteria Americana*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufus*), Florida scrub jay (*Aphelocoma coerulescens*), Atlantic salt marsh snake (*Nerodia clarkii taeniata*), and the Eastern indigo snake (*Drymarchon corais couperi*). The project would likely have no effect to these species as the project area does not provide suitable habitat for these species.

4.5.3.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to threatened or endangered species.

4.5.3.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, environmental impacts to species in the project area are anticipated due to the proposed construction activities. Sea turtles and manatees may be impacted by the temporary disruption caused by construction activities. The impacts would be temporary, and the species are expected to display avoidance or recover once construction has been completed. Volusia County

would be required to follow the conditions of the USFWS PBO to minimize impacts to manatees and sea turtles, as well as the conditions of the USACE JAXBO. Upon implementation of the Conservation Measures included in the USFWS PBO, USACE JAXBO, and USACE permit conditions, the project may affect, but would not be likely to adversely affect or jeopardize the continued existence of the manatee or the loggerhead, leatherback, green or hawksbill sea turtles.

4.5.3.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, environmental impacts to species in the project area are anticipated due to the proposed construction activities. Sea turtles and manatees may be impacted by the temporary disruption caused by construction activities. The impacts would be temporary, and the species are expected to display avoidance or recover once construction has been completed. Volusia County would be required to follow the conditions of the USACE Permit No. SAJ-2019-04454 (NWP-BAW), which includes conditions of the USACE JAXBO, to minimize impacts to manatees, sea turtles, and North Atlantic right whales. Upon implementation of the USACE permit conditions, the project may affect, but is not likely to adversely affect or jeopardize the continued existence of the manatee or the loggerhead, leatherback, green or hawksbill sea turtles. The project will have no affect for the piping plover, red knot, Eastern indigo snake, Atlantic salt marsh snake or the Florida scrub jay. A no effect determination was also made for the wood stork using the USACE USFWS wood stork key. See Appendix G. These determinations were made by USACE as part of their permitting process, as outlined in the USACE Memorandum for Record (MFR). See Appendix L.

4.5.4. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 provides a program for the conservation of migratory birds that fly through lands of the United States. The lead Federal agency for implementing the MBTA is the USFWS. The law requires Federal agencies to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any migratory birds or result in the destruction or adverse modification of designated critical habitat of such species. The law makes it illegal for anyone to “take,” possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or their parts, feathers, nests, or eggs. “Take” is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities.”

The entire state of Florida is considered a flyway zone for migratory birds. According to the USFWS IPaC database, accessed on March 10, 2020, approximately four migratory bird species were identified as being potentially present within the project area with a varying range for probability of presence within the project vicinity.

4.5.4.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no potential for effects and a “take” would not occur since there would be no destruction or adverse modification of the surrounding habitat.

4.5.4.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Under Alternative 2, minor short-term impacts to species within the project area could potentially occur due to construction activities. The project area consists of estuarine and marine deepwater habitat, which is not suitable for nesting habitat, is not optimal for foraging, and is not located within a designated critical habitat, therefore take of a migratory bird species is not anticipated with this project. In addition, Volusia County would be required to follow the conditions of the USFWS PBO to minimize potential impacts to migratory bird species.

4.5.4.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Under Alternative 3, minor short-term impacts to species within the project area could potentially occur due to construction activities. The project area is not suitable for nesting habitat, is not optimal for foraging, and is not located within a designated critical habitat, therefore take of a migratory bird species is not anticipated with this project. In addition, Volusia County would be required to follow the conditions of the USACE Permit No. SAJ-2019-04454 (NWP-BAW).

4.5.5. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (MSA) is the primary law governing marine fisheries management in U.S. federal waters and is meant to foster long-term biological and economic sustainability of our nation's marine fisheries. Key objectives of the MSA are to prevent overfishing, rebuild overfished stocks, increase long-term economic and social benefits, and ensure a safe and sustainable supply of seafood.

The NOAA Essential Fish Habitat (EFH) Mapper online tool, accessed September 1, 2020, indicated there is no designated EFH for species located within the project area, and therefore, there will be no impacts to EFH as a result of construction activities. The Florida Fish and Wildlife Conservation Commission (FWC) Fish and Wildlife Research Institute hardbottom habitat data, accessed September 1, 2020, indicated no hardbottom habitat is present at the project location. The project area is located adjacent to and within an estuarine and marine wetland, however, no salt marshes or seagrass habitats are located in or near the project area.

4.5.5.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact on fisheries or breeding habitat.

4.5.5.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The project area for Alternative 2 is in the intracoastal waterway and is not near EFH, therefore there would be no impact on fisheries or breeding habitat.

4.5.5.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The project area for Alternative 3 is in the intracoastal waterway and is not near EFH, therefore there would be no impact on fisheries or breeding habitat.

4.5.6. Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (BGEPA) (16 U.S.C. 668-668c), enacted in 1940 and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" means: "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior." In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

According to the FWC Bald Eagle Nest mapping data, accessed September 1, 2020, the nearest documented bald eagle nest is located approximately 1.5 miles south-west from the proposed project location. Golden eagles inhabit tundra, grasslands, forested habitat and woodland-brushlands, south to arid deserts, which is not consistent with the habitat of the project location. Therefore, the presence of a golden eagle is unlikely to occur within the project area and no impacts are expected to occur to this species.

4.5.6.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no impact to bald or golden eagles.

4.5.6.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The Alternative 2 project area is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat, therefore, the project will likely have no impact to these species.

4.5.6.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The Alternative 3 project area is not within the vicinity of a known bald eagle nest nor is the area suitable for golden eagle habitat, therefore, the project will likely have no impact to these species.

4.6. Cultural Resources

As a Federal agency, FEMA must consider the potential effects of its actions upon cultural resources prior to engaging in any undertaking. Cultural resources include historic architectural properties (including buildings, structures, and objects), prehistoric and historic archaeological sites, historic districts, designed landscapes, and traditional cultural properties. The primary federal authorities that apply to cultural resources are NEPA and Section 106 of the National Historic Preservation Act (NHPA). Cultural resources are specifically included under one of the mandates of NEPA: to “preserve important historic, cultural, and natural aspects of our national heritage...” (42 USC 4331). The implementing regulation for the NHPA is the Protection of Historic Properties (36 CFR 800), which defines historic properties as any prehistoric or historic district, site, building, structure, or object that is included in, or eligible for inclusion in, the National Register of Historic Places (NRHP) (36 CFR. 800.16). Under the NHPA, a property possesses significance if it meets the NRHP criteria listed in 36 CFR 60.4 and retains sufficient integrity to convey that significance. Generally, properties must be at least 50 years old to be eligible for the NRHP, unless they are proven to have exceptional importance.

FEMA, the Florida State Historic Preservation Office (SHPO), the Florida Division of Emergency Management, the Choctaw Nation of Oklahoma, and the Advisory Council on Historic Preservation have executed a Statewide Programmatic Agreement dated September 10, 2014, to streamline the Section 106 review process. The Area of Potential Effects (APE) for this seawall restoration is limited to the areas within which all construction and ground disturbing activity would be confined and the viewshed of the proposed project. For this project, the APE is limited to a 0.25-mile buffer around the Volusia County Courthouse Annex seawall project to account for viewshed and any noise or vibration from the parking lot and sidewalk restoration and installation of the steel sheet pile seawall.

FEMA evaluated potential resources in the APE utilizing the National Park Service (NPS) NRHP GIS resource, the Florida Master Site File (FMSF), and previous cultural resource investigations. The review found there are four properties listed in or eligible for listing in the NRHP or National Historic Landmarks (NHL) and one historic bridge located within 0.25-miles of the APE. However, the review found no known historic cemeteries or NHLs within the proposed project's APE. Six previously recorded cultural resource surveys have been completed within the 0.25-mile radius of the Volusia County Courthouse Annex seawall project. Included in the surveys were reviews of the historic properties within the area as well as an archeological survey, however, the project area was built up through the dredging of the intracoastal and it is unlikely to have intact in-situ archeological deposits.

On September 11, 2020, FEMA initiated consultation with the Florida SHPO regarding the proposed repairs under Alternative 3. On October 13, 2020, FEMA received concurrence with a

finding of No Adverse Effect to Historic Properties from the Florida SHPO for the seawall repair project. Six federally recognized tribes with interest in the Volusia County area were also consulted for this project and no comments or objections to the proposed work was received. The consultation letters were sent via electronic mail to the Alabama-Quassarte Tribal Town, Miccosukee Tribe, Muscogee (Creek) Nation, Poarch Band of Creek Indians and Seminole Tribe of Florida on September 14, 2020. A consultation letter was sent via conventional mail to the Seminole Nation of Oklahoma on September 15, 2020.

4.6.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities and no federal undertaking would occur, therefore, there would be no impact to cultural resources or further responsibility under Section 106.

4.6.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The Alternative 2 project would take place in the original footprint with no new ground disturbance. A FEMA Historic Preservation Specialist performed a review of the FMSF. The area reviewed had one previously recorded archaeological survey, however, this area was built up through the dredging of the intracoastal and it is unlikely to have intact in-situ archaeological deposits. In addition, the in-kind repairs would meet applicable programmatic allowances in the executed Programmatic Agreement, dated September 10, 2014, therefore, there would be no further responsibility under Section 106. If any inadvertent discovery is found, the applicant would stop all work and notify FEMA and SHPO.

4.6.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The construction activities associated with Alternative 3 would require new ground disturbance along approximately 180 LF of the embankment. A FEMA Historic Preservation Specialist performed a review of the FMSF. The area reviewed had one previously recorded archaeological survey, however, this area was built up through the dredging of the intracoastal and it is unlikely to have intact in-situ archeological deposits. In addition, FEMA determined the project would have No Adverse Effect to Historic Properties and initiated Section 106 consultation via electronic mail on September 11, 2020 with the SHPO. FEMA received a concurrence with this finding on October 13, 2020. Six federally recognized tribes with interest in the Volusia County area were also consulted for this project, and no comments or objections were received regarding the proposed work. The consultation letters were sent via electronic mail to the Alabama-Quassarte Tribal Town, Miccosukee Tribe, Muscogee (Creek) Nation, Poarch Band of Creek Indians and Seminole Tribe of Florida on September 14, 2020. A consultation letter was sent via conventional mail to the Seminole Nation of Oklahoma on September 15, 2020. The following conditions will be applied to this project alternative:

- Prior to conducting repairs, applicant must identify the source and location of fill material and provide this information to FDEM and FEMA. If the borrow pit is privately owned, or is located on previously undisturbed land, or if the fill is obtained by the horizontal

expansion of a pre-existing borrow pit, FEMA consultation with the State Historic Preservation Officer will be required. Failure to comply with this condition may jeopardize FEMA funding; verification of compliance will be required at project closeout.

- If human remains or intact archaeological deposits are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The Applicant will assure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The Applicant's contractor will provide immediate notice of such discoveries to the Applicant. The Applicant will contact the Florida Division of Historical Resources and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with the State Historic Preservation Office, tribes, and other consulting parties as necessary. If unmarked human remains are encountered during permitted activities, all work will stop immediately, and the proper authorities will be notified in accordance with Florida Statutes, Section 872.05.
- Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.

4.7. Socioeconomic Resources

4.7.1. Land Use and Planning

According to the Volusia County Property Appraiser's website, accessed September 1, 2020, the project area is adjacent to improved properties such as commercial buildings and parking lots. The proposed project to replace the damaged seawall would not alter or change the current intended land use of the area.

4.7.1.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore there would be no alteration of the current land use.

4.7.1.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The seawall repairs proposed under Alternative 2 would have no effect on land use and planning because the repairs would be made in-kind to the pre-existing seawall, shoreline, drainage outfall pipe, and adjacent improved property. Restoring the seawall and the other damaged components to pre-disaster conditions would not change the current intended land use of the area. Additionally, restoring the seawall may have a long-term beneficial effect on land use and planning by protecting the adjacent improved properties from future storm events.

4.7.1.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The proposed construction activities under Alternative 3 would have no effect on land use and planning because the project would not change the current intended land use of the area. All

construction activities would occur within the original footprint, except 180 LF of new ground disturbance that would occur to connect the upgraded courthouse annex seawall to the adjacent new seawall constructed for the new bridge. The addition of the 180 LF of seawall will allow for continuous protection along the embankment located in the project area. The project may have a long-term beneficial effect on land use and planning by protecting the adjacent improved properties from future storm events. Restoring and upgrading the seawall under this alternative would provide more protection than Alternatives 1 and 2.

4.7.2. Noise Control

The Noise Control Act of 1972 establishes a national policy to promote an environment for all Americans free from noise that jeopardizes their health and welfare. The Act also serves to (1) establish a means for effective coordination of Federal research and activities in noise control; (2) authorize the establishment of Federal noise emission standards for products distributed in commerce; and (3) provide information to the public respecting the noise emission and noise reduction characteristics of such products.

4.7.2.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore, there would be no effect on noise levels in the area.

4.7.2.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would involve construction activities to restore the seawall, shoreline, drainage outfall pipe, and adjacent improved property to their pre-disaster condition, thus minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected. Noise levels are anticipated to have no impact on residences as there are no residential properties in the vicinity of the project area. After the construction activities are complete for this alternative, there would be no expected long-term effects on noise levels in the area. Due to repairing the seawall to its pre-disaster conditions without any upgrades, intermittent noise impacts for this alternative are expected to occur due to the possibility of the seawall failing again during following storm events, thus requiring subsequent repairs with construction equipment.

4.7.2.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would involve construction activity to repair and upgrade the seawall, thus minor short-term impacts on noise levels resulting from the use of construction equipment in the project area would be expected. Noise levels are anticipated to have no impact on residences as there are no residential properties in the vicinity of the project area. Due to the greater extent of work proposed under this alternative, the impacts are expected to be longer due to a longer construction period. With Alternative 3, future seawall repairs are expected to be less frequent as the seawall would be upgraded and more resilient to future storm events. After the construction activities are complete for this alternative, there would be no long-term effects on noise levels in the area.

4.7.3. Transportation

The current scope of work provided by Volusia County for the proposed project does not include the construction of any new transportation features, as the work will be completed using the existing roads and parking facilities in the area.

4.7.3.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore, no impacts on existing infrastructure or transportation would occur within the project area. Continuous erosion along the embankment may occur, reducing protection to the adjacent asphalt parking lot.

4.7.3.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would involve construction activities to repair the original seawall, shoreline, drainage outfall pipe, and adjacent improved property, and would have minor short-term impacts to transportation due to construction equipment entering and leaving the project area to transport material and construction equipment to the project location. The construction equipment and vehicles will utilize a portion of the parking lot adjacent to the proposed project for material staging and equipment storage while still maintaining available spaces for the public, and no road closures are expected during construction that would impact the local community. Restoring the seawall to pre-disaster condition would provide flood and storm protection to the adjacent roads and public infrastructure.

4.7.3.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would involve construction activities to replace and upgrade the original seawall and would have minor short-term impacts to transportation due to construction equipment entering and leaving the project areas to transport materials and construction equipment to the project locations. The impacts from Alternative 3 would be experienced for a longer period of time due to the longer estimated construction time needed for the full restoration project. However, the upgraded seawall would provide long term benefits from flood and storm protection to the adjacent roads and public infrastructure and provide more protection than Alternative 1 and Alternative 2. In addition, the construction equipment and vehicles will utilize a portion of the parking lot adjacent to the proposed project for material staging and equipment storage while still maintaining available spaces for the public, and no road closures are expected during construction that would impact the local community.

4.7.4. Environmental Justice (EO 12898)

On February 11, 1994, President Clinton signed EO 12898, entitled, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations". The EO directs federal agencies, "to make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."

The U.S. Census Bureau estimated the population of Volusia County to be 553,284 in 2019. Minority populations including African American, American Indian, Alaska Native, Asian, Native Hawaiian and Other Pacific Islander alone, Hispanic or Latino, or some other race, or a mix of these races, account for approximately 31% of the population in Volusia County. Persons identified within poverty level in the county account for 13.2% of the population.

The U.S. Census Bureau estimated the population of the City of Daytona Beach to be 69,186 in 2019. Minority populations including African American, American Indian, Alaska Native, Asian, Native Hawaiian and Other Pacific Islander alone, Hispanic or Latino, or some other race, or a mix of these races, account for approximately 48% of the population in the City of Daytona Beach. Persons identified within poverty level in the county account for 26.3% of the population.

4.7.4.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities; therefore, the project would have no impact on minority or low-income populations.

4.7.4.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

The restoration activity under Alternative 2 would involve repairing the existing seawall, shoreline, drainage outfall pipe, and adjacent improved property in-kind to their pre-disaster condition, therefore no disproportionate impacts or adverse impacts to minority or low-income populations would be anticipated. The seawall would be restored to its pre-disaster function with no changes to the existing design and footprint. The project would benefit all population members in the community as the seawall provides protection to the adjacent improved properties including the county's Daytona Beach Courthouse Annex building, which is accessible to the general public.

4.7.4.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

The restoration activity under Alternative 3 would involve replacing the original damaged seawall with an upgraded, composite sheet-pile seawall, and no disproportionate impacts or adverse impacts to minority or low-income populations would be anticipated. The function of the seawall would not change; however, the new seawall would provide more protection to the adjacent improved property from future storm events. Adjacent improved properties include the county's Daytona Beach Courthouse Annex building and a pedestrian observation pier. The project's benefits would be to all population members as these areas are accessible to the general public.

4.7.5. Hazardous Materials/Waste and Solid Waste

The Resource Conservation and Recovery Act (RCRA) was passed to create the framework for the proper management of hazardous and non-hazardous solid waste. The law describes the waste management program mandated by Congress that gave the EPA authority to control hazardous waste from the "cradle-to-grave." This includes the generation, transportation, treatment, storage and disposal of hazardous waste. No known hazardous materials or solid waste is within the project area.

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law created a tax on the chemical and petroleum industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Over five years, \$1.6 billion was collected and the tax went to a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

According to the Superfund National Priorities List (NPL) Where You Live Map (<https://www.epa.gov/superfund/search-superfund-sites-where-you-live>), accessed September 1, 2020, there is one Superfund site in Volusia County, however, it is over 75 miles southwest of the project area.

4.7.5.1. Alternative 1: No Action Alternative

Alternative 1 would not involve any construction activities, therefore, there would be no potential to disturb existing hazardous materials or create any potential new hazardous waste sites within the area. There would be no effect to human health or the surrounding environment from hazardous or solid waste.

4.7.5.2. Alternative 2: Restoring the Seawall to Pre-Disaster Condition

Alternative 2 would involve construction and would have a minor short-term impact on the project area due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable RCRA and State regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as the nearest Superfund site is over 75 miles southwest from the project location.

4.7.5.3. Alternative 3: Repairing the Seawall with a Hazard Mitigation Proposal (Preferred Alternative)

Alternative 3 would involve construction of an upgraded, composite sheet-pile seawall and would have a minor short-term impact on the project area due to construction activities. The handling of hazardous materials and waste generated during construction activities would be handled in accordance with applicable RCRA and State regulations for managing solid and hazardous waste materials. Potential for spills from construction equipment would be minimized and handled in accordance with applicable regulations. There is no potential for any construction activities related to this project to impact hazardous waste sites designated under CERCLA as the nearest Superfund site is over 75 miles southwest from the project location.

5.0 CUMULATIVE IMPACTS

Per the Council on Environmental Quality (CEQ) regulations, cumulative impacts refer to the impact on the environment that “results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7). In accordance with NEPA, this EA considered the combined effect of the preferred alternative and other actions occurring or proposed in the vicinity of the proposed project site.

Due to the seawall's location in an intracoastal area, it is inherently susceptible to hydrologic forces from tropical storms and hurricanes, which may result in future Presidentially declared disasters. FEMA funding may be required after those events for the potential subsequent repairs to the seawall from damages incurred from those future events. Forces from future tropical storms, hurricanes, and flooding events could result in erosion and deposition of sedimentary materials. Embankment erosion poses a risk to public and private lands, properties, and infrastructure. Silt deposition can significantly alter the course of water, increase rates of discharge, and scour away unprotected slopes. The proposed mitigation in Alternative 3 is intended to mitigate the likelihood of the seawall failing again and reduce the amount of erosion and scour that could occur along the embankment due to future flooding events. The proposed project is expected to increase the level of storm protection to the adjacent improved properties by restoring the function of the existing seawall. The project will not increase development in the project area but will help protect and maintain existing infrastructure.

The land in the immediate vicinity of the seawall is primarily commercial property, with the county's courthouse located less than 100 feet from the proposed embankment repairs. The proposed action is anticipated to have short-term impacts to the commercial and recreational usage of an adjacent parking facility, a pedestrian observation deck, and a portion of an existing sidewalk during the construction activities. However, the proposed action is not anticipated to have long-term negative impacts to either the commercial areas or the environment within the project areas, as the proposed action is meant to protect the existing improved property and will not change the current land use. The proposed action will have a beneficial long-term effect on the community as it will facilitate the drainage of floodwaters, reduce the risk of seawall failure, reduce the risk of erosion, and minimize flood risk to improved properties adjacent to the seawall.

The seawall is engineered and maintained by Volusia County, in addition to the shoreline, drainage outfall pipe, and adjacent improved property, and thus repairs due to storm or erosion are expected. USACE authorized a permit on May 19, 2021 to replace the original seawall with a composite sheet-pile seawall. The impact of the proposal on navigation and the environment was reviewed by the USACE during their permitting process. FEMA has determined the environmental and social impacts to be insignificant for the proposed seawall repairs.

In consideration of the overall impact of the proposed project in relation to impacts from past, present, and reasonably foreseeable future activities, the proposed action is not expected to have significant adverse cumulative impacts on any resource.

6.0 PERMIT AND PROJECT CONDITIONS

1. Volusia County (Applicant) has received two FDEP Environmental Resource Permits (Permit No. ERP 0382458-002-EI and Permit No. ERP 0382458-003-EM), which constitutes consistency review under the state's coastal zone management program. The permits also constitute a water quality certification under Section 401 of the Clean Water Act. The permits include general and project specific conditions for the project. See pages 3 to 7 for all applicable conditions and requirements in Appendix H.
2. The applicant has received a USACE Nationwide Permit, SAJ-2019-04454 (NWP-BAW), which includes the conditions from JAXBO for in-water activities, conditions for North Atlantic right whale, Sea Turtle and Smalltooth Sawfish Construction Conditions, and Standard Manatee Conditions for In-Water Work. The permit includes general and project specific conditions for the project. See Appendix F.
3. Under Alternative 2, the following measures would be implemented from USFWS Statewide Programmatic Biological Opinion (PBO) with the Federal Emergency Management Agency (FEMA) for repair and replacement of pre-existing facilities in Florida following a federally declared disaster (dated November 26, 2007):

1.5 Wetlands of In-water areas (marine, estuarine, riverine aquatic and shoreline habitats) and 5.4 Wetlands or In-water areas (marine, estuarine, riverine)

Manatee: FEMA shall process the project activity through the most recent version of (July 2011), located at https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/Manatee/2011_StandardConditionsForIn-waterWork.pdf, to determine when to implement the July 2005 Standard Manatee Conditions for In-Water Work. Funded projects with in-water activities occurring within Important Manatee Areas, or adversely affecting submerged or emergent aquatic vegetation or mangrove, will require further consultation to determine what additional special measures to include as conditions of the activities. Watercraft involved in any such activity must adhere to all Federal, State, and local speed zone

Wood stork: Wood stork nest colonially in a variety of inundated forested wetlands, including cypress strands and domes, mixed hardwood swamps, sloughs, and mangroves. The birds forage mainly in shallow water in freshwater marshes, swamps, lagoons, ponds, tidal creeks, flooded pastures and ditches, where they are attracted to falling water levels that concentrate food sources (mainly fish).

- a. No work shall be conducted within 2,500 feet of a nesting colony site unless approval is provided by the Fish and Wildlife Service.
- b. The work shall not cause negative impacts to nesting habitat and nearby vegetative cover or vegetation used for nest building. No work shall occur within 2,500 feet of a nesting colony.
- c. The work shall not result in wetland loss within a nesting colony site.

- d. The work shall not result in negative impacts to the nesting habitat, vegetative cover, or the nearby vegetation used to collect nesting material or for roosting within 2,500 feet of the nesting colony site.
- e. Where work results in habitat loss, mitigation shall include restoration or creation ratio of 1: 1 like for like wetlands within 2,500 feet of the nesting colony site.
- f. No work shall be conducted during the early segment of nesting season from March 1 to May 30 and all restoration or creation activities shall be concluded prior to the next nesting season.

6.0 Other Requirements

- 6.1 All applicable local, county, and state permits must be obtained.
 - 6.2 Detailed state and county-specific monitoring and reporting requirements and work restrictions must be followed for work performed.
 - 6.3 FEMA grant applicants must ensure that contractors fully understand the species protection measures that are to be followed.
 - 6.4 A report describing the actions taken to implement these measures as outlined above shall be submitted to the North Florida Ecological Services Office in Jacksonville within 60 days of completion of the proposed work for each year when the activity has occurred. This report must include: (1) project location; (2) project description; (3) date of construction; and (4) a description of how the measures were implemented. Specific information about the required species surveys will also be submitted and must include: the names and qualifications of marine permit holders involved in survey activities; descriptions of methods used; survey results; and any documented impacts of the project activities on the involved species.
 - 6.5 Upon locating an injured or dead federally protected species that has been harmed as a direct or indirect result of the above authorized work, notification must be made to the FWC, Division of Law Enforcement at (888) 404-3922, and the appropriate Service's Jacksonville Field Office at (904) 525-0661. Care should be taken in handling injured animals to ensure effective treatment or disposition, and in handling dead specimens to preserve biological materials in the best possible state for later analysis.
4. Under Alternative 2 and Alternative 3, the following measures would be implemented from the USACE Jacksonville District's Programmatic Biological Opinion (JAXBO) with the NMFS (dated May 20, 2017):

General PDC's Applicable to All Projects

- AP.1. The applicant must agree to adhere to PDCs for In-Water Activities (provided below).
- AP.2. All projects involving the installation of piles or sheet piles shall follow the PDCs for In-Water Noise from Pile and Sheet Pile Installation (Section 2.2). This Opinion

does not cover projects that use seismic surveys, low frequency sonar, explosions, and seismic air guns.

AP.3. All projects proposed in or near areas with mangroves, seagrasses, corals, or hard bottom habitat must refer to PDCs for Mangroves, Seagrasses, Corals, and Hard Bottom for All Projects (provided below) to determine whether the project is covered under the Opinion and, if it is covered, to ensure it is sited, designated, and implemented following all of the PDCs in that section.

AP.4. For every project, the USACE must determine if the project is located within:

- Smalltooth sawfish critical habitat limited exclusion zones (Section 2.1.1.1)
- Gulf sturgeon critical habitat migratory restriction zones (Section 2.1.1.2)
- Atlantic sturgeon critical habitat exclusion zone (St. Marys River) (Section 2.1.1.3)
- North Atlantic right whale educational sign zones (Section 2.1.1.4)
- U.S. Caribbean sea turtle critical habitat restriction zones (Section 2.1.1.5)
- Bryde's whale exclusion zone (Section 2.1.1.6)

Where the activity is excluded from the Opinion within a particular zone, the application must be processed under a separate consultation. Where additional restrictions apply to activities within that zone, the USACE or other authorizing entity must ensure that the project meets the requirements for that zone.

AP.5. This Opinion only covers new construction (i.e., installation, repair, replacement) and does not apply to after-the-fact consultations or enforcement actions handled by the USACE.

AP.6. All activities must be completed during daylight hours.

PDCs for In-Water Activities

For an activity to be covered under this Opinion, the USACE authorization must include the following conditions. Failure to comply with these conditions could result in enforcement action by the USACE and/or NMFS.

AP.7. Education and Observation: The permittee must ensure that all personnel associated with the project are instructed about the potential presence of species protected under the ESA and the Marine Mammal Protection Act (MMPA). All on-site project personnel are responsible for observing water-related activities for the presence of protected species. All personnel shall be advised that there are civil and criminal penalties for harming, harassing, or killing ESA-listed species or marine mammals. To determine which species may be found in the project area, please review the relevant Protected Species List at: http://sero.nmfs.noaa.gov/protected_resources/section_7/threatened_endangered/index.html.

AP.8. Reporting of interactions with protected species:

- a) Any collision(s) with and/or injury to any sea turtle, sawfish, whale, or sturgeon occurring during the construction of a project, shall be reported immediately to NMFS's Protected Resources Division (PRD) at (1-727-824-5312) or by email to takereport.nmfs@noaa.gov and SAJ-RD-Enforcement@usace.army.mil.
- b) Smalltooth sawfish: Report sightings to 1-844-SAWFISH or email Sawfish@MyFWC.com.
- c) Sturgeon: Report dead sturgeon to 1-844-STURG 911 (1-844-788-7491) or email nmfs.ser.sturgeonnetwork@noaa.gov.
- d) Sea turtles and marine mammals: Report stranded, injured, or dead animals to 1-877-WHALE HELP (1-877-942-5343).
- e) North Atlantic right whale: Report injured, dead, or entangled right whales to the USCG via VHF Channel 16.

AP.9. Vessel Traffic and Construction Equipment: All vessel operators must watch for and avoid collision with species protected under the ESA and MMPA. Vessel operators must avoid potential interactions with protected species and operate in accordance with the following protective measures:

a) *Construction Equipment:*

- i) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while operating in water depths where the draft of the vessel provides less than a 4-foot (ft) clearance from the bottom, and in all depths after a protected species has been observed in and has departed the area.
- ii) All vessels will follow marked channels and/or routes using the maximum water depth whenever possible.
- iii) Operation of any mechanical construction equipment, including vessels, shall cease immediately if a listed species is observed within a 50-ft radius of construction equipment and shall not resume until the species has departed the area of its own volition.
- iv) If the detection of species is not possible during certain weather conditions (e.g., fog, rain, wind), then in-water operations will cease until weather conditions improve and detection is again feasible.

b) *All Vessels:*

- i) Sea turtles: Maintain a minimum distance of 150 ft.
- ii) North Atlantic right whale: Maintain a minimum 1,500-ft distance (500 yards).
- iii) Vessels 65 ft in length or longer must comply with the Right Whale Ship Strike Reduction Rule (50 CFR 224.105) which includes reducing speeds to 10 knots or less in Seasonal Management Areas (<http://www.fisheries.noaa.gov/pr/shipstrike/>).

iv) Mariners shall check various communication media for general information regarding avoiding ship strikes and specific information regarding right whale sightings in the area. These include NOAA weather radio, USCG NAVTEX broadcasts, and Notices to Mariners.

v) Marine mammals (i.e., dolphins, whales [other than North Atlantic right whales], and porpoises): Maintain a minimum distance of 300 ft.

vi) When these animals are sighted while the vessel is underway (e.g., bow-riding), attempt to remain parallel to the animal's course. Avoid excessive speed or abrupt changes in direction until they have left the area.

vii) Reduce speed to 10 knots or less when mother/calf pairs or groups of marine mammals are observed, when safety permits.

AP.10. Turbidity Control Measures during Construction: Turbidity must be monitored and controlled. Prior to initiating any of the work covered under this Opinion, the Permittee shall install turbidity curtains as described below. In some instances, the use of turbidity curtains may be waived by the USACE project manager if the project is deemed too minimal to generate turbidity (e.g., certain ATON installation, scientific survey device placement, marine debris removal) or if the current is too strong for the curtains to stay in place. Turbidity curtains specifications:

a) Install floating turbidity barriers with weighted skirts that extend to within 1 ft of the bottom around all work areas that are in, or adjacent to, surface waters.

b) Use these turbidity barriers throughout construction to control erosion and siltation and ensure that turbidity levels within the project area do not exceed background conditions.

c) Position turbidity barriers in a way that does not block species' entry to or exit from designated critical habitat.

d) Monitor and maintain turbidity barriers in place until the authorized work has been completed and the water quality in the project area has returned to background conditions.

AP.11. Entanglement: All turbidity curtains and other in-water equipment must be properly secured with materials that reduce the risk of entanglement of marine species (described below). Turbidity curtains likewise must be made of materials that reduce the risk of entanglement of marine species.

a) In-water lines (rope, chain, and cable, including the lines to secure turbidity curtains) must be stiff, taut, and non-looping. Examples of such lines are heavy metal chains or heavy cables that do not readily loop and tangle. Flexible in-water lines, such as nylon rope or any lines that could loop or tangle, must be enclosed in a plastic or rubber sleeve/tube to add rigidity and prevent the line from looping and tangling. In all instances, no excess line is allowed in the water.

b) Turbidity curtains and other in-water equipment must be placed in a manner that does not entrap species within the construction area or block access for them to navigate around the construction area.

PDCs specific to Activity 1 for Shoreline Stabilization

A1.2. Placement of backfill is limited to those situations where it is necessary to level the land behind seawalls or riprap. This includes backfill associated with installation of a seawall or riprap to remove/fill in an upland cut area (e.g., boat slip, boat ramp, boat basins) to return the shoreline to the original shape or to connect to adjacent seawalls to bring the shoreline into alignment with adjacent property shorelines.

A1.3. Shoreline stabilization materials must be placed by hand around red mangrove prop roots.

A1.4. Shoreline stabilization structures, other than vertical seawalls, shall be no steeper than a 2:1 Horizontal: Vertical slope for riprap, or the appropriate slope necessary to ensure shoreline stability while minimizing the total footprint when using materials other than riprap.

A1.5. Installation and/or repairs to groins, jetties, or other structures placed perpendicular to shore, and beach nourishment/renourishment are not covered in this Opinion. Breakwaters/living shorelines are covered as described in Activity 7.

A1.6. No placement of riprap below MHW is covered under this Opinion within the boundary of the FKNMS unless the FKNMS issues a NOAA permit or authorization that signifies the proposed activity is consistent with Title III of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended. Proof of approval from the FKNMS is required as part of the project level review submission, described in Section 2.3, below.

A1.7. Shoreline protection shall not occur on ocean beaches used for sea turtle nesting.

PDCs specific to Activity 4 for Water-Management Outfall Structures and Associated Endwalls

A4.2. This Opinion only covers water-management outfall structures when the effluent from the outfall is authorized, conditionally authorized, specifically exempted, or in compliance with the National Pollutant Discharge Elimination System Program (CWA section 402 or state water quality permit and any implementing regulations). The construction of intake structures is not covered unless it is directly associated with a USACE authorized outfall structure.

A4.3. All outfall discharge shall be designed and implemented to prevent erosion and scour.

5. Under Alternative 2 and Alternative 3, the following Sea Turtle and Smalltooth Sawfish Construction Conditions would be implemented:
 - a. The permittee shall comply with the following protected species construction conditions:
 - a) The permittee shall instruct all personnel associated with the project of the potential presence of these species and the need to avoid collisions with sea turtles and smalltooth sawfish. All construction personnel are responsible for observing water-related activities for the presence of these species.
 - b) The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing sea turtles or smalltooth sawfish, which are protected under the Endangered Species Act of 1973.
 - c) Siltation barriers shall be made of material in which a sea turtle or smalltooth sawfish cannot become entangled, be properly secured, and be regularly monitored to avoid protected species entrapment. Barriers may not block sea turtle or smalltooth sawfish entry to or exit from designated critical habitat without prior agreement from the National Marine Fisheries Service's Protected Resources Division, St. Petersburg, Florida.
 - d) All vessels associated with the construction project shall operate at "no wake/idle" speeds at all times while in the construction area and while in water depths where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will preferentially follow deep-water routes (e.g., marked channels) whenever possible.
 - e) If a sea turtle or smalltooth sawfish is seen within 100 yards of the active daily construction/dredging operation or vessel movement, all appropriate precautions shall be implemented to ensure its protection. These precautions shall include cessation of operation of any moving equipment closer than 50 feet of a sea turtle or smalltooth sawfish. Operation of any mechanical construction equipment shall cease immediately if a sea turtle or smalltooth sawfish is seen within a 50-ft radius of the equipment. Activities may not resume until the protected species has departed the project area of its own volition.
 - f) Any collision with and/or injury to a sea turtle or smalltooth sawfish shall be reported immediately to the National Marine Fisheries Service's Protected Resources Division (727-824- 5312) and the local authorized sea turtle stranding/rescue organization.
 - g) Any special construction conditions, required of your specific project, outside these general conditions, if applicable, will be addressed in the primary consultation.
6. Under Alternative 2 and Alternative 3, the following Standard Manatee Conditions for In-Water Work would be implemented from the USACE permit:

- a. The permittee shall comply with the following conditions intended to protect manatees from direct project effects:
 - a) All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
 - b) All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
 - c) Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
 - d) All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
 - e) Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or in Vero Beach (1-772-562-3909) for south Florida, and emailed to FWC at ImperiledSpecies@myFWC.com.
 - f) Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads Caution: Boaters must be posted. A second sign measuring at least 8½ " by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at http://www.myfwc.com/WILDLIFEHABITATS/manatee_sign_vendors.htm. Questions concerning these signs can be forwarded to the email address listed above.

7. Under Alternative 2 and Alternative 3, State Historic Preservation Office (SHPO)/ National Historic Preservation Act (NHPA) Conditions are applicable:
 - a. Prior to conducting repairs, applicant must identify the source and location of fill material and provide this information to FDEM and FEMA. If the borrow pit is privately owned, or is located on previously undisturbed land, or if the fill is obtained by the horizontal expansion of a pre-existing borrow pit, FEMA consultation with the State Historic Preservation Officer will be required. Failure to comply with this condition may jeopardize FEMA funding; verification of compliance will be required at project closeout.
 - b. If human remains or intact archaeological deposits are uncovered, work in the vicinity of the discovery will stop immediately and all reasonable measures to avoid or minimize harm to the finds will be taken. The Applicant will assure that archaeological discoveries are secured in place, that access to the sensitive area is restricted, and that all reasonable measures are taken to avoid further disturbance of the discoveries. The Applicant's contractor will provide immediate notice of such discoveries to the Applicant. The Applicant will contact the Florida Division of Historical Resources and FEMA within 24 hours of the discovery. Work in the vicinity of the discovery may not resume until FEMA has completed consultation with the State Historic Preservation Office, tribes, and other consulting parties as necessary. If unmarked human remains are encountered during permitted activities, all work will stop immediately, and the proper authorities will be notified in accordance with Florida Statutes, Section 872.05.
 - c. Construction vehicles and equipment will be stored onsite during the project or at existing access points within the Applicant's right-of-way.
 - d. Any changes to the approved scope of work will require submission to, evaluation, and approval by the State of Florida, County, and FEMA prior to initiation of any work, for compliance with Section 106 of the NHPA.
8. Under Alternative 2 and 3, all handling and disposal of demolition debris generated during construction activities would be handled with in a manner consistent with FDEP and state regulations.
9. All handling of hazardous materials and waste generated during construction activities would be handled with in accordance with applicable RCRA and state regulations. Potential for spills from construction equipment will be minimized and handled in accordance with applicable regulations.

7.0 PUBLIC INVOLVEMENT

FEMA issued a disaster-wide initial public notice for Hurricane Matthew on November 20, 2016, to notify the public of projects under the Public Assistance program that may be occurring within floodplains.

The public will be notified of the availability of this EA for review and comment by posting of the public notice on FEMA's website, Volusia County's website, and the project location (Appendix B), and a hard copy of the EA will be made available at Volusia County's administrative building,

located at 123 W Indiana Avenue, Deland, Florida 32720, as well as both websites. The public comment period ends after 30 days from date of posting.

8.0 AGENCY COORDINATION

The following agencies were contacted during the preparation of this EA:

- U.S. Army Corps of Engineers, Jacksonville District
- State Historic Preservation Officer
- Alabama-Quassarte Tribal Town
- Miccosukee Tribe
- Muscogee (Creek) Nation
- Poarch Band of Creek Indians
- Seminole Tribe of Florida
- Seminole Nation of Oklahoma

9.0 LIST OF PREPARERS

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**Appendices are available for review upon request to
FEMA-R4EHP-Florida@fema.dhs.gov.**