DRAFT

ENVIRONMENTAL ASSESSMENT (EA)
FOR IMPROVEMENTS TO THE DEFENSE FUEL RECEIPT PIPELINES
MACDILL AIR FORCE BASE, TAMPA, FLORIDA

Department of the Air Force

July 2021

Letters or other written comments provided may be published in the Final EA. As required by law, substantive comments will be addressed in the Final EA and made available to the public. Any personal information provided will be kept confidential. Private addresses will be compiled to develop a mailing list for those requesting copies of the Final EA. However, only the names of the individuals making comments and their specific comments will be disclosed. Personal home addresses and phone numbers will not be published in the Final EA.

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GLOSSARY OF ACRONYMS, ABBREVIATIONS & INITIALISMS

6 CES/CEIS	6th Civil Engineer Squadron Environmental Element
AF	Air Force
AFB	Air Force Base
AFI	Air Force Instruction
APE	area of potential effect
AQCR	Air Quality Control Region
ASR	Aquifer Storage and Recovery
BASH	Bird-aircraft strike hazard
BMP	best management practice
CEQ	Council on Environmental Quality
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFR	Code of Federal Regulations
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
DEP	(Florida) Department of Environmental Protection
DFSP	Defense Fuel Support Point
DLA	Defense Logistics Agency
DoD	Department of Defense
DOPAA	description of the proposed action and alternatives
EA	Environmental Assessment
EFH	essential fish habitat
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
EPC	Environmental Protection Commission [of Hillsborough County]
ERP	Environmental Restoration Program
ESA	Endangered Species Act of 1973
ESQD	explosive safety quantity-distance
F.A.C.	Florida Administrative Code
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FLUCCS	Florida Land Use, Cover and Forms Classification System
FNAI	Florida Natural Areas Inventory
FONPA	finding of no practicable alternative
FONSI	Finding of No Significant Impacts
FTA	Federal Transit Administration
FWC	Florida Fish and Wildlife Conservation Commission
GOMFMC	Gulf of Mexico Fishery Management Council
HAPC	Habitat Areas of Particular Concern
HDD	horizontal directional drilling
ISED	International Sawfish Encounter Database
km	kilometer(s)
MAFMC	Mid-Atlantic Fishery Management Council (MAFMC)
MBTA	Migratory Bird Treaty Act
MILCON	military construction
MSA	Magnuson-Stevens Fishery Conservation and Management Act

msl	mean sea level
NEPA	National Environmental Policy Act of 1969
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NSED	National Sawfish Encounter Database
OSHA	Occupational Safety and Health Administration
pCi/L	picocuries per liter
PM	particulate matter
psi	pounds per square inch
SAFMC	South Atlantic Fishery Management Council
SARA	Superfund Amendments and Reauthorization Act
SEMS	Superfund Enterprise Management System
SFA	Sustainable Fisheries Act
SHPO	Florida State Historic Preservation Office
SPCC	Spill Prevention Control and Countermeasures
SRM	(Facilities) Sustainment, Restoration, and Modernization
SWFWMD	Southwest Florida Water Management District
TBW	Tampa Bay Water
TPA	Tampa Port Authority
UF	University of Florida
USACE	U.S. Army Corps of Engineers
USAF	U.S. Air Force
U.S.C.	U.S. Code
USFWS	U.S. Fish and Wildlife Service

1 INTRODUCTION

MacDill Air Force Base (MacDill AFB) is a 5,695-acre military facility employing over 12,000 active-duty military personnel and located near Gadsden Point in Tampa, Florida. The base is home to 24 KC-135 Stratotanker aerial refueling aircraft.

The Defense Fuel Support Point (DFSP) Tampa is located inside the western portion of MacDill AFB and is operated by the Defense Logistics Agency (DLA) under a permit agreement. The DFSP Tampa provides government-contracted Jet A fuel regionally to military entities, with the primary customer being MacDill AFB. Most of the fuel piping is located within the confines of MacDill AFB and is real property that belongs to the AFB. Defense fuel receipt pipelines for the facility are located on land within Picnic Island Recreation Area owned by and leased from the City of Tampa. Additionally, a custody transfer valve and a portion of the defense fuel receipt pipelines are on Chevron property at the Chevron Bulk Terminal northwest of MacDill AFB. Fuel is received by barge at the Port Tampa Fuel Pier west of the Chevron Bulk Terminal (Austin Brockenbrough & Associates 2017).

One of the two parallel defense fuel receipt pipelines is currently out of service following an October 2012 instrument-pigging investigation. Because only one pipeline is in service, the fuel conveyance capacity was reduced by half, thereby increasing the off-loading time for bulk fuel receipt (Austin Brockenbrough & Associates 2017). The increased time for bulk fuel receipt has a domino effect by causing an increase in the barge mooring times at the pier and delaying other vessels using the Port Tampa Fuel Pier. Given these considerations, a systematic repair or replacement of the defense fuel receipt pipelines is needed for continued future use of the system.

This Environmental Assessment (EA) was prepared to evaluate the potential environmental impacts of the proposed action. The proposed action to construct a new set of defense fuel receipt pipelines in an area east of the current pipelines is described in detail in Subsection 2.2. This EA is in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [U.S.C.] 4331 et seq.), the regulations of the Council on Environmental Quality (CEQ) that implement NEPA procedures (40 Code of Federal Regulations [CFR] 1500–1508 and 1515–1518), the United States Air Force's (Air Force's) Environmental Impact Assessment Process Regulations at 32 CFR Part 989, Air Force Instruction (AFI) 32-1015 (*Integrated Installation Planning*), Air Force Manual 32-7002 (*Environmental Compliance and Pollution Prevention*), and Air Force Manual 32-7003 (*Environmental Conservation*).

The information in this document serves as the basis for deciding whether the proposed action would result in a significant impact to the human environment, requiring the preparation of an environmental impact statement (EIS), or whether no significant impacts would occur, in which case a finding of no significant impact (FONSI) would be appropriate. Execution of the proposed action will involve "construction" in a wetland as defined in Executive Order 11990, *Protection of Wetlands*, and the proposed action will take place in a floodplain as defined under Executive Order 11988, *Floodplain Management*, and therefore a Finding of No Practicable Alternative (FONPA) was prepared in conjunction with the FONSI.

1.1 Purpose of and Need for Action

The purpose of this defense fuel receipt pipeline improvement project is to correct current deficiencies with the defense fuel receipt pipelines that transport Jet A fuel from the Chevron Bulk Terminal to the DFSP Tampa storage facility. This project will create an efficient and environmentally sound fuel receipt system of sufficient size for the DFSP Tampa storage facility. The need for repair or replacement of the existing deficient pipelines is the result of a loss in fuel transfer capacity. This project would allow DFSP Tampa to improve fuel transfer efficiency and receive Jet A fuel at the original design flow capacity of 3,700 barrels/hour. The current maximum flow capacity is approximately 1,850 barrels/hour since one of the two pipelines was taken out of service following a 2012 inspection that noted significant loss in wall thickness.

An Air Force Form 813 [AF813] was completed and signed for this project on 11 Apr 2019 by a representative of 6th Civil Engineer Squadron Environmental Element [6 CES/CEIE]).

1.2 Regulatory Framework

1.2.1 National Environmental Policy Act of 1969

The NEPA process followed for this project was conducted in accordance with Public Law 91-190 NEPA of 1969. It also follows the CEQ regulations 40 CFR parts 1500 through 1508.

NEPA is an important part of the decision-making process for federal actions. The NEPA process mandates federal agencies to prepare an EA or an EIS designed to explain possible effects of the proposed action on the human environment, including alternative actions and no action, and to allow the public to comment. Significant impacts can result from cumulative actions and can affect unique or endangered resources. The EA or EIS is to be prepared as soon as an agency has a proposed goal (CEQ §1508.23) during the proposal stage of the federal action. An EA is produced if the impacts of a given action are unknown (CEQ §1507.3 and §1508.9). The result of drafting an EA may be a FONSI (CEQ §1508.13) or a finding of significant impacts, which mandates the production of an EIS (CEQ §1501.4 and §1507.3). NEPA is procedural only and is designed to prevent uninformed decisions but does not force any particular action.

CEQ instructs federal agencies to follow procedures in 40 CFR §1500.2 and to abide by the regulations of federal, state, and local governments. The NEPA process should be implemented in a way that maximizes its usefulness to decisionmakers and the public. It should be concise and clear and be supported by evidence that agencies have performed the environmental analysis needed for an informed decision. NEPA procedures should be integrated with other planning and environmental review procedures required by law or agency practice so that such procedures run concurrently. Public involvement should be facilitated in such a way that it encourages participation in the decision-making process. Reasonable alternatives to the proposed action are identified and assessed during the NEPA process to avoid or minimize adverse effects on the environment.

1.2.2 U.S. Air Force Procedures for the NEPA Process

Title 32 CFR Part 989, Environmental Impact Analysis Process, provides a framework for the U.S. Air Force to comply with NEPA and Executive Order 12114 in accordance with the Air Force Policy Directive 32-70. These Air Force-specific procedures and requirements are intended to be used by Air Force decision-makers to fully comply with NEPA and the Air Force's Environmental Impact Analysis Process.

The decision-making process for improvements to the defense fuel receipt pipelines is the result of an inter-disciplinary team approach including the Air Force's Environmental Planning Function and other key Air Force participants. This team approach conforms to requirements in Title 32 CFR Part 989. The U.S. Air Force defines the description of the proposed action and alternatives (DOPAA) portion of the NEPA process as follows:

> *"An Air Force document that is the framework for assessing the environmental impact of a proposal. It describes the purpose and need for the action, the alternatives to be considered, and the rationale used to arrive at the proposed action. The DOPAA can change during the internal scoping and public scoping process, especially as ideas and issues become clearer and as new information makes changes necessary."*

1.3 Interagency and Intergovernmental Coordination and Consultations

1.3.1 Interagency Coordination and Consultations

Scoping is an early and open process for developing the breadth of issues to be addressed in the EA and for identifying significant concerns related to a proposed action. Per the requirements of Intergovernmental Cooperation Act of 1968 (42 U.S.C. 4231[a]) and Executive Order 12372, federal, state, and local agencies with jurisdiction that could be affected by the proposed actions were notified during the development of this EA.

The regulations of Section 106 of the National Historic Preservation Act and implementing regulations (36 CFR Part 800), Section 7 of the Endangered Species Act (ESA) and implementing regulations, Migratory Bird Treaty Act (MBTA), Coastal Zone Management Act (CZMA), findings of effect and request for concurrence were transmitted to the Florida State Historic Preservation Office (SHPO) at the Florida Division of Historical Resources, U.S. Fish and Wildlife Service (USFWS), and the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries).

Concurrence indicating a finding that the proposed action is unlikely to adversely affect historic properties listed, or eligible for listing, in the National Register of Historic Places was received from the Florida SHPO on 28 Aug 2020.

Concurrence indicating a finding of only minimal effects to marine and anadromous fishery resources was received from NOAA Fisheries, Southeast Region, Habitat Conservation Division on 15 Jan 2021.

Concurrence indicating a finding of "no effect" was received from NOAA Fisheries Protected Species Division on 5 Feb 2021.

Concurrence indicating a finding of "may affect, but is not likely to adversely affect" the eastern indigo snake (*Drymarchon couperi*), eastern black rail (*Laterallus jamaicensis jamaicensis*), wood stork (*Mycteria americana*), and Florida manatee (*Trichechus manatus latirostris*) and their habitats was received from USFWS on 29 Jan 2021.

A CZMA consistency determination was sent to the Florida State Clearinghouse on DD MMM 2021 indicating a preliminary finding that the implementation of the proposed action would be consistent with the Florida Coastal Management Program. Concurrence from the Florida State Clearinghouse was received on DD MMM 2021.

Correspondence regarding the consultations with the above-mentioned agencies are in Appendix A.

1.3.2 Government to Government Consultations

The National Historic Preservation Act § 106 (54 U.S.C. 306101), and implementing regulations at 36 CFR Part 800, direct federal agencies to coordinate and consult with federally recognized Native American tribes historically affiliated with the land underlying a project area. Consistent with these regulations, DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, and DAFI 90-2002, *Interactions with Federally Recognized Tribes*, federally recognized tribes that are historically affiliated with the MacDill AFB geographic region are invited to consult on all proposed undertakings that have a potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal consultation process is distinct from NEPA consultation or the interagency coordination process, and it requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of other consultations. The MacDill AFB point-of-contact for Native American tribes is the Installation Commander.

The Presidential Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships, dated 26 Jan 2021, emphasizes the recognition of tribal sovereignty and self-governance and the commitment to fulfilling federal trust and treaty responsibilities to tribal nations. The current administration prioritizes the regular, meaningful, and robust consultation with tribal nations and honors the promises made between the U.S. Government and tribal nations for more than two centuries.

The following Native American tribal governments were consulted regarding this proposed action:

- Miccosukee Tribe of Indians of Florida
- Muscogee (Creek) Nation
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida

Correspondence regarding these consultations is in Appendix B.

1.4 Public and Agency Review of the Environmental Assessment

Because the project area of the proposed action coincides with wetlands and (or) floodplains, it is subject to the requirements and objectives of Executive Order 11988, *Floodplain Management* and Executive Order 11990, *Protection of Wetlands*. The Air Force published early notice in the *Tampa Bay Times* on 17 Feb 2020 that the proposed action would occur in a floodplain/wetland. The notice identified state and federal regulatory agencies with special expertise that had been contacted and solicited public comment on the proposed action and any practicable alternatives. The comment period for public and agency input on these projects ended on 17 Mar 2020. No comments were received during the comment period.

A notice of availability of the Draft EA and FONSI/FONPA was published in the *Tampa Bay Times* announcing the availability of the EA for review on DD MMM 2021. The notice of availability invited the public to review and comment on the Draft EA. The public and agency review period ended on DD MMM 2021. The notice of availability and public and agency comments are provided in Appendix C.

Copies of the Draft EA and FONSI were also made available for review at the following locations:

- John F. Germany Public Library (900 N Ashley Drive, Tampa, Florida)
- Online at https://www.macdill.af.mil/

1.5 Decision to be Made

This EA evaluates whether the proposed action would result in significant impacts on the human environment. If significant impacts are identified, MacDill AFB would undertake mitigation to reduce impacts to below the level of significance, undertake the preparation of an EIS addressing the proposed action, or abandon the proposed action.

This EA is a planning and decision-making tool that will be used to guide MacDill AFB in implementing the proposed action in a manner consistent with Air Force standards for environmental stewardship. The analysis presented in this document, and feedback received from the public and from other agencies, will inform decisions regarding the proposed project.

1.6 Project Area

The project area is within the Port Tampa City neighborhood in Tampa, Florida (Hillsborough County) (Figure 1-1). This area is contained between the south edge of the Chevron Bulk Terminal, at 5500 Commerce Street, and the DFSP Tampa at the northwestern corner of MacDill AFB, near North Boundary Street. The 2.84-acre project area is surrounded by Old Tampa Bay, Hillsborough Bay, and Tampa Bay and is contained within sections 19 and 20, township 30 south, and range 18 east. The northern portion of the project area is owned by Chevron USA while the central and southern portions of the project area are

owned by the City of Tampa, and the federal government, respectively. The current pair of 8-inch carbon steel underground pipelines run in parallel along a southeast route from the Chevron Bulk Terminal through mangrove habitat associated with the Picnic Island Recreation Area and Picnic Island Creek to the DFSP Tampa.

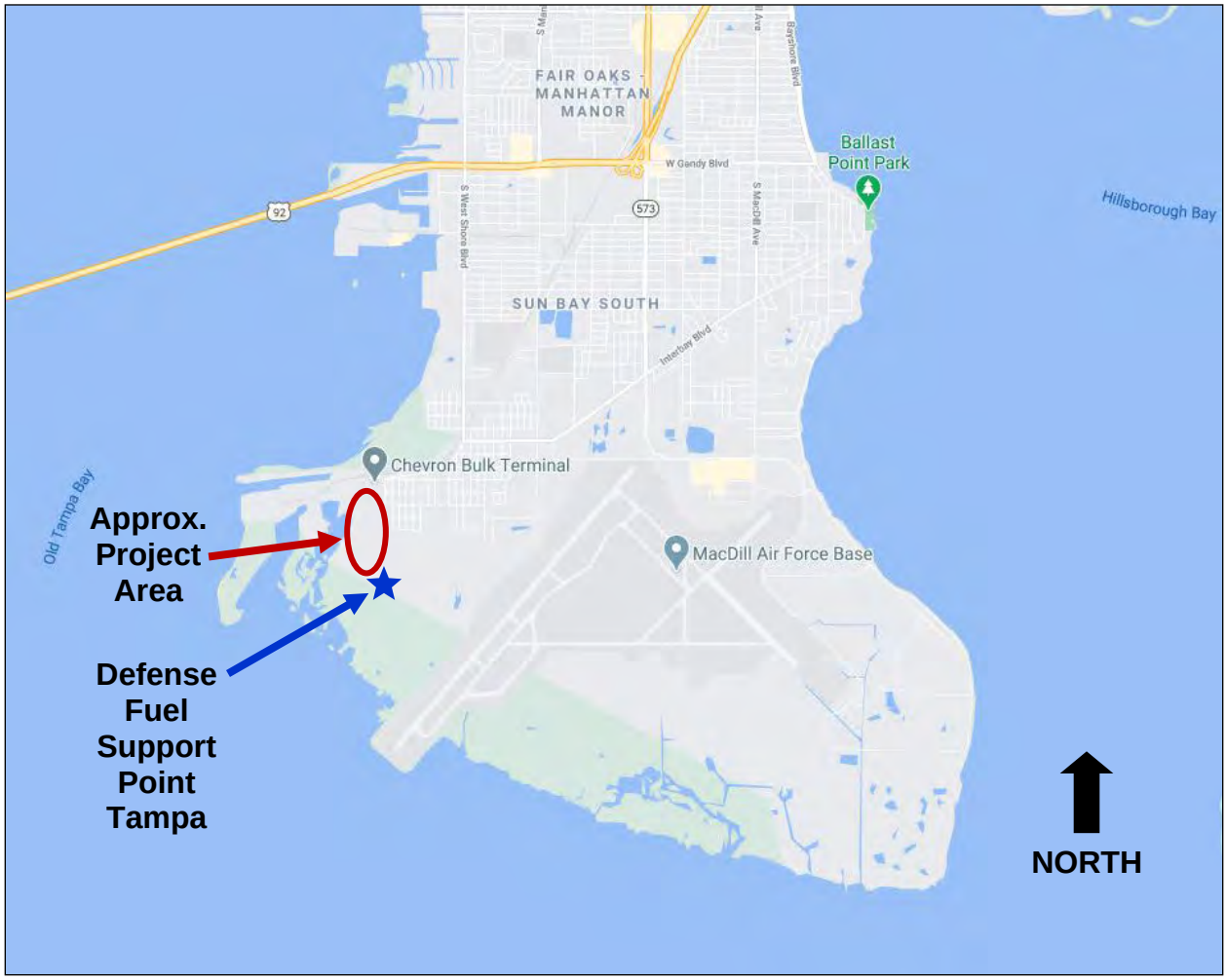

Figure 1-1. Project Area Between the Chevron Bulk Terminal and the Defense Fuel Support Point at MacDill AFB in Tampa, Florida

Note: The project area is indicated with a red circle. The Defense Fuel Support Point Tampa is indicated with a blue star.
Source: Modified from Google Maps image

1.7 Background Information

Most of the background information presented in this section was obtained from the 2017 report by Austin Brockenbrough & Associates entitled *Improvements to Fuel Receipt Pipelines* along with a brief description of the current pipelines provided in AF813 completed and signed on 11 Apr 2019.

1.7.1 Specifications of Current Defense Fuel Receipt Pipelines

The current defense fuel receipt pipelines run west aboveground from the Chevron Bulk Terminal for approximately 580 feet (B. Strayer, pers. comm. 14 Sep 2020) on Chevron pipe supports. From the western terminus of the aboveground pipelines, the pipelines run underground in a southern direction for 788.2 feet (Austin Brockenbrough & Associates 2017). From there, the underground pipelines run southeast for 2,375 feet to the northwestern boundary of MacDill AFB, where they connect to aboveground piping at the DFSP

Tampa. The total length of the underground pipelines is 3,163.2 feet, and they are approximately 5 feet below the soil surface (Austin Brockenbrough & Associates 2017). The total length of each underground pipeline is estimated at 3,200 feet to accommodate the additional lengths of piping needed to plunge 5 feet below grade at the northern terminus and emerge above grade at the DFSP Tampa (B. Strayer, pers. comm., 5 Oct 2020). Figures 1-2 through 1-4 show the current configuration of the defense fuel receipt pipelines over aerial imagery, as an engineering drawing, and as a schematic, respectively.

The current defense fuel receipt pipelines are referred to individually as pipelines #2 and #3 (Figure 1-2). They consist of welded carbon steel pipe with exterior coatings and no interior coatings (Austin Brockenbrough & Associates 2017). The pair of pipelines have a flow capacity totaling approximately 3,700 barrels/hour according to Argus Consulting (2009). However, one of the pipelines (pipeline #2) was taken out of service following a 2012 inspection that noted several wall anomalies with wall thickness loss exceeding 50% (Pipeline Petroleum Services 2012). Pipeline #2 was drained of fuel and filled with nitrogen at the time of decommissioning. Pipeline #3 remains operational and in-service with a flow capacity of approximately 1,850 barrels/hour (Austin Brockenbrough & Associates 2017). This pipeline continues to be inspected annually. Preliminary findings of a recent inspection of pipeline #3 using a "smart pig" suggests that the integrity of this pipeline should continue to allow fuel transfer for another 10 years.

U.S. Coast Guard regulations mandate a maximum pressure at the Port Tampa Fuel Pier not to exceed 100 pounds per square inch (psi) for the fuel receipt pipelines. The pressure capacity of pipeline #3 is approximately 14 psi at its southeastern terminus where the fuel is received at the DFSP Tampa storage tanks at the tank farthest from the vessel off-loading area (Austin Brockenbrough & Associates 2017).

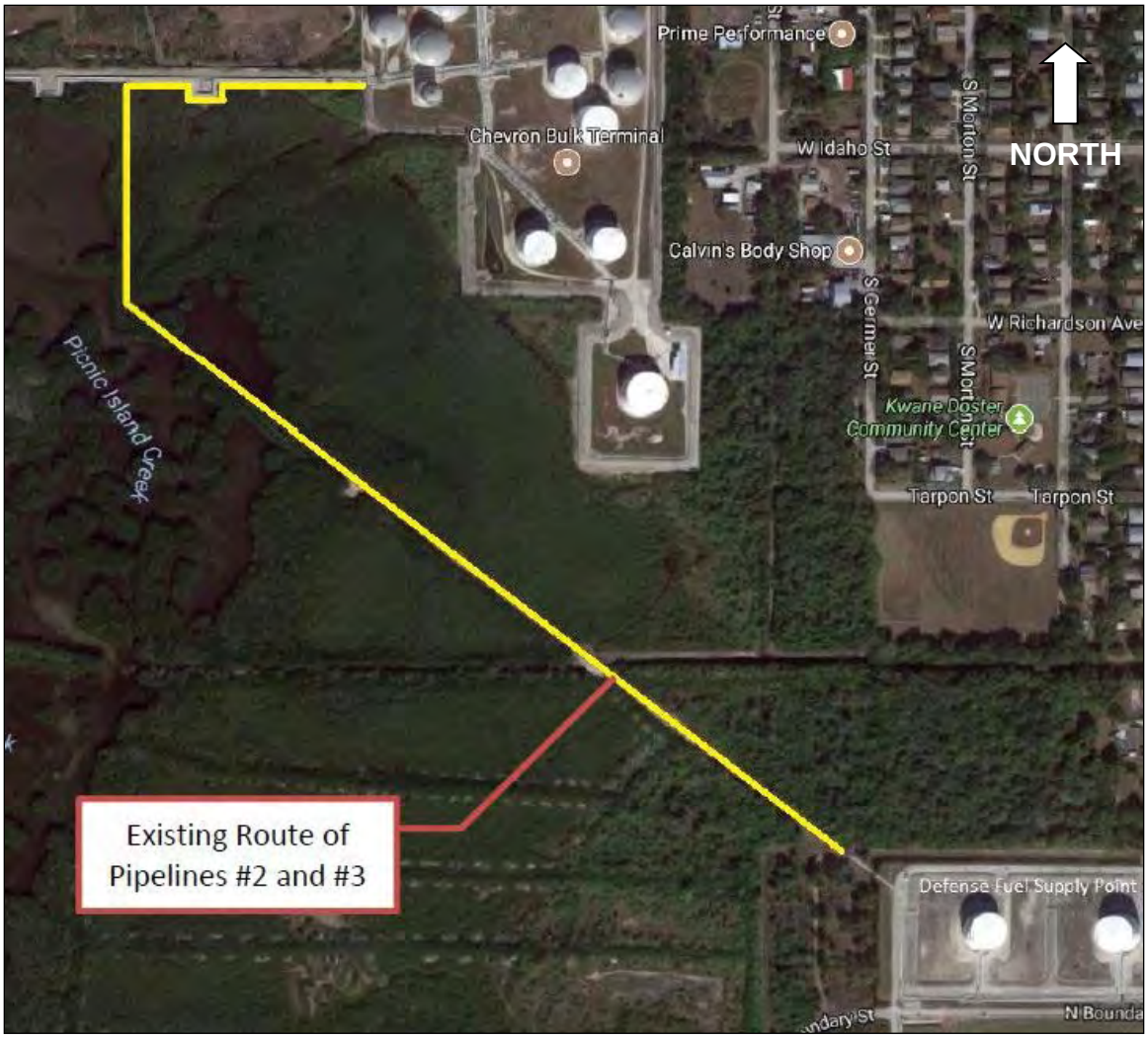

Figure 1-2. Aerial Image with General Route of Current Defense Fuel Receipt Pipelines West of MacDill AFB

Source: Modified from Photograph E1 in Austin Brockenbrough & Associates (2017)

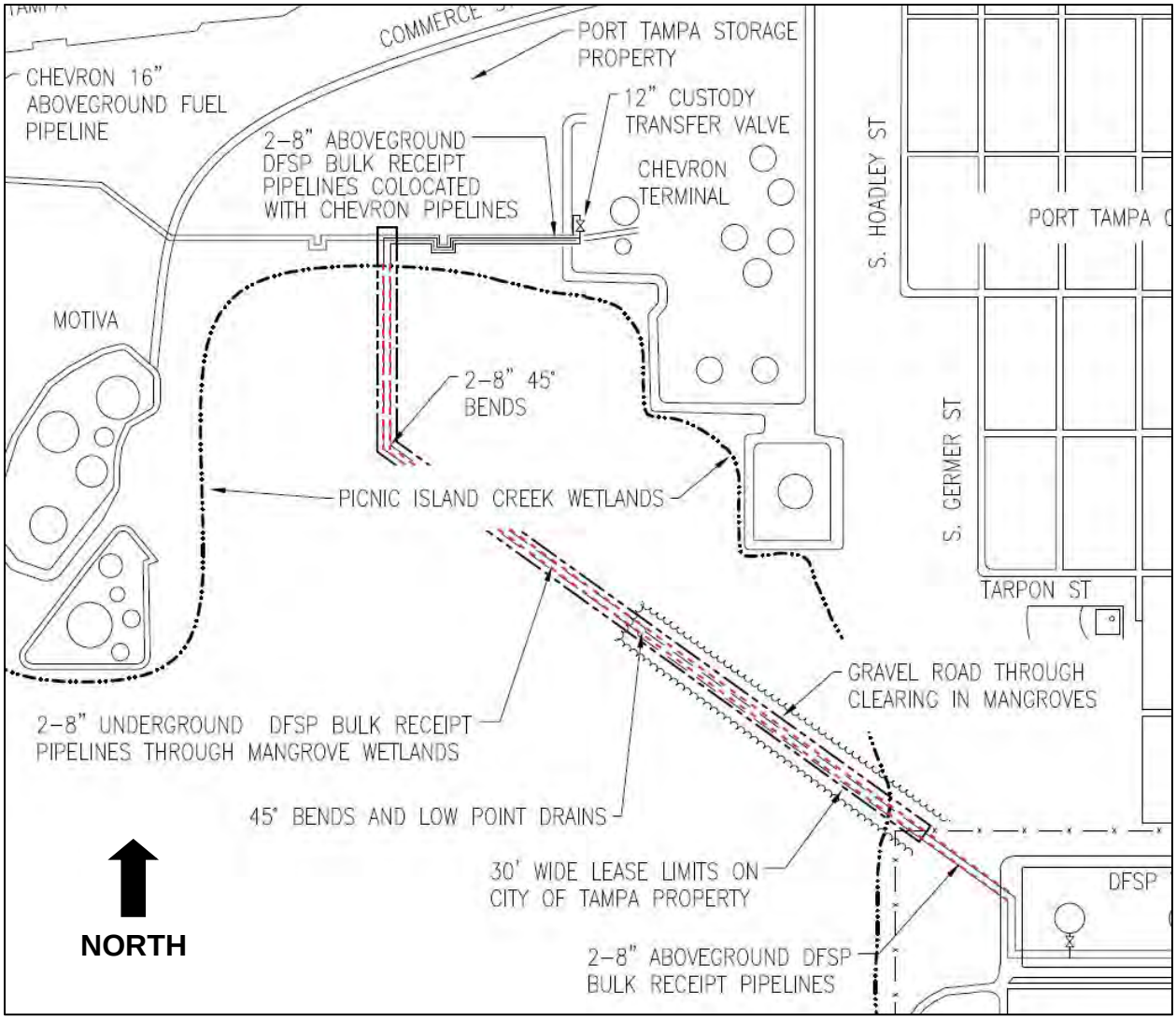

Figure 1-3. Overview of Current Defense Fuel Receipt Pipelines and Overall Fueling System

Source: Modified from figure in Austin Brockenbrough & Associates (2017)

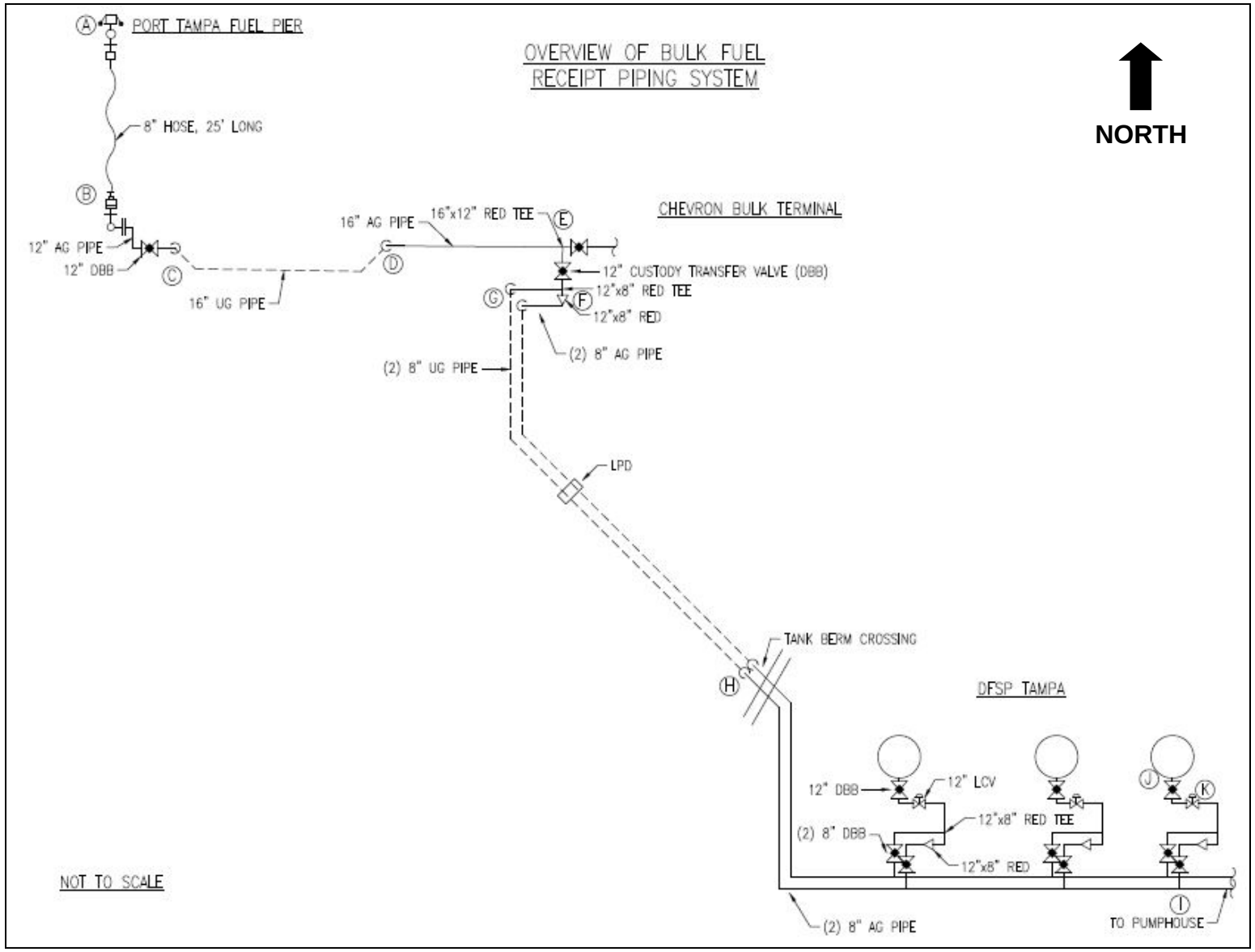

Figure 1-4. Schematic of the Current Defense Fuel Receipt Pipelines and Overall Fueling System

Source: Modified from figure in Austin Brockenbrough & Associates (2017)

1.7.2 History of Defense Fuel Receipt Pipelines

Defense fuel receipt pipelines #2 and #3 were installed in the early 1950s as single-product pipelines for AVGAS (aviation gasoline) and JP-4 (jet propellant-4) fuels. The two pipelines were modified in 1957 to connect to the Chevron Bulk Terminal. At that time, the northern portion of the defense fuel receipt pipelines, leaving Port Tampa, was abandoned. In 1980, aboveground southeastern portions of the pipelines were replaced with underground piping connecting to the DFSP Tampa along the edge of the mangrove wetland area and beneath the current gravel access road. The underground piping modifications were designed to protect against damage from hunting activities (Austin Brockenbrough & Associates 2017).

Active pipelines are inspected annually, with the most recent inspection having been conducted in April 2020. Corrosion to the underground pipelines was mentioned as far back as 1999, in an API 570 pipeline inspection report that indicated the corrosion was severe in the piping within the mangrove wetland habitat. In 2007, a corrosion survey suggested that the lifespan for these underground pipelines would end in 2010. A study by Argus Consulting (2009) recommended replacement of the piping in a new location (upslope of the existing pipelines, in upland portions of the City of Tampa and Chevron properties). An instrument pigging investigation in 2012 noted severe corrosion on the underground piping in the mangrove habitat (Pipeline Petroleum Services 2012). The 2012 investigation also found that pipeline #2 had numerous locations where metal-loss exceeded 50% of the wall thickness and two locations where metal loss exceeded 70% of the wall thickness (Pipeline Petroleum Services 2012). As mentioned previously, pipeline #2 was taken out of service following the 2012 investigation. The condition of pipeline #3 since the 2012 investigation did not change substantially by the next inspection, in May 2016 by Pipeline Petroleum Services (2016). Five locations had metal loss that exceeded 40% of the wall thickness and two locations had metal loss that exceeded 50% of the wall thickness. Pipeline #3 showed no restrictions in its estimated 7.981-inch internal diameter (Pipeline Petroleum Services 2016). Preliminary findings of the most recent inspection of this pipeline, using a "smart pig", suggests that it will continue to be in operational condition for another 10 years.

1.7.3 Project-Specific Regulations

Although the Florida Administrative Code (F.A.C.) 62-762, *Aboveground Storage Tank Systems*, applies to storage tanks it does not regulate pipelines such as those discussed in this EA. No state regulations have been identified that would apply to fuel pipelines.

The decommissioning of the existing underground sections of the defense fuel receipt pipelines will follow Department of Defense (DoD) guidelines. Such guidelines involve the emptying and cleaning of the pipelines and ensuring that they are gas-free and inert using a flowable fill slurry (B. Strayer, pers. comm. 5 Oct 2020). Criteria in Chapter 14, Subsection 14-1.3 of Unified Facilities Criteria 3-460-01 ("Design: Petroleum Fuel Facilities") would also apply to the closure of the existing pipelines.

1.7.4 Property Owners and Lease Agreements

The underground portions of the current defense fuel receipt pipelines travel 3,163.2 feet along a 393.87-acre property owned by the City of Tampa (Hillsborough Co. folio #139415-0000) (Austin Brockenbrough & Associates 2017). The Chevron Bulk Terminal is located on a 41.45-acre parcel owned by Chevron USA (Hillsborough Co. folio #139347-6052). Property northwest of the pipelines is a 16.15-acre undeveloped parcel owned by Port Tampa Storage, Inc. (Hillsborough Co. folio #139328-0000) (Austin Brockenbrough & Associates 2017).

The underground portions of the pipelines are contained within a 30-foot-wide lease limit by agreement between the U.S. Government and the City of Tampa. The lease area totals approximately 2.18 acres (Exhibit A in Austin Brockenbrough & Associates 2017). The lease was updated on 26 Oct 2020, for a one-year firm term beginning 1 Nov 2020, with four optional years (up to 31 Oct 2025). DLA has a Contract for Services with Chevron, allowing the defense fuel receipt pipelines, and a 12-inch-diameter custody

transfer valve, to run parallel to Chevron fuel lines on Chevron pipe supports (B. Strayer, pers. comm., 23 Mar 2021).

2 Description of Proposed Action and Alternatives

The information presented below on each pipeline construction scenario is based on two main documents. The general descriptions of the proposed action and alternatives use information from AF813 completed and signed on 11 Apr 2019. The engineering details of each pipeline scenario are based mainly on a 2017 report by Austin Brockenbrough & Associates, *Improvements to Fuel Receipt Pipelines*. Changes to the design or proposed materials since the 2017 report rely mainly on design drawings and personal communications with staff at Austin Brockenbrough & Associates and are indicated as-such.

2.1 Selection Standards

Several scenarios were considered for addressing how best to transport Jet A fuel from the Chevron Bulk Terminal to the DFSP Tampa at the northwest corner of MacDill AFB.

The following selection standards (screening criteria) were used to develop the reasonable range of alternatives that are presented below:

1. The alternative would provide a flow rate of at least 3,600 barrels per hour of Jet A fuel.
2. The alternative would avoid wetland impacts to the greatest extent practicable.
3. The alternative would avoid impacts to mangroves and to other protected flora and fauna to the greatest extent practicable.
4. The alternative would include sufficient site access such that construction, operation, and maintenance of facilities and equipment can proceed. Such access would be via existing paved and unpaved roads, either inside or outside the installation perimeter fence.
5. The alternative would meet criteria in Chapter 14, Subsection 14-1.3 of Unified Facilities Criteria 3-460-01 ("Design: Petroleum Fuel Facilities") and F.A.C. 62-762 ("Aboveground Storage Tank Systems") with respect to permanent closure of the current defense fuel receipt pipelines.

2.2 Proposed Action (pipeline replacement in new location)

The proposed action entails locating a pair of new pipelines outside the current 30-foot-wide lease agreement corridor with the City of Tampa (Austin Brockenbrough & Associates 2017). The placement of the new pipelines would include an aboveground section of 10-inch piping extending from the Chevron fuel pipelines and following through the Chevron Bulk Terminal near the terminal's southeastern boundary (see Figure 2-1). From there, a pair of 8-inch FlexSteel piping would travel eastward underground from inside the southeastern corner of the berm that surrounds the containment area for Chevron Tank #59. The pair of pipelines would continue eastward under the berm, and under the chain link fence surrounding the fuel terminal, towards South Germer Street. The pipelines would reach the public right-of-way along South Germer Street at approximately 100 feet north of the corner of South Germer Street and Tarpon Street (B. Strayer, pers. comm., 16 Nov 2020). The underground pipelines would then turn south, following the public right-of-way parallel to South Germer Street, to the boundary of MacDill AFB near the DFSP Tampa. There, the pipelines would connect to the current aboveground piping. The underground pipeline route would extend through the currently undeveloped properties owned by Chevron and the City of Tampa (Austin Brockenbrough & Associates 2017).

The 8-inch FlexSteel pipelines are proprietary pipelines designed for use in a variety of applications, including utilities, military and defense, municipal, power generation, fiber optic, gas transmission, pumped sewage, and mining and agriculture (FlexSteel Pipeline Technologies, Inc. 2017). FlexSteel pipes are advertised by the manufacturer as being highly corrosion resistant and more durable than other flexible pipelines. These pipelines feature an inner, composite primary pipe wrapped in steel cladding and enclosed by an outer composite pipe, with fully testable interstice between the layers (B. Strayer, pers. comm., 23 Mar 2021).

The current lease agreement with the City of Tampa was extended for a one-year period effective 1 Nov 2020, with four additional option years. This lease agreement would be abandoned and new agreements with the city and with Chevron would need to be generated (Austin Brockenbrough & Associates 2017). The new lease agreement for a 30-foot-wide pipeline corridor with the City of Tampa may require a public hearing and approval by the City Council (Austin Brockenbrough & Associates 2017). Additionally, a new Contract for Services arrangement between DLA and Chevron would be necessary to route the pipelines through the tank farm in the Chevron Bulk Terminal. The time required for approval of a new lease agreement with the City of Tampa and a new arrangement with Chevron should be considered during planning for this proposed action (Austin Brockenbrough & Associates 2017). Coordination with the City of Tampa and Chevron towards these goals will begin following approval of this EA.

The route of the new aboveground portions of the defense fuel receipt pipelines would join the underground portions of piping at the southeastern side of the Chevron Bulk Terminal (Austin Brockenbrough & Associates 2017) instead of using the current pipeline configuration at the northwestern side of the terminal. This change in orientation would necessitate refitting of the piping at the custody transfer valve to allow the connection at the southwestern side of the facility. The pipe supports at the Chevron Bulk Terminal would require moving, modifications, and new construction to fit and support the new aboveground portions of piping through the tank farm and pipe supports (Austin Brockenbrough & Associates 2017). The new aboveground piping running through the Chevron Bulk Terminal would require review by Chevron's corporate engineering offices (Austin Brockenbrough & Associates 2017).

Installation of the underground portions of defense fuel receipt pipelines would require traditional open cut trenching, including clearing an approximately 30-foot-wide swath along the pipeline route (Austin Brockenbrough & Associates 2017). The length of underground piping would total 1,717 feet (B. Strayer, pers. comm., 16 Nov 2020). The upland area that the new pipeline would traverse is easily accessible by construction crews as well as by DFSP Tampa personnel for inspections, maintenance work, and repair work (Austin Brockenbrough & Associates 2017). Minor impacts (under 0.5 acres) to wetlands are unavoidable and would occur at ditch crossings. Due to the avoidance of major impacts to mangrove and other wetlands, environmental permitting would be minimized compared to Alternative 1 (pipeline replacement in-situ) (Austin Brockenbrough & Associates 2017). However, removal of certain species of desirable trees and palms during the clearing process would require permitting by the City of Tampa and may require mitigation in the form of planting equivalent trees or palms at an approved site (City of Tampa 2019).

This scenario would allow for the continued operation of the current defense fuel receipt pipelines until the completion of construction of the new pipelines (Austin Brockenbrough & Associates 2017). The current underground Pipeline #3 would be decommissioned and left in place following DoD guidance. This pipeline would be emptied and cleaned in such a way as to ensure that it is gas-free and inert and it will then be filled with a flowable slurry.

The maximum capacity of the new defense fuel receipt pipelines would match that of the original pipelines (ca. 3,700 barrels/hour in a 2009 study) (Austin Brockenbrough & Associates 2017). A pair of 8-inch pipelines would fulfill the fuel transfer rate requirements of the DFSP Tampa mission according to flow calculations by Austin Brockenbrough & Associates (2017). However, if necessary, the new pipelines could be sized to better fulfill the requirements of the DFSP Tampa mission (Austin Brockenbrough & Associates 2017).

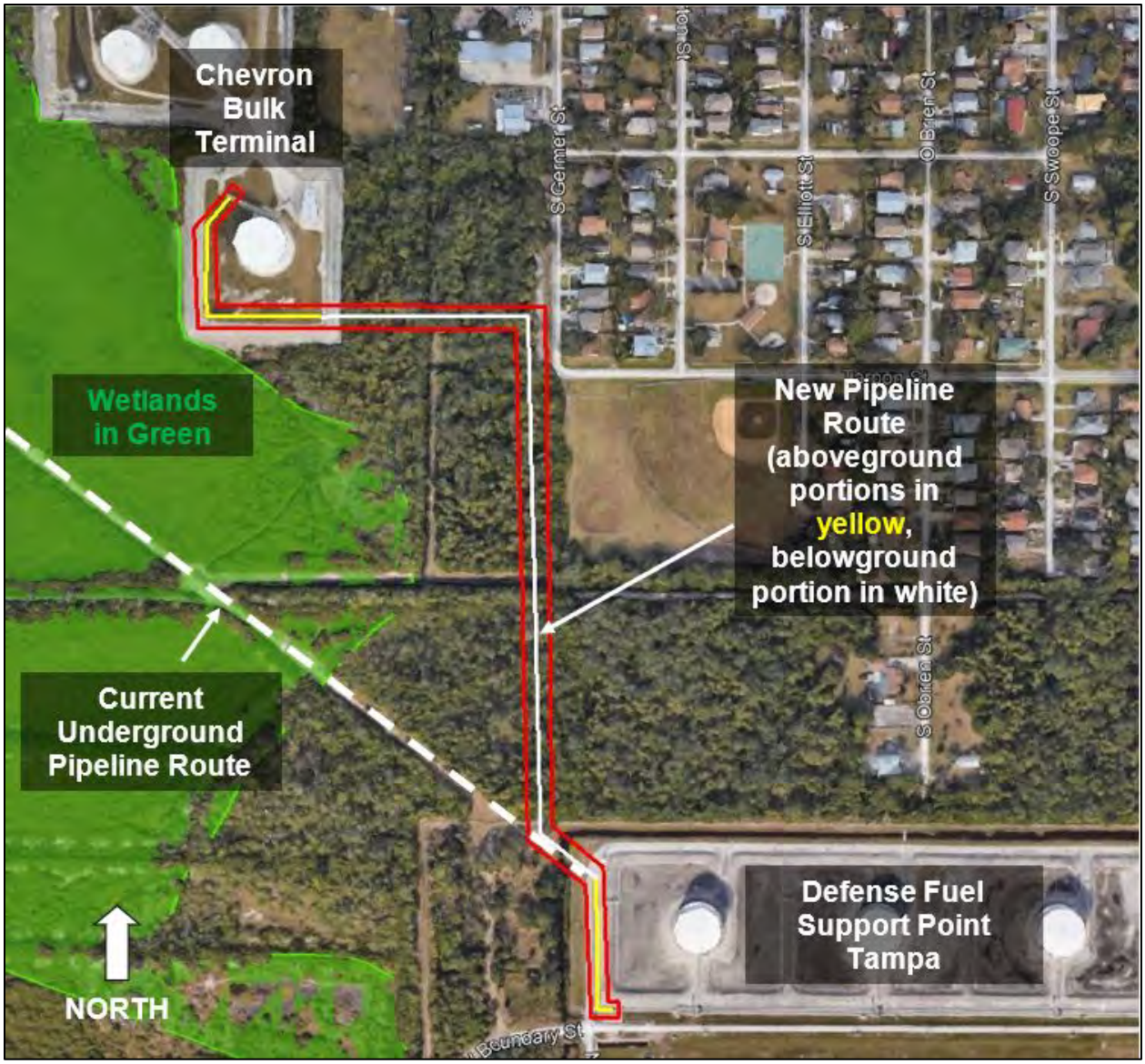

Figure 2-1. Aerial Image with the General Route of Underground Portion of the Proposed Pipeline (yellow line) and the Approximate Project Area (red polygon)

Sources: Aerial from Google Earth, pipeline routing and project area based on figure on G-002 of 35% design drawings, dated 8 Sep 2020, by Austin Brockenbrough & Associates

2.3 Alternative 1 (pipeline replacement in-situ)

This scenario involves the installation of a new pair of underground defense fuel receipt pipelines along a route that is similar to the route of the current pipelines (Figure 2-2). The current underground pipelines would be removed if required by federal, state, or local regulations once the new pipelines are installed and commissioned. The new pipelines would be of 8-inch welded carbon steel, schedule standard, double-walled with a fully testable interstitial space, with external coating and cathodic protection (Austin Brockenbrough & Associates 2017).

The new pipelines would be within the footprint of the current land lease agreement with the City of Tampa (Austin Brockenbrough & Associates 2017). This scenario would allow the current aboveground piping and the custody valve configuration on Chevron property to remain unchanged. The maximum capacity of the new defense fuel receipt pipelines would match that of the original pipelines (ca. 3,700 barrels/hour in

a 2009 study) (Austin Brockenbrough & Associates 2017). The construction of new pipelines within the existing easement boundaries would be performed under the clause providing the U.S. Government a right-of-way for construction and repair of pipelines (Austin Brockenbrough & Associates 2017).

Installation of the underground portions of the replacement defense fuel receipt pipelines would require traditional open cut trenching including clearing a 30-foot-wide swath along the pipeline route (Figure 2-3) (Austin Brockenbrough & Associates 2017). Given that the route intersects mangroves and other wetland habitat, this is the most environmentally invasive of the alternatives considered. The area along the pipeline installation route would then be stabilized for heavy equipment to maneuver through the mangrove and other wetland habitat (Austin Brockenbrough & Associates 2017). Stabilization would be with a combination of fill, gravel, and floating mats. Amending the wetlands with these stabilization materials would progress linearly as the pipelines are installed (Austin Brockenbrough & Associates 2017).

Traditional open cut trenching methods excavate only a limited length of trench at a time (Austin Brockenbrough & Associates 2017). Such excavations are equivalent to the length of piping that can be installed and backfilled in one workday. Pipelines with joints that are welded outside of the trench require a greater length of open trench for installation (Austin Brockenbrough & Associates 2017). Construction methods used for this scenario should minimize open trench conditions in one location at a time for safety, environmental, and stabilization requirements. Due to the high water table in and near the wetland habitat, the 30-foot-wide swath of cleared pipeline route would need to be enclosed in a cofferdam for the duration of the project (Austin Brockenbrough & Associates 2017). It is not possible to use a barge to transport or move construction equipment due to the shallow depth of the standing water and the presence of abundant red mangrove drop and prop roots.

The presence of wetland habitat within the route for the pipeline installation presents construction challenges not typically encountered in open cut installations that are in upland habitat (Austin Brockenbrough & Associates 2017). The piping must be installed in a dry trench, and proper compaction of the backfill is required for successful installation. The route of the pipelines would be dredged to remove excess soil and sediment (Austin Brockenbrough & Associates 2017). The open trench would be dewatered using well-point pumping in conjunction with temporary cofferdams along the perimeter of the open trench. The cofferdam would surround the trench area and create a dry workspace once the water has been pumped out of the trench (Austin Brockenbrough & Associates 2017). Cofferdams are typically constructed of pile-driven welded sheet pile with cross braces for added support. The cofferdams used here should be designed to account for the tidal flux at Picnic Island Creek for the applicable season (Austin Brockenbrough & Associates 2017).

Picnic Island Creek is considered by Tampa Port Authority (TPA) to be a secondary navigation channel (Austin Brockenbrough & Associates 2017). TPA regulations instruct that pipeline installations in such channels must be installed at a minimum depth of 10 feet below the permitted dredging depth. A request would need to be made to TPA for a variance to install the new pipelines at a similar depth as that of the current pipelines (Austin Brockenbrough & Associates 2017).

Construction would occur in phases to maintain the continuous distribution of Jet A fuel to the DFSP Tampa (Austin Brockenbrough & Associates 2017). The initial phase(s) would consist of installing and commissioning the new pipeline #2. The current pipeline #2 would then be removed if mandated by federal, state, or local regulations (Austin Brockenbrough & Associates 2017). Subsequent phase(s) would consist of installing the new pipeline #3 followed by the decommissioning and (if necessary) removal of the current pipeline #3. This is the only alternative that includes the possible removal of the current defense fuel receipt pipelines (Austin Brockenbrough & Associates 2017). The new pipelines must be fully functional prior to removal of the adjacent current pipelines. The soil surface, including the surface of underwater sediment, would need to be restored to pre-existing conditions and match surrounding grade (Austin Brockenbrough

& Associates 2017). Restoration of the mangrove wetland habitat to pre-existing conditions would be required as soon as practicable.

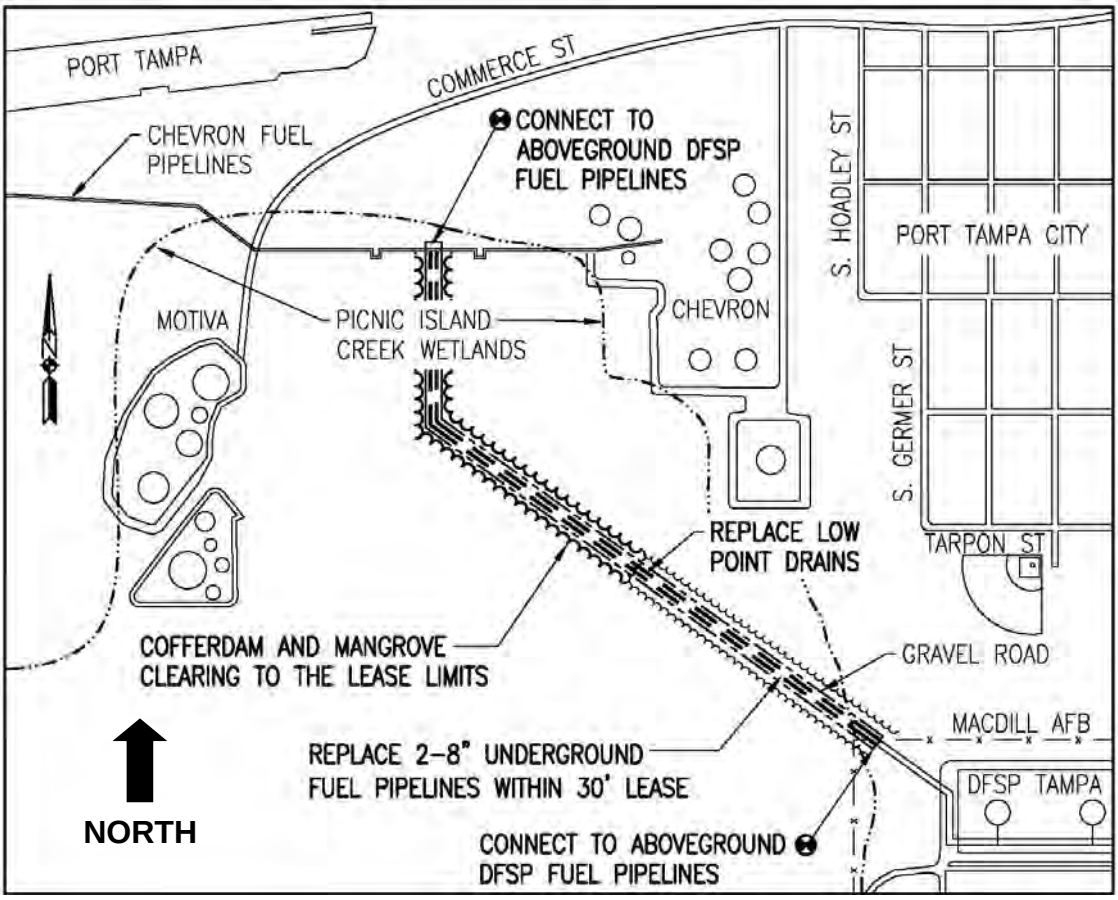

Figure 2-2. Overview of Replacement In-Situ Scenario

Source: Modified from figure of Option 1 in Austin Brockenbrough & Associates (2017)

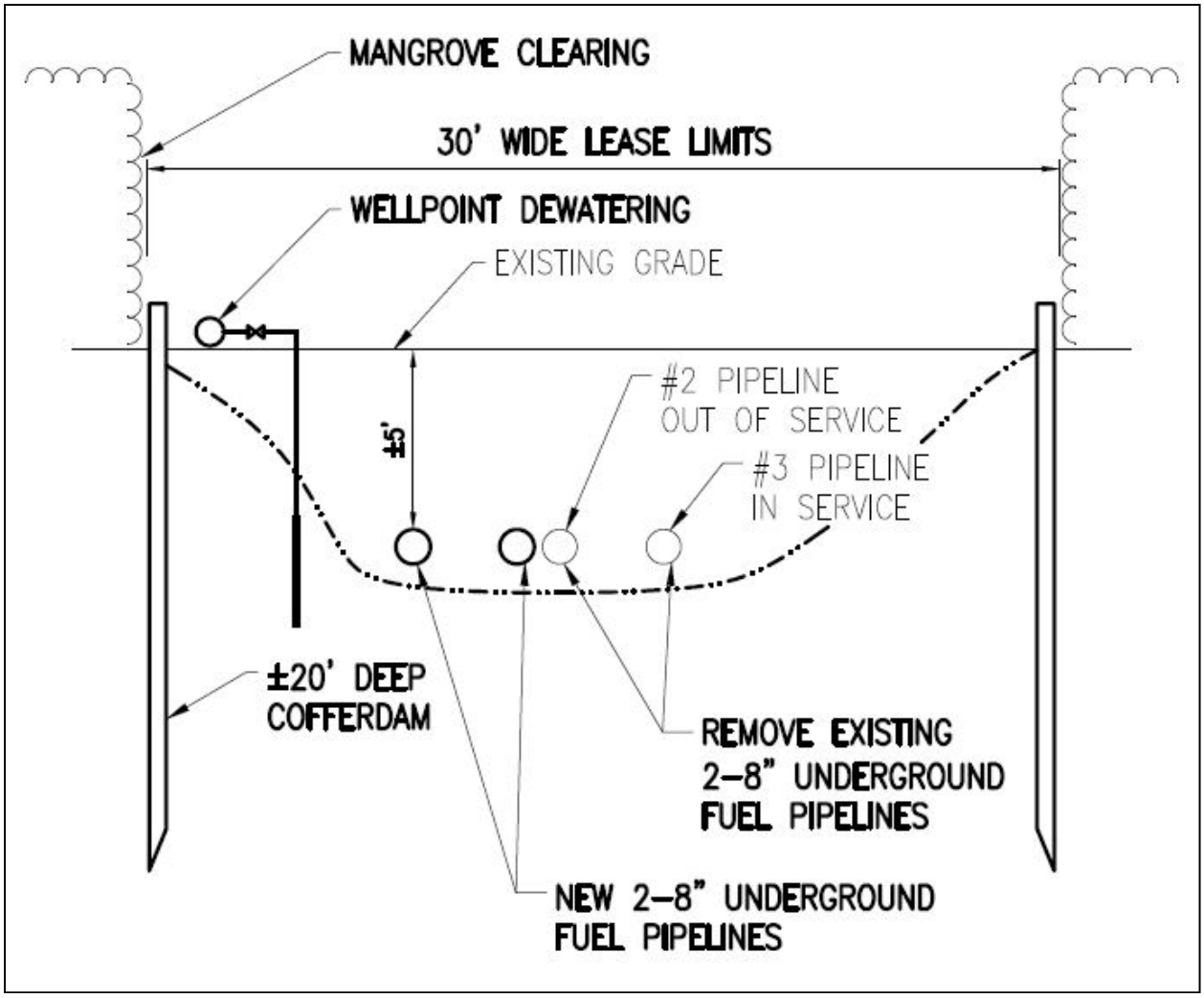

Figure 2-3. Details of Replacement In-Situ Scenario

Source: Modified from figure of Option 1 in Austin Brockenbrough & Associates (2017)

2.4 Alternative 2 (replacement using horizontal directional drill)

This scenario minimizes impacts to the mangroves and other wetland habitat by installation of new pipelines along a modified route using horizontal directional drilling (HDD) (Figures 2-4 and 2-5) (Austin Brockenbrough & Associates 2017). The new pipelines would be of 8-inch welded carbon steel, schedule standard, double-walled with a fully testable interstitial space, and with external coating and cathodic protection. HDD utilizes a surface-launched drill rig to install piping underground (Austin Brockenbrough & Associates 2017). Although the HDD method offers less environmental impact compared to traditional open cut trenching methods, the HDD method is not without impact to sensitive habitat. Surface disturbance using this method is confined to the entrance pit and the receiving pit along the gravel access road northwest of the DFSP Tampa (Austin Brockenbrough & Associates 2017). An engineering drawing, an aerial image, and a cross-sectional view are shown in Figures 2-4 through 2-6, respectively.

Disturbance in the two pit areas would consist of clearing of the existing vegetation, excavation of the pits, and compacting of the surrounding soil by heavy equipment (Austin Brockenbrough & Associates 2017).

The entrance pit would be located on Port Tampa Storage property on the north side of the current aboveground pipelines leading from the Chevron Bulk Terminal (Austin Brockenbrough & Associates

2017). There, the new underground piping would be connected to the current aboveground defense fuel receipt pipelines west of the Chevron facility. The installation of a 90-degree elbow would facilitate the connection and change in direction of the piping (Austin Brockenbrough & Associates 2017). The entrance pit would require minor excavation in or near the northern portion of the mangrove wetland, including the installation of a small cofferdam along the south side of the aboveground piping.

The receiving pit would be adjacent to the current pipeline route along the gravel access road northwest of the border of MacDill AFB (Austin Brockenbrough & Associates 2017). To allow for the sweeping bend radius necessary for horizontal alignment using HDD, a less-than-0.1-acre clearing at the receiving pit on the gravel access road would be required.

Installation of the remaining southeastern portion of the underground pipelines would use traditional open cut trenching methods, including clearing a 30-foot-wide swath along the remaining route of the pipelines (Austin Brockenbrough & Associates 2017). A connection would be made between the southeastern terminus of the underground pipelines and the aboveground piping at the northwest corner of the DFSP Tampa.

Installation of piping using HDD commences with the drilling of a pilot borehole on a terminus of the designated path (Austin Brockenbrough & Associates 2017). The pilot hole is then followed by a reaming procedure that increases the diameter of the pilot borehole using a back-reamer tool. The diameter of the back reamer is larger than the diameter of the pipeline being installed to allow for some cave-in of the soil (Austin Brockenbrough & Associates 2017). The diameter of the back reamer is dependent upon soil type and stability, installation depth, and the type of drilling fluid. In this case, the drilling fluid would be a suspension of bentonite clay in water (Austin Brockenbrough & Associates 2017). Typically, the back reamer is 1.5 to 2.5 times greater than the piping being installed. The piping is pulled together with back-reaming at a constant velocity of 1 to 2 feet per minute (Austin Brockenbrough & Associates 2017).

The bentonite clay drilling fluid stabilizes the borehole, which is very important in such sandy soils (Austin Brockenbrough & Associates 2017). It also lubricates the passage of the piping, cools the cutting head, and backfills the void between the diameter of the reamer head and the piping. The bentonite clay must be carefully recovered to prevent disturbance of the nearby habitats, including the sensitive mangrove wetland habitat (Austin Brockenbrough & Associates 2017). Due to the wetland location, sandy soils are expected at shallow depths and firmer clay soils are expected at deeper depths.

Prior to installation with the HDD pullback procedure, the entire length of the carbon steel pipe would be welded in place aboveground and inspected (Austin Brockenbrough & Associates 2017). The estimated 1,500 linear feet of piping would be staged along the gravel access road between the receiving pit southeast of the wetland boundary and the fence line at the DFSP Tampa.

Although there are no known utilities within the path of the HDD borehole (Austin Brockenbrough & Associates 2017), proper installation depth and horizontal alignment of the piping are critical to making the designed connections to the aboveground piping. This would be facilitated with a wire-line magnetic locating and guidance system. This guide system would be monitored remotely by an operator at the entrance pit (Austin Brockenbrough & Associates 2017).

The underground defense fuel receipt pipelines would be installed such that they would curve downward from the entrance pit to a maximum depth of approximately 30 feet below the grade of the wetland and then curve back upward towards the receiving pit (Austin Brockenbrough & Associates 2017). The curvature of the piping is dependent upon several factors, including the crossing length and required depth for safe cover. The welded carbon steel of the piping limits the degree to which it will bend (Austin Brockenbrough & Associates 2017).

For planning purposes, approximately 100 feet of bend radius is required for every inch of diameter for steel pipe (Austin Brockenbrough & Associates 2017). Larger pipes require larger bend radii. Increasing the pipe size would increase the staging area required and consequently increase the disturbance to mangrove wetland habitat. The steel pipe usually has a much larger bend radius than the drill pipe (Austin Brockenbrough & Associates 2017).

Horizontal curvature should be reduced to the greatest extent possible to reduce bending stresses on both the drilling rod and the pipe (Austin Brockenbrough & Associates 2017). The HDD pipelines would be installed outside of the existing lease limits as this method of installation cannot navigate the 45-degree bend in the current fuel pipeline lease location. There is a risk of breakout of the drill from the borehole when making horizontal bends, based on discussions between Austin Brockenbrough & Associates staff and a local directional drill contractor with experience drilling in coastal sands. The breakout risk is due to the lateral force the drill rod exerts on the side of the borehole through the radius, with the weaker sandy soil unable to resist the lateral force (Austin Brockenbrough & Associates 2017). The drill rod tends to slide out of the original directional drill borehole, resulting in the drill bit entering the surrounding sandy soil, or, if it occurs close to the surface, it may result in the drilling fluid breaching the borehole and exiting at the ground surface. To avoid these undesirable scenarios, HDD should be conducted along a horizontal plane that is as straight as possible (Austin Brockenbrough & Associates 2017).

The capacity of the new 8-inch defense fuel receipt pipelines installed under this alternative scenario would match that of the previous pipelines (Austin Brockenbrough & Associates 2017). The new pipelines could also be sized as necessary to fulfill the DFSP Tampa mission. The two current underground pipelines would be abandoned in place to minimize wetland impacts that would otherwise occur during pipeline-removal (Austin Brockenbrough & Associates 2017).

The procedures used during HDD have a potential for the pressurized bentonite clay drilling fluid to seep or flow from the borehole and emerge at the soil surface, a process termed ‘frac-out’ (Austin Brockenbrough & Associates 2017). Frac-outs are most common under shallow bores or in loose soil. Frac-outs result from the pressure of the drilling fluid becoming greater than the applied pressure from the surrounding soil, allowing the drilling fluid to breach the soil surface and cover the surrounding surface area with the suspended bentonite clay slurry (Austin Brockenbrough & Associates 2017). The suspended particles in drilling fluid may potentially negatively affect aquatic organisms. An approved Frac-Out Contingency Plan would be required prior to construction for this alternative scenario (Austin Brockenbrough & Associates 2017). The project site should be regularly inspected for frac-outs, and the contractor should be prepared with floating turbidity curtains and vacuum equipment or similar approved contingency methods.

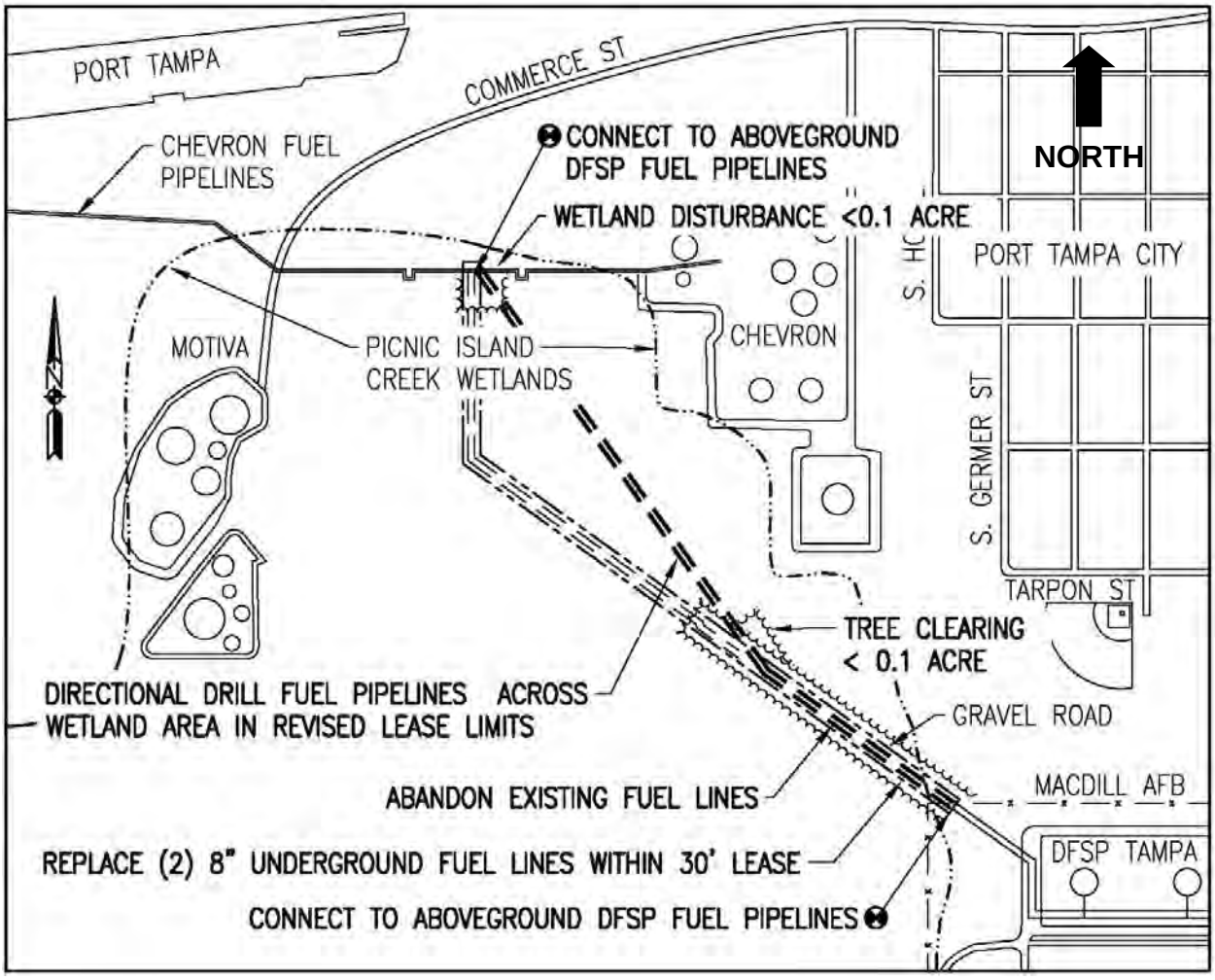

Figure 2-4. Overview of Replacement Using Horizontal Directional Drill

Source: Modified from figure of Option 2 in Austin Brockenbrough & Associates (2017)

Figure 2-5. Aerial of Replacement Using Horizontal Directional Drill

Source: Modified from figure of Option 2 in Austin Brockenbrough & Associates (2017)

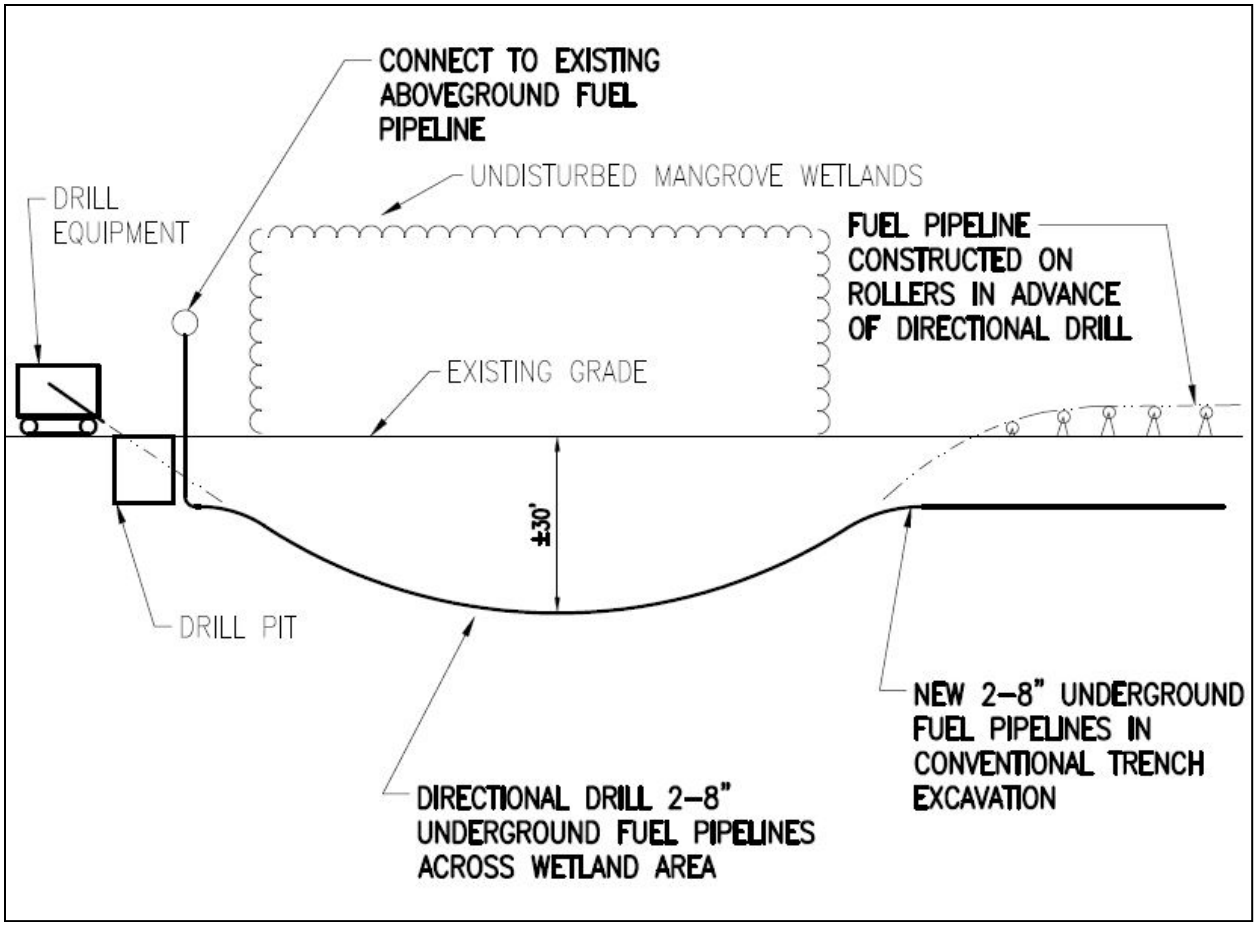

Figure 2-6. Cross-Sectional View of Horizontal Directional Drill Scenario

Source: Modified from figure of Option 2 in Austin Brockenbrough & Associates (2017)

2.5 Alternative 3 (replacement using FlexSteel sliplines)

This scenario involves the installation of a pair of 6-inch FlexSteel sliplines within the current underground 8-inch defense fuel receipt pipelines. FlexSteel slipline is a proprietary pipeline designed for use in a variety of applications, including utilities, military and defense, municipal, power generation, fiber optic, gas transmission, pumped sewage, and mining and agriculture (FlexSteel Pipeline Technologies, Inc. 2017). FlexSteel sliplines are advertised by the manufacturer as being highly corrosion resistant and more durable than other flexible pipelines. These pipelines feature an inner, composite primary pipe wrapped in steel cladding and enclosed by an outer composite pipe, with fully testable interstice between the layers (B. Strayer, pers. comm., 23 Mar 2021). See Figures 2-7 and 2-8 for an engineering drawing and a detailed schematic, respectively.

The sliplining procedure allows for a new pipeline to be installed within the existing piping (Austin Brockenbrough & Associates 2017). In this case, the pair of sliplines would be installed inside the current 8-inch defense fuel receipt pipelines for most of the distance of the existing underground pipelines. The slipline system does not require external coating or cathodic protection (Austin Brockenbrough & Associates 2017). Because this method of installation minimizes the need to excavate, it would minimize impacts to mangrove wetland habitat compared to traditional open cut trenching.

Installation of a FlexSteel slipline into an existing pipe results in a double-walled pipe with a void space between the inner and outer pipes which can be used to monitor leakage using a proprietary Sureshield coating (Austin Brockenbrough & Associates 2017). This coating technology pressurizes space between

the inner and outer polyethylene liners with nitrogen at approximately 30 psi and monitors the pressure for a sign of leakage. The Sureshield technology is continuous through the midline fittings, allowing the entire length of pipeline to be monitored at once (Austin Brockenbrough & Associates 2017). This coating is designed for periodic use and is not generally used for continuous monitoring. The polyethylene outer liner is inherently corrosion resistant and may therefore extend the estimated usable lifespan of the pipelines beyond the projected 50-year expected lifespan for welded steel (Austin Brockenbrough & Associates 2017).

The three primary factors used to determine suitability of the slipline piping are:

1) The amount of available internal diameter space between the FlexSteel slipline and each current defense fuel receipt pipeline;
2) The number and degree of bends in the carrier pipe that would restrict the FlexSteel slipline from being pulled; and
3) The capacity of the sliplines compared to that of the original defense fuel receipt pipelines.

2.5.1 Available Space within the Current Pipelines

A 6-inch FlexSteel slipline has an external diameter of 6.931 inches (Austin Brockenbrough & Associates 2017). A 2016 instrument pigging investigation estimated an internal diameter of 7.981 inches for the current underground Pipeline #3. There are no internal coatings on the schedule 40 welded carbon steel defense fuel receipt pipelines (Austin Brockenbrough & Associates 2017). The 6-inch FlexSteel pipe is expected to be able to slip inside the current underground pipelines. Although the internal diameter of Pipeline #2 is undetermined, it is assumed to have a similar internal diameter to that of Pipeline #3 (B. Strayer, pers. comm., 5 Oct 2020).

The maximum available continuous coiled length of FlexSteel 6-inch slipline that can be shipped by truck to the project area is 1,263 feet. By way of comparison, the current underground defense fuel receipt pipelines each span an estimated 3,200 feet (B. Strayer, pers. comm., 5 Oct 2020). Each 1,263-foot length of coiled FlexSteel is less than half the distance of each of the two underground defense fuel receipt pipelines. Therefore, the FlexSteel slipline would require the use of three midline fittings (per slipline) to couple segments of the flexible pipe. With an external diameter of 7.78 inches and an overall length of 26.4 inches, a midline fitting for a 6-inch FlexSteel pipeline should fit inside the 8-inch current underground pipelines. However, the midline fittings would have only 0.2 inches of clearance inside the current pipelines (Austin Brockenbrough & Associates 2017).

Alternatively, FlexSteel Pipeline Technologies, Inc. offers a special-order maxi-length option of up to 2,600 feet of pipeline that can be manufactured and shipped from the factory by railcar (Austin Brockenbrough & Associates 2017). This would reduce the number of midline fittings to two per underground pipeline. Additional cost would be incurred to coordinate transportation of the coils from the railcar to the site by oversized shipping trailers (Austin Brockenbrough & Associates 2017).

2.5.2 Bend Restrictions in the Current Pipelines

According to the FlexSteel Pipeline Technologies, Inc. engineering department, the radius of an 8-inch 45-degree long-radius 1.5D elbow (meaning the elbow radius is 1.5 times the pipe diameter) is too short to allow the passage of the 6-inch FlexSteel slipline. Also, the 1.5D elbows would not allow the passage of a 7.78-inch external diameter by 26.4-inch-long midline fitting (Austin Brockenbrough & Associates 2017). The existing elbows would need to be cut out at roughly 10 to 12 feet in each direction and replaced with a long-sweep bend at the 45-degree elbow located in the middle of the wetland area. These modifications of the current 45-degree elbows would need a cofferdam and dewatering to remove the steel pipe segments and to allow welding of the new bends in place (Austin Brockenbrough & Associates 2017). The restriction created by the current elbows creates a significant obstacle to the otherwise quick slipline process. The

mangrove wetland within the 30-foot-wide lease agreement limits would need to be totally cleared to reach the elbows, and this action would greatly diminish the advantage of the sliplining alternative (Austin Brockenbrough & Associates 2017). The land disturbance for the slipline is approximately half of the disturbance required for the replacement in-situ alternative due to the replacement of the 45-degree elbows. The use of this alternative would require approval by federal, state, and local resource agencies due to the disturbance of wetlands (Austin Brockenbrough & Associates 2017). Mitigation of wetland impacts would likely be necessary.

Decommissioned underground Pipeline #2 is located on the west side of in-service Pipeline #3 and is the outer pipeline of the two lines at the 45-degree elbow (Austin Brockenbrough & Associates 2017). Given the decommissioned status of Pipeline #2, it follows that this pipeline should be the first of the two underground pipelines to have the FlexSteel slipline installed within it. However, the replacement bend for Pipeline #2 would intersect Pipeline #3 if the same elevation is maintained (Austin Brockenbrough & Associates 2017). Thus, it would be necessary for the replacement bend of Pipeline #2 to be first deflected downwards to provide the clearance necessary for Pipeline #3 to make the bend. This downward deflection of Pipeline #2 would require a complex 3-D bend radius (Austin Brockenbrough & Associates 2017).

2.5.3 Capacity Reduction from 8-inch to 6-inch Pipelines

The use of the 6-inch FlexSteel piping, having an internal diameter of 5.604 inches, would amount to a 50% reduction in the cross-sectional area compared to the current 8-inch defense fuel receipt pipelines (Austin Brockenbrough & Associates 2017). Further, the 6-inch midline couplings, with a 4.78-inch inside diameter, would cause a 65% reduction in the cross-sectional area at each splice location. The reduction in pipe diameter for the FlexSteel slipline and midline couplings would make future pigging of the fuel pipelines nearly impossible (Austin Brockenbrough & Associates 2017).

In 2009, the combined capacity of the twin 8-inch defense fuel receipt pipelines was estimated by Argus Consulting to be 3,700 barrels/hour (2,590 gallons/minute). However, both pipelines were operational at that time, with each pipeline contributing an estimated 1,850 barrels/hour (1,295 gallons/minute). By comparison, the total maximum flow through two 6-inch FlexSteel pipelines is 1,860 barrels/hour (1,302 gallons/minute), amounting to only about half of the maximum flow rate of the original pair of 8-inch pipes (Austin Brockenbrough & Associates 2017). Thus, the 6-inch FlexSteel pipelines would negatively impact operations of DFSP Tampa as well as the Chevron Bulk Terminal. According to the Austin Brockenbrough & Associates (2017) report, personnel at DFSP Tampa expressed concerns with the capacity loss under this scenario, especially considering the increased mission of new aircraft at MacDill AFB. During construction, only one 6-inch FlexSteel slipline would be in service, temporarily reducing the capacity to 930 barrels/hour (651 gallons/minute).

2.5.4 Installation Procedure

The two 45-degree elbows within the northern portion of the underground defense fuel receipt pipelines could be removed and used as the pull points to pull the FlexSteel slipline from both directions (Austin Brockenbrough & Associates 2017). Two coils of 1,300 feet of FlexSteel slipline (one for each pipeline) would be located along the aboveground piping west of the Chevron Bulk Terminal. A second staging area for the two additional coils of FlexSteel would be located northwest of the DFSP Tampa, with approximately 1,800 feet of slipline each (Austin Brockenbrough & Associates 2017). However, the total length of each of these FlexSteel sliplines would amount to only 3,100 feet. An additional length of FlexSteel slipline would be needed to complete the distance of the estimated 3,200 feet of each existing underground pipeline. A midline fitting would be needed to connect the spools of FlexSteel slipline. Each of these fittings would require an access vault to allow inspection as per DoD requirements (B. Strayer, pers. comm., 5 Oct 2020).

It is also important to note that FlexSteel Pipeline Technologies, Inc. does not recommend pulling a 6-inch midline fitting through an 8-inch carrier pipe due to the limited clearance. Instead, they recommend special ordering the 2,600-foot spool length of FlexSteel MXL piping (Austin Brockenbrough & Associates 2017). Such a length of FlexSteel would fall short of the estimated 3,200 feet needed to completely span each of the two underground pipelines.

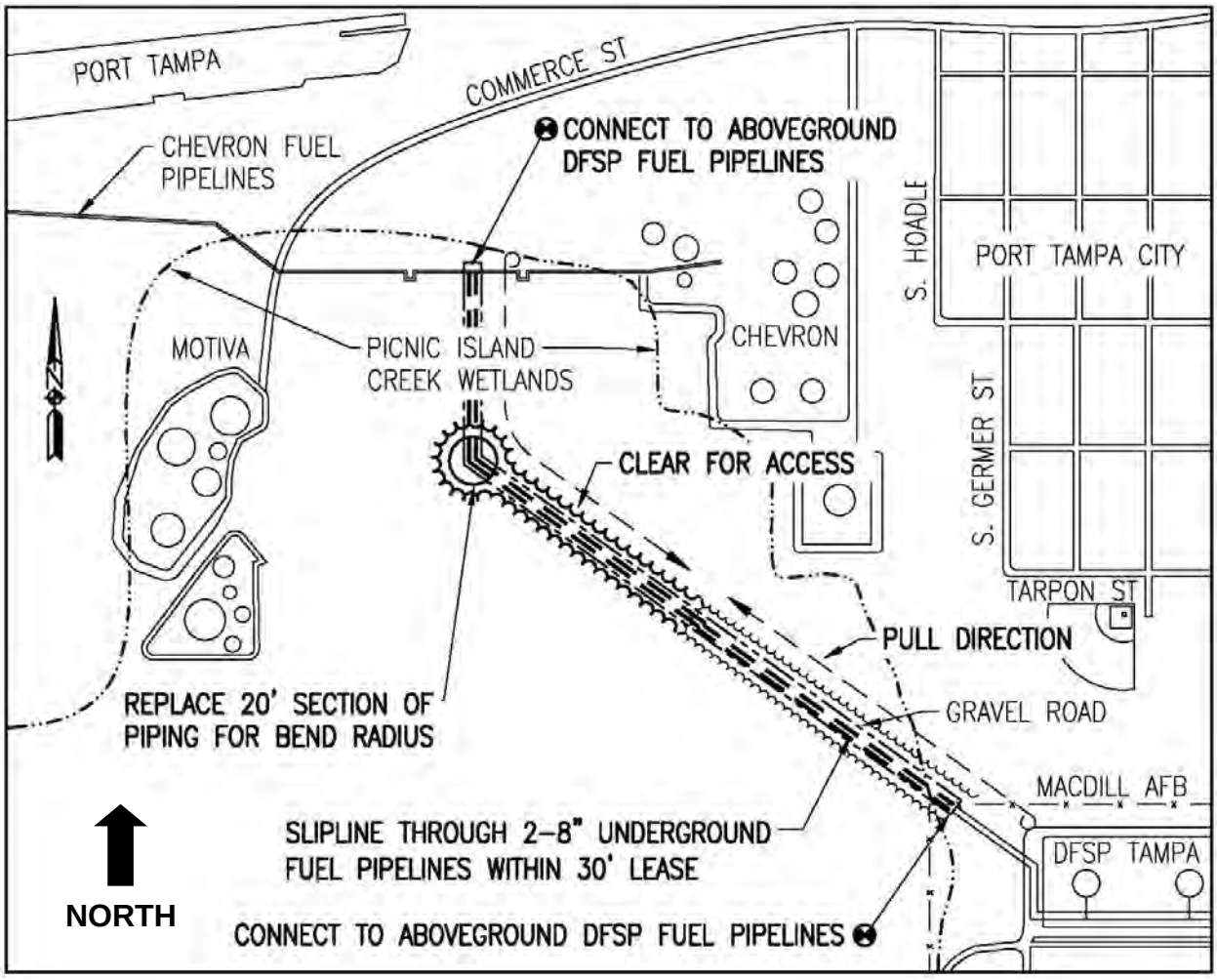

Figure 2-7. Overview of Replacement with FlexSteel Slipline

Source: Modified from figure of Option 3 in Austin Brockenbrough & Associates (2017)

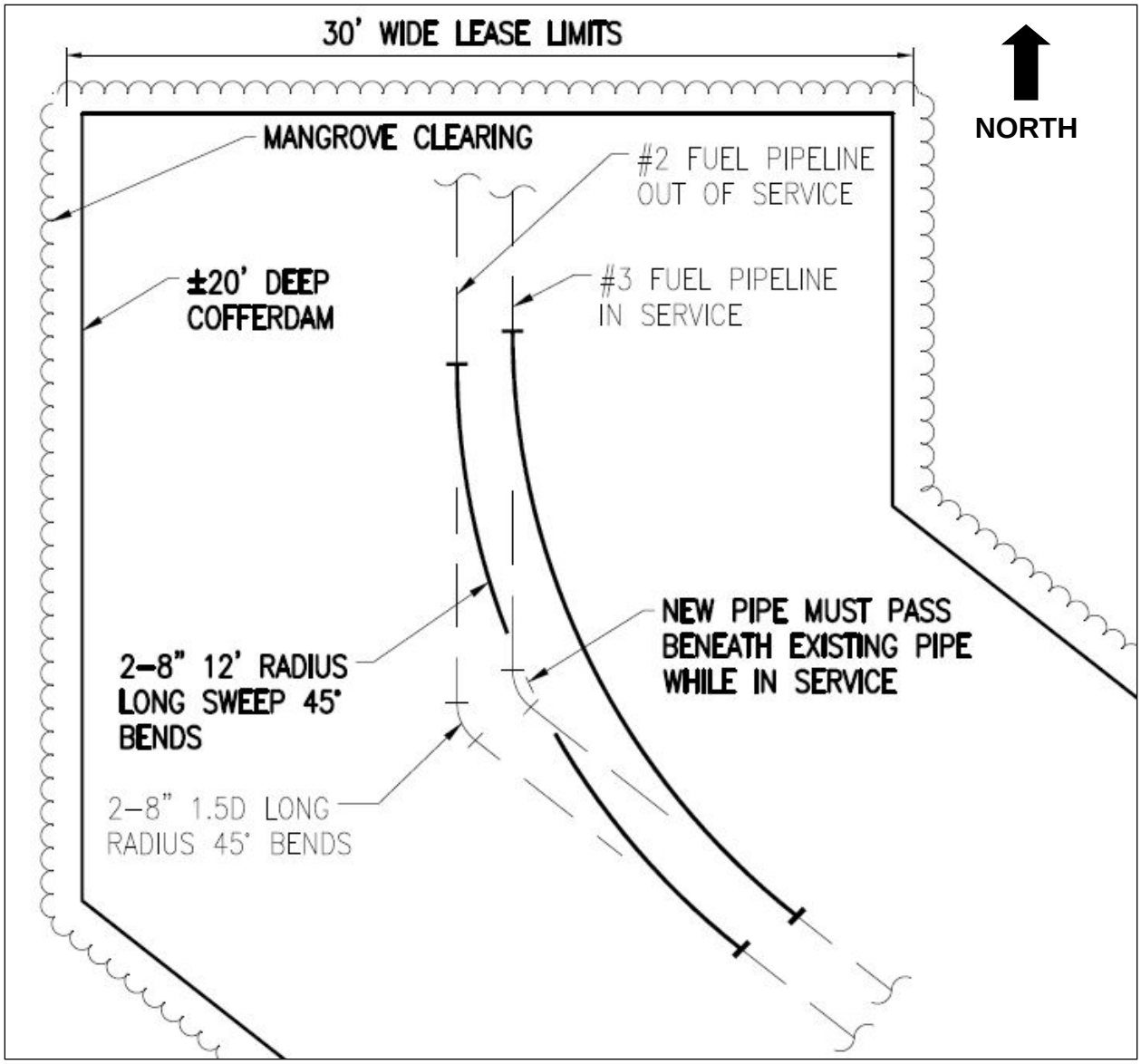

Figure 2-8. Details of the Modification of the Elbows Needed for FlexSteel Slipline Installation
Source: Modified from figure of Option 3 in Austin Brockenbrough & Associates (2017)

2.6 Alternative 4 (no action)

The no-action alternative is for the current system to continue to operate as it is now, using the existing 8-inch underground defense fuel receipt pipelines. Pipeline #2, containing the greater amount of wall anomalies and thickness loss, would remain out of service. Pipeline #3, with some wall anomalies (that are less severe than in Pipeline #2), would continue to be used for Jet A fuel and is expected to remain viable through the next 10-year in-line inspection but will eventually fail. Pipeline #3 would continue to be tested annually to determine if it remains in compliance. As a result of the loss of Pipeline #2, the fuel transfer system would continue to operate at a greatly reduced capacity. Barge mooring times at the Port Tampa Pier would remain longer than if both pipelines were operable. The delays during barge loading would continue to negatively affect other vessels at the pier. Pipeline #3 would eventually fail under this no-action alternative and Jet A fuel would no longer be transported to the DFSP Tampa without further action or modification of the no-action alternative such as transporting the fuel by tanker truck. The continuation of this no-action alternative to its logical conclusion is the eventual complete loss of the fuel transfer capacity

to the DFSP Tampa due to failure or decommissioning of the remaining pipeline. It is likely that MacDill AFB would no longer be able to fuel its KC 135 Stratotanker aerial refueling aircraft fleet and would therefore no longer be able to achieve the mission of the 6th Air Refueling Wing.

2.7 Alternatives Eliminated from Further Analysis

2.7.1 Pipeline Replacement using 4-inch FlexSteel Sliplines

The use of a 4-inch FlexSteel slipline was briefly considered (Austin Brockenbrough & Associates 2017). The 4-inch piping can be delivered to the project area in coils of 3,200-foot lengths that would likely preclude the need for midline fittings and could be potentially pulled through the 45-degree bends. However, the use of a pair of 4-inch FlexSteel pipelines, each with a 3.669-inch internal diameter, would have a maximum combined capacity of approximately 1,500 barrels/hour (1,050 gallons/minute), equating to a 59% reduction of capacity from that of the current pair of 8-inch pipelines (3,700 barrels/hour if both pipelines were operational) (Austin Brockenbrough & Associates 2017). The investigation of this pipeline scenario did not extend beyond the conceptual stage as the capacity would be insufficient for the fuel needs of MacDill AFB and therefore did not meet mission requirements.

3 AFFECTED ENVIRONMENT

3.1 Resources Eliminated from Further Analysis

Based on the scope of the proposed action, alternative actions, and the no-action alternative, as well as preliminary analyses, the Air Force eliminated the following resources or parameters from further analysis. In general, if such resources or parameters were very similar between the various possible actions or non-action scenarios, they were eliminated from comparison in Section 4.

Unless otherwise noted below, the region of influence for each resource or parameter discussed in this section is no larger than the project area shown in Figure 1-1 and described in Subsection 1.6. For most biological, geological, and soil resources; the region of influence is further limited to the area immediately adjacent to the proposed or alternative pipeline routes being discussed.

3.1.1 Land Use

Land use was determined for each of the four parcels that contain portions of the project area by querying the Hillsborough County Property Appraisers website (https://gis.hcpafl.org/propertysearch/#/nav/Basic%20Search) on 28 Dec 2020. The northern portion of the project area is included in parcel #A-19--30-18-42N-000000-00001.0, owned by Chevron USA. This parcel is currently used for gas and oil storage and distribution. The north-central portion of the project area (parcel #A-19-30-18-42N-000000-00003.0), also owned by Chevron USA, is listed as vacant industrial use. The south-central portion of the project area (parcel #A-30-30-18-ZZZ-000005-56480.0), owned by the City of Tampa, is listed as municipal use. These two central portions of the project area include forested areas, man-made ditches, and a right-of-way easement. The southernmost portion of the project area (parcel #A-20-30-18-ZZZ-000005-56500.0), owned by the U.S. government, is under military use and includes the DFSP Tampa.

The purpose of the pipeline improvements is to correct deficiencies with the defense fuel receipt pipelines in support existing fueling needs associated with the DFSP Tampa storage facility. No additional construction activities or associated projects are planned or expected, therefore, no changes to land use are anticipated from the proposed action or any alternative action. Land use changes were omitted from evaluation for this reason.

3.1.2 Noise

For the purposes of this analysis, noise is defined as undesirable sound that interferes with speech communication and hearing or is otherwise annoying (unwanted sound). The noise levels generated by construction equipment vary by the type and model of equipment, the type of construction being performed, and the condition of the equipment (Quagliata et al. 2018) (Table 3-1). The primary source of noise is typically from the engine, especially in the case of a diesel engine. However, percussive and cutting equipment (such as pile drivers and pavement-cutting equipment) noise is generated primarily by the process itself (Quagliata et al. 2018). There are two primary types of construction noise for the purposes of noise assessments:

- Stationary noise
    - Stationary equipment operates in one location for one or more consecutive days, with either a fixed power operation (pumps, generators, compressors) or a variable noise operation (pile drivers, pavement breakers)
- Mobile noise
    - Mobile equipment moves around the construction site with power applied in cyclic fashion (bulldozers, loaders) or to and from the site (trucks). Movement around the site is considered in the construction noise prediction procedure.

Table 3-1. Typical Noise Levels Associated with Construction Equipment

Type of Construction Equipment	Typical Noise Level 50 ft from Equipment (dBA)
Air Compressor	80
Backhoe	80
Ballast Equalizer	82
Ballast Tamper	83
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Impact Wrench	85
Jack Hammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Rail Saw	90
Rock Drill	95
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Spike Driver	77
Tie Cutter	84
Tie Handler	80
Tie Inserter	85
Truck	84

Source: Table 7-1 of Quagliata et al. (2018)

No standardized criteria are currently available for assessing construction noise impacts (Quagliata et al. 2018). Therefore, criteria must be developed on a project-specific basis unless local ordinances apply. However, local noise ordinances are typically not particularly useful in evaluating construction noise. Such ordinances usually relate to nuisance noise levels and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project (Quagliata et al. 2018). Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. If these criteria are exceeded, there may be adverse community reaction.

The general assessment noise criteria by the Federal Transit Administration (FTA) in Quagliata et al. (2018) consist of continuous noise levels for a 1-hour period during daylight hours and for after dark for the two

noisiest pieces of construction equipment in a given phase of construction. Residential noise levels should not exceed 90 dBA during daylight hours and 80 dBA after dark (Quagliata et al. 2018). Commercial and industrial noise levels should not exceed 100 dBA during daylight hours and after dark.

Noise mitigation can be used to reduce the impacts of construction noise. Such mitigating measures can involve adjusting the sequence of operations, constructing noise barriers, re-routing truck traffic away from residential areas, siting equipment farther away from residences, or using alternative construction methods (Quagliata et al. 2018).

The nearest receptor points to the proposed project area are residences along the east side of South Germer Street, at or slightly beyond the 50-foot measuring distance for the dBA indicated above.

Given the nature of the proposed action, and the alternative actions, and the proximity to residences east of the project area, impacts from construction noise are unavoidable, yet minimal. Noise mitigation measures will be considered and implemented, as feasible, at the time of construction. The Air Force eliminated noise from further consideration in this EA given the following four factors: (1) no nighttime work, only daylight hour construction, (2) only a short-term increase in ambient noise levels from project construction is anticipated which would not cause significant adverse impacts on the surrounding population, (3) the ambient noise level would return to its normal level following construction, and (4) the Air Installation Compatible Use Zone is not associated with or affected by the proposed action, or the alternative actions, and therefore does not require evaluation.

3.1.3 Airspace and Airfield Operations

The airspace region of influence for MacDill AFB is a 20-nautical-mile radius from the ground surface up to 10,000 feet above mean sea level. MacDill AFB's airfield infrastructure includes a pavement system composed of a runway, paved overruns, parking and maintenance aprons, aircraft taxiways, and an arm/disarm pad. Runway 04/22 is the only runway at MacDill AFB and is oriented northeast to southwest with a parallel taxiway, Taxiway G. The runway is 11,421 feet long by 151 feet wide. Both ends of the runway have 1,000-foot-long concrete touchdown zones separated by asphalt. The proposed action would be located over 4,000 feet from Runway 04/22 at its closest point. The project would occur entirely within an open space area and would not result in changes to the airfield environment or airspace operations.

3.1.4 Bird-Aircraft Strike Hazard

The primary safety concern at facilities with aircraft operations is the potential for aircraft mishaps (i.e., crashes), which may be caused by mid-air collisions with other aircraft or objects, weather difficulties, or bird-aircraft strikes. Bird-aircraft strike hazard (BASH) is defined as the threat of aircraft collision with birds and other wildlife during aircraft operations.

Many species of birds fly close to ground level. As a result, over 90 percent of all reported BASH incidents occur within 3,000 feet above ground level and (or) in the immediate vicinity of the airfield (Federal Aviation Administration [FAA] 2020). At most military bases, roughly half of reported bird strikes occur in the immediate vicinity of the airfield, and another 25 percent occur during low-altitude local training exercises. Waterfowl present the greatest BASH potential due to their congregational flight patterns and because, when migrating, they can be encountered at altitudes of up to 20,000 feet above ground level. Raptors also present a substantial hazard due to their size and soaring flight patterns (FAA 2020).

MacDill AFB has a BASH plan that provides guidance for reducing the incidents of bird strikes in and around areas where flying operations occur. BASH control techniques involve effecting wildlife to disperse birds from the airfield to give short-term relief from an immediate safety hazard. BASH control techniques require a combination of dispersal tools, known as Integrated Pest Management, which may include but are not limited to pyrotechnics, bioacoustics, harassment using dogs, and depredation. A depredation permit

is not required for non-lethal harassment of migratory birds on the airfield in accordance with 50 CFR §21.41 Migratory Bird Depredation Permits. MacDill AFB was issued a federal depredation permit through USFWS, which authorizes the take of migratory bird species to relieve or prevent injurious situations affecting public safety. The permit authorizes the take of minimal numbers and species of birds.

The proposed action, alternatives to the proposed action, and no-action alternative would have no impact on BASH for several reasons. The proposed construction is not expected to attract birds as this component consists of earthwork that is unlikely to provide or expose resources attractive to birds. Such work is unlikely to provide increased foraging opportunities or provide other limited resources known to attract bird species. Also, the project area in which the construction would take place, is over 4,000 feet from the nearest portion of the runway and airfield. Consequently, BASH on MacDill AFB would not be affected and this consideration was eliminated from further evaluation in this EA.

3.1.5 Clear Zones

Accident Potential Zones—rectangular zones extending outward from the ends of active runways at military bases—delineate those areas recognized as having the greatest risk of aircraft mishaps, most of which occur during takeoff or landing. Clear Zones are the areas closest to the end of the runway, which is considered the most hazardous area. At MacDill AFB, Clear Zones extend from both ends of the runway.

No Clear Zones are located within the region of influence. Therefore, the proposed action, and the alternatives, including the no-action alternative, would have no impact on clear zones. As a result, clear zones on MacDill AFB would not be affected and these zones were eliminated from further evaluation in this EA.

3.1.6 Explosives Safety

Air Force Manual 91-201, *Explosives Safety Standards*, requires that defined explosive safety quantity-distance (ESQD) arcs be maintained between explosive materials storage (e.g., munitions) and handling facilities and a variety of other types of facilities. ESQD arcs are determined by the type and quantity of explosive materials stored. Within ESQD arcs, development is either restricted or altogether prohibited to maintain personnel safety and to minimize the potential for damage in the event of an accident.

ESQD arcs have been established at MacDill AFB around various facilities adjacent to the airfield, including a munitions hold area, hot cargo pad, and the munitions storage area (Figure 3-1). There are no ESQD arcs in or near the area of interest. The nearest ESQD arc to the area of interest is approximately one mile to the southeast.

Surface Danger Zones are buffers that are generated around small arms and skeet ranges to ensure that a minimum safe distance is present within areas where munitions are actively exploded. There is a Surface Danger Zone associated with the small-arms range at the southern portion of MacDill AFB, approximately two miles south of the area of interest (Figure 3-1).

No ESQD arcs or Surface Danger Zones are located within the project area. Therefore, the proposed action and the alternatives, including the no-action alternative, would have no impact on explosives safety. As a result, this consideration was eliminated from further evaluation in this EA.

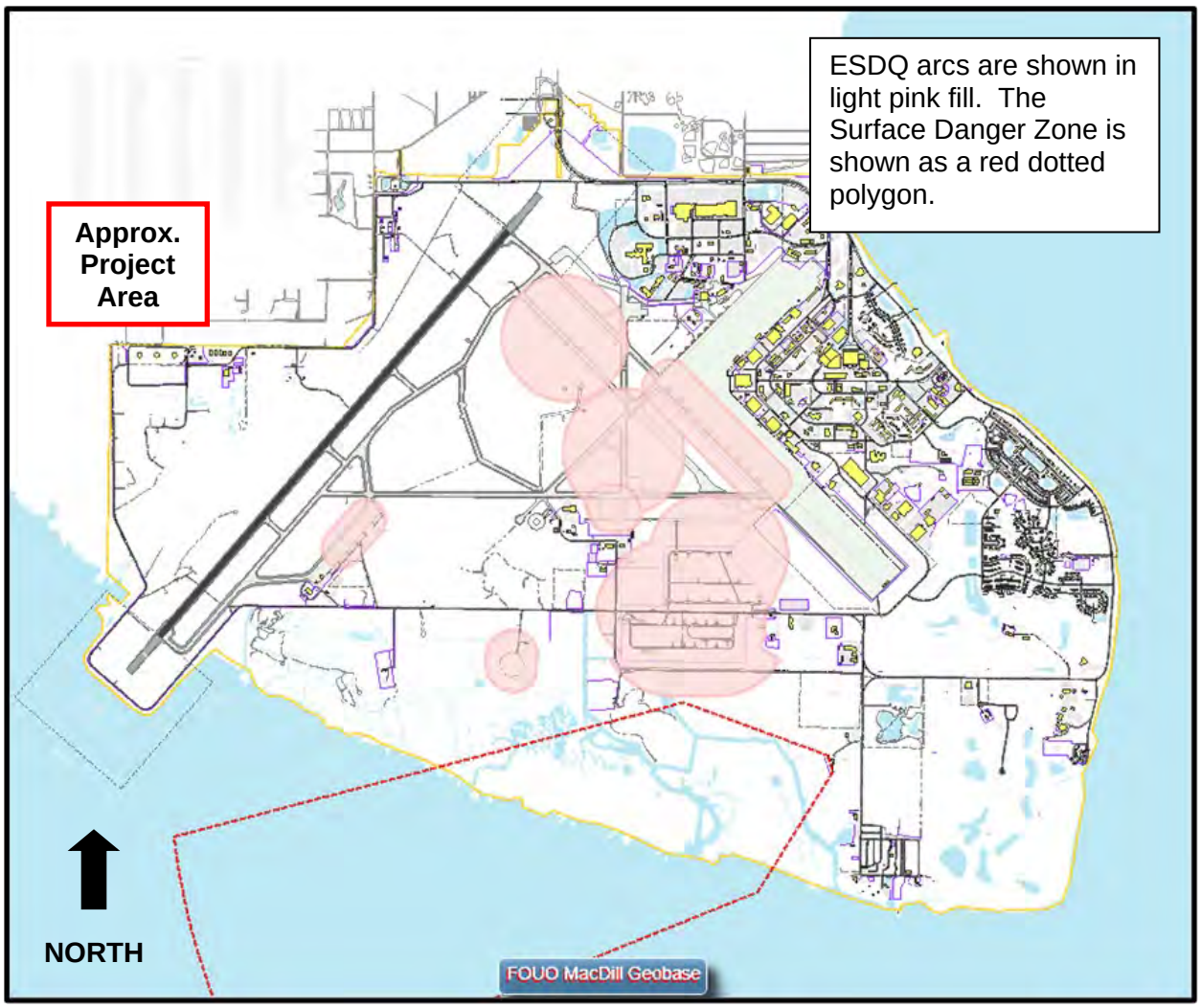

Figure 3-1. Explosives Safety Quantity-Distance (ESQD) Arcs at MacDill AFB
Source: Modified from Figure 3-7 of Department of the Air Force (2016)

3.1.7 Hazardous Materials and Waste

Approximately 168 work centers base-wide use hazardous materials. Hazardous materials on base include various organic solvents, chlorine, Freon™, paints, thinners, oils, lubricants, compressed gases, pesticides, herbicides, nitrates, and chromates. A detailed tracking and accounting system is in place to identify potentially hazardous materials and to ensure that MacDill AFB organizations are approved to use specific hazardous materials.

The proposed action and alternatives to the proposed action, including the no-action alternative, would not increase the long-term use, storage, transportation, or disposal of hazardous materials and waste. As part of normal practice and operation for any demolition or construction project on base, any required hazardous materials would be used on a temporary basis during project activities and would be properly used, managed, and disposed of in accordance with all applicable regulations. Any spills of hazardous materials would be immediately reported and cleaned up in accordance with all applicable requirements.

Stored Fuel

MacDill AFB receives Jet A fuel at the DFSP Tampa by pipeline from the Chevron Bulk Terminal, while commercial tank trucks deliver other fuels to the base. Jet A fuel-storage capacity at DFSP Tampa and

MacDill AFB is greater than 9.6 million gallons. Diesel, gasoline, and heating oil are also stored throughout MacDill AFB in small to medium-sized underground and aboveground storage tanks ranging in volume from 50 to 25,000 gallons.

The decommissioning of Pipeline #3 will use similar methods as the previous decommissioning of Pipeline #2 and this will include the use of a displacement pig to move the existing fuel through the pipeline southward, towards the DFSP Tampa. Viable Jet A fuel will be stored at the DFSP Tampa for use by MacDill AFB. Remaining fuel not suitable for use by MacDill AFB will be disposed of appropriately and lawfully by the contractor, following all applicable regulations.

Fuel for construction equipment will be stored behind a fence at the DFSP Tampa and this is where refueling of construction equipment will take place. There will be no fuel storage within the project area. The temporary storage of fuel at the DFSP Tampa will be agreement with all applicable federal, state, and local regulations.

The proposed action and alternatives to the proposed action, including the no-action alternative, would have no impact on stored fuels management. Consequently, further evaluation of stored fuel was unnecessary.

Sanitary Wastewater Treatment

The Air Force has determined that wastewater treatment would not be affected by the proposed action and alternatives to the proposed action, including the no-action alternative, and this resource is eliminated from further evaluation in this EA.

Asbestos

An asbestos assessment was not completed for this pipeline improvement project. Based on the estimated date of installation of the existing 8-inch defense fuel receipt pipelines (early 1950s), it is assumed that there is a potential that asbestos-containing coatings or wrappings were applied to these pipelines as a protective measure (Bio-Tech Consulting 2020b). While it is assumed that any such coatings or wrappings would only be minimally disturbed if the pipes were cut and (or) removed, the possible presence of asbestos should be noted in case the pipelines are to be removed/demolished (Bio-Tech Consulting 2020b). Any asbestos or lead-based paint encountered during extraction of the existing underground pipelines would be handled in accordance with applicable USAF policies and requirements. Due to the amount of disturbance of the existing piping to be only minimal, the Air Force excluded asbestos or lead-based paint from any further evaluation.

3.1.8 Environmental Justice and Protection of Children

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, assures that federal agencies focus attention on the potential for a proposed federal action to cause disproportionately high and adverse health effects on minority or low-income populations. Potential health and safety impacts that could disproportionately affect children are considered under the guidelines established by Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*. Ensuring environmental justice is a key consideration of Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*. There are no environmental justice areas of low-income and (or) minority or child populations immediately adjacent to the project area, and site construction would not adversely impact low-income and (or) minority or child populations. No subsistence populations, facilities utilized by environmental justice communities, or school or daycare locations exist within or adjacent to the project area. Consequently, the Air Force has eliminated environmental justice and protection of children from detailed evaluation in this EA.

3.1.9 Socioeconomics

There are approximately 400,000 people living in the city of Tampa. The Hillsborough County portion of the Tampa has an average weekly wage of $1,133, and an unemployment rate ranging from 2.9 percent (pre-COVID-19) to 4.2 percent (February 2021). Major local industries include trades, transportation, finance, professional and business services, leisure and hospitality, and government (U.S. Bureau of Labor Statistics 2021). MacDill AFB had a total of 22,773 (military and civilian) personnel working on base in 2017 (the latest data available) with an additional 34,600 military dependents, according to the 6th Comptroller Squadron (2017).

The workforce is expected to be primarily local to the area. The proposed action would cost approximately $6.7 million, based on cost estimates for materials, transport, and installation. In total, this would equal less than one percent of the approximately $705.7 million annual expenditures that MacDill AFB provides to the local economy (based on 2017 expenditures [6th Comptroller Squadron 2017]) and would therefore constitute a negligible beneficial impact on the work force in the region during the pipeline construction period. Consequently, the Air Force determined that the socioeconomic impact from the proposed action and alternatives to the proposed action, including the no-action alternative, do not warrant further evaluation and eliminated it from further consideration in this EA.

3.1.10 Environmental Restoration Program

The Environmental Restoration Program (ERP), formerly known as the Installation Restoration Program, is a subcomponent of the Defense ERP that became law under the Superfund Amendments and Reauthorization Act (SARA). The ERP requires each DoD installation to identify, investigate, and clean up hazardous waste disposal or release sites. A search of available records of ERP-designated sites was completed as part of the Phase I Environmental Baseline Survey by Bio-Tech Consulting (2020b). No ERP-designated sites were identified within the project area.

3.1.11 Utilities

The Air Force has determined that utilities would not be affected by the proposed action and alternatives to the proposed action, including the no-action alternative, and this resource is eliminated from further evaluation in this EA. During a topographical survey associated with this proposed project, no evidence of utility surface features (valve pits, manholes, etc.) was noted that would indicate underground utilities present in the project area. An additional survey will be conducted for utilities as part of the geotechnical exploration to support this pipeline project.

Subsections 3.2 through 3.8 describe resource areas that have been studied in detail.

3.2 Water Resources

Water resources include surface waters, groundwater, and floodplains, which are addressed separately in the following sections. For all three components, the region of interest is considered to be the project area of the proposed action and alternatives to the proposed action, the land area immediately surrounding this area on all sides, and the surface waters of Picnic Island Creek that are connected to the project area via man-made ditches.

3.2.1 Surface Waters

Surface waters within the project area are confined to some open water areas within the mangrove wetland habitat and standing water within several man-made ditches that are connected to Picnic Island Creek, west of the project area (Figure 3-13A and B). Picnic Island Creek is designated by Florida DEP as an unimpaired water body (Tampa Bay Water Atlas 2021). No other surface water bodies were observed in the project area during site visits on 25 Nov 2019 by Bio-Tech Consulting and on 28 Oct 2020 by

ANAMAR Environmental Consulting and Austin Brockenbrough & Associates, although the area may occasionally experience ponding or flooding during storm events. Given that the topography of the soils within the project area slopes gradually from east to west, surface waters likely flow west from the project area towards Picnic Island Creek. The slope of the land combined with stormwater management features in the landscape suggest that off-site run-off may occasionally enter the project area from the north, northeast, east, southeast, and south and flow westward towards the creek (Bio-Tech Consulting 2020b).

The Florida Department of Environmental Protection (DEP) issued a National Pollutant Discharge Elimination System (NPDES) multi-sector stormwater general permit (No. FLR05E128-003) on 19 Mar 2021 and a multi-sector general NPDES permit (No. FLR04E059) to MacDill AFB on 1 Mar 2018. These permits authorize the discharge of stormwater associated with industrial activity and non-industrial stormwater discharges, respectively. These permits apply only to MacDill AFB and do not include the project area. Areas of potential runoff contamination at the base are the runways and the airfield aprons. Most of MacDill AFB drains toward the southern tip of the Interbay Peninsula, with the easternmost section of the base draining toward Hillsborough Bay (U.S. Air Force [USAF] 2010). Therefore, stormwater runoff from MacDill AFB does not flow north into the project area.

The DFSP Tampa maintains its own NPDES and has its own multi-sector generic permit for stormwater discharge at the DFSP Tampa associated with industrial activities (# FLR05E128-004) with a notice of intent approved on 18 Mar 2016. This permit applies only to the DFSP Tampa and does not include the project area north of this facility. The DFSP Tampa also maintains its own NPDES Phase II municipal separate storm sewer system (MS4) general permit (# FLR04E059) with a notice of intent approved on 5 Jan 2018.

The base and the DFSP Tampa each maintain separate Spill Prevention Control and Countermeasures (SPCC) Plans to satisfy 40 CFR 112. Per the same regulation, the base and the DFSP Tampa each maintain separate Facility Response Plans given their locations adjacent to navigable waters and shorelines, as well as the amount of fuel storage capacity existing on these facilities. Although the MacDill AFB SPCC applies only to the 5,695-acre military facility, the SPCC for DFSP Tampa includes the existing defense fuel receipt pipelines.

3.2.2 Groundwater

The two main categories of groundwater underlying the Interbay Peninsula near MacDill AFB are surficial groundwater (the surficial aquifer) and the Floridan Aquifer.

Surficial groundwater is confined and flows within 20 feet of the soil surface through soils composed of sand, clayey sand, and shell. Surficial groundwater within the vicinity of the project area is assumed to follow the contours of the surface topography (Bio-Tech Consulting 2020b). The project area is relatively flat and very close to sea level, occurring at elevations from +5 to 0 feet above the National Geodetic Vertical Datum of 1929. The project area slopes gradually from east to west, towards Picnic Island Creek (Bio-Tech Consulting 2020b). Thus, the groundwater in the project area may flow westward towards Picnic Island Creek, at least during outgoing and low tide events. According to Bio-Tech Consulting (2020b), groundwater can enter the project area from surrounding areas to the north, northeast, east, southeast, and south of the area. In residential areas beyond the base boundaries, small-diameter wells are installed in the surficial aquifer to supply small irrigation systems. At MacDill AFB, south of the project area, the direction of groundwater flow in the surficial aquifer is generally radial from the north-central portion of the base towards the coastline (USAF 2010).

The uppermost portion of the surficial aquifer is expressed as a shallow water table that ranges from at or near the soil surface, near Tampa Bay, and above the soil surface in the form of tidal creeks, to approximately 5 feet below the soil surface farther inland. Groundwater levels and flow directions

generally are determined by flow gradients and are often tidally influenced by ditches and canals and by Hillsborough Bay and Tampa Bay.

The Floridan Aquifer lies hundreds of feet below the surficial aquifer and is separated by a confining layer of clay, micritic limestone, or anhydrous dolomite (Miller 1986, 1997). The Floridan Aquifer is a major source of groundwater in the region but is not directly used for water supply at MacDill AFB or parts of Tampa. This aquifer flows through Suwannee and Ocala limestones and, in the Tampa area, it also flows through the Tampa Member of the Arcadia Formation (Miller 1997). In central and southern Florida, this aquifer is over 3,400 feet in thickness, including the upper and lower portions of the aquifer, including those areas containing saltwater. Due to the depth of the Floridan Aquifer, none of the proposed or alternative actions discussed would directly intersect or disrupt this important resource.

The City of Tampa supplies potable water to city residents and to MacDill AFB. The primary source of water for the City of Tampa is the Hillsborough River. During the dry season, the city also purchases water from Tampa Bay Water (TBW). This water is sourced from the TBW Aquifer Storage and Recovery (ASR) system, groundwater, surface waters, and desalinated seawater supplies.

3.2.3 Floodplains

The most recently available flood maps provided by the Federal Emergency Management Agency (FEMA) show the project area to be entirely contained within Zone AE (Figure 3-2). This zone, also known as the 100-year floodplain, is defined as an area inundated by a 1 percent annual chance of flooding and for which base flood elevations have been determined (Bio-Tech Consulting 2020b, Hillsborough County 2021). Zone AE is within the High Risk Areas (Special Flood Hazard Area) category of flood zones.

Approximately 80 percent (4,510 acres) of MacDill AFB, south and adjacent to the project area, is within the 100-year floodplain. The remaining approximately 20 percent of the base is within the 500-year floodplain (USAF 2010).

Executive Order 11988, *Floodplains Management*, requires federal agencies to reduce the risk of flood loss; to minimize the impact of floods on human safety, health, and welfare; and to restore and preserve the natural and beneficial values served by floodplains. Federal agencies are required to evaluate the potential effects of any action it takes in the floodplain to ensure that its planning programs and budget requests reflect consideration of flood hazards and floodplain management. When an action is proposed to be located within a floodplain, the Air Force is required to consider alternatives to avoid adverse effects and incompatible development in the floodplain. When the only practicable alternative consistent with the law and with the policy set forth in the executive orders requires siting the action in a floodplain, the project must be designed or modified to minimize potential harm to the floodplain. Finally, the Air Force is required to provide public notice and an opportunity for public comment prior to proceeding with any action in a floodplain.

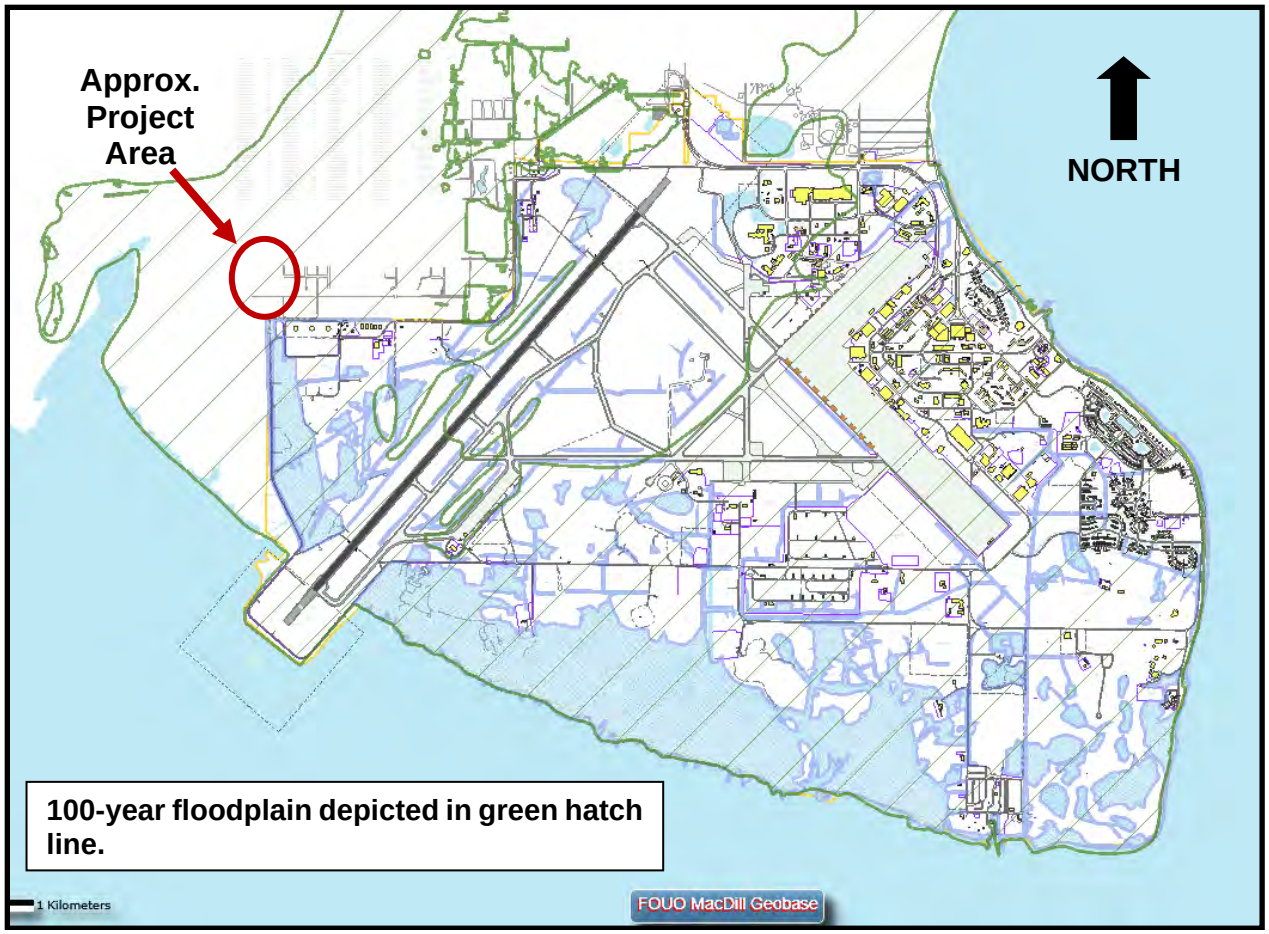

Figure 3-2. FEMA Zone AE (100-year Floodplain) in and around the Project Area
Source: Modified from Figure 3-1 of Department of the Air Force (2016)

3.3 Biological Resources

Biological resources include vegetation, wildlife (including imperiled species), wetlands, and essential fish habitat (EFH). These are addressed separately in the following subsections. For each of these major categories of biological resources, the region of interest is the immediate project area of the proposed action and alternatives to the proposed action, as well as areas adjacent to the project area.

The following vegetative and wildlife descriptions are based primarily on a visit and site inspection of the project area by ANAMAR Environmental Consulting and Austin Brockenbrough & Associates on 28 Oct 2020. These data are supplemented by information provided by Bio-Tech Consulting (2020a, b) from a survey of threatened and endangered species conducted on 25 Nov 2019 that also noted non-listed species.

3.3.1 Vegetation

The Southwest Florida Management District (SWFWMD) assigned the Florida Land Use, Cover and Forms Classification System (FLUCCS) codes shown in Figure 3-3 in and around the project area.

The project area can be split into three main components. The northern portion of the project area is associated with a containment area around Chevron Tank #59 that is surrounded by a berm and chain link fencing. The central portion of the project area is the largest component of this area. It traverses undeveloped lands owned by the City of Tampa and the federal government that are vegetated to varying

degrees. The southern portion of the project area is associated with the northwestern corner of the DFSP Tampa facility and includes a containment area surrounded by a berm and a chain link fence.

Northern Portion of Project Area at Chevron Bulk Terminal

The current defense fuel receipt pipelines travel eastward underground from inside the southeastern corner of the berm that surrounds the containment area for Chevron Tank #59 (Figure 3-4) at the Chevron Bulk Terminal. The containment area is covered with limestone gravel and shell hash and contains no trees or shrubs but has patches of turfgrass and weeds. The containment area is surrounded by a concrete berm. The Chevron terminal is FLUCCS coded as 1500 (Industrial Land).

Undeveloped Land at the Central Portion of Project Area

The route of the existing defense fuel receipt pipelines traverses undeveloped land owned by the City of Tampa and the federal government. Northern and western portions of this forested area are dominated by mangroves (Figure 3-5), including black mangrove (*Avicennia germinans*) and red mangrove (*Rhizophora mangle*), with some Brazilian pepper (*Schinus terebinthifolius*). The mangrove-dominated forest is FLUCCS coded as 6120 (Mangrove Swamps) along with 6420 (Saltwater Marshes [although this appears inaccurate]). The portions of Picnic Island Creek that bisect the existing defense fuel support pipeline route lacks a FLUCCS code.

The eastern portion of the undeveloped land of the project area is forested with a canopy of cabbage palm (*Sabal palmetto*), Brazilian pepper (*Schinus terebinthifolius*), live oak (*Quercus virginiana*), laurel oak (*Quercus laurifolia*), eastern red cedar (*Juniperus virginiana*), camphor tree (*Cinnamomum camphora*), melaleuca (*Melaleuca quinquenervia*), and white leadtree (*Leucaena leucocephala*). Vines invading the canopy include Virginia creeper (*Parthenocissus quinquefolia*), muscadine grape (*Vitis rotundifolia*), skunk vine (*Paederia foetida*), and rosery pea (*Abrus precatorius*). There is little understory except along the right-of-way along South Germer Street, where the understory is dominated by beggarticks (*Bidens alba*), beautyberry (*Callicarpa dichotoma*), Caesar weed (*Urena lobata*), Bermuda grass (*Cynodon* sp.), and St. Augustine grass (*Stenotaphrum secundatum*). This mixed deciduous forest is FLUCCS coded as 6300 (Wetland Forested Mixed) although this habitat appeared to be upland forest during the 28 Oct 2020 site visit.

Black mangrove, red mangrove, and Brazilian pepper line a large east-west ditch (Figure 3-6) and a smaller north-south oriented ditch that bisect the proposed pipeline route. These ditches held standing water during the 28 Oct 2020 site visit. The sandy and rocky north bank of the east-west ditch has patches of sea purslane (*Sesuvium portulacastrum*) along with many pneumatophores of black mangroves.

Southern Portion of Project Area at Defense Fuel Support Point Tampa

The defense fuel receipt pipelines enter the DFSP Tampa at the northwestern corner of this facility (Figure 3-7). Vegetation just outside the fenced boundary of the facility includes cabbage palm, Brazilian pepper, black mangrove, red mangrove, a few melaleuca, and white leadtree. The soil includes lime rock and shell hash. Atlantic sand fiddler crabs were observed just outside the fenced boundaries. The containment area, surrounded by a berm just inside the fence at the northwest corner of the facility, has sparse grasses and weeds along with small animal burrows through the soil. The DFSP Tampa is FLUCCS coded as 1700 (Institutional).

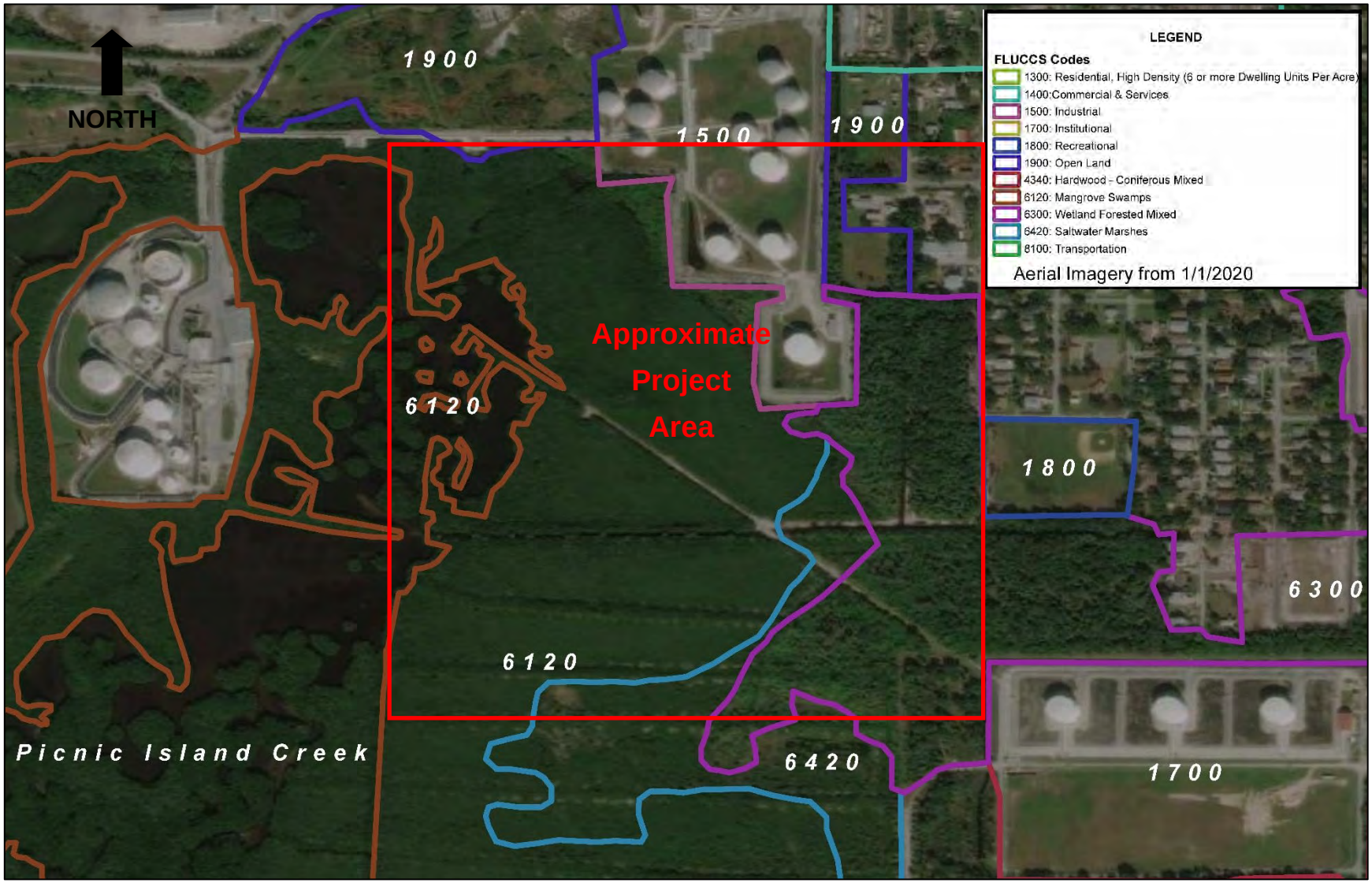

Figure 3-3. Florida Land Use, Cover and Forms Classification System Codes in and around the Project Area

Figure 3-4. East-facing View from inside the Containment Area of Tank #59, Chevron Bulk Terminal

Note: The concrete berm is in the foreground. The background shows the proposed eastward route through forested undeveloped land.

Figure 3-5. Northeast-facing View along the Existing Defense Fuel Receipt Pipelines Lease Area

Note: The existing pipelines route is dominated by red and black mangroves as can be seen in the photo.

Figure 3-6. South-facing View along the East-West Ditch within the Project Area

Note: Pneumatophores of black mangroves can be seen along the north bank of the ditch. The south bank is lined with black mangrove, red mangrove, and Brazilian pepper.

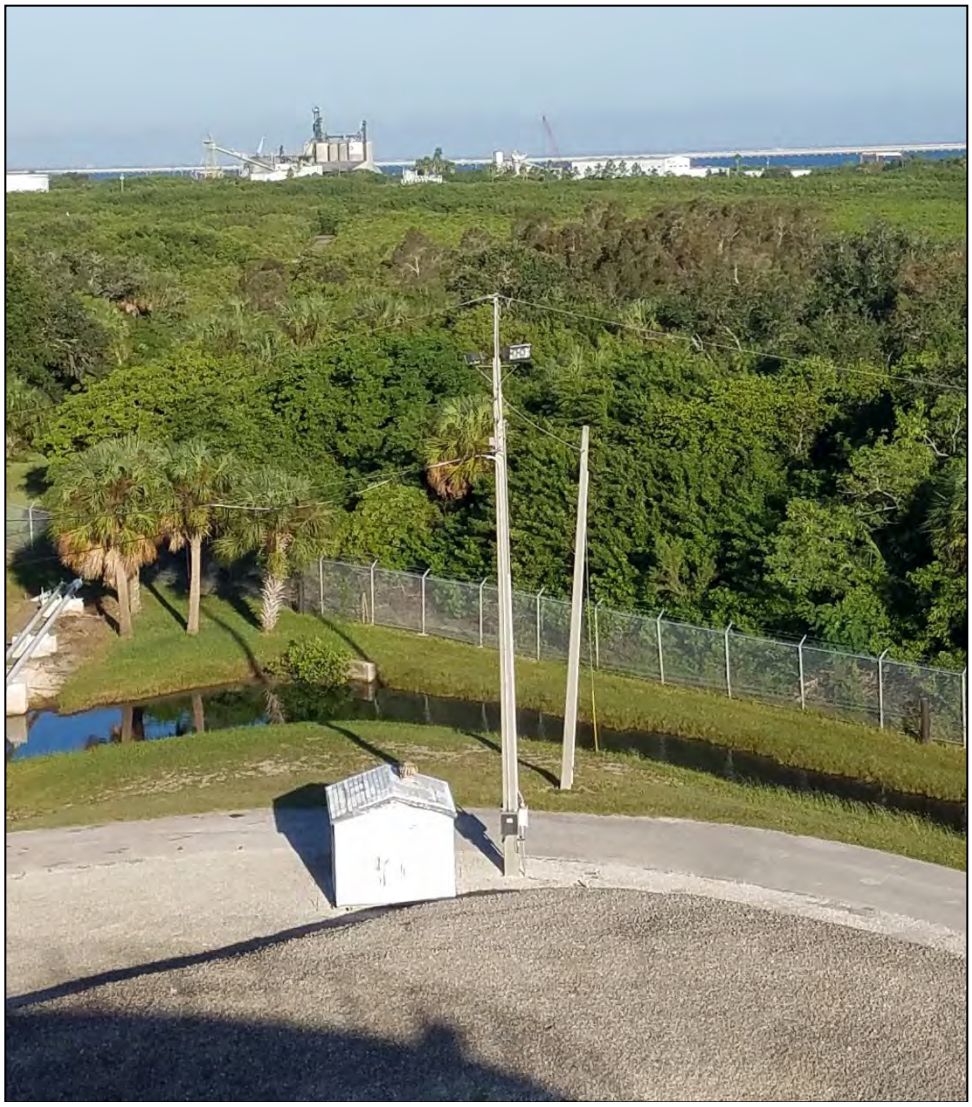

Figure 3-7. Northeast-facing View from the Top of a Tank at the Defense Fuel Support Point Tampa

3.3.2 Wildlife

Snails were observed on a potted succulent and along the cinderblock wall of the visitor building at the Chevron Bulk Terminal. These snails were tentatively identified by the senior biologist at ANAMAR Environmental Consulting as the invasive introduced *Bulimulus sporadicus*. An American kestrel (*Falco sparverius*) was observed resting on suspended piping at the Chevron Bulk Terminal near Tank #59. The skeletal remains of a sea catfish (Ariidae), probably dropped by a bird such as an osprey (*Pandion haliaetus*), were observed on the berm south of Tank #59.

Atlantic sand fiddler crabs (*Leptuca pugilator*) and their burrows were observed along ditches bisecting the central portion of the project area. These crabs were also observed just outside the fenced boundaries of the DFSP Tampa. Eastern bluebirds (*Sialia sialis*) were observed resting on piping, and palm warblers (*Setophaga palmarum*) were observed flying, at the DFSP Tampa. Small animal burrows were also observed along the gravel bottom of the containment area surrounded by a concrete berm at the DFSP Tampa.

It is probable that the ditches contain such fish taxa as eastern mosquitofish (*Gambusia holbrooki*) and killifishes (Fundulidae). Laval frogs (tadpoles) of saline-tolerant species, such as the introduced invasive Cuban treefrog (*Osteopilus septentrionalis*), may also inhabit the ditches, at least seasonally. The striped mud turtle (*Kinosternon baurii*) is well suited for such brackish water ditch habitat and probably inhabits the project area.

Bio-Tech Consulting (2020b) noted various invertebrates, birds, and mammals during their 25 Nov 2020 survey of the project area (Table 3-2).

Table 3-2. Summary of Wildlife Species Visually Observed during the 25 Nov 2019 Survey of the Project Area by Bio-Tech Consulting

Common Name	Scientific Name	Status	
		Federal	State
Invertebrates			
Blue crab	*Callinectes sapidus*	–	–
Fiddler Crab	"*Uca* spp." [probably *Leptuca pugilator*]	–	–
Birds			
Blue jay	*Cyanocitta cristata*	–	–
Blue-gray gnatcatcher	*Polioptila caerulea*	–	–
Eastern phoebe	*Sayornis phoebe*	–	–
Great blue heron	*Ardea herodias*	–	–
Great egret	*Ardea alba*	–	–
Loggerhead shrike	*Lanius ludovicianus*	–	–
Osprey	*Pandion haliaetus*	–	–
Palm warbler	*Setophaga palmarum*	–	–
Red-bellied woodpecker	*Melanerpes carolinus*	–	–
Turkey vulture	*Cathartes aura*	–	–
White ibis	*Eudocimus albus*	–	–
Wood stork	*Mycteria americana*	Threatened	–
Mammals			
Eastern gray squirrel	*Sciurus carolinensis*	–	–
Raccoon	*Procyon lotor*	–	–

Sources: Bio-Tech Consulting (2020a, b); conservation statuses from Florida Fish and Wildlife Conservation Commission (FWC) (2018).

At least 113 species of birds have been previously documented in surveys at nearby MacDill AFB (USAF 2010, 2012; Department of the Air Force 2016, Ecosphere Restoration Institute and Environmental Science Associates 2019). An additional 45 species of birds have the potential to occur within the project area based on the habitats in and adjacent to this area. Bird species are most likely to be attracted to such habitats for foraging and (or) nesting. In addition to the bird species listed in Table 3-2 above, the following bird species may be attracted to habitats in and around the project area for foraging or (possibly) for nesting: yellow-crowned night heron (*Nyctanassa violacea*), black-crowned night-heron (*Nycticorax nycticorax*), green heron (*Butorides virescens*), Roseate spoonbill (*Ajaia ajaja*), and glossy ibis (*Plegadis falcinellus*) (Maehr and Kale 2005).

3.3.3 Imperiled Species (threatened and endangered species)

Survey Results and Site Visits

A survey of the project area for threatened and endangered species was conducted by Bio-Tech Consulting on 25 Nov 2019 (Bio-Tech Consulting 2020a, b). The survey consisted of standard methods to observe imperiled species directly and indirectly (e.g., tracks, burrows, scat, vocalizations). The wood stork (*Mycteria americana*) was the only federally threatened or endangered species recorded from the project area by these investigators.

ANAMAR Environmental Consulting and Austin Brockenbrough & Associates visited the project area and inspected the resources there on 28 Oct 2020. An American kestrel (*Falco sparverius*) was observed resting on suspended piping at the Chevron Bulk Terminal near Tank #59 during this survey. However, it is unknown whether this individual represents the state-threatened southeastern American kestrel (*Falco sparverius paulus*). No other threatened or endangered species were observed during this site visit.

A total of 19 threatened and endangered species have been documented to occur on MacDill AFB (USAF 2010, 2012; Ecosphere Restoration Institute and Environmental Science Associates 2019). All these species are listed as threatened by either the federal or state government, with the gopher tortoise (*Gopherus polyphemus*) being state-listed as threatened and a candidate species for possible future protection by the federal government (Table 3-3). In addition, bald eagles (*Haliaeetus leucocephalus*) and their nests were documented on the base by (Ecosphere Restoration Institute and Environmental Science Associates 2019). Bald eagles are federally protected under the Bald and Golden Eagle Protection Act.

Imperiled species and wildlife surveys were conducted at MacDill AFB in 1992, 1994, 1995–1996, 2003–2004, 2011–2012, and most recently in 2018–2019 (Ecosphere Restoration Institute and Environmental Science Associates 2019). In addition, on 10 May 2005, representatives from USFWS, Mote Marine Laboratory, and MacDill AFB conducted a survey of the shallow nearshore waters within the restricted area along MacDill's southern coastline. No federal or state-listed species were observed during the 2005 survey (USAF 2012).

Table 3-3. Summary of Protected Species Recorded at Nearby MacDill AFB

Common Name	Scientific Name	Status	
		Federal	State
Reptiles & Amphibians			
American alligator	*Alligator mississippiensis*	Threatened (SA)*	–
Gopher tortoise	*Gopherus polyphemus*	Candidate	Threatened
Green sea turtle	*Chelonia mydas*	Threatened	–
Birds			
American oystercatcher	*Haematopus palliatus*	–	Threatened
Bald eagle (obs. nesting)	*Haliaeetus leucocephalus*	Protected under Bald and Golden Eagle Protection Act	
Black skimmer	*Rynchops niger*	–	Threatened
Burrowing owl	*Athene cunicularia*	–	Threatened
Florida burrowing owl	*Athene cunicularia floridana*	–	Threatened
Florida sandhill crane	*Grus canadensis pratensis*	–	Threatened
Least tern	*Sterna antillarum*	–	Threatened
Little blue heron	*Egretta caerulea*	–	Threatened
Piping plover	*Charadrius melodus*	Threatened	–
Reddish egret	*Egretta rufescens*	–	Threatened
Roseate spoonbill	*Ajaia ajaja*	–	Threatened
Rufa red knot	*Calidris canutus rufa*	Threatened	–
Snowy plover	*Charadrius alexandrinus*	–	Threatened
Southeastern American kestrel	*Falco sparverius paulus*	–	Threatened
Tricolored heron	*Egretta tricolor*	–	Threatened
Wood stork	*Mycteria americana*	Threatened	–
Mammals			
Florida manatee	*Trichechus manatus latirostris*	Threatened	–

* SA = Species is listed due to the similarity of appearance with the federally threatened American crocodile, *Crocodylus acutus*.
Sources: USAF (2010, 2012) and ANAMAR Environmental Consulting (2015) with status modifications based on FWC (2018).

Florida Natural Areas Inventory Query

A query of the Florida Natural Areas Inventory (FNAI) Biodiversity Matrix database (https://www.fnai.org/BiodiversityMatrix/index.html) was conducted on 21 Aug 2020 for matrix unit 24453, which is a one-square-mile area that includes the 2.84-acre project area along with the Chevron Bulk Terminal, Port Tampa City, and much of the western portion of MacDill AFB. The query did not indicate that any ESA-listed species have been documented from this matrix unit and reported to FNAI. However, the query indicated that the federally threatened wood stork and the federally threatened Florida manatee (*Trichechus manatus latirostris*) were likely to occur within the matrix unit.

Smalltooth Sawfish (*Pristis pectinata*)

A search of the International Sawfish Encounter Database at the University of Florida (UF) on 15 Dec 2020 revealed 29 unique encounters with federally endangered smalltooth sawfish (*Pristis pectinata*) recorded

from Hillsborough County, Florida. The records spanned from Aug 1957 to 3 May 2019. Of these, six encounters were recorded near MacDill AFB or Picnic Island (Table 3-4) and occurred from 1999 to 2017. Figure 3-8 is a chart showing the locations of these six encounters relative to MacDill AFB and other landmarks. Two encounters were near Picnic Island but outside of Picnic Island Creek. No records of smalltooth sawfish are known from the ditches that run from Picnic Island Creek eastward to the project area. Tampa Bay is outside (north) the designated critical habitat (in portions of Charlotte Harbor and the Everglades [NMFS 2009]) for this primarily tropical species.

Table 3-4. Smalltooth Sawfish (*Pristis pectinata*) Encounters near MacDill AFB or Picnic Island Based on a Query of the International Sawfish Encounter Database (ISED)

Date of Encounter	ISED ID	Locality Description	Bottom Type	Latitude	Longitude
02/17/1999	ISED-00075	Tampa Bay near McDill AFB	Sand, mud	27.83716	-82.46916
08/xx/2004	ISED-00550	Grass flat at south end of MacDill AFB, near creek mouth off Gadsden Point	Sand, mud	27.82254	-82.48873
06/xx/2007 – 08/xx/2007	ISED-01646	Between Picnic Island and MacDill AFB, 30 yards from the beach on the eastern side of the point	(not recorded)	27.84825	-82.55085
04/11/2015	NSED-08652	Grass flat at the south end of MacDill AFB inside the restricted area/ exclusion zone	Sand, seagrass	27.81676	-82.50013
08/12/2015	NSED-08931	Mangroves at Picnic Island	Sand, seagrass	27.85131	-82.54796
03/27/2017	NSED-10375	Between Ballast Point and MacDill AFB	Sand, rocks	27.86688	-82.48188

ISED = International Sawfish Encounter Database

NSED = National Sawfish Encounter Database (predecessor of the ISED)

Source: ISED query results provided on 15 Dec 2020 by Tyler Bowling, Florida Program for Shark Research, Florida Museum of Natural History.

Figure 3-8. Encounters with Smalltooth Sawfish (*Pristis pectinata*) Recorded from near MacDill AFB and Picnic Island Based on an International Sawfish Encounter Database (ISED) Query

Notes: Blue dots represent an encounter with a Smalltooth Sawfish; ISED = International Sawfish Encounter Database; NSED = National Sawfish Encounter Database (predecessor of the ISED); see Table 1 for details on each sawfish encounter.

Source: ISED query results provided on 15 Dec 2020 by Tyler Bowling, Florida Program for Shark Research, Florida Museum of Natural History.

Sea Turtles (Cheloniidae and Dermochelyidae)

Online databases were searched on 15 Dec 2020 for records of federally threatened or endangered sea turtle species within the vicinity of Picnic Island Creek. These consisted of the UF Herpetology Collection (http://specifyportal.flmnh.ufl.edu/herps/) along with the amateur naturalist sites iNaturalist (https://www.inaturalist.org/observations) and HerpMapper (https://www.herpmapper.org). No records were found for loggerhead sea turtles (*Caretta caretta*), green sea turtles (*Chelonia mydas*), hawksbill sea turtles (*Eretmochelys imbricata*), Kemps Ridley sea turtles (*Lepidochelys kempii*), or leatherback sea turtles (*Dermochelys coriacea*) in Picnic Island Creek or its associated network of ditches.

Eastern Black Rail (*Laterallus jamaicensis jamaicensis*)

Florida supports an estimated 200 to 500 breeding pairs of the federally threatened eastern black rail (*Laterallus jamaicensis jamaicensis*) (ESA protection effective 9 Nov 2020) in suitable coastal habitats (Figures 3-9 and 3-10). This subspecies of black rail (*Laterallus jamaicensis*) is considered by USFWS to be a permanent resident in the Tampa Bay watershed, where it inhabits wet prairies and freshwater and saltwater marshes, although it is considered rare in these habitats (Wolfe and Drew 1990, USFWS 2019b). Breeding occurs May through September in Florida, typically in large coastal marshes where they make their nests out of grasses (Maehr and Kale 2005, USFWS 2019b). Online searches on 15 Dec 2020 of the birding database eBird (https://ebird.org/explore), the amateur naturalist database iNaturalist (https://www.inaturalist.org/observations?place_id=any&taxon_id=316), and the University of Florida Ornithology Collection database (http://specifyportal.flmnh.ufl.edu/birds/) revealed no records of black rails anywhere in Hillsborough County, Florida. The project area lacks prairie or marsh habitat typically used for nesting by coastal populations of this subspecies.

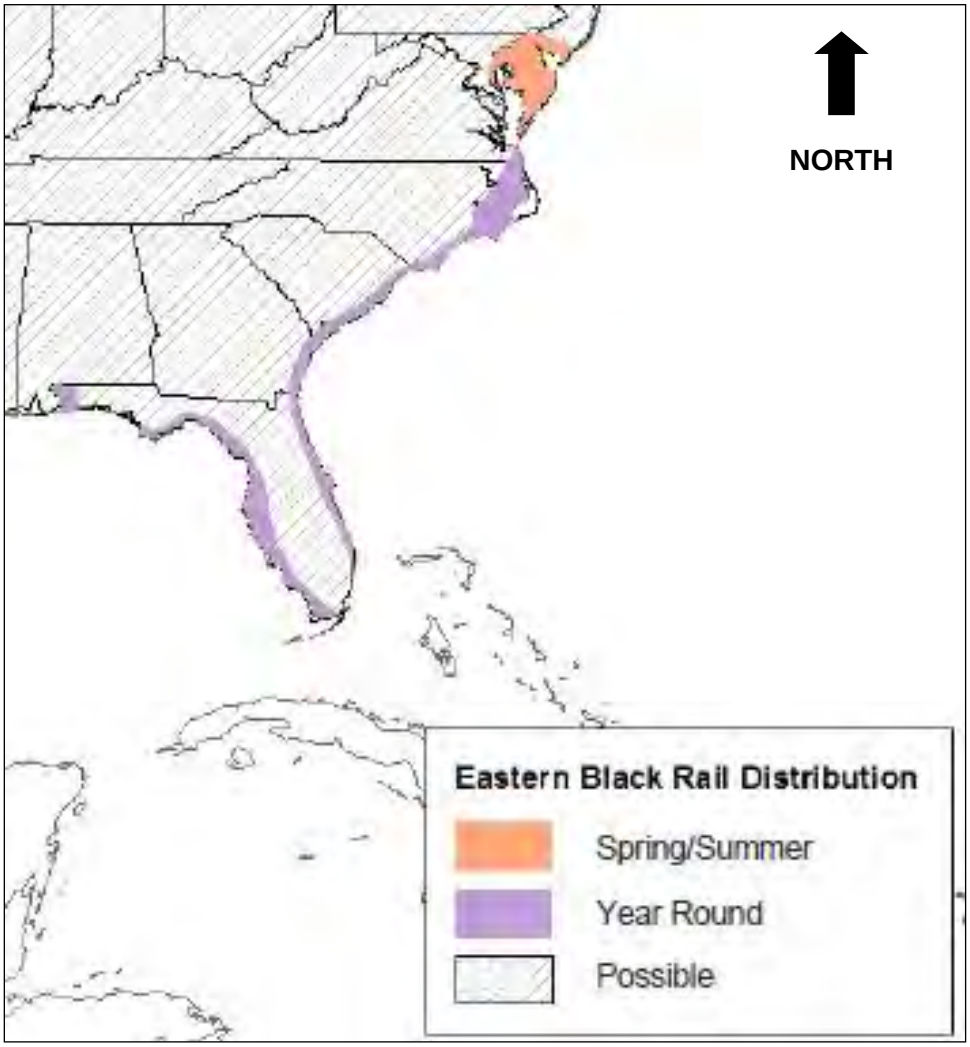

Figure 3-9. Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) Distribution within Florida and Adjacent States

Source: Modified from Figure 2-6 of USFWS (2019b)

Figure 3-10. Examples of Habitats Typically Used by the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*)

Notes: Habitat photos were taken in South Carolina (A), Texas (B), Kansas (C), and Honduras (D). Photos taken by C. Hand (A), W. Woodrow (B), R. Laubhan (C), and R. Gallardo and A. Vallely (D).

Source: Modified from Figure 2-5 of USFWS (2019b)

Wood Stork (*Mycteria americana*)

A search of the online birding database eBird (https://ebird.org/explore) on 14 Dec 2020 revealed that the most recent records of wood storks reported to eBird involved four wood storks that were observed on 9 Jan 2011 on nearby Port Tampa property. Note that USFWS has identified nesting colonies and core foraging areas throughout Florida (USFWS 2020). The entire Interbay Peninsula appears to be within the 15-mile radius buffer zone of one or more of these core foraging areas according to USFWS (2020) (Figure 3-11). These core foraging areas were considered active during 2009 through at least 2018 (USFWS 2020).

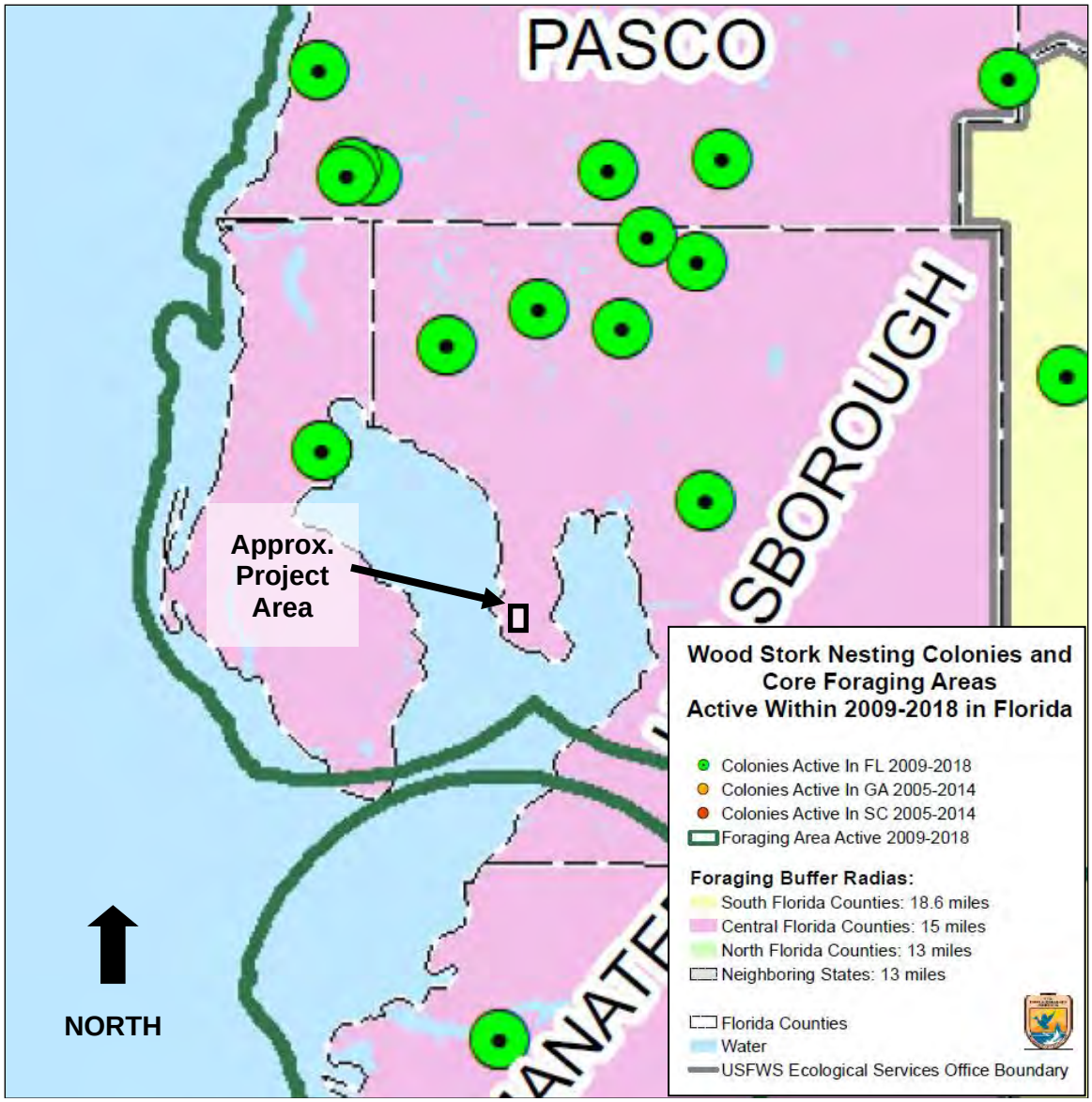

Figure 3-11. Wood Stork Nesting Colonies and Core Foraging Areas of Tampa

Source: Modified from a figure made available online by USFWS (2020)

Piping Plover (*Charadrius melodus*)

A search of the online birding database eBird (https://ebird.org/explore) on 31 Dec 2020 revealed that the most recent record of the federally threatened piping plover nearest to the project area was at MacDill AFB on 19 Nov 2018. Birding enthusiast Eric Plage recorded observing a single individual of this species and had the following notes on his observation:

> "First sighting of this species for me for this location. Bird was sitting in sandy divots just outside the fence for dog park on South Beach. In close proximity of large flock of shorebirds at waters edge. Light tan coloration to cap, back, and wings. Solid dark bill (distinct in first- year birds) and bright orange legs. Bird was un-banded."

The fence at MacDill AFB Dog Beach, where the sighting was described to have been recorded near, is approximately 3.8 miles southeast of the project area. No other records of piping plover sightings within about four miles of the project area were uncovered during the eBird query. A query of iNaturalist

(https://www.inaturalist.org/observations?taxon_id=4798) on 31 Dec 2020 resulted in no sightings uncovered for anywhere on the Midbay Peninsula.

The Interbay Peninsula is within a piping plover consultation area according to USFWS (2003) and this includes the project area. The nearest designated critical habitat for piping plover is several miles west of the Interbay Peninsula, at Caladesi Island and several islands north of this (Critical Habitat Unit FL-21 as per USFWS [2013]). However, the Interbay Peninsula, including the project area, is within a "consultation area" for piping plover according to USFWS (2003) (Figure 3-12).

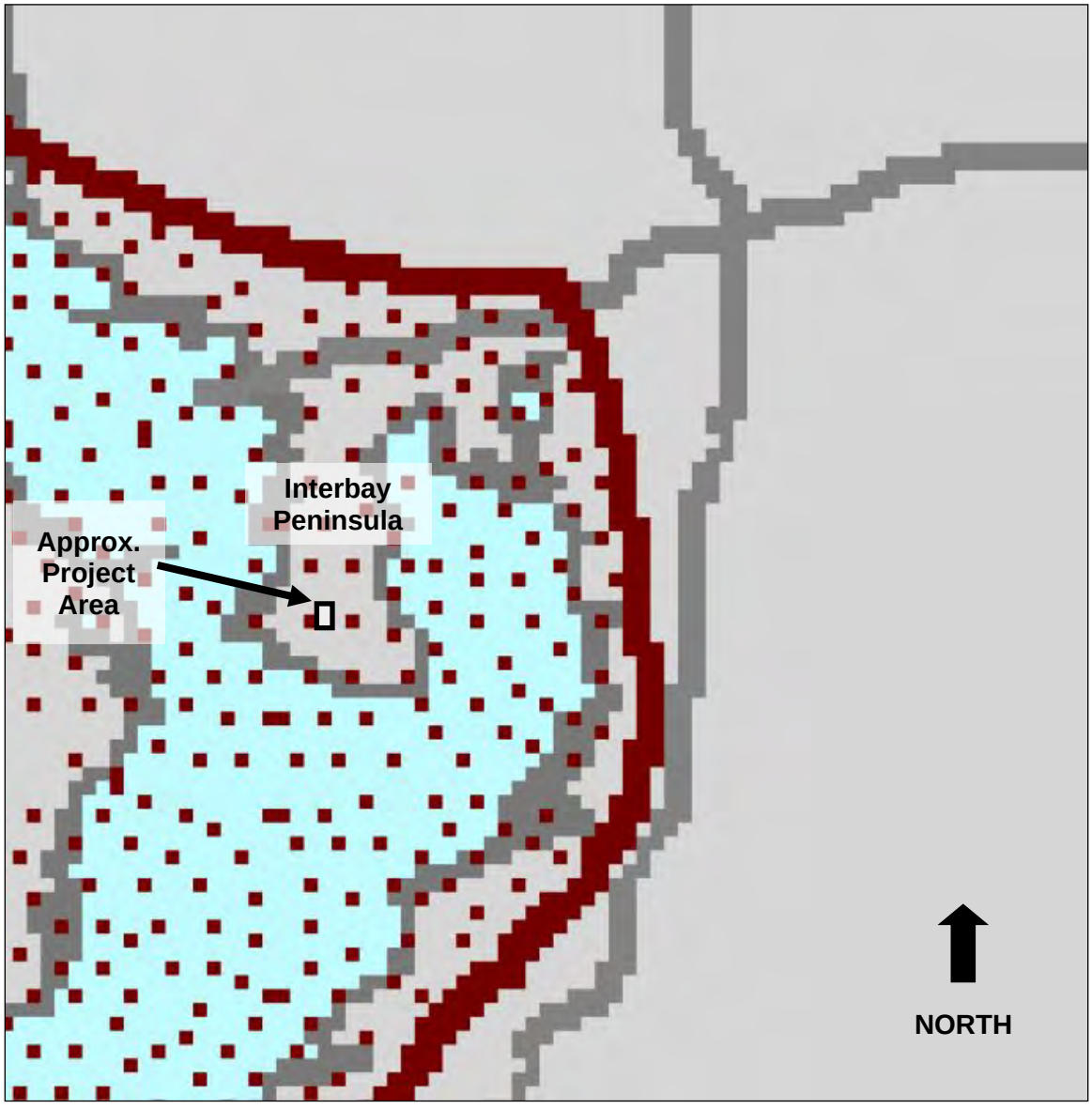

Figure 3-12. Piping Plover Consultation Area of Tampa, Florida

Note: Area overlaid with red cubes represents the piping plover consultation area.

Source: Modified from a figure made available online by USFWS (2003)

***Rufa* Red Knot (*Calidris canutus rufa*)**

The federally threatened *rufa* red knot has been documented to occur at nearby MacDill AFB and has been the focus of a biological assessment by ANAMAR Environmental Consulting (2015) prepared for MacDill

AFB as part of an EA for maintenance dredging activities at the base. At least 128 sightings of this species have been recorded in the eBird database (https://ebird.org/explore), primarily during the month of November. All sightings at MacDill AFB were associated with sandy, muddy, and armored shorelines along the eastern and southern portions of MacDill AFB. These locations are over three miles east-southeast of the project area. These habitats agree well with the known habitats preferred by red knots in Florida. Such preferred habitats consist of sandy beaches, tidal mudflats, saltmarshes, brackish lagoons or impoundments, and mangrove forests (Cunningham 1961, Maehr and Kale 2005, Niles et al. 2008).

Red knots occurring at the Interbay Peninsula and elsewhere in Florida (as well as in Georgia, South Carolina, and Texas) are not necessarily the federally threatened *rufa* red knot, as subspecific status of the Florida population remains uncertain (Niles et al. 2008). The Florida population may contain either or both of *C. c. rufa* and *C. c. roselaari* subspecies (e.g., Niles et al. 2008).

Mangrove forest habitat occurs within the project area and this habitat is among those habitats preferred by red knots according to Niles et al. (2008). However, a search of all available literature and online databases failed to reveal any records of this species from this area. Therefore, the presence of this species within the project area is uncertain.

Bird Species Protected under the Migratory Bird Treaty Act

Most bird species native to the United States are protected from anthropogenic harm under the MBTA of 1918 (16 U.S.C. §§ 703–712). This protection is for all life stages (eggs through adult stages) and includes their nests. The statute makes it unlawful to pursue, hunt, take, capture, kill, or sell (whole or parts, live or dead) any of the over 800 species of birds covered under the act. A complete list of species covered can be found at https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Migratory birds, as listed in 50 CFR §10.13, are ecologically and economically important to the United States and enable various recreational activities such as bird watching, behavioral studies, and photography.

Executive Order 13186, published in 2001, asserts that the protection of migratory birds is the responsibility of federal agencies. Also, a memorandum of understanding between the DoD and USFWS, signed in September 2014, states that the DoD shall take steps to manage and mitigate potential impacts on migratory birds, such as identifying the species likely to occur in the area of the proposed action and assessing the potential impacts to migratory species using best-available data. Although this memorandum of understanding expired five years after it was signed, it represents the latest agreement between these agencies concerning migratory birds until the newest administration can work on an updated agreement. The species identified within the project area are described and listed in Subsection 3.3.2.

Gopher Tortoise (*Gopherus polyphemus*)

Populations of the gopher tortoise (*Gopherus polyphemus*) inhabiting Florida and surrounding states are currently candidates for listing under the ESA (USFWS 2019a). No direct observations or indirect evidence (e.g., burrows, scat, tracks) of gopher tortoises occurring within the project area were noted by BioTech Consulting (2020). A search of the online database iNaturalist (https://www.inaturalist.org/observations?place_id=any&taxon_id=40085) on 15 Dec 2020 revealed no records of gopher tortoises in or near MacDill AFB. A search of the online database HerpMapper (https://www.herpmapper.org/records?taxon=Gopherus+polyphemus&level0=230&level1=3435&level2=40987) on 15 Dec 2020 revealed eight photographic records of this species documented between 29 Mar 2008 and 11 Mar 2018 for Hillsborough County, but specific locality information was not available from this database. Habitats within the project area and west of this area are composed of poorly drained to very poorly drained soils having a shallow depth to the water table, indicating that these areas are unsuitable for this species. Thus, the occurrence of this species within the project area is unlikely. However, it is possible that gopher tortoises may occur

along the edges of the baseball diamond that is east of the project area, where the soils have been anthropogenically altered.

Eastern Indigo Snake (*Drymarchon couperi*)

Although it is difficult to rule out the possibility that the federally threatened eastern indigo snake (*Drymarchon couperi* [including the population proposed as the new species *D. kolpobasileus*] see Krysko et al. 2016, but see also Folt et al. 2019) may occur in the project area, this area appears poorly suited for this species. The area lacks gopher tortoise burrows which eastern indigo snakes are well-known to utilize to avoid desiccation and as shelter against extreme temperatures. This species has also been documented to utilize voids within old tree stumps and in karst formations such as limestone solution holes. The presence of chthonic subterranean microhabitats that could be used by this species for desiccation prevention and temperature regulation have not been observed within the project area. However, it is difficult to rule out such microhabitats. The mangrove wetland habitat to the west of the project area appears suitable for foraging by the eastern indigo snake. A search of the online database iNaturalist (https://www.inaturalist.org/observations/17727164) on 15 Dec 2020 showed one record of this species in the Tampa area, observed and photographed on 7 Oct 2018 from an undisclosed location. No records were found for this species anywhere in Hillsborough County from searching the online databases HerpMapper (https://www.herpmapper.org/records?taxon=Drymarchon&level0=230&level1=3435&level2=40987) and the University of Florida's Herpetology Collection (http://specifyportal.flmnh.ufl.edu/herps/). The eastern indigo snake has not been recorded within MacDill AFB, and therefore its presence within the project area seems unlikely.

Florida Manatee (*Trichechus manatus latirostris*)

The federally threatened Florida manatee has been observed in the past in MacDill AFB's Channel A and in both marina basins (USAF 2010). However, a search of all available literature and databases revealed no records of Florida manatees having been observed in or near the man-made ditches within the project area. A photo-documented observation on 29 Oct 2017 of an adult Florida manatee was recorded in iNaturalist from a canal in northern Picnic Island Creek (https://www.inaturalist.org/observations/9148480). An adult manatee and a calf were photographed in a MacDill AFB boat basin on 24 Jul 2018, and the photo was submitted to iNaturalist (https://www.inaturalist.org/observations/16109618).

Imperiled Plants

No threatened or endangered plant species have been documented as occurring within the project area or at nearby MacDill AFB (USAF 2010, 2012; Department of the Air Force 2016). Although neither sea oats (*Uniola paniculata*) nor seagrapes (*Coccoloba uvifera*) have been recorded to occur within the project area, it should be noted that, pursuant to Florida Statutes Section 161.242, it is unlawful to cut, harvest, remove, or eradicate either of these species from any public or private land without prior consent of the property owner.

3.3.4 Wetlands

Wetlands are subject to regulatory authority under Section 404 of the Clean Water Act (CWA) and Executive Order 11990, *Protection of Wetlands*. Wetlands are defined by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR §328.3[b]). Wetlands are protected as a subset of the waters of the United States under Section 404 of the CWA; USACE requires a permit for any activities crossing wetlands or other waters of the United States. Executive Order 11990 requires all federal agencies to "take action to minimize the destruction, loss or degradation of wetlands and enhance the natural and beneficial values of wetlands."

Man-made ditches bisect the project area and are connected to Picnic Island Creek to the west of the project area (Figure 3-13A). Standing water was observed in these ditches during a survey of the project area on 25 Nov 2019 by Bio-Tech Consulting (2020b) and during a site visit on 28 Oct 2020 by ANAMAR Environmental Consulting and Austin Brockenbrough & Associates. In addition to the man-made ditches, natural wetland habitat associated with Picnic Island Creek occur within the northern and western portions of the project area, where they are dominated by mangroves (Figure 3-13B). The existing pipeline lease area traverses these mangrove wetlands.

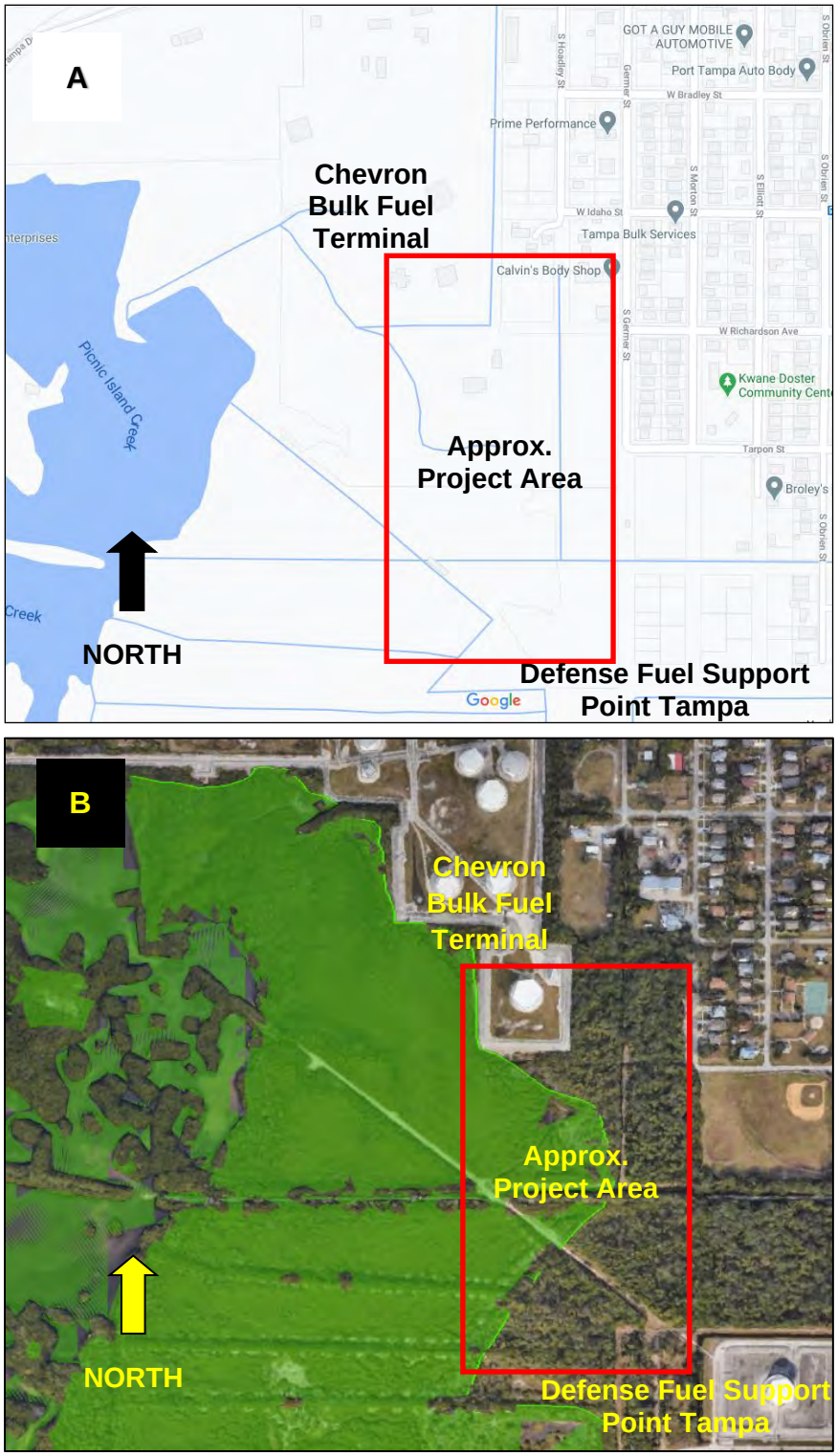

Figure 3-13. Man-made Ditches (A) and Natural Wetlands (B) Associated with Picnic Island Creek in and near the Project Area

Note: Ditches are shown as straight blue lines radiating from Picnic Island Creek. Natural wetlands are shown in green fill. Source: Aerials from Google Maps and Google Earth

3.3.5 Essential Fish Habitat

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) (MSA 16 U.S.C. 1855 (b)), including the Sustainable Fisheries Act (SFA [16 U.S.C. 1801]) amendment of 1996, projects with potential impact to EFH must be analyzed. EFH is defined by the National Marine Fisheries Service (NMFS) (2004) and approved by the Secretary of Commerce acting through NMFS (50 CFR §600.10) as "…those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (MSA § 3[10]).

The Gulf of Mexico Fishery Management Council (GOMFMC) implements regulations through NMFS for species in its management region. This council is responsible for managing and conserving 35 fish, five crustacea, and 143 species of soft and hard corals along with other members of the classes Hydrozoa and Anthozoa between state waters and the eastern extent of the exclusive economic zone (200 nautical milesoffshore) off the Gulf coast of Florida and neighboring states (GOMFMC 2017). The NMFS Office of Sustainable Fisheries provides oversight and support for the South Atlantic Fishery Management Council (SAFMC) through the development of national policies, guidance, and regulations. The Highly Migratory Species Management Division of NMFS manages an additional four major groups of pelagic fishes: 41 species of sharks, five tunas, one swordfish, and five billfishes (NOAA 2009). The SAFMC and Mid-Atlantic Fishery Management Council (MAFMC) do not have jurisdiction along the Florida Gulf coast. However, some species managed by these councils have EFH identified along this coast (NMFS 2008) as the councils can designate EFH outside their respective regions of jurisdiction (Geo-Marine 2008). EFH for MAFMC-managed species relevant to the area proposed for maintenance dredging are addressed in subsequent sections of this EA.

This section identifies EFH and Habitat Areas of Particular Concern (HAPC) based on descriptions from several guidance documents by NOAA and fishery management councils. These documents include SAFMC (1998a, b), GOMFMC (1998, 2005), NOAA (2009), and MAFMC and NMFS (2011). The NOAA Fisheries Essential Fish Habitat Mapper (NOAA Fisheries 2020) online spatial database was used for supplemental information. HAPC represent a more limited habitat designation for a given species or managed group, are described as ecologically important rare subsets of EFH, and are particularly susceptible to environmental degradation due to proximity to human activities. Such areas may serve as key habitats for migrations, spawning, or rearing of fishes and invertebrates. Some HAPC are geographically defined or habitat-specific, while others are taxa-specific or even life-stage-specific. EFH identified by SAFMC that may be present in the proposed maintenance dredging area include the water column, estuarine habitat which includes plant and animal resources living between permanent freshwater bottom and the seaward limits, and live/hardbottom which includes corals. The project area contains water column and estuarine EFH resources but live/hardbottom is absent.

EFH and HAPC along the Gulf coast of Florida address the following managed taxa:

- Coral EFH (does not include Tampa Bay [GOMFMC 2005, NOAA Fisheries 2020])
    - 143 species of soft and hard corals and members of the classes Hydrozoa and Anthozoa
- Shrimp EFH (GOMFMC 1998, 2017; SAFMC 1998a, NOAA Fisheries 2020)
    - Brown shrimp (*Farfantepenaeus aztecus*), pink shrimp (*Farfantepenaeus duorarum*), white shrimp (*Litopenaeus setiferus*), and royal red shrimp (*Pleoticus robustus*)
- Stone Crab EFH (GOMFMC 2005)
    - Stone crab (*Menippe mercenaria*) and possibly the western Gulf stone crab (*M. adina*)
- Spiny Lobster EFH (GOMFMC 1998, SAFMC 1998a, NOAA Fisheries 2020)
    - Caribbean spiny lobster (*Panulirus argus*)
- Red Drum EFH (GOMFMC 1998, GOMFMC 2005, NOAA Fisheries 2020)

  - Red drum (*Sciaenops ocellatus*)
- Reef Fish EFH (GOMFMC 1998, NOAA Fisheries 2020)
  - 31 species in two families in two orders
- Coastal Migratory Pelagics EFH (GOMFMC 2005, NOAA Fisheries 2020)
  - Cobia (*Rachycentron canadum*), king mackerel (*Scomberomorus cavalla*), and Spanish mackerel (*Scomberomorus maculatus*)
- Large Coastal Sharks, Small Coastal Sharks, and Prohibited Sharks (species-specific EFH) (NOAA 2009, NOAA Fisheries 2020)
  - Large Coastal Sharks: nurse shark (*Ginglymostoma cirratum*), blacktip shark (*Carcharinus limbatus*), bull shark (*C. leucas*), lemon shark (*Negaprion brevirostris*), sandbar shark (*C. plumbius*), silky shark (*C. falciformis*), spinner shark (*C. brevipinna*), tiger shark (*Galeocerdo cuvier*), great hammerhead (*Sphyrna mokarran*), scalloped hammerhead (*S. lewini*), and smooth hammerhead (*S. zygaena*)
  - Small Coastal Sharks: Atlantic sharpnose shark (*Rhizoprionodon terraenovae*), blacknose shark (*C. acronotus*), finetooth shark (*C. isodon*), and bonnethead (*S. tiburo*)
  - Prohibited Sharks: bigeye sand tiger (*Odontaspis noronhai*), sand tiger (*Carcharias taurus*), white shark (Carcharodon carcharias), longfin mako (*Isurus paucus*), bignose shark (*Carcharhinus altimus*), Caribbean reef shark (*C. perezi*), Caribbean sharpnose shark (*Rhizoprionodon porosus),* dusky shark (*C. obscurus*), Galapagos shark (*C. galapagensis*), narrowtooth shark (*C. brachyurus*), night shark (*C. signatus*), and smalltail shark (*C. porosus*)

Of the managed taxa listed above having EFH in the region, the shrimp EFH may be applicable to the project area. The mangrove wetlands and the ditches within the project area that are connected to Picnic Island Creek may possibly act as nursery areas for penaeid shrimp. Nursery areas included as EFH consist of tidal freshwater, coastal wetlands (e.g., intertidal marshes, tidal forests, and mangroves), estuaries, nearshore flats, and submerged aquatic vegetation (GOMFMC 1998, SAFMC 1998a). HAPCs include all coastal inlets, all state-identified nursery habitats of importance to this group, and state-identified overwintering areas (GOMFMC 1998, SAFMC 1998a). Tidal creeks and salt marshes serving as nurseries are perhaps the most important habitats for penaeid shrimp (GOMFMC 1998, SAFMC 1998a, b).

The following EFH appears to include all or most of Tampa Bay, including Picnic Island Creek:

- Shrimp EFH
- Red drum EFH
- Atlantic sharpnose shark (Gulf of Mexico stock) EFH
- Bonnethead shark (Gulf of Mexico stock) EFH
- Bull shark EFH
- Tiger shark EFH

EFH for the above-listed taxa include all or most of Tampa Bay (including Picnic Island Creek) and surrounding coastal waters according to NOAA (2009) and spatial data in NOAA Fisheries (2020), which agrees with the written description of EFH provided by GOMFMC (1998). Although Picnic Island Creek appears to be included as EFH for these taxa, it is not clear if wetlands and ditches within the project area are included in the EFH. The project area does not appear to contain any other EFH or HAPC based on the definitions given in SAFMC (1998a, b), GOMFMC (1998, 2005), NOAA (2009), and MAFMC and NMFS (2011) or spatial data in NOAA Fisheries (2020).

Shrimp EFH may be included in the project area, where it may act as a nursery area for penaeid shrimp. It is also possible that red drum may swim eastward from Picnic Island Creek into the mangrove wetlands and ditches of the project area, such as during spring tide events.

3.4 Geology and Soils

3.4.1 Geology

The project area is within the Tampa Plain Region of the Ocala Uplift District of the Gulf Coastal Plain Province (Brooks 1981, Bio-Tech Consulting 2020b). The Ocala Uplift District typically includes limestone found at or near the soil surface. The presence of limestone can result in karst formations such as dry caves. Limestone also allows for the presence of substantial aquifer recharge zones.

The Interbay Peninsula, including the project area, is surrounded by Old Tampa Bay, Hillsborough Bay, and Tampa Bay. The Hillsborough River is approximately 12 km northeast of the project area and is the closest riverine habitat to the project. Picnic Island Creek is a tidal creek system west of and adjacent to the project area. Mangrove-dominated wetlands associated with this tidal creek system are located within the western portion of the project area. At least three man-made ditches also are located within the project area and drain west into the Picnic Island Creek system.

3.4.2 Soils

Soils of the project area are composed predominately of Myakka fine sand, frequently flooded; with Wabasso-Urban land complex; open water; and Urban land 0 to 2 percent slopes (Natural Resources Conservation Service 2020) (Table 3-5 and Figure 3-14 below). Myakka fine sand is very poorly drained, has a high runoff class, is frequently flooded, is strongly saline (16.0 to 32.0 mmhos/cm), and has a depth to water table of about 0 to 6 inches. Minor components of Myakka fine sand include Samsula soil series (Natural Resources Conservation Service 2020). Wabasso-Urban land complex is poorly drained, has a very high runoff class, and has a depth to water table of about 6 to 18 inches. Minor components of the Wabasso-Urban land complex include Myakka, Felda, and Malabar soil series. Open water is associated with the northwestern portion of the existing pipeline lease area. Urban land is composed of 85 percent anthropogenically altered land and 15 percent of various soil series. Minor components of Urban land include Matlacha, St. Augustine, Pomello, and less than one percent of several other soil series (Natural Resources Conservation Service 2020).

The soil orders within the proposed action project area are predominately poorly drained Wabasso-Urban land complex (Table 3-6, Figure 3-15). These soils, although poorly drained, are slightly better drained than the soil orders that occur within the existing pipeline lease area that the alternative action routes are associated with.

The soils of the alternative actions project area are predominately very poorly drained Myakka fine sand (Table 3-7, Figure 3-16). The alternative actions project area also contains a considerable amount of open water. Overall, the area of the alternative actions is lower elevation, wetter, and closer to Picnic Island Creek compared to the proposed action project area.

Table 3-5. Major Soil Series of the Project Area

Major Soil Series	Depth to Water Table (approximate)	Drainage Class	Runoff Class	Region of Project Area	% of Project Area (approximate)
Myakka fine sand, frequently flooded	0–6 inches	Very poorly drained	High	North and central portions of existing pipeline lease area	48.4%
Wabasso-Urban land complex	6–18 inches	Poorly drained	Very high	Southeastern portion of project area	37.5%
Water	—	—	—	Northwestern portion of existing pipeline lease area	13.5%
Urban land, 0–2% slopes	(not available)	(not available)	(not available)	Chevron Bulk Terminal	0.6%
				TOTAL	**100%**

Source: Natural Resources Conservation Service (2020)

Figure 3-14. Major Soil Series of the Project Area

Source: Natural Resources Conservation Service (2020)

Table 3-6. Major Soil Series of the Proposed Action Project Area

Major Soil Series	Depth to Water Table (approximate)	Drainage Class	Runoff Class	Acres in Project Area (approximate)	% of Project Area (approximate)
Wabasso-Urban land complex	6–18 inches	Poorly drained	Very high	2.3	82.5%
Urban land, 0–2% slopes	(not available)	(not available)	(not available)	0.4	13.9%
Myakka fine sand, frequently flooded	0–6 inches	Very poorly drained	High	0.1	3.7%
			TOTAL	**2.8**	**100%**

Source: Natural Resources Conservation Service (2020)

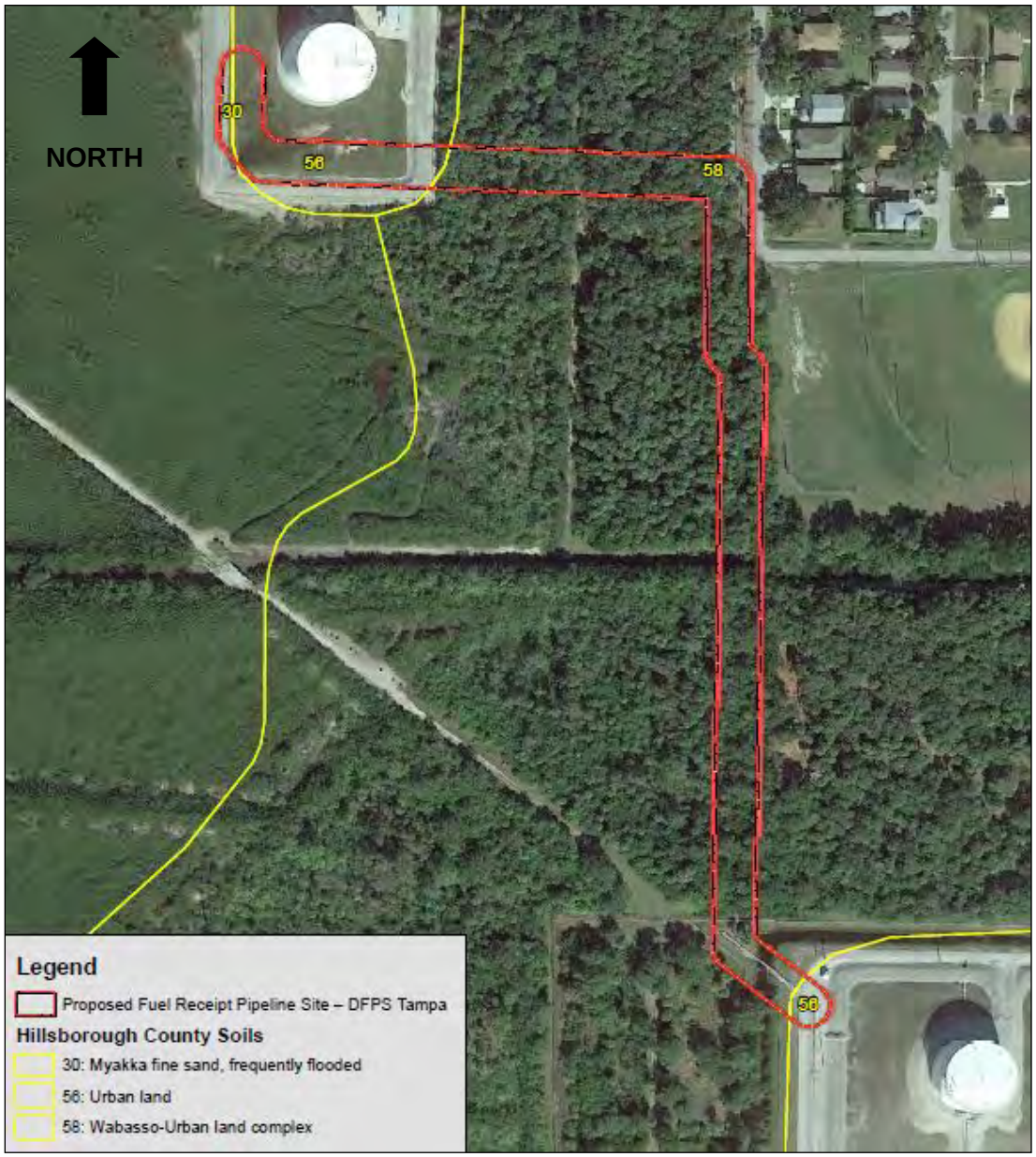

Figure 3-15. Major Soil Series of the Proposed Action Project Area

Source: Modified from Figure 2 of Bio-Tech Consulting (2020b)

Table 3-7. Major Soil Series of the Alternative Actions Project Area

Major Soil Series	Depth to Water Table (approximate)	Drainage Class	Runoff Class	Acres in Project Area (approximate)	% of Project Area (approximate)
Myakka fine sand, frequently flooded	0–6 inches	Very poorly drained	High	7.0	47.4%
Wabasso-Urban land complex	6–18 inches	Poorly drained	Very high	4.4	29.8%
Water	—	—	—	2.9	19.3%
Urban land, 0–2% slopes	(not available)	(not available)	(not available)	0.5	3.5%
			TOTAL	**14.9**	**100%**

Source: Natural Resources Conservation Service (2020)

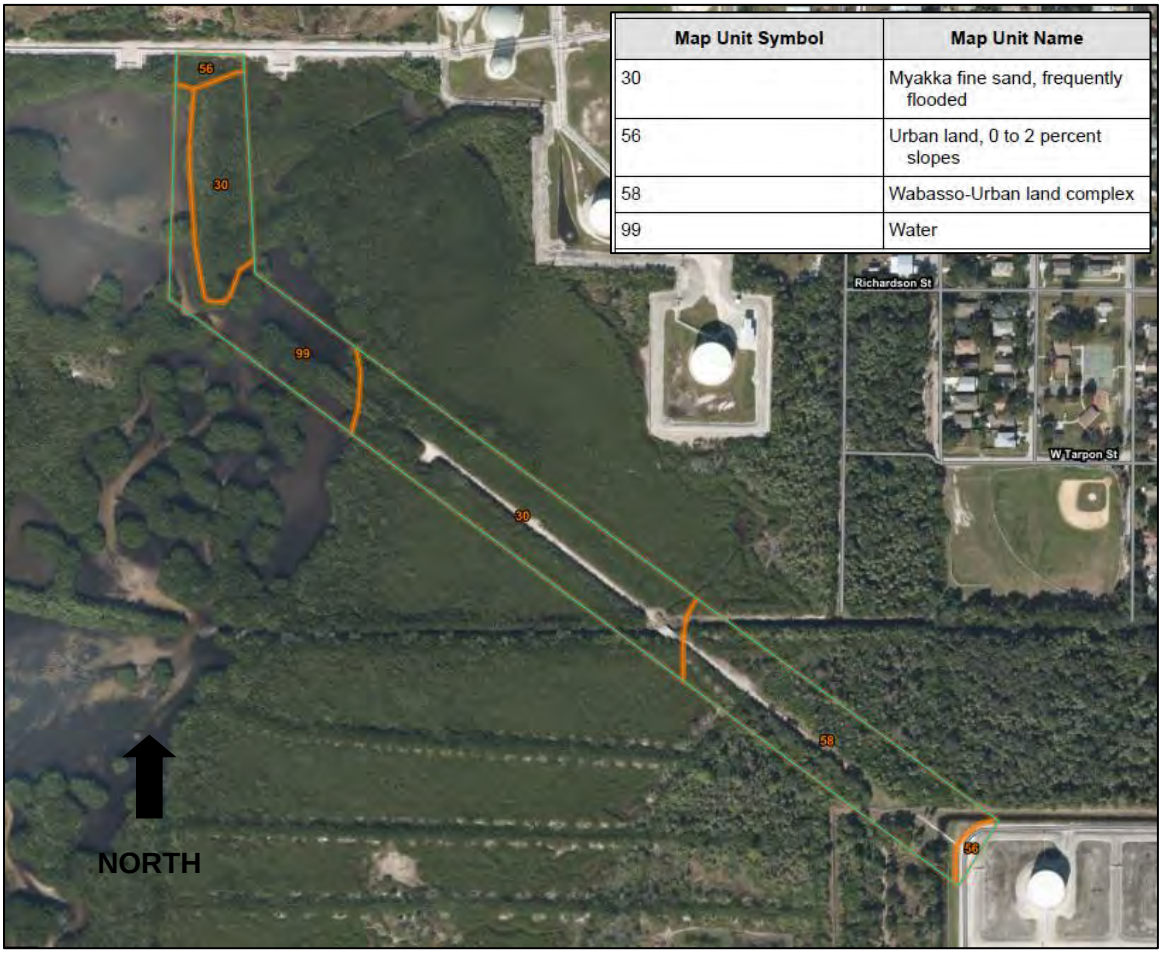

Figure 3-16. Major Soil Series of the Alternative Actions Project Area
Source: Natural Resources Conservation Service (2020)

3.5 Cultural Resources

Cultural resources are historic districts, sites, buildings, structures, or objects considered important to a culture, subculture, or community for scientific, traditional, religious, or other purposes. Depending on the condition and historic use, such resources might provide insight into the cultural practices of previous civilizations, or they might retain cultural and religious significance to modern groups. Cultural resources that are listed in or eligible for listing in the National Register of Historic Places (NRHP) are known as historic properties.

Section 106 of the National Historic Preservation Act requires federal agencies to assess the impact of their undertakings on historic properties in the area of potential effect (APE). The APE is the "geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist" (36 CFR 800.16[d]). MacDill AFB has defined the APE as a 0.25-mile radius around the proposed pipeline construction area. MacDill AFB has consulted with the Florida SHPO under Section 106 of the National Historic Preservation Act. MacDill AFB has also consulted with four Native American tribes (Miccosukee Tribe of Indians of Florida, Muscogee [Creek] Nation, Seminole Nation of Oklahoma, and Seminole Tribe of Florida). These tribes have an expressed interest in activities at MacDill AFB.

Cultural resources on MacDill AFB include historic architectural resources and archaeological sites. All the architectural resources constructed on MacDill AFB through the end of the Cold War period (1992) have been evaluated for historic significance. Of these buildings and structures, 28 have been determined eligible for the NRHP. Most of these buildings are World War II era facilities, however there is one Cold War era building. The WWII facilities fall within two historic districts on the AFB—the MacDill Field Historic District and the MacDill Field Staff Officer's Quarters Historic District. Between 2018 and 2020, MacDill AFB completed a comprehensive survey for archaeological resources. This basewide Phase I archaeological study surveyed 4,535 acres and discovered 41 new sites. Most of the sites that were discovered were determined ineligible for the NRHP, except for five, which are currently undergoing a Phase II investigation to gather more information to determine each sites eligibility.

None of the two historic districts, 28 historic facilities, and 50 known archaeological sites located at MacDill AFB are located within the APE.

A Phase I cultural resource assessment survey was conducted during 8–9 Feb 2020 by Edwards-Pitman, Inc. The survey consisted of systematic subsurface shovel testing at 25-m intervals throughout the project APE and a pedestrian survey for the presence of exposed artifacts and aboveground features (Bottomley and Sipe 2020). The APE corresponds with the proposed pipeline corridor and associated 9.1-m-wide buffer (Figure 3-17). The study was conducted to comply with Chapter 267 of the Florida Statutes Rule Chapter 1A-46, Florida Administrative Code. Each shovel test consisted of a 50- by 50-cm square dug to 1 m depth or until sterile soil was encountered (Bottomley and Sipe 2020). Shovel testing could not be conducted through the pavement of Broome Avenue. The purpose was to locate, delineate, and evaluate any archaeological resources and historic structures within the APE. Prior to the field survey, a literature review and records search were conducted by Edwards-Pitman, Inc. (Bottomley and Sipe 2020). The following previously recorded archaeological sites were considered by Edwards-Pitman, Inc. as part of their survey:

- 8HI13768: 20th century surface and subsurface domestic refuse scatter
  - This site was initially identified in 2017 by Cardno in advance of property development (Stack 2017).
  - The site is partially contained within the APE.
  - No artifacts were observed in this site during 2020 survey.
  - This site was determined ineligible for inclusion under the National Register of Historic Places.

- 8HI14537: redeposited historic artifact scatter
  - This site was fully delineated and evaluated in 2018 by Schnitzer et al. (2018).
  - This site is in the southern portion of the project area.
  - This site was not revisited during the 2020 survey.
  - This site was determined ineligible for inclusion under the National Register of Historic Places.

Edwards-Pitman, Inc. concluded in the survey report that the proposed project will not adversely affect any significant cultural resources. These authors recommended that the project be granted clearance to proceed without further concern for cultural resources (Bottomley and Sipe 2020).

Figure 3-17. The Area of Potential Effect for the Purposes of the Cultural Resource Assessment Survey

Note: The Area of potential effect is outlined in yellow. Major soil series are also highlighted.

Source: Modified from Figure 2.3 of Bottomley and Sipe (2020)

The Air Force initiated consultation with the Florida SHPO on 11 Jun 2020 to confirm that the proposed action would not impact historic resources (Appendix A). The review was conducted in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended, and 36 CFR Part 800: Protection of Historic Properties. In the 28 Aug 2020 letter from the SHPO, it was determined that the proposed project is unlikely to adversely affect historic properties listed or be eligible for listing on the National Register of Historic Places (see Appendix A). Should any archaeological resource be discovered during project construction, work would cease until all appropriate coordination is conducted and clearances from SHPO and tribal governments are obtained.

The following Native American tribal governments were consulted regarding this proposed action:

- Miccosukee Tribe of Indians of Florida
- Muscogee (Creek) Nation
- Seminole Nation of Oklahoma
- Seminole Tribe of Florida

Correspondence regarding these consultations is in Appendix B.

MacDill AFB initiated consultations on 4 Feb 2020 with the Miccosukee Tribe of Indians of Florida, the Seminole Nation of Oklahoma, and the Seminole Tribe of Florida. The consultation with the Muscogee (Creek) Nation was initiated on 6 Jul 2020. Letters were sent via the U.S. Postal Service, and electronic versions were emailed to tribal representatives on the same day.

The consultation with the Miccosukee Tribe of Indians of Florida was followed up on 29 Apr 2020 with a call and an email to tribal representative Mr. Kevin Donaldson. An additional letter was sent to Mr. Donaldson on 6 Jul 2020. No response has been received as of this writing. Previous correspondence with this tribe resulted in the determination that if no response is received within 30 to 60 days of initiation, it can be assumed that the tribe has no objection to the project. However, it is understood that the Miccosukee Tribe of Indians of Florida may provide comments or requests at any time and those requests will be considered accordingly.

The consultation with the Muscogee (Creek) Nation on 6 Jul 2020 has not received a response to-date. Attempts by MacDill AFB to contact tribal representatives are ongoing.

The consultation with the Seminole Nation of Oklahoma was followed up on 29 Apr 2020 with a call and an email to tribal representatives Ms. Brigita Leader and Ms. Shema Lincoln. An additional letter was sent to Ms. Leader on 6 Jul 2020. No response has been received as of this writing.

A response letter from representative Mr. Bradley Mueller of the Tribal Historic Preservation Office of the Seminole Tribe of Florida was received on 28 Apr 2020 by the Air Force. The response letter from Mr. Mueller indicated that the project does not fall within the tribe's area of interest and that the Seminole Tribe of Florida had no objections to the project at that time. The Air Force sent an additional letter on 6 Jul 2020 to tribal representative Dr. Paul Backhouse. An additional response letter from Mr. Mueller was received by the Air Force on 21 Jul 2020. The response letter reaffirmed that the project falls within the tribe's area of interest and that a representative of the tribe reviewed the Phase I cultural resource assessment survey report and found no objections at that time. The letter further indicated that the tribe should be notified if any archaeological, historical, or burial resources are inadvertently discovered during project implementation.

The correspondence summarized above is documented in the attached Memorandum for Record in Appendix B.

If any work not included as part of the proposed action or the proposed alternatives put forward in this EA is required in the future, these plans must be coordinated with 6 CES/CEIE prior to their approval and implementation.

3.6 Transportation

The project area contains no maintained roads. The Chevron Bulk Terminal, at the northern end of the project area, is surrounded by a chain link fence and a concrete berm that together prevent vehicular access from the south. Similarly, the DFSP Tampa, at the extreme southern end of the project area, also is surrounded by a chain link fence and a berm that together prevent vehicular access except for those authorized to use the locked gate at the northwestern corner of the facility. Controlled access to the project area would occur via the nearest adjacent roadway, at South Germer Street. Therefore, civilian vehicle traffic is not expected to be strongly affected during or after construction. The effects to traffic are expected to be comparable between the proposed action and alternative actions 1 through 3.

3.7 Occupational Safety and Health

For the purposes of this Occupational Safety and Health subsection, the region of interest is the immediate project area for the proposed action and alternatives.

Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of on-site military and civilian workers is safeguarded by numerous DoD and USAF regulations designed to comply with standards issued by the Occupational Safety and Health Administration (OSHA) and EPA. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing including hearing protection, engineering controls, and maximum exposure limits for workplace stressors. Industrial hygiene is the responsibility of contractors and USAF personnel, as applicable. Examples of contractor responsibilities include but are not limited to the following:

- Review potentially hazardous workplaces and monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous material), physical (e.g., noise propagation), and biological agents (e.g., infectious waste);
- Recommend and evaluate controls (e.g., hearing protection, ventilation, respirators) to ensure personnel are properly protected or unexposed; and
- Ensure that a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures or potentially harmful repetitive physical exposure or who are engaged in hazardous waste work.

3.8 Air Quality

The region of interest for the air quality subsection is Hillsborough County.

3.8.1 Climate Change

Tampa, including the project area, has a humid subtropical climate. Summers are characteristically hot and humid while winters are relatively dry and mild. Thunderstorms are common during summers due in part to convection storms but can also include tropical storms. Winters and early springs have mostly clear skies but can include occasional storm events. Winter storm events occur less often and are less severe than those occurring during summer. Temperatures reach 32.2°C (90°F) during summer and drop to an average low of 11.1 °C (52 °F) during winter (https://www.weather-us.com/en/florida-usa/tampa-climate).

Tampa's wet season typically begins in May and lasts until October. Summer rainfall levels account for nearly two-thirds of Tampa's average annual rainfall of 1260 mm (49.6 inches). November through April are typically dry and have clear skies (https://www.weather-us.com/en/florida-usa/tampa-climate).

Climate change effects in the Tampa area are projected to include sea level rise of 6 inches to 2.5 feet by the year 2050 and from 1 to 7 feet by the year 2100 according to the Tampa Bay Climate Science Advisory Board (2015). Tampa was identified by the World Bank (https://www.worldbank.org/en/news/feature/2013/08/19/coastal-cities-at-highest-risk-floods) as being among the 10 coastal metropolitan areas that are most vulnerable to the effects of sea level rise, including flooding. The Tampa area has already experienced sea level rise (Figure 3-18), and the trend is expected to continue into the next century (Figure 3-19). Without the implementation of adaptation strategies, Tampa and surrounding cities may experience substantial social and economic costs associated with:

- Flooding of streets, residences, businesses, etc.
- Erosion of beaches and shorelines
- Operational impacts to coastal drainage systems
- Saltwater intrusion to groundwater
- Impairment of water supplies and to coastal water treatment facilities and infrastructure
- Shifting habitats and reduced ecosystem services

Given that the project area consists of elevations from +5 to 0 feet National Geodetic Vertical Datum of 1929 above sea level (Bio-Tech Consulting 2020b), this area is particularly vulnerable to flooding and other effects of climate change. Climate change is addressed in the project design, which calls for pipelines that lay primarily underground, with aboveground connections in upland, developed areas.

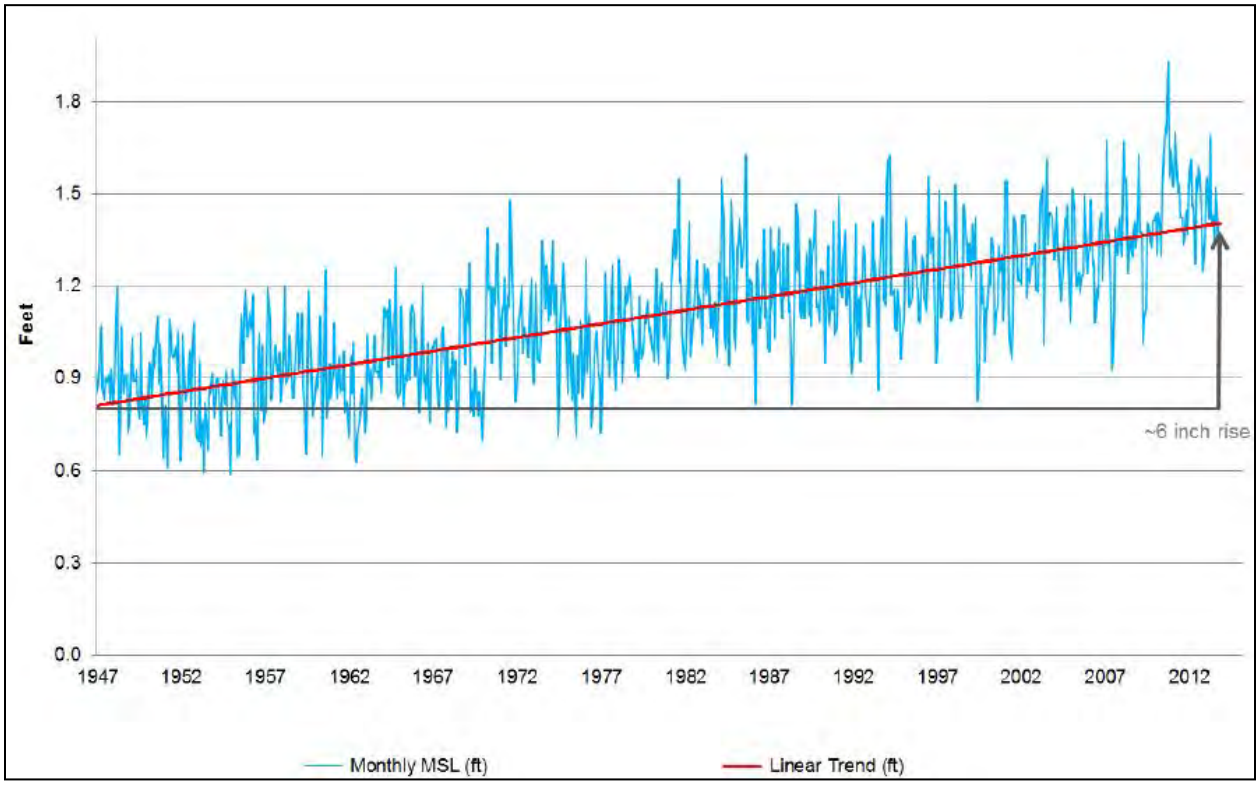

Figure 3-18. Linear Trendline in 1947–2012 Sea Level Rise in St. Petersburg, Florida, Based on Water Elevations Recorded at NOAA Tide Gauge #8726520

Source: Modified from Figure 2 of Tampa Bay Climate Science Advisory Board (2015)

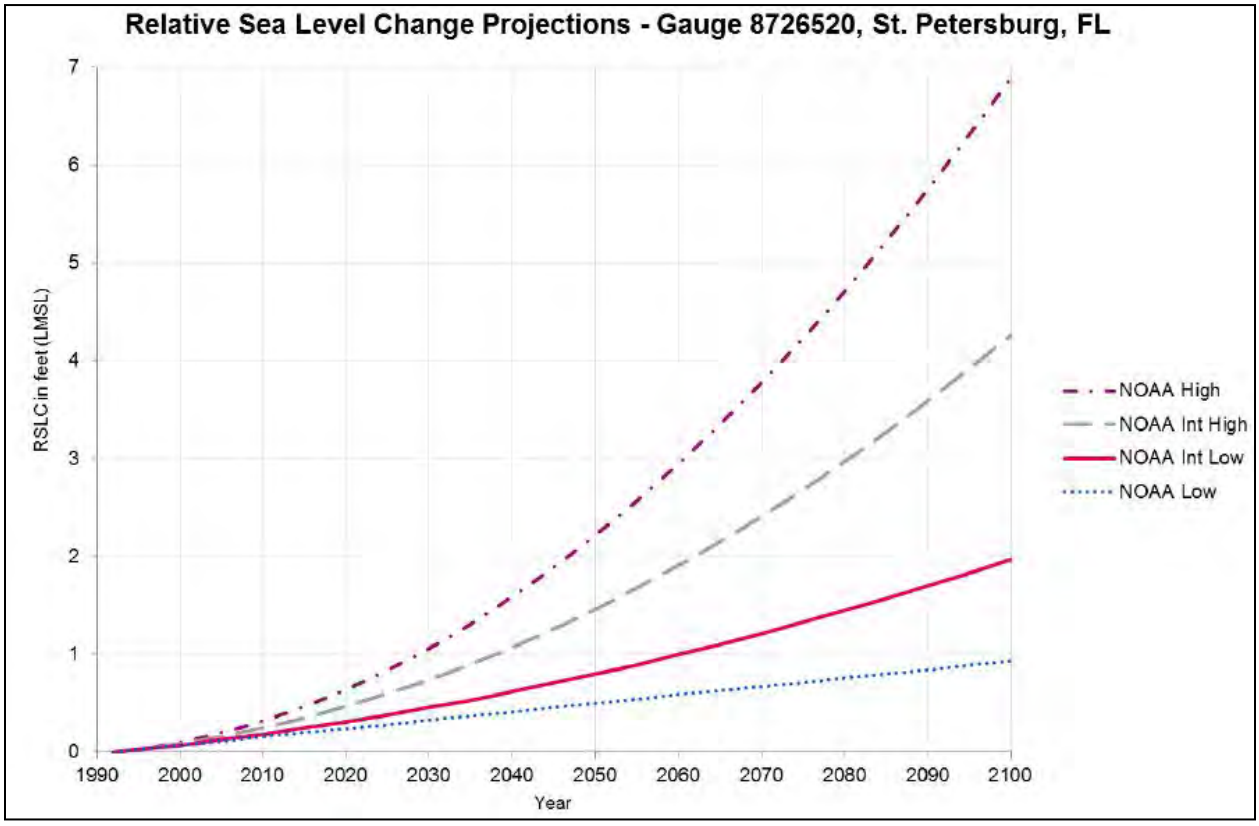

Figure 3-19. Graphed Relative Sea Level Change Scenarios for St. Petersburg, Florida, Calculated from NOAA Projections and Regional Corrections

Source: Modified from Figure 3 of Tampa Bay Climate Science Advisory Board (2015)

3.8.2 Baseline Air Emissions

Hillsborough County, including the project area, is within the West Central Florida Intrastate Air Quality Control Region (AQCR), as defined in 40 CFR 81.96. Concentrations of air pollutants for this and other municipalities of the United States are measured and compared with applicable National Ambient Air Quality Standards set by EPA. Air pollutants of interest include carbon dioxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide. Sources of these and other pollutants may be categorized as either point, area, or mobile emission sources. Point sources are stationary, can be identified by name, and operate at a fixed location. Area sources are stationary sources of emissions too small to track individually, such as gas stations, small office buildings, or open burning associated with agriculture, forest management, and land-clearing activities. Mobile sources are vehicles or equipment with gasoline or diesel engines, such as aircrafts or ships, and are categorized as either on-road or non-road. On-road mobile sources are vehicles such as cars, light and heavy trucks, buses, and motorcycles. Non-road sources are aircraft, locomotives, diesel and gasoline boats and ships, personal watercraft, lawn and garden equipment, agricultural and construction equipment, and recreational vehicles.

Accurate air quality concentrations data are used to estimate the relationship between emission sources and air quality. The most recent (2019) air quality data for Hillsborough County were obtained on 7 Jan 2021 from EPA's Air Trends and Air Quality website at https://www.epa.gov/air-trends/air-quality-cities-and-counties and summarized in Table 3-8 where they are compared with applicable national ambient air quality standards. The Interbay Peninsula, including the project area, is classified as being "in attainment" for all

criteria air pollutants under the national ambient air quality standards according to EPA data accessed 7 Jan 2021 at https://www.epa.gov/air-trends/air-quality-cities-and-counties.

EPA recommends consideration of radon mitigation measures if concentrations exceed 4 picocuries per liter (pCi/L). A USAF sampling report indicated that all samples analyzed for radon were below the 4-pCi/L target level set by EPA (Department of the Air Force 2016). Therefore, radon is not a concern at MacDill AFB.

Table 3-8. 2019 Air Quality Statistics for Hillsborough County, Florida

	Carbon Monoxide (CO) 8-hr Max. (ppm)	Lead (Pb) 3-month Mean ($\mu g/m^3$)	Nitrogen Dioxide (NO_2) 1-hr Max. (ppb)	Ozone (O_3) 8-hr Max. (ppm)	Particulate Matter 24-hr Max. ($\mu g/m^3$)	Sulfur Dioxide (SO_2) 1-hr Max. (ppb)
Maximum Reading in 2019	1	0.09	37	0.07	64	11
Applicable National Ambient Air Quality Standard	9	0.15	100	0.070	150	75

Source: EPA Air Quality website accessed 7 Jan 2021 at https://www.epa.gov/air-trends/air-quality-cities-and-counties.

Air quality conformity rule planning is applicable to all installations under the regulatory oversight of EPA. Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*, instructs that an installation is required to ensure that all conformity rule planning be accomplished on a timely basis and in accordance with 42 U.S.C. 7401–7671 and 40 CFR Part 93 Subpart B. As mentioned above, the project area within Hillsborough County meets attainment criteria, and therefore a conformity analysis is not required. However, a conformity rule applicability analysis and conclusion are required. For projects not directly related to aircraft, such as this defense fuel receipt pipeline improvement project, an approved air quality database or tool should be used in conjunction with best available local information. For the purposes of this project, the air emissions generated from construction and demolition equipment and workers commuting to the project site were estimated using a Microsoft Excel workbook designed for estimating such air emissions. The estimated air emissions generated from the project were then compared to the annual emissions for Hillsborough County, Florida. Table 3-9 has the most recent baseline air emissions volumes (tons/year) for Hillsborough County, Florida. The results for the proposed action and each alternative action scenario are provided in Subsection 4.7.

Table 3-9. 2011 Baseline Emissions Inventory for Hillsborough County, Florida

	Carbon Monoxide (CO)	Carbon Dioxide (CO_2)	Nitrogen Oxides (NO_x)	Volatile Organic Compounds (VOCs)	Particulate Matter ≤10 µm (PM_{10})	Particulate Matter ≤2.5 µm ($PM_{2.5}$)	Sulfur Oxides (SO_x)
Annual Emissions (2011) (tons)	191,829	8,722,085	38,317	37,126	16,486	6,954	16,456

Source: EPA Nonattainment Areas for Criteria Pollutants (Green Book) website accessed 11 Mar 2021 at https://www.epa.gov/green-book.

3.8.3 Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups include children, the elderly, and the acutely and chronically ill. The locations of these groups include residences, schools, playgrounds, daycare centers, convalescent homes, and hospitals.

The project area is within the southwestern corner of the Interbay Peninsula, near Picnic Island, near the northwestern edge of MacDill AFB. Land uses adjacent to the project area include the Chevron Bulk Terminal to the north, Old Tampa Bay to the west, the DFSP Tampa at MacDill AFB to the south, and a residential neighborhood and baseball field to the east. The residential neighborhood along South Germer Street may be considered a sensitive receptor area due to its proximity to the project area combined with the potential to house children and the elderly.

4 ENVIRONMENTAL CONSEQUENCES

This section is an analysis of the potential environmental consequences of the proposed action and alternatives to the proposed action, including the no-action alternative, on the environmental resources evaluated in Section 3.0. The proposed action includes installing a new pair of underground defense fuel receipt pipelines in a new location, as described in Subsection 2.2. Three alternatives to the proposed action, and the no-action alterative, are also considered. For most resource areas, potential environmental consequences have been grouped and analyzed by type of activity, unless the considerations for potential impacts to specific resources warrant a different approach.

4.1 Water Resources

Water resources within the project area consist of groundwater and a small amount of surface waters associated with the mangrove wetland habitat and several man-made ditches connected to Picnic Island Creek. Potential impacts to these resources include erosion and siltation and possible impacts to fish, wildlife, and aquatic vegetation through degradation of water quality.

4.1.1 Proposed Action

Surface Waters

The trenching of the pipeline route will disturb the surface water within the three ditches that bisect the project area. However, the disturbance would only be temporary, and the use of turbidity curtains, and possibly coffer dams if needed, would help to contain the disturbance within the construction zone and the 30-foot-wide lease limit.

The excavation and construction of the pipeline route would increase water turbidity by causing sediment particles to be introduced into the surrounding water column at each of the ditch crossings. These particles may be resuspended during tidal flux. The use of best management practices (BMPs) is typically required for federal, state, and local agency permitting including turbidity control measures. The use of erosion and turbidity control structures would substantially reduce the amount and lateral extent of turbidity impacts to surface waters. Such devices should also help prevent excessive turbidity from entering Picnic Island Creek. Silt fencing would be installed where appropriate to prevent offsite sedimentation. In areas where trenching for silt fencing would damage tree roots, staked hay bales may be necessary. All measures would remain in place and in good working order until soils have stabilized sufficiently, after which all control measures would be removed.

Overall, no significant or long-term impacts are expected for surface water resources. Short-term impacts are expected to be minimal for the proposed action.

Groundwater

The proposed action activities are not expected to result in any significant amount of impervious surfaces as the trench will be backfilled once installation and testing of the pipelines are complete. Although a gravel service road may be installed for access to the pipeline corridor. Since the surface road will not be paved, it is not expected to constrict the downward movement of water into the ground.

The proposed action would not reduce local groundwater recharge capabilities as the project does not include the installation of impermeable surface.

The Phase I Environmental Baseline Survey by Bio-Tech Consulting (2020b) indicated that no sites listed on the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) or the Superfund Enterprise Management System (SEMS) occur within 0.5 miles of the project area. Resource Conservation and Recovery Act cases of open petroleum releases have been documented

beyond 0.5 miles of the project area (I. Silverberg, DLA, pers. comm., 12 Feb 2021). The trenching, installation, and backfilling activities are not expected to disturb contaminated soils. The types of equipment that would be used during this project do not use potential contaminants such as drilling fluids, so there is very little potential for groundwater contamination from the construction equipment, and there is no evidence of potential risk to groundwater contamination as a result of the proposed action. Therefore, no significant impacts are expected for groundwater resources.

Floodplain

In accordance with the requirements of Executive Order 11988, the Air Force must demonstrate that there is no practicable alternative to carrying out the proposed action within the floodplain. FEMA Flood Zone AE (100-year floodplain) covers nearly the entire southern portion of the Interbay Peninsula (Figure 3-1). This flood zone includes the project area and extends at least 0.6 miles in every direction. Given that the pipelines must necessarily extend between the Chevron Bulk Terminal and the DFSP Tampa for the purpose of transporting fuel to MacDill AFB, there is no logistically suitable alternative location that would be outside the 100-year floodplain.

This EA considered all potential impacts of the proposed action and alternatives, both as solitary actions and in conjunction with other proposed activities. The Air Force publishes and seeks public comment on the EA. It is impossible to meet the purpose of, and need for, the action and avoid the 100-year floodplain. Therefore, there is no practical alternative to completing the proposed action in the floodplain. The FONPA summarizes the conclusion reached regarding the location of the proposed action in a floodplain to satisfy the requirements of Executive Order 11988, *Floodplain Management,* and Executive Order 11990, *Protection of Wetlands*. The Air Force published early notice in the *Tampa Bay Times* on 17 Feb 2020 that the proposed action would occur in a floodplain/wetland. The notice identified state and federal regulatory agencies with special expertise that had been contacted and solicited public comment on the proposed action and any practicable alternatives. The comment period for public and agency input on these projects ended on 17 Mar 2020.

Implementation of the proposed action would not include the installation of impermeable surfaces. The proposed installation of the new pipelines would be underground and the soil surface would be graded to match that of the surrounding (undisturbed) soils and overland flow of flood waters would not be impeded or otherwise altered from natural flow patterns. Therefore, no significant impacts are expected to the 100-year floodplain from the proposed action.

4.1.2 Alternative Action 1 (pipeline replacement in-situ)

Surface Waters

This alternative would have a longer route of installation (approximately 3,200 feet versus 1,717 feet) and would involve a greater amount of wetland area and surface water area compared to the proposed action. The location of the installation for this scenario would include some standing waters associated with Picnic Island Creek and much of the pipeline route would be through mangrove wetland habitat. The pipeline route under this alternative scenario would cross three man-made ditches. The elevation of the soil surface in this alternative area is slightly lower than that of the proposed action and includes submerged sediments.

The trenching of the pipeline route will disturb the surface waters associated with the mangrove wetland habitat of Picnic Island Creek and with various man-made ditches that bisect the existing pipeline route (see Figure 2-2 for a visual representation of wetlands and ditches bisected by this alternative route). However, the disturbance would be limited to the duration of construction. The use of coffer dams and turbidity curtains would help to contain the disturbance within the construction zone and the 30-foot-wide lease limit.

The excavation and construction of the pipeline route would increase water turbidity by causing sediment particles to be introduced into the surrounding water column within the standing water areas as well as the ditch crossings. These particles would likely be re-suspended during tidal flux. The use of BMPs, including turbidity control measures, is typically required for federal, state, and local agency permitting. The use of BMPs, including coffer dams and erosion and turbidity control structures, would substantially reduce the amount and lateral extent of turbidity impacts to surface waters of Picnic Island Creek. Silt fencing would be installed where appropriate to prevent offsite sedimentation. In areas where trenching for silt fencing would damage tree roots, staked hay bales may be necessary. All measures would remain in place and in good working order until soils have stabilized sufficiently, after which all control measures would be removed.

Given that this alternative action involves installation of a new pair of pipelines along a route similar to that of the current pipelines, the long-term impacts, if any, would be similar to what is experienced with the current pipelines that were installed in the early 1950s.

No significant impacts are expected. Short-term impacts to surface water resources are expected to be minor. However, given the location of the pipeline route traversing mostly mangrove wetland habitat and standing water, the short-term impact is anticipated to be greater than that of the proposed action. No long-term impacts to surface waters would be expected under this scenario as the ditches will be re-stabilized and re-planted with mangroves once construction is completed. Some natural recruitment of mangroves is also expected post-construction in the form of propagules drifting into the re-stabilized ditch banks from elsewhere along the ditches.

Groundwater

The replacement of the pipeline along a similar route to that of the current pipeline would not result in the addition of impervious surfaces. The trench will be backfilled once installation and testing of the pipelines are completed and the old pipelines and the coffer dams have been removed. The construction area would be graded to an elevation similar to that of the surrounding ground surface. No additional surface roads would be needed as there is an existing service road along the current pipeline route. The current dirt road is permeable and probably does not constrict the downward movement of water into the ground.

The lack of CERCLIS or SEMS sites within 0.5 miles of the project area indicates that trenching, installation, and backfilling activities should not disturb contaminated soils. The equipment that would be used with this alternative scenario would be similar to that used for the proposed action and do not include potential contaminants such as drilling fluids. Thus, no significant impacts to groundwater are expected alternative action 1.

Floodplain

Similar to the proposed action, this alternative action would not include the installation of impermeable surfaces. The proposed installation of the new pipelines would be underground and the soil surface would be graded to match that of the surrounding (undisturbed) soils; therefore, overland flow of flood waters would not be impeded or otherwise altered from natural flow patterns. No significant impacts are expected for the 100-year floodplain for this alternative. Impacts from this alternative should be similar those of the proposed action.

4.1.3 Alternative Action 2 (replacement using horizontal directional drill)

Surface Waters

This alternative to the proposed action would have slightly more impacts to surface waters than those of the proposed action but would have fewer impacts than alterative action 1. Although this method would use limited open cut trenching methods, these methods would be confined to the southeastern portion of the route where there is less natural wetland habitat or surface waters compared to the Alternative 1 scenario

(see Figure 2-4 for a visual representation of the route for this alternative scenario relative to wetland habitat). However, the route under this scenario may cross up to two man-made ditches. The disturbance to surface waters would be temporary and would be confined to the entrance pit and the receiving pit along the gravel access road northwest of the DFSP Tampa.

Since the entrance and exit pits and open cut trenches are in areas with little surface waters, this method would have only minimal disturbance to surface waters. Even man-made ditch crossings would have little disturbance unless they were positioned within the areas for the entrance or exit drill holes or along the small portion of route where open trenching will be used.

Although alternative 2 is not likely to cause excessive turbidity to surface waters, there is the possibility of contamination of surface waters if the pressurized drilling fluid (bentonite clay slurry) were to breach the soil surface. This scenario would utilize BMPs to control and reduce turbidity, just as would any scenario chosen. Additionally, a project-specific Frac-Out Contingency Plan would be written, approved, and followed during construction. The project site would be regularly inspected for frac-outs, and the contractor would be prepared with floating turbidity curtains and vacuum equipment or similar approved contingency methods.

Overall, no significant impacts are expected. Short-term impacts to surface water resources should be minor. No long-term impacts are expected.

Groundwater

The impacts to groundwater would be similar to those of alternative action 1, with the exception that the use of drilling fluid with this drilling method presents the possibility of contamination of groundwater with a bentonite clay slurry. The Frac-Out Contingency Plan would help address how best to ameliorate any contamination if the drilling fluid were to breach the soil surface. No impervious surfaces would be added, so groundwater recharge would not be affected (although groundwater recharge is typically very low in poorly drained soils such as those of the project area). Therefore, there is potential risk of groundwater contamination with this scenario versus little to no risk associated with the proposed action.

Floodplain

Similar to the proposed action, this alternative action would not include the installation of impermeable surfaces. The proposed installation of the new pipelines would be underground and the soil surface would be graded to match that of the surrounding (undisturbed) soils; therefore overland flow of flood waters would not be impeded or otherwise altered from natural flow patterns. Overall, no significant impacts are expected to the 100-year floodplain. Floodplain impacts from this alternative are expected to be similar to those of the proposed action.

4.1.4 Alternative Action 3 (replacement using FlexSteel sliplines)

Surface Waters

This alternative to the proposed action is expected to have minor impacts to surface waters, although greater impacts than those of the proposed action. Surface waters occur, at least seasonally, within the route of this alternative action and would likely be disturbed during construction. The route under this scenario would also cross at least one man-made ditch. Most impacts to surface waters and wetlands are associated with the need to clear mangroves and excavate the 45-degree elbows within the mangrove wetland habitat (see Figure 2-7 for a visual representation of the route for this alternative scenario relative to wetland habitat). The need for a cofferdam and dewatering at this elbow area means that at least some disturbance would occur, although it would be mitigated by using BMP turbidity control measures. Mitigation of wetland and surface water impacts would likely be necessary.

Slipline connections are limited to two upland locations and only one location within the mangrove wetland habitat. The location of the 45-degree elbow along the northern portion of the current pipeline route is within the boundaries of the mangrove wetland but not necessarily covered by standing water. This elbow area would need to be excavated for access to the current defense fuel support pipelines for use as pull points for the sliplines. Mangroves and other vegetation southeast of this elbow area would also need to be cleared for access.

Overall, no significant impacts are expected for surface water resources. No long-term impacts to surface waters would be expected under this scenario.

Groundwater

The only possibility of contamination of groundwater under this alternative scenario is if Jet A fuel was not completely cleaned out of the current pipelines by construction time and was allowed to leak into the environment.

No impervious surfaces would be added, so groundwater recharge would not be affected (although groundwater recharge is typically very low in poorly drained soils such as those of the project area).

Overall, no significant impacts are expected for groundwater from contamination. No impacts to groundwater recharge are expected.

Floodplain

This and all other actions logistically require construction to take place within the 100-year floodplain.

This alternative scenario does not include the addition of impervious surfaces. Although ground disturbance would occur associated with the 45-degree elbow area, the excavation area would be graded to match the surrounding ground elevation.

Overall, no significant impacts are expected for the 100-year floodplain from this alternative action.

4.1.5 No-Action Alternative

Under the no-action alternative, surface waters, groundwater, and the floodplain would remain unchanged from baseline conditions. However, the potential for the aging Pipeline #3 to fail would continue to increase over time, due mostly to corrosion. Although testing of this pipeline would continue to occur on an annual basis to determine if it remains in compliance, there is still some potential for Jet A fuel to leak out of the aging pipeline and into surrounding soils and surface waters of the project area. The lifetime of this remaining pipeline is not expected to extend far beyond the next 10-year in-line inspection.

Overall, no significant impacts are expected for surface waters and groundwater from the no-action alternative.

4.2 Biological Resources

4.2.1 Proposed Action

Vegetation

Impacts to vegetation would be associated primarily with the upland plant community within the undeveloped land owned by the City of Tampa and the federal government. The route of the proposed action avoids the extensive mangrove forest associated with Picnic Island Creek. However, there is a small area of black and red mangroves associated with man-made ditches that may be within the pipeline route. The vegetation within the 30-foot-wide swath along the 1,717-foot-long proposed pipeline route would be cleared for construction.

The location of the proposed activity was sited in part to avoid impacts to wetland habitats, including wetland vegetation, to the largest extent possible. Any desirable trees and palms that are removed during the clearing process may require mitigation by planting equivalent trees or palms at an approved site, at the discretion of the City of Tampa. In addition, black, red, and white mangroves (*Laguncularia racemosa*) are protected in Florida under the 1996 Florida Mangrove Trimming and Preservation Act (Florida Statutes §§ 403.9321–403.9333). Mangrove clearing requires a permit from Florida DEP and is likely to require either onsite or offsite mitigation measures.

Vegetation present within the proposed pipeline route is composed primarily of cabbage palm, Brazilian pepper, live oak, laurel oak, and white leadtree based on a site visit on 28 Oct 2020. Brazilian pepper and white leadtree are Category I and II invasive species, respectively, according to the Florida Exotic Pest Plant Council (2019).

Re-growth of the vegetation within the pipeline route would occur naturally, although gradually, once construction is completed. The vegetation surrounding the pipeline route would be adequately protected by use of BMPs during construction.

Given the conservation importance of mangroves, and the fact that both black and red mangroves are known to occur along the ditch banks that bisect the proposed pipeline route, replanting of these mangroves following construction would be useful. Although such mangroves are capable of re-growing and re-establishing the ditch banks post-construction, this process is likely to be slow. Invasive vegetation, such as Brazilian pepper, may outcompete the mangroves for re-colonization following this disturbance. Therefore, re-planting of the mangroves is likely to be conducted to optimize the speed and efficiency at which the pre-construction vegetative state is regained.

Overall, no significant impacts are expected. The impacts to vegetation are expected to involve primarily common native species and some non-native invasive species. Such impacts are expected to be temporary as re-growth (with or without re-planting) of the same or similar plant species is expected to occur following construction completion.

Wildlife

The proposed action is anticipated to have a minor short-term insignificant impacts on terrestrial, fossorial, and avian species. These impacts are related to the temporary displacement of wildlife during land-clearing and excavation of the open cut trench and possible injury or mortality from impact with construction vehicles.

Short-term insignificant impacts to terrestrial and avian species that may result from implementation of the proposed action include the temporary disturbance of songbirds, shore birds, wading birds, and raptors. Some of these species may be using areas adjacent to the project area for foraging and (or) resting. Common generalist amphibian and reptile species such as southern toads (*Anaxyrus terrestris*), treefrogs, lizards, turtles, and snakes may experience some localized mortality from impacts with construction vehicles. Such impacts would be limited to the area of construction, are insignificant from an ecological perspective, and would not result in any population-level impacts.

Individuals of common fossorial species such as fiddler crabs, glass lizards (*Ophisaurus* spp.), and eastern moles (*Scalopus aquaticus*) may be impacted by mortality during excavation of the trench. However, such mortality would be limited to a relatively small number of individual animals and would be spatially limited to the relatively narrow trench needed for placement of the underground piping. It is anticipated that terrestrial species and fossorial species would be able to forage and perform life processes elsewhere within and adjacent to the project area during construction. Proposed construction activities would not be so disruptive that these wildlife species would not be able to continue their normal activities and behaviors

beyond the construction site. Upon completion of the proposed action, wildlife would return to the construction site.

Only minor impacts to aquatic and semi-aquatic species are expected as the proposed route of the pipeline avoids natural wetlands and only bisects three man-made upland-cut ditches. No fish or other fully aquatic species were observed in these ditches during a site visit on 28 Oct 2020. Some or all of the aquatic and semi-aquatic species discussed in Subsection 3.3.2, if present in the project area, may experience altered feeding patterns and disorientation as a result of increased water turbidity. As previously described, implementation of BMPs would substantially reduce the amount and lateral extent of turbidity impacts to surface waters, thereby reducing impacts to aquatic life. All measures would remain in place and in good working order until soils have stabilized sufficiently, after which all control measures would be removed.

It is presumed that the more mobile aquatic life, such as fishes, would temporarily leave the area while construction activities are occurring and return once construction is completed and turbidity has returned to normal. It is anticipated that aquatic and semi-aquatic species would be able to forage and perform life processes elsewhere within and adjacent to the project area during construction. Proposed construction activities would not be so disruptive that these aquatic species would not be able to continue their normal activities and behaviors beyond the construction site. Short-term turbidity impacts to aquatic organisms at the construction site may result from the proposed action but are considered minor and less than significant. No long-term turbidity impacts to aquatic life are anticipated.

Overall, no significant impacts are expected. Impacts to wildlife would be only temporary.

Imperiled Species

Federally listed species that may potentially occur within the project area include smalltooth sawfish, sea turtles, eastern black rail, wood stork, piping plover, *rufa* red knot, and eastern indigo snake. Bird species protected under the MBTA and state-listed species may also occur within the project area. Subsection 3.3.3 lists and discusses these species as they may relate to the proposed project. Tables 3-2 and 3-3 summarize wildlife (including listed species) observed within the project area and federal- or state-listed species recorded at nearby MacDill AFB, respectively. The project area is not within designated critical habitat for any listed species.

The Air Force initiated consultations with USFWS and NOAA Fisheries on 14 Jan 2021 for federally listed species under their jurisdiction that may be present within the project area. These consultations ensure compliance with the ESA. NOAA Fisheries, Southeast Region, Habitat Conservation Division indicated on 15 Jan 2021 that only minimal effects would occur to marine and anadromous fishery resources. NOAA Fisheries Protected Species Division indicated on 5 Feb 2021 a finding of "no effect" to protected marine resources. USFWS indicated on 29 Jan 2021 a finding that the project "may affect, but is not likely to adversely affect" the eastern indigo snake, eastern black rail, wood stork, and Florida manatee and their habitats.. Appendix A contains the consultation correspondence.

Based on analysis of the proposed defense fuel receipt pipelines project and the associated project area, and in compliance with Section 7(a)(2) of the ESA, the Air Force has determined that the proposed action may affect but is not likely to adversely affect ESA-listed species such as the eastern indigo snake, eastern black rail, wood stork, and Florida manatee. In addition, the project area is devoid of designated critical habitat. Pre-construction briefs will be given to construction crews to inform them of appropriate procedures should any of these or other ESA-protected species, or the gopher tortoise, be observed. An emphasis will be given for gopher tortoise and eastern indigo snake protection measures. Relocation or mitigation may be necessary if a gopher tortoise or an eastern indigo snake is observed within the project area. The proposed action will also incorporate the specific manatee protection recommendations provided by USFWS.

Wetlands

In accordance with Executive Order 11990, *Protection of Wetlands*, the Air Force must demonstrate that there are no practicable alternatives to carrying out the proposed action in a wetland. Executive Order 11990 applies to new construction and defines that term to include draining, dredging, channelizing, filling, diking, impounding, and related activities and any structures or facilities begun or authorized after the effective date of this Order (May 24, 1977).

Impacts to wetlands under the proposed action are limited to areas where the pipeline route bisects man-made ditches. The upland area that the new pipeline would traverse is devoid of natural wetland habitats, although three ditches bisect the route of the proposed pipeline. Less than 0.5 acres of impacts to upland-cut ditches having wetland characteristics are expected. Due to the avoidance of major impacts to mangrove habitat and other wetlands, environmental permitting would be minimized compared to alternative actions except for the no-action alternative.

Mangrove wetland habitat exists west of the proposed new pipeline route and this proposed action is expected to avoid impacts to such natural wetlands. Therefore, it is expected that the mangrove-dominated wetlands associated with Picnic Island Creek will remain undisturbed for the duration of the project activities. For all project activities, particular attention will be taken when developing BMPs for turbidity and erosion control methods to help limit temporary impacts to adjacent wetlands. Such BMPs are typically standard conditions of permits issued by federal, state, and local resource agencies. The installation of silt fencing is expected to be among the BMP measures used where appropriate to prevent offsite turbidity and sedimentation. In areas where trenching for silt fencing would be detrimental to tree roots, staked hay bales may be necessary. All measures would remain in place and in good working order until soils have stabilized sufficiently, after which all control measures would be removed. Given the nature of the proposed action and incorporation of appropriate BMPs as typically required by permits issued by federal, state, and local resource agencies, the proposed action is not expected to result in impacts to wetlands.

This project involves coordination with county (Environmental Protection Commission [EPC] of Hillsborough County), state (SWFWMD), and federal (USACE) regulatory agencies.

The proposed action is likely to require an Environmental Resource Permit through SWFWMD, in accordance with Chapter 40D-400.439 of the F.A.C., and a Standard Work Permit through TPA. Since 22 Dec 2020, the State of Florida was delegated full authority to issue wetland permits in Florida under Section 404 of the CWA. Issuance of an Environmental Resource Permit also constitutes a water quality certification (or waiver) under Section 401 of the CWA and a finding of consistency with the Florida Coastal Zone Management Program under Section 307 of the CZMA.

A CWA 404(b) Dredge and Fill determination may be required but cannot be issued until the state-issued Environmental Resource Permit is approved, indicating issuance or waiver of water quality certification in accordance with Section 401 of the CWA and consistency with the CZMA. This project would specifically require a Standard Work Permit from TPA, and the EPC would serve as a commenting agency to TPA.

Essential Fish Habitat

There are EFHs for shrimp, red drum, Atlantic sharpnose shark, bonnethead shark, bull shark, and tiger shark at Picnic Island Creek and elsewhere in Tampa Bay and surrounding coastal waters according to GOMFMC (1998), NOAA (2009), and spatial data in NOAA Fisheries (2020). However, it is unclear what EFHs, if any, exist within the ditch crossings of the project area.

Realistically, the only EFH-related taxa that can reasonably be expected to occur in the ditches within the project area are penaeid shrimp. It remains unclear if the larger taxa, such as the sharks and red drum,

occasionally enter the ditches (such as during spring tide events) and swim eastward into the project area. Overall, effects to EFH are expected to be very minimal, if there are any effects at all.

BMPs relating to turbidity and sedimentation control previously described are expected to substantially reduce any effects to EFH in or adjacent to the project area. Additionally, the mobility of the majority of federally managed species that may occur in adjacent Picnic island Creek should allow managed species to easily avoid the area during construction activities. A small amount of benthic infaunal organisms (small animals living in soil or sediment) and sessile organisms (small plants or animals attached to a given surface) that may serve as prey, or that provide microhabitats to managed species, are expected to be temporarily affected by the proposed construction, primarily in the form of displacement. However, recolonization into the affected construction area is expected following cessation of the activity. There are no known hardbottom resources within Picnic Island Creek, so hardbottom impacts are not expected.

Construction activities may affect demersal fishes and other epifaunal populations during and for a short time following the completion of construction. The immediate local effect of construction activities includes the burial of taxa such as penaeid shrimp and their food sources. Following completion of construction, some of the fine-grained sediment may remain in suspension (Hirsch et al. 1978). This can cause stress in fishes in part due to the reduction of oxygen exchange capacity in the gills due to clogging and physical abrasion (EPA 1995, Suedel 2011). Larger juveniles and adults can avoid the suspended material by moving out of the area, but smaller juveniles may be more vulnerable and susceptible to stress (Science Applications International Corp. 1986).

Overall, effects to EFH as a result of the proposed action are expected to be very minimal and short-term, if there are any effects at all. No significant or long-term effects to EFH are expected. Correspondence between the Air Force and NOAA Fisheries, Southeast Region, Habitat Conservation Division on 15 Jan 2021 regarding the proposed action resulted in NOAA concluding that "we do not have any essential fish habitat conservation recommendations to provide and no further consultation with our office is necessary regarding these activities."

4.2.2 Alternative Actions 1 Through 3

Vegetation

Alternative actions 1 through 3 have at least some impacts to vegetation, including black and red mangroves.

The smallest spatial extent of impacts to vegetation is with alternative 2 (replacement with horizontal direction drill). This alternative avoids impacts in the northern and central portions of the project area, where the most wetland-oriented vegetation occurs, dominated by black and red mangroves. However, vegetation would need to be cleared within the southern portion of the existing 30-foot lease pipeline route, where traditional open cut trenching would take place. An additional <0.1 acres of vegetation clearing along a small portion of the eastern edge of the existing lease area would also be required to account for the new route of the underground piping. Impacts to wetland vegetation, including mangroves, are expected with this alternative, and these impacts would likely require mitigation.

Alternative 3 is expected to have similar or greater impacts to vegetation than alternative 2 but less than alternative 1. The clearing of the central portion of the existing 30-foot lease pipeline route is likely to include more mangrove trees than the clearing needed for alternative 2. This is because the central and northern portions of the lease route are farther west, where the soil has a lower elevation and wetland conditions are greater than in the southern portion of the lease area, where the soil surface has a slightly higher elevation and is farther away from Picnic Island Creek. Impacts to wetland vegetation, including mangroves, are expected with this alternative, and these impacts would likely require mitigation.

Alternative 1 is expected to have the highest spatial extent of impacts to vegetation of all the alternatives, including extensive impacts to mangrove trees and other wetland vegetation. The entire 3,163.2-foot-long and 30-foot-wide existing underground pipeline route would require clearing of vegetation, amounting to approximately 2.2 acres. A significant portion of this vegetation would include black and red mangroves. Extensive impacts to wetland vegetation, including mangroves, are expected with this alternative, and these impacts would likely require more mitigation than any other alternatives.

Land-clearing and construction activities for all three alternative actions would result in at least some direct impacts to vegetative communities, and water turbidity could result in temporary settling of sediment over adjacent open water areas of Picnic Island Creek and in mangrove areas.

The removal of mangrove trees during the clearing process would first require a permit through Florida DEP and is likely to require mitigation either onsite or offsite. The removal of certain species of trees and palms considered by the City of Tampa to be desirable may also require mitigation by planting equivalent trees or palms at an approved site, at the discretion of the City of Tampa.

Revegetation of the construction areas would occur naturally after activities in that location are complete, although mitigation measures are likely to require replanting to speed up the revegetation period. The open water areas directly west of the existing lease area would require protection, to the extent possible, with BMPs during construction to limit sedimentation and turbidity that could reach open water. Overall, no significant impacts are expected. Minor impacts to vegetation would be direct but temporary for all three of these alternative scenarios.

Wildlife

Similar to the proposed action, alternative actions 1 through 3 are anticipated to have minor short-term insignificant impacts on terrestrial, fossorial, and avian species. These impacts are related to the temporary displacement of wildlife during land clearing and excavation of the open cut trench and possible mortality from impact with construction vehicles. In addition, impacts associated with excavation of the open cut trench may be associated with alternative actions 1 and 2.

Proposed construction activities would not be so disruptive that these wildlife species would not be able to continue their normal activities and behaviors beyond the construction site. Upon completion of the proposed action, wildlife would return to the construction site.

Minor impacts to aquatic and semi-aquatic species are also expected for all three alternative actions and the impacts may be greatest for alternative 1, as this has the greatest amount of trenching and land clearing in wetland and possibly open-water habitats. As previously described in Subsection 4.2.1, implementation of BMPs would substantially reduce the amount and lateral extent of turbidity impacts to surface waters, thereby reducing impacts to aquatic life. All control measures would remain in place and in good working order until soils have stabilized sufficiently, after which all such measures would be removed.

It is presumed that the more mobile aquatic life, such as fishes, would temporarily leave the area while construction activities are occurring and return once construction is completed and turbidity has returned to normal. Short-term turbidity impacts to aquatic organisms at the construction site may result from all three alternative actions but are considered minor and less than significant. No long-term turbidity impacts to aquatic life are anticipated.

Short-term turbidity impacts to aquatic organisms could result from all three of these alternative actions. Such impacts are considered minor and less than significant, but of slightly higher effect as compared to the proposed action given that these alternative scenarios involve an area of lower elevation and wetter conditions than the proposed action. No long-term turbidity impacts to aquatic life are anticipated.

Terrestrial species may be temporarily displaced due to the clearing of vegetation for all three alternative actions. The highest amount of vegetative clearing is expected for alternative action 1 as this action would require the longest route that would need to be completely cleared of vegetation (approximately 3,200 feet). Proposed construction activities would not be so disruptive that terrestrial wildlife would not be able to continue their normal activities and behaviors beyond the construction area. Upon completion of construction, wildlife would gradually return to the project area, but this is likely to take time and would be corelated with the rate of re-growth (or replanting) of vegetation.

Overall, no significant impacts to wildlife are expected as a result of any of these alternative actions, and these impacts would be only temporary. No long-term impacts are expected.

Imperiled Species

Similar to the proposed action, imperiled species of birds that utilize the project area may be temporarily displaced by the construction operations. Any impacts would be minor and short-term.

It is possible that an imperiled species survey may be required for any of the alternative actions chosen. Relocation or mitigation may be necessary if certain imperiled species are observed within the project area.

It is possible that smalltooth sawfish, sea turtles, and (or) Florida manatees may occur in open water areas of the mangrove wetland in or near the construction area. Contractors performing construction activities in such areas may be required to follow the Standard Manatee Conditions for In-Water Work and the Sea Turtle and Smalltooth Sawfish Construction Conditions. The alternative actions would also incorporate the specific manatee protection recommendations provided by USFWS. Based on current guidelines and the Effect Determination Key for the Manatee in Florida (USACE 2013), the alternative actions "may affect, but is not likely to adversely affect" the manatee. Consequently, no significant impacts to smalltooth sawfish, sea turtles, or Florida manatees are expected to occur as a result of any of the alternative actions.

Wetlands

Alternative actions 1 through 3 all have at least some impacts to mangrove habitat and other wetlands.

The smallest spatial extent of wetland impacts is with alternative 2 (replacement with horizontal direction drill). This alternative avoids impacts in the northern and central portions of the project area, where the highest aerial extent of wetland habitat occurs. Impacts to wetland vegetation, including mangroves, are expected with this alternative, and these impacts would likely require mitigation.

Alternative 3 is expected to have similar or greater impacts to wetlands than alternative 2 but less than alternative 1. The clearing of the central portion of the existing 30-foot-lease pipeline route is likely to include a higher spatial extent of mangrove wetland habitat than the clearing needed for alternative 2, due to the lower elevation and wetter conditions in the central and northern portions of the lease route compared to the southern portion of this route. Impacts to wetland habitat are expected with this alternative, and these impacts would likely require mitigation.

Alternative 1 is expected to have the highest spatial extent of impacts to wetlands of all the alternatives, including impacts to mangrove wetland habitat. Much of the approximately 2.2 acres of pipeline lease area, that would require clearing is wetland habitat. Therefore, extensive impacts to wetlands are expected with this alternative, and these impacts would likely require more mitigation than other alternatives.

For activities associated with these alternative actions, particular attention would be paid when developing BMPs for turbidity and erosion control methods to help limit temporary impacts to adjacent wetlands. These BMPs would be determined and discussed as part of permitting conditions issued by federal, state, and local resource agencies. Similar BMP methods would be employed for these alternative actions as for

the proposed action. Agency coordination and permits are anticipated to be required for any of these alternative actions as with the proposed action. Specifically, an Environmental Resource Permit is likely required through SWFWMD and USACE in accordance with Chapter 40D-400.439 F.A.C. and a Standard Work Permit through the Tampa Port Authority (TPA). Issuance of an Environmental Resource Permit also constitutes a water quality certification (or waiver) under Section 401 of the CWA and a finding of consistency with the Florida Coastal Zone Management Program under Section 307 of the CZMA.

A 404(b) Dredge and Fill determination may be required from USACE but cannot be issued until the state-issued Environmental Resource Permit is approved, indicating issuance or waiver of water quality certification in accordance with Section 401 of the CWA and consistency with the CZMA. The alternative actions would require a Standard Work Permit from TPA, and the EPC would serve as a commenting agency to the TPA.

Essential Fish Habitat

Similar to the proposed action, the three alternative actions are anticipated to have a minor insignificant short-term adverse impact on shrimp EFH. The impacts relate to increase in water turbidity, sedimentation, displacement of resources, and some mortality of penaeid shrimp.

Given that these alternative actions are located closer to Picnic Island Creek than the proposed action, it is possible that red drum EFH and perhaps other EFH may also be affected. It remains unclear if the larger taxa such as sharks and red drum occasionally enter the ditches (such as during spring tide events) and swim eastward into the project area. Overall, effects to EFH are expected to be minimal.

BMPs relating to turbidity and sedimentation control previously described are expected to substantially reduce effects to EFH in or adjacent to the project area. Additionally, the mobility of the majority of federally managed species that may occur in adjacent Picnic island Creek should allow managed species to easily avoid the area during construction activities. A small amount of benthic infaunal organisms and sessile organisms that may serve as prey or that provide microhabitats to managed species are expected to be temporarily affected by the proposed construction, primarily in the form of displacement. However, recolonization into the affected construction area is expected following cessation of the activity. There are no known hardbottom resources within Picnic Island Creek, so hardbottom impacts are not expected.

Overall, no significant impacts are expected. Effects to EFH species in the project area are expected to be only temporary. No long-term turbidity impacts to EFH are anticipated.

4.2.3 No-Action Alternative

Implementation of the no-action alternative would result in no changes to the existing vegetation, wildlife, imperiled species, or EFH occurring within the project area. Conditions would remain as described in Subsection 3.3.

4.3 Geology and Soils

4.3.1 Proposed Action

By nature of the proposed activities, soils and sediments would be churned up and soil layers destroyed in a linear area 1,717 feet in length and several feet wide as a result of trenching, back-filling, and other excavation activities. This process would expose lower soil and sediment profile layers and co-mingle and partially homogenize them with upper profile layers. BMPs planned for the construction, such as silt fencing and staked hay bales as per standards in Florida DEP (2008), would dramatically reduce off-site turbidity and sediment deposition. All measures would remain in place and in good working order until trenches and excavation areas have been returned to the surrounding grade and have stabilized sufficiently,

after which all control measures would be removed. Therefore, short-term impacts to geological resources are expected to be minimal and less than significant.

4.3.2 Alternative Actions 1 Through 3

Effects to soils and sediments associated with the alternative actions would be comparable to those discussed in Subsection 4.3.1 for the proposed action. Alternative action 2 is expected to have the least amount of soil disturbance, followed by alternative 3. Alternative 1 would cause soil disturbance along the entire approximately 3,200-foot-long existing underground pipeline route and would be greater than the disturbance expected for the proposed action (1,717 feet of pipeline route). BMPs would be similar to those discussed for the proposed action. Short-term impacts to geological resources are expected to be minimal and less than significant.

4.3.3 No-Action Alternative

Under the no-action alternative, existing conditions with respect to geological resources would remain unchanged from the conditions described in Subsection 3.4. Inspections of the remaining pipeline would continue under this scenario, and the pipeline would be decommissioned once it is determined to be out of compliance and before it is likely to rupture. Therefore, no impacts, adverse or otherwise, would be expected to occur.

4.4 Cultural Resources

4.4.1 Proposed Action

None of the two historic districts, 28 historic facilities, and 50 known archaeological sites located at MacDill AFB are located along the 1,717-foot-long pipeline route of the proposed action. Archaeological resources or historical structures of significance are unlikely to be impacted considering none were reported by Edwards-Pitman, Inc. during their cultural resource survey along the pipeline route (Bottomley and Sipe 2020). However, should any archaeological resource be discovered during project construction, work would cease until all appropriate coordination is conducted and clearances from SHPO and tribal governments are obtained. For these reasons, no significant impacts are expected for cultural resources.

4.4.2 Alternative Actions 1 Through 3

Effects to cultural resources associated with the alternative actions would be comparable to those discussed in Subsection 4.4.1 for the proposed action. Alternative action 2 is expected to have the least possibility of disturbance to cultural resources that may be buried in the soil, followed by alternative 3. Alternative 1 would have the greatest amount of possible disturbance to such buried cultural resources, if present, given the relatively long (approximately 3,200-foot-long) existing underground pipeline route and would have a greater possibility of encountering such buried resources than what would be expected for the proposed action (1,717 feet of pipeline route). Should any archaeological resource be discovered during project construction regardless of the alternative action chosen, work would cease until all appropriate coordination is conducted and clearances from SHPO and tribal governments are obtained. For this reason, no significant impacts to cultural resources are expected.

4.4.3 No-Action Alternative

Under the no-action alternative, existing conditions with respect to cultural resources would remain unchanged. Therefore, no impacts, adverse or otherwise, would be expected to occur.

4.5 Transportation

Impacts to traffic due to the proposed action and alternative actions consist of construction vehicles and equipment entering and exiting the project area via South Germer Street in Port Tampa City.

4.5.1 Proposed Action

A limited number of construction vehicles will require access to the proposed action project area during clearing of the proposed pipeline route, construction of the open cut trench, installation of the underground pipelines, and backfilling the trench once the pipeline has been successfully tested. Access to the project area will be from the corner of South Germer Street and Tarpon Street. Access to the southern portion of the project area will likely be from a point just outside the northern boundary of the DFSP Tampa. The number of construction vehicles will be few, and some equipment will be stored or staged at the project area during construction rather than being transported to-and-from the project area regularly. The workforce is expected to be primarily local to the area. Very heavy trucks that have the capability of causing excessive road wear are not anticipated to be needed for the proposed action.

The excavation of the pipeline trench would include the removal of an estimated 2,000 cubic yards of soil during the course of the project. The majority of this soil would be returned to the site as backfill for the new pipeline routing or used to improve the adjacent pipeline routing access. The volume of soil to be trucked offsite is expected to be negligible.

The proposed action would result in insignificant minor and temporary impacts to civilian traffic within the Port Tampa City neighborhood due mostly to the presence of construction vehicles during the construction phase of the project. No impediments to transportation are anticipated to be required for the proposed work. No long-term impacts to transportation would result from implementation of the proposed action. Although some post-construction traffic may occur related to the new defense fuel receipt pipelines, such traffic would be limited to a very small number of vehicles annually involved with inspection and maintenance activities.

4.5.2 Alternative Actions 1 Through 3

The effects to traffic for alternative actions 1 through 3 are expected to be comparable to the effects from the proposed action.

Each of the alternative actions would result in insignificant minor and temporary impacts to civilian traffic within the Port Tampa City neighborhood due mostly to the presence of construction vehicles during the construction phase of the project. As with the proposed action, very heavy trucks that have the capability of causing excessive road wear are not anticipated to be needed for any of the alternative actions. No long-term impacts to transportation would result from implementation of any of the alternative actions. Although some post-construction traffic may occur related to the new defense fuel receipt pipelines, such traffic would be limited to a very small number of vehicles annually involved with inspection and maintenance activities. Such inspection and maintenance activities have been taking place for decades for the current defense fuel receipt pipelines.

Transportation impacts resulting from alternative actions 1 through 3 are anticipated to be insignificant, minor, and temporary in nature.

4.5.3 No-Action Alternative

No new construction would occur with implementation of the no-action alternative and transportation conditions near the project area would remain unchanged. Such transportation relating to the existing defense fuel receipt pipelines would continue to be limited to a very small number of vehicles annually involved with inspection and maintenance activities.

4.6 Occupational Safety and Health

4.6.1 Proposed Action

The proposed action would pose safety hazards to the workers similar to those associated with typical industrial construction projects, such as slips, trips, falls, heat stress, and machinery injuries. Construction is not expected to involve unique hazards, with the possible exception of venomous snake bite. Construction methods would comply with OSHA requirements to ensure the protection of workers and the general public during construction. The contractor implementing the proposed action would be responsible for OSHA compliance. Governmental oversight of contractor activities will help to ensure OSHA compliance. Given the proposed construction activities along the South Germer Street residential neighborhood, signs would be posted to alert residents and passers-by of construction activities in the area.

Because of the adherence to OSHA requirements, impacts to occupational safety and health with implementation of the proposed action would be less than significant.

4.6.2 Alternative Actions 1 Through 3

Alternative actions 1 through 3 would pose safety hazards to the workers similar to those of the preferred action and those associated with typical industrial construction projects, such as slips, trips, falls, heat stress, and machinery injuries. Construction is not expected to involve unique hazards, with the possible exception of venomous snake bite. Construction methods would comply with OSHA requirements to ensure the protection of workers and the general public during construction. The contractor implementing the proposed action would be responsible for OSHA compliance. Governmental oversight of contractor activities will help to ensure OSHA compliance. Given the proposed construction activities along the South Germer Street residential neighborhood, signs would be posted to alert residents and passers-by of construction activities in the area.

Because of the adherence to OSHA requirements, impacts to occupational safety and health with implementation of any of the alternative actions would be less than significant.

4.6.3 No-Action Alternative

Under the no-action alternative, existing conditions with respect to safety would remain unchanged from the conditions described in Subsection 3.7. Therefore, no impacts, adverse or otherwise, would be expected to occur.

4.7 Air Quality

4.7.1 Proposed Action

Fugitive Dust

Air quality impacts would occur during construction such as during earth moving, excavating/trenching, and back-filling. These impacts are expected to be insignificant, minor, and temporary. Fugitive dust (particulate matter [PM]) and construction vehicle/equipment exhaust emissions would be generated by (1) equipment operation at the construction site and (2) entrainment of dust particles by the action of the wind on exposed soil surfaces and debris. The quantity of fugitive dust emissions from the deposition site is proportional to the land disturbed and the level of construction activity, as well as the nature of the soils. Fugitive dust is anticipated to be limited due to the moist nature of the poorly drained to very poorly drained soils.

The duration of construction for the proposed action is estimated to be approximately 12 months (B. Strayer, pers. comm. 11 Mar 2021). For the purposes of this EA, fugitive dust emissions have been calculated based on the assumption that 10% of particulate matter (PM_{10}) would be $PM_{2.5}$ and there would be 50% control efficiency for PM_{10} and $PM_{2.5}$ emissions. Consequently, fugitive dust emissions are estimated to average

approximately 0.19 tons PM_{10} per acre-month over the life of the proposed action (refer to Appendix D for a full list of emission factors and assumptions). Actual fugitive dust emissions may be less than this estimation, such as if the soils being extracted from the pipeline trench are moist at the time of construction. Such damp or wet soils are less apt to give off airborne particles and result in fugitive dust emissions.

Chapter 62-296.320(4)(c), F.A.C., requires that no person shall allow the emissions of unconfined particulate matter from any activity without taking reasonable precautions to prevent such emissions. Such activities include vehicular movement, transportation of materials, construction, demolition, and wrecking. Reasonable precautions include:

- Paving and maintenance of roads, parking areas, and yards;
- Applications of water or chemicals (foam) to control emissions from activities such as demolition, grading roads, construction, and land clearing;
- Application of asphalt, water, or other dust suppressants to unpaved roads, yards, open stock piles, and similar areas;
- Removal of particulate matter from roads and other paved areas under the control of the owner or operator of the facility to prevent re-entrainment, and from building or work areas to prevent particulates from becoming airborne; and
- Landscaping or planting of vegetation.

Combustion Emissions

Pollutants from construction equipment and vehicle engine exhausts include carbon monoxide and carbon dioxide, nitrogen dioxide and nitrogen monoxide, sulfur dioxide, particulate matter, and volatile organic compounds. Internal combustion engine exhausts from the proposed action would be insignificant, temporary and, like fugitive dust emissions, would not result in long-term impacts.

Emissions from the use of construction equipment would be short-term and occur in low concentrations due to the limited use of heavy equipment. In addition, the open-air nature of the project vicinity would minimize the potential for the concentration of harmful air pollutants to hazardous levels. Overall, no significant impact on regional or local air quality is expected from implementation of the proposed action.

Operational Emissions

Upon completion of construction, operational emissions associated with the proposed action would be no more or less than what is currently occurring, which are insignificant.

Greenhouse Gas Emissions

The execution of the proposed action would include combustion of fossil fuels from construction equipment and vehicles and limited oxidation of organic carbon from the clearing of trees and the exposure of soils during construction, thereby leading to a potential increase in greenhouse gas emissions. Given the limited number and size of construction vehicles and equipment that would be used for the proposed action, greenhouse gas emissions resulting from the limited use of fossil fuel combustion during the construction phase of the proposed action, and negligible amount of carbon oxidation from the de-sequestration of carbon via plant biomass and oxidation of exposed soils, would not approach the 25,000-metric-ton annual emissions cap of carbon dioxide-equivalent gases recommended by EPA (2011) and summarized in 40 CFR Part 98. The amount of traffic adjacent to the project area following completion of construction is expected to be similar to that of pre-construction traffic. Consequently, the proposed action is expected to have insignificant impacts to greenhouse gas emissions.

A general conformity applicability analysis was conducted for this project following Chapter 4, Section 4 of the Air Force Manual 32-7002. MacDill AFB is in a designated “attainment” area for all criteria

pollutants. Therefore, the general conformity rule does not apply, and further air quality analysis is not necessary. The Air Conformity Applicability Model (ACAM) was used to determine the potential impacts associated with air emissions from the proposed action. Results of the ACAM analysis indicate that impacts from the proposed action would be minimal and would not require further analysis. This is because the net change in emissions would not impact the national ambient air quality standards or exceed conformity threshold values established in 40 CFR 93.153(b). See Appendix D for a summary of the ACAM report as well as the full report.

4.7.2 Alternative Actions 1 Through 3

Fugitive Dust

Alternative actions 1 through 3 are anticipated to have potential fugitive dust impacts that are comparable to that of the proposed action. This is because the equipment used, amount of construction activity, and the environmental conditions (e.g., wind, soil grain size distribution, relative humidity) of the project area would be similar between the proposed action and the alternative actions. Reasonable precautions would similarly be taken to reduce overall fugitive dust resulting from the construction activities. Therefore, no significant impacts are expected for air quality from the alternative actions. Any impacts would be temporary.

Combustion Emissions

The construction equipment and vehicles that would be used for any of the three alternative actions would be comparable to those used with the proposed action. Emissions from the use of construction equipment would be short-term and occur in low concentrations due to the limited use of heavy equipment. In addition, the open-air nature of the project vicinity would minimize the potential for the concentration of harmful air pollutants to hazardous levels. Therefore, internal combustion engine exhausts from the alternative actions would be insignificant, temporary and, like fugitive dust emissions, would not result in long-term impacts.

Operational Emissions

As for the proposed action, alternative actions 1 through 3 would result in no more and no less operational emissions than what is currently occurring that are insignificant.

Greenhouse Gas Emissions

The impacts from alternative actions 1 through 3 would be comparable to those of the proposed action, given the similar construction vehicles and equipment and most environmental parameters. A small difference would be that the soils within the alternative actions project area are wetter, and probably hold more organic carbon, than those of the proposed action. These wetland soils are therefore likely have higher rates of oxidation when exposed to the air and allowed to dry out during construction. Regardless, the amount of carbon oxidized would still be negligible.

The amount of traffic adjacent to the project area following completion of construction is expected to be comparable to that of pre-construction traffic. Overall, the alternative actions are expected to have insignificant impacts to greenhouse gas emissions.

4.7.3 No-Action Alternative

Under the no-action alternative, air quality conditions would remain unchanged from baseline conditions as described in Subsection 3.7. No impacts to air quality would occur.

4.8 Indirect and Cumulative Effects

No reasonably foreseeable future projects have been identified to occur as a result of this proposed action. Periodic formal pipe and tank inspections and pipe and tank coating repairs will occur following the

completion of construction just as they have prior to the proposed construction. The proposed action, and any of the alternative actions, would have short-term insignificant impacts during construction for some resources. A summary of the anticipated cumulative impacts relative to the proposed action, and the alterative actions, are discussed below. Because the proposed action and the alternative actions are very similar, they are addressed together in this section as the indirect and cumulative impacts are expected be essentially the same. These discussions are presented for each of the resources described previously.

4.8.1 Water Resources

The significance threshold for water resources includes any action that substantially depletes surface water supplies, substantially alters drainage patterns, or results in the loss of waters of the United States that cannot be compensated. The proposed action, and alternative actions 1 and 3, have only short-term minimal impacts to surface waters limited to the duration of construction. The use of BMPs (e.g., silt fencing, turbidity curtains, coffer dams) where needed will help ensure that impacts would be less than significant. Given that no impermeable surfaces are proposed for any of the construction scenarios, no impacts to groundwater are expected for the proposed action and alternative actions 1 and 3. Alternative action 2 is the only action where there is a possibility of impacts to groundwater due to the possibility of contamination of groundwater with a bentonite clay slurry. Given that the pipeline installation will be primarily underground regardless of the action chosen, the only impacts to the floodplain expected are limited to the duration of construction and no long-term impacts are expected.

Overall, no significant adverse cumulative impacts would occur for water resources.

4.8.2 Biological Resources

The significance threshold for plants and wildlife and their habitats (including wetlands and EFH) would include a substantial reduction in ecological process, communities, or populations that would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be off-set or otherwise compensated.

It is not anticipated that implementation of the proposed action, or the alternative actions, would result in significant loss of valuable habitat. No development of related infrastructure is proposed for any of the action scenarios. No impacts would occur for critical habitat as there are none within the project area. Short-term impacts are expected for mangrove wetland habitat due to land clearing for construction, and these impacts would be greatest for alternative action 1, but would be mitigated by regrowth, replanting, and (or) offsite mitigation.

Coordination with federal, state, county, and city agencies would be completed to ensure that no environmental resources are overlooked for the chosen action. These coordination efforts, along with consultations with USFWS and NOAA Fisheries, would ensure that no significant adverse cumulative impacts on biological resources would occur.

No changes to biological resources would occur, cumulative or otherwise, for the no-action alternative.

4.8.3 Geology and Soils

Short-term impacts that would result from implementation of the proposed action and alternative include disturbance of the soil horizons and exposure of soil and sediments extracted during trenching efforts to potential erosion and carbon oxidization.

The use of BMPs, including erosion and turbidity control structures, would substantially reduce the potential for erosion and siltation. Silt fencing and turbidity curtains would be installed where appropriate to prevent offsite sedimentation. In areas where trenching for silt fencing would be detrimental to tree roots, staked hay bales may be necessary.

MacDill AFB would ensure that BMPs are employed during these activities to minimize effect on soil and prevent erosion and sediment runoff as typically required by permits issued by federal, state, and local agencies. All activities would comply with MacDill AFB's surface water management plan and would employ erosion-control techniques, such as silt fencing and sediment traps. Excavating, back-filling, grading, and recontouring of soils would adhere to all federal, state, and local regulations. No significant adverse cumulative impacts on geological resources or soils are expected.

4.8.4 Occupational Health and Safety

Construction activities associated with the proposed action, and the alternative actions, are not expected to increase safety risks or BASH levels. Construction activities would be accomplished in accordance with federal, state, and local regulations to minimize general construction hazards as well as those associated with the possible occurrence of asbestos in the current underground pipelines during removal (in the case of alternative action 1). Further, none of the possible actions considered in this EA would interfere with BASH control methods on base or result in increased threat levels for bird strikes. The proposed action, and the alternative actions, would comply with OSHA requirements to ensure the protection of workers and the general public during construction. Consequently, no significant adverse cumulative impacts to safety or occupational health are expected.

4.8.5 Air Quality

Impacts to air quality would be considered significant if the action results in a violation of EPA air quality standards and regulations. Air emissions generated during implementation of the proposed action or any of the alternative actions would be short-term and insignificant. The air emission totals due to implementation of the proposed action would be comparable to those of any of the alternative actions. If all projects associated with MacDill AFB were to be implemented simultaneously, the proposed emissions would remain below the 10% of regional emissions threshold; EPA air quality standards and regulations would not be violated. Therefore, no significant adverse cumulative impacts on air quality would be expected.

4.8.6 Summary of Cumulative Impacts

When the proposed action or any of the alternative actions is considered in conjunction with past, present, or reasonably foreseeable actions, no significant cumulative impacts would be expected for any resource area.

4.9 Comparison of the Environmental Effects of the Proposed Action and Alternatives

See Table 4-1 for a comparative summary of the selection standards, environmental impacts, and other considerations for the proposed action, alternative actions, and the no-action alternative.

Table 4-1. Comparison of Selection Standards, Environmental Impacts and Other Considerations for the Proposed Action, Alternative Actions, and the No-action Alternative

Parameter of Interest	Proposed Action (replacement in new location)	Alt. 1 (replacement in-situ)	Alt. 2 (replacement using HDD)	Alt. 3 replacement using 6-inch FlexSteel sliplines)	Alt. 4 (no action)
SELECTION STANDARDS					
Provides flow rate of ≥3,600 barrels/hour (projected max. flow rate [barrels/hour])	Yes (3,700)	Yes (3,700)	Yes (3,700)	No (1,860)	No (1,850)
Avoids wetland impacts to greatest extent practicable	Yes	No	No	No	Yes
Avoids mangrove/protected flora & fauna impacts to greatest extent practicable	Yes	No	No	No	Yes
Allows sufficient access for construction, operation, and maintenance activities	Yes	Yes	Yes	Yes	Yes
Meets DoD regulations on permanent closure of current defense fuel receipt pipelines	Yes	Yes	Yes	Yes	(n/a)
MEETS ALL SELECTION STANDARDS?	**YES**	**NO**	**NO**	**NO**	**NO**
ADDITIONAL CONSIDERATIONS					
Approx. length of new underground piping (ft)	1,717	3,200	<3,200	3,200	(n/a)
Allows continued operation of current pipelines during construction	Yes	Yes	No	No	(n/a)
Avoids refitting of custody transfer valve	No	Yes	No	No	Yes
ENVIRONMENTAL IMPACTS					
Ranked avoidance of impacts to water resources (1 = greatest avoidance, 5 = least avoidance)	2	5	3	4	1
Ranked avoidance of impacts to wetlands, including mangrove habitat (1 = greatest avoidance, 5 = least avoidance)	2	5	3	4	1
Ranked avoidance of impacts to geology and soils (1 = greatest avoidance, 5 = least avoidance)	4	5	2	3	1
Ranked avoidance of impacts to transportation (1 = greatest avoidance, 5 = least avoidance)	2 (tied)	2 (tied)	2 (tied)	2 (tied)	1
Ranked avoidance of impacts to occupational safety and health (1 = greatest avoidance, 5 = least avoidance)	2 (tied)	2 (tied)	2 (tied)	2 (tied)	1
Ranked avoidance of impacts to air quality (1 = greatest avoidance, 5 = least avoidance)	2 (tied)	2 (tied)	2 (tied)	2 (tied)	1
TOTAL RELATIVE ENVIRONMENTAL IMPACTS RANKING	**14**	**21**	**14**	**17**	**6**

n/a = not applicable

4.10 Other NEPA Considerations

This section provides a discussion of other pertinent NEPA considerations associated with the proposed action, alternative actions and no-action alternative.

4.10.1 Unavoidable Adverse Effects

There are no significant unavoidable adverse impacts associated with the proposed action or to the no-action alternative. Alternative actions 1 through 3 all have at least some impacts to natural wetlands, including mangrove-dominated wetlands, which are relatively significant and are avoidable compared to the proposed action and the no-action alternative.

4.10.2 Irreversible and Irretrievable Commitment of Resources

The proposed action and the alternative actions would each irreversibly commit fuel, manpower, materials, and costs required to complete the scope of work chosen. The no-action alternative would not commit any additional resources.

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This report was prepared for, and under the direction of, the U.S. Air Force by ANAMAR Environmental Consulting, Inc. Members of the professional staff and their respective qualifications and roles, are in Table 6-1.

Table 6-10. Preparer Names, Qualifications, and Roles for this EA

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Connie Steen	Editor	ANAMAR Environmental Consulting, Inc., Gainesville, FL	High School, Oakmont Regional High School, Ashburnham, MA (National Honor Society)	Editor (>45 years, 16 years with ANAMAR)

7 REFERENCES

6th Comptroller Squadron. 2017. *MacDill Air Force Base 2017 Economic Impact Statement* [online resource]. Accessed 04 May 2021 at https://www.macdill.af.mil/Portals/26/documents/EIS%202017.pdf.

ANAMAR Environmental Consulting, Inc. 2015. *Biological Assessment, Potential Impacts to the Red Knot Associated with Maintenance Dredging Activities at MacDill Air Force Base, Tampa, Florida*. Report submitted to MacDill AFB, Tampa, FL.

Argus Consulting, Inc. 2009. Perform Study for POL Facilities, Tampa DFSP, MacDill AFB, Florida. Argus Consulting Project No. 08045 and AFCESA Project No. DDCP-08-D-2592, Blue Springs, MO.

Austin Brockenbrough & Associates, LLC. 2017. *Improvements to Fuel Receipt Pipelines, Prefinal Submittal*. Report submitted to USACE Omaha District, Omaha, NE.

Bio-Tech Consulting, Inc. 2020a. *DFSP Tampa – Pipeline Replacement Project, Description of Proposed Action & Alternatives. Environmental Assessment for MacDill AFB* [preliminary draft]. Prepared by Bio-Tech Consulting, Orlando, FL; prepared for Department of the Air Force, Washington, D.C.

Bio-Tech Consulting, Inc. 2020b. *Proposed Fuel Receipt Pipeline Site DFSP Tampa, Tampa, Hillsborough County, Florida, Phase I Environmental Baseline Survey Report*. Report prepared for DLA Installation Operations Energy, Fort Belvoir, VA, via Austin Brockenbrough & Associates, LLC, Richmond, VA.

Bottomley, B. and R.O. Sipe. 2020. Phase I Cultural Resource Assessment Survey of the DFSP Pipeline, Hillsborough County, Florida. Report prepared by Edwards-Pitman Environmental, Inc., Tallahassee, FL; and submitted to Bio-Tech Consulting, Inc., Orlando, FL.

Brooks, H.K. 1981. *Geologic Map of Florida, Scale 1:500,000*. Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL.

City of Tampa. 2019. *City of Tampa Tree and Landscape Technical Manual*. Accessed 16 Sep 2020 online at https://www.tampagov.net/sites/default/files/public%3A/additionalfiles/tree_and_landscape_tech_manual_04-18-2019.pdf.

Cunningham, R.L. 1961. *A Field List of South Florida Birds*. The Little River Press Co., Inc., Miami, FL.

Department of the Air Force. 2016. *Environmental Assessment for Marina and Channel Maintenance Dredging, MacDill Air Force Base, Florida*. Department of the Air Force, Headquarters Air Mobility Command, MacDill AFB, Tampa, FL.

Ecosphere Restoration Institute, Inc. and Environmental Science Associates. 2019. *Threatened and Endangered Species Study for MacDill Air Force Base, Florida*. Report submitted to MacDill AFB, Tampa, FL.

EPA. 1995. *Final Environmental Impact Statement for Designation of an Ocean Dredged Material Disposal Site off Humboldt Bay, California*. Prepared by EPA Region 9 in association with Jones & Stokes Association, Inc., Bellevue, WA.

EPA. 2011. *Fact Sheet, Mandatory Reporting of Greenhouse Gases (40 CFR Part 98)*. Accessed 15 Mar 2021 online at https://www.epa.gov/sites/production/files/2014-09/documents/ghgfactsheet.pdf.

FAA. 2020. *Advisory Circular, Hazardous Wildlife Attractants On or Near Airports*. AC No. 150/5200-33C, U.S. Department of Transportation, FAA, Washington, D.C. Accessed 29 Dec 2020 online at https://www.faa.gov/documentLibrary/media/Advisory_Circular/150-5200-33C.pdf.

FlexSteel Pipeline Technologies, Inc. 2017. *FlexSteel Pipe* [product website]. Accessed 22 Sep 2020 online at https://www.flexsteelpipe.com/flexsteel-pipe.html.

Florida DEP. 2008. *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual*. Florida DEP, Tallahassee, FL.

Florida Exotic Pest Plant Council. 2019. *Florida Exotic Pest Plant Council's 2019 List of Invasive Plant Species*. Accessed 10 Jan 2021 at http://bugwoodcloud.org/CDN/fleppc/plantlists/2019/2019_Plant_List_ABSOLUTE_FINAL.pdf.

Folt, B., J. Bauder, S. Spear, D. Stevenson, M. Hoffman, J.R. Oaks, P.L. Wood Jr., C. Jenkins, D.A. Steen, and C. Guyer. 2019. Taxonomic and conservation implications of population genetic admixture, mito-nuclear discordance, and male-biased dispersal of a large endangered snake, *Drymarchon couperi*. *PLoS ONE* 14(3):e0214439.

FWC. 2018. *Florida's Endangered and Threatened Species* [online resource]. Accessed 30 Dec 2020 online at https://myfwc.com/media/1945/threatend-endangered-species.pdf.

Geo-Marine, Inc. 2008. Marine Resources Assessment Update for the Charleston/Jacksonville Operating Area. Submitted to Department of the Navy, U.S. Fleet Forces Command, Norfolk, VA.

GOMFMC. 1998. *Generic Amendment for Addressing Essential Fish Habitat Requirements in the following Fishery Management Plans of the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, United States Waters, Red Drum Fishery of the Gulf of Mexico, Coastal Migratory Pelagic Resources (Mackerels) in the Gulf of Mexico and South Atlantic, Stone Crab Fishery of the Gulf of Mexico, Spiny Lobster in the Gulf of Mexico and South Atlantic, Coral and Coral Reefs of the Gulf of Mexico* [onlineresource]. Accessed 16 Dec 2020 online at https://gulfcouncil.org/wp-content/uploads/Oct-1998-FINAL-EFH-Amendment-1-no-appendices.pdf.

GOMFMC. 2005. *Final Generic Amendment Number 3 for Addressing Essential Fish Habitat Requirements, Habitat Areas of Particular Concern, and Adverse Effects of Fishing in the following Fishery Management Plans of the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, United States Waters, Red Drum Fishery of the Gulf of Mexico, Reef Fish Fishery of the Gulf of Mexico, Coastal Migratory Pelagic Resources (Mackerels) in the Gulf of Mexico and South Atlantic, Stone Crab Fishery of the Gulf of Mexico, Spiny Lobster in the Gulf of Mexico and South Atlantic, Coral and Coral Reefs of the Gulf of Mexico* [online resource]. Accessed 16 Dec 2020 online at https://gulfcouncil.org/wp-content/uploads/March-2005-FINAL3-EFH-Amendment.pdf.

GOMFMC. 2017. *Species Listed in the Fishery Management Plans of the Gulf of Mexico Fishery Management Council* [online resource]. Accessed 17 Dec 2020 online at https://gulfcouncil.org/docs/Species%20Groupings/Species%20Managed%204_2017.pdf.

Hillsborough County. 2021. *Find My Flood Zone* [online spatial database]. Accessed 6 Jan 2021 online at https://www.hillsboroughcounty.org/en/residents/property-owners-and-renters/homeowners-and-neighborhoods/find-my-flood-zone#/1393476062/flood-zone.

Hirsch, N.D., LH Disalvo, and R. Peddicord. 1978. *Effects of Dredging and Disposal on Aquatic Organisms*. Technical Report DS-78-5, USACE, Waterways Experiment Station, Environmental Laboratory, Vicksburg, MS.

Krysko, K.L., M.C. Granatosky, L.P. Nuñez, and D.J. Smith. 2016. A cryptic new species of indigo snake (genus *Drymarchon*) from the Florida platform of the United States. *Zootaxa* 4138(3):549–569.

Maehr, D.S. and H.W. Kale III. 2005. *Florida's Birds, a Field Guide and Reference*. Pineapple Press, Inc., Sarasota, FL.

MAFMC and NMFS. 2011. *Amendment 11 to the Atlantic Mackerel, Squid, and Butterfish (MSB) Fishery Management Plan (FMP), Includes Final Environmental Impact Statement (FEIS)*. MAFMC, Dover, DE, and NMFS, Silver Spring, MD.

Natural Resources Conservation Service. 2020. Web Soil Survey [online spatial database]. Accessed 29 Jul 2020 at https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Niles, L.J., H.P. Sitters, A.D. Dey, P.W. Atkinson, A.J. Baker, K.A. Bennett, R. Carmona, K.E. Clark, N.A. Clark, C. Espoz, P.M. Gonzalez, B.A. Harrington, D.E. Hernández, K.S. Kalasz, R.G. Lathrop, R.N. Matus, C.D.T. Minton, R.I.G. Morrison, M.K. Peck, W. Pitts, R.A. Robinson, and I.L. Serrano. 2008. *Status of the Red Knot (*Calidris canutus rufa*) in the Western Hemisphere*. Studies in Avian Biology No. 36, Cooper Ornithological Society, Department of Biology, University of California, Riverside, CA.

NMFS. 2004. *Essential Fish Habitat Consultation Guidance*. Version 1.1. NMFS, Office of Habitat Management, Silver Spring, MD.

NMFS. 2008. *Essential Fish Habitat: A Marine Fish Habitat Conservation Mandate for Federal Agencies. South Atlantic Region*. NMFS, Habitat Conservation Division, Southeast Regional Office, St. Petersburg, FL.

NMFS. 2009. Endangered and threatened species; critical habitat for the endangered distinct population segment of smalltooth sawfish. *Federal Register* 74(169):45353–45378.

NOAA. 2009. *Final Amendment 1 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan. Essential Fish Habitat, Including a Final Environmental Impact Statement*. Department of Commerce, NOAA, NMFS, Highly Migratory Species Management Division, Office of Sustainable Fisheries, Silver Spring, MD.

NOAA Fisheries. 2020. *NOAA Fisheries Essential Fish Habitat Mapper* [online spatial database]. Accessed 16 Dec 2020 at https://www.habitat.noaa.gov/application/efhmapper/index.html.

Pipeline Petroleum Services, Inc. 2012. *Pipeline Pigging & Inspection Report for: DFSP Tampa / Chevron Twin Parallel 8" Underground Fuel Transfer Pipelines #3 (A) and #2 (B), DFSP Tampa, Hillsborough County, FL*. Report submitted to Baker, Virginia Beach, VA.

Pipeline Petroleum Services, Inc. 2016. *Pipeline Pigging & Inline Inspection (ILI) Report Line A (#3), DFSP Tampa to Chevron Products Company, Hillsborough County, FL*. Report submitted to Michael Baker International, Virginia Beach, VA.

Quagliata, A., M. Ahearn, E. Boeker, C. Roof, L. Meister, and H. Singleton. 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123, FTA, Office of Planning and Environment, Washington, DC.

SAFMC. 2020. *SAFMC Managed Species* [online resource]. SAFMC, North Charleston, SC. Accessed 17 Dec 2020 online at https://safmc.net/uncategorized/safmc-managed-species/.

SAFMC. 1998a. *Final Comprehensive Amendment Addressing Essential Fish Habitat in Fishery Management Plans of the South Atlantic Region. Amendment 3 to the Shrimp Fishery Management Plan; Amendment 10 to the Snapper Grouper Fishery Management Plan; Amendment 10 to the Coastal Migratory Pelagics Fishery Management Plan; Amendment 1 to the Golden Crab Fishery Management Plan; Amendment 5 to the Spiny Lobster Fishery Management Plan; and Amendment 4 to the Coral, Coral Reefs, and Live/Hard Bottom Habitat Fishery Management Plan (Including a Final EA/SEIS, RIR & SIA/FIS)*. SAFMC, North Charleston, SC.

SAFMC. 1998b. *Final Habitat Plan for the South Atlantic Region: Essential Fish Habitat Requirements for Fishery Management Plans of the South Atlantic Fishery Management Council. The Shrimp Fishery Management Plan; the Red Drum Fishery Management Plan; the Snapper Grouper Fishery Management Plan; the Coastal Migratory Pelagic Fishery Management Plan; the Golden Crab Fishery Management Plan; the Spiny Lobster Fishery Management Plan; the Coral; Coral Reefs, and Live/Hard Bottom Habitat Fishery Management Plan; the Sargassum Habitat Fishery Management Plan; and the Calico Scallop Fishery Management Plan*. SAFMC, Charleston, SC.

Schnitzer, L.K., B. Snyder, S.M. Smith, and K.D. Quinn. 2018. *Phase I Archaeological Survey of 2,297.79 Acres Within MacDill Air Force Base, Hillsborough County, Florida*. Report on file at Florida Master Site File, Tallahassee, FL.

Science Applications International Corporation. 1986. *Ocean Dumping Site Designation Delegation Handbook for Dredged Material*. Submitted to EPA, Washington, D.C.

Stack, M. 2017. *Cultural Resource Assessment Survey of the Hurley Property, Hillsborough County, Florida*. Report on file at Florida Master Site File, Tallahassee, FL.

Suedel, B. 2011. *Problem Formulation: Endpoints and Conceptual Models for Assessing and Managing Risks from Resuspension* [oral presentation]. Dredged Material Assessment and Management Seminar, 05/24-26/11, Crowne Plaza, Jacksonville, FL.

Tampa Bay Climate Science Advisory Board. 2015. *Recommended Projection of Sea Level Rise in the Tampa Bay Region*. Accessed 28 Dec 2020 online at https://www.epchc.org/home/showpublisheddocument?id=554.

Tampa Bay Water Atlas. 2021. *Picnic Island Creek*. Accessed 19 Apr 2021 online at https://tampabay.wateratlas.usf.edu/waterbodies/rivers/2003543/.

USACE. 2013. *The Corps of Engineers, Jacksonville District, and the State of Florida Effect Determination Key for the Manatee in Florida*. USACE, Jacksonville District, Jacksonville, FL. Accessed 03 May 2021 online at https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/Manatee/2013_FINAL_ManateeKey.pdf.

USAF. 2010. *Integrated Natural Resources Management Plan, 2010–2014*. MacDill AFB, Tampa, FL.

USAF. 2012. *Threatened and Endangered Species Study*. MacDill AFB, Tampa, FL.

U.S. Bureau of Labor Statistics. 2021. *Tampa, FL, Area Economic Summary*. Accessed 19 Apr 2021 online at https://www.bls.gov/regions/southeast/summary/blssummary_tampa.pdf.

USFWS. 2003. *Piping Plover Consultation Area Map*. USFWS, South Florida Ecological Services Office, Vero Beach, FL. Accessed 30 Dec 2020 online at https://www.fws.gov/verobeach/BirdsPDFs/PipingPloverConsultationArea.pdf.

USFWS. 2013. *Shore Protection Activities in the Geographical Region of the North and South Florida Ecological Services Field Offices, Programmatic Piping Plover Biological Opinion*. USFWS, South Florida Ecological Services Office, Vero Beach, FL. Accessed 30 Dec 2020 online at https://www.fws.gov/northflorida/Guidance-Docs/20130522_ltr_Service_Corps_Piping%20Plover%20Programmatic_BO_FINAL.pdf.

USFWS. 2019a. Endangered and threatened wildlife and plants: review of domestic and foreign species that are candidates for listing as endangered or threatened; annual notification of findings on resubmitted petitions; annual descriptions of progress on listing actions. *Federal Register* 84(197):54732–54757.

USFWS. 2019b. *Species Status Assessment Report for the Eastern Black Rail (*Laterallus jamaicensis jamaicensis*)*. USFWS, Southeast Region, Atlanta, GA. Accessed 29 Dec 2020 online at https://ecos.fws.gov/ServCat/DownloadFile/186791.

USFWS. 2020. *WOST Colonies Update 2020* [online resource]. Accessed 30 Dec 2020 online at https://www.fws.gov/northflorida/WoodStorks/WOST_Data/2020-WOST_colonies_map_2010-2019_update_20200410.pdf.

Miller, J.A. 1986. *Hydrogeologic Framework of the Floridan Aquifer System in Florida and Parts of Georgia, Alabama, and South Carolina*. Paper No. 1403-B of U.S. Geological Survey Professional Paper Series.

Miller, J.A. 1997. Hydrogeology of Florida. Pp. 69–88. In: A.F. Randazzo and D.S. Jones (eds.) *The Geology of Florida*. University Press of Florida, Gainesville, FL.

Wolfe, S.H. and R.D. Drew (eds.). 1990. *An Ecological Characterization of the Tampa Bay Watershed*. USFWS Biological Report 90(20), Fish and Wildlife Service Research and Development, National Wetlands Research Center, Washington, D.C.

APPENDIX A

APPENDIX A-1
State Historic Preservation Office Consultation

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

MEMORANDUM FOR DIVISION OF HISTORIC RESOURCES
MR. JASON ALDRIDGE
R.A. GRAY BUILDING
500 SOUTH BRONOUGH STREET
TALLAHASSEE FL 32399

FROM: 6 CES/CEIE
7621 Hillsborough Loop Drive
MacDill AFB 33621-5207

SUBJECT: DFSP Pipeline Installation, MacDill AFB

1. MacDill Air Force Base (AFB) is supporting the Defense Logistics Agency (DLA) project to decommission two existing underground fuel receipt transfer pipelines and provide a new underground fuel receipt transfer pipeline. This new pipeline will provide receipt capacity to the Defense Fuels Supply Point (DFSP) Tampa Fuel Storage Facility, which is located in the northwest corner of MacDill AFB. The new pipeline will be routed through a city owned right-of-way to the Chevron Fuel Terminal located at 5500 Commerce Street, Tampa, FL 33616.

2. MacDill AFB has defined the area of potential effect (APE) as a 50-foot wide linear tract stretching approximately 2,200 feet from the DFSP Facility to the new tie-in point at the south end of the Chevron Fuel Terminal (see Attachment 1). The existing pipelines would be emptied, cleaned, and decommissioned in place with negligible disturbance to the areas adjacent to the existing pipeline locations.

3. The proposed routing of the new pipeline was recently surveyed for archeological resources and no potential archeological sites were detected (see Attachment 2). Two previously identified sites are located immediately adjacent to the pipeline route, but both have been determined ineligible for the National Register of Historic Places.

4. Ground-disturbing activities would primarily occur in areas that were previously disturbed during the installation of the existing drainage swales. Based the recent surveys and assessments, it is unlikely that previously undocumented archaeological resources would be encountered during the construction activities associated with the installation of the new pipeline or decommissioning of the existing pipelines. In the unlikely event of an inadvertent discovery, all work in the vicinity of the discovery would stop and MacDill AFB would follow standard operating procedures described in our Integrated Cultural Resources Management Plan, which includes prompt notification to your office.

5. If you would like to inspect the proposed pipeline route, or if you have any questions or require additional information on the proposed fuel pipeline project, please contact me at (352) 536-5634 or Mr. Jason Kirkpatrick, at (813) 614-5729.

RIDER.ANDREW.WARRICK.1153194676 Digitally signed by RIDER.ANDREW.WARRICK.1153194676 Date: 2020.06.11 07:47:00 -04'00'

ANDREW W. RIDER, GS-12, DAF
Chief, Environmental Element

2 Attachments:
1. Figure 1 – Pipeline Routing Graphic
2. Cultural Resource Assessment Survey Dated March 2020

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

LAUREL M. LEE
Secretary of State

Mr. Andrew W. Rider
Chief, Environmental Element
6 CES/CEIE
7621 Hillsborough Loop Drive
MacDill AFB 33621-5207

August 28, 2020

RE: DHR Project File No.: 2020-4562, Received by DHR: July 7, 2020
Phase I Cultural Resource Assessment Survey of the DFSP Pipeline, Hillsborough County, Florida

To Whom It May Concern:

Thank you for providing our office with an opportunity to review and comment on the above-referenced report. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966,* as amended.

In February 2020, Edwards-Pitman, Inc. (EP) conducted the above referenced cultural resource assessment survey (CRAS) on behalf of Bio-Tech Consulting, Inc. and MacDill Air Force Base.

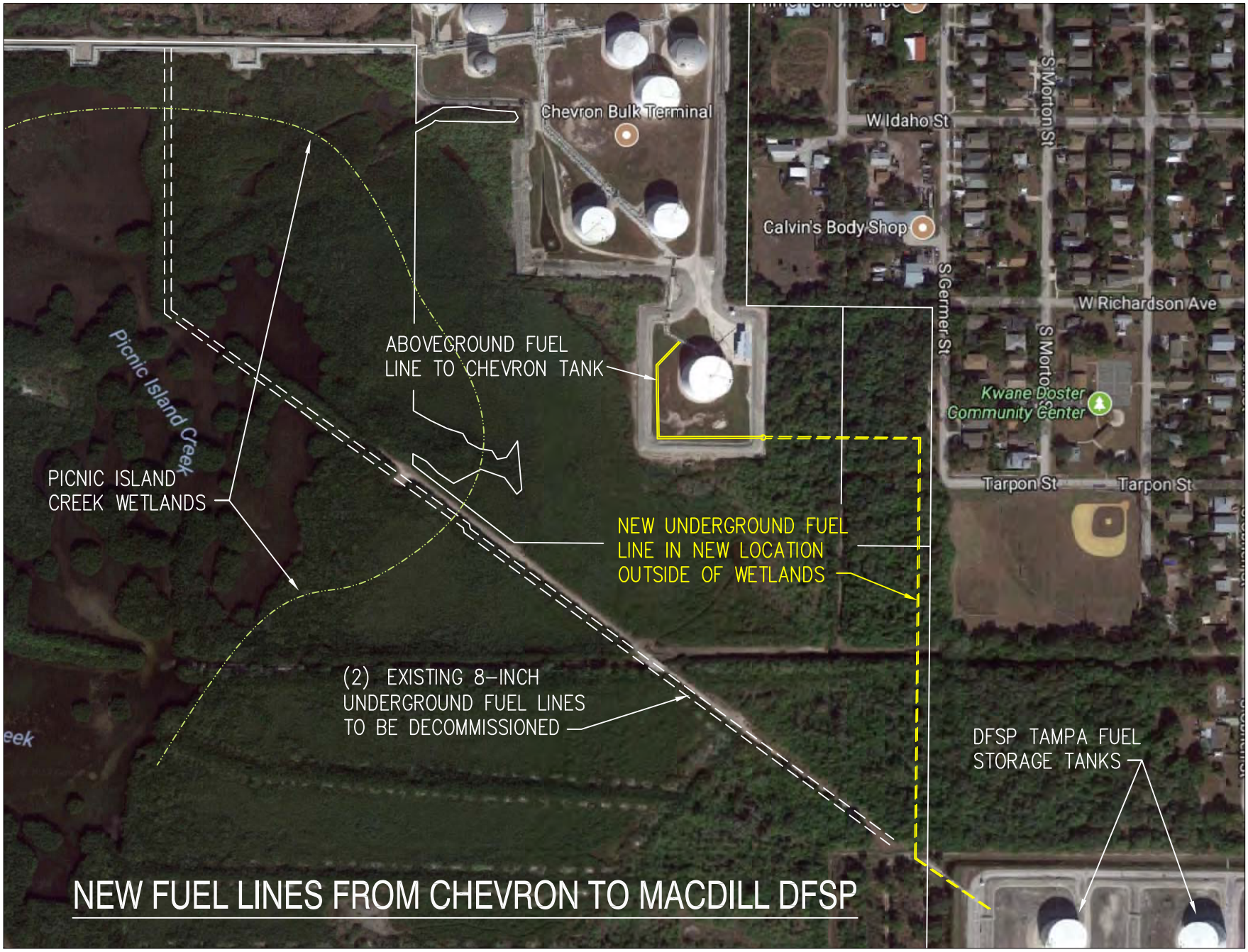
EP noted that archaeological site 8HI13768, for which our office has insufficient information to determine National Register eligibility, lies partially within the APE and that the extreme southern portion of the APE intersects with the previously recorded archaeological 8HI14537, which is ineligible for listing in the *National Register of Historic Places*. EP did not relocate 8HI13768 and 8HI14537 was not revisited due to its previous evaluation as ineligible. EP recommended that the proposed project will not adversely affect any significant cultural resources and that the undertaking be granted clearance to proceed without further concern for cultural resources.

Based on the information provided, our office concurs the proposed undertaking is unlikely to adversely effect historic properties listed, or eligible for listing in the *National Register of Historic Places*. Further, we find the submitted report complete and sufficient in accordance with Chapter 1A-46*, Florida Administrative Code*.

If you have any questions, please contact Kelly L. Chase, Historic Preservationist, by email at *Kelly.Chase@dos.myflorida.com*, or by telephone at 850.245.6341 or 800.847.7278.

Sincerely,

Jason Aldridge
For
Timothy A Parsons, Ph.D.
Director, Division of Historical Resources
& State Historic Preservation Officer


Chevron Bulk Terminal
W Idaho St
S Morton St
Calvin's Body Shop
S Germer St
W Richardson Ave
Kwane Doster Community Center
Tarpon St
Tarpon St
Picnic Island Creek
ABOVEGROUND FUEL LINE TO CHEVRON TANK
PICNIC ISLAND CREEK WETLANDS
NEW UNDERGROUND FUEL LINE IN NEW LOCATION OUTSIDE OF WETLANDS
(2) EXISTING 8-INCH UNDERGROUND FUEL LINES TO BE DECOMMISSIONED
DFSP TAMPA FUEL STORAGE TANKS
NEW FUEL LINES FROM CHEVRON TO MACDILL DFSP

PHASE I CULTURAL RESOURCE ASSESSMENT SURVEY OF THE DFSP PIPELINE, HILLSBOROUGH COUNTY, FLORIDA

EDWARDS-PITMAN
ENVIRONMENTAL, INC

DRAFT REPORT

MARCH 2020

Phase I Cultural Resource Assessment Survey of the DFSP Pipeline, Hillsborough County, Florida

The contents of this publication reflect the views of the author, who is responsible for the facts and accuracy of the data presented herein.

Prepared for:

Bio-Tech Consulting, Inc.
3025 East South Street
Orlando, Florida 32803
(877) 894-5969

Prepared by:

Blake Bottomley
and
Ryan O. Sipe, RPA

Edwards-Pitman Environmental, Inc.
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_____

Ryan O. Sipe, RPA, Principal Investigator

Draft Report

March 2020

MANAGEMENT SUMMARY

On February 8 and 9, 2020, Edwards-Pitman, Inc. (EP) conducted a Phase I cultural resource assessment survey of the proposed DFSP Pipeline in Hillsborough County, Florida. The survey property is located immediately northwest of MacDill Air Force Base and approximately 1-kilometer (km) east of Old Tampa Bay. The project lies in the Port Tampa City neighborhood in Tampa, Florida, and it falls within Section 20 of Township 30 South, Range 18 East on the Port Tampa, Florida USGS topographic quadrangle map.

The survey was performed on behalf of BioTech Consulting, Inc., who is assisting their client with the permitting process for the proposed pipeline. The investigation was conducted as part of the permitting requirements associated with the National Environmental Policy Act (NEPA). These actions implement Section 106 0f the *National Historic Preservation Act of 1966*, as amended, which necessitates a project review by the Florida SHPO.

The purpose of this survey was to locate, delineate, and evaluate any archaeological resources, historic structures, and potential districts within the project's Area of Potential Effect (APE), which corresponds with the proposed pipeline corridor along with a 9.1-meter buffer. The study was conducted to comply with Chapter 267 of the Florida Statutes Rule Chapter 1A-46, Florida Administrative Code. All work was performed according to standards set forth by the FDHR's Cultural Resource Management Standards & Operations Manual, Module Three: Guidelines for Use by Historic Preservation Professionals. The Principal Investigator for this project meets the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-42).

As a result of the survey, EP revisited one previously identified archaeological site, 8HI13768. Site 8HI13768 represents a twentieth century surface and subsurface domestic refuse scatter. The site was initially identified by Cardno in 2017 in advance of property development (Stack 2017). The site lies partially within the APE, and the site's revisit during the current survey did not locate any artifacts within the survey area. The extreme southern portion of the APE also intersected with the northwestern boundaries of MacDill Airforce Base and previously recorded Site 8HI14537. This portion of MacDill Air Force Base was previously surveyed for cultural resources in 2018 (Schnitzer et al. 2018). Site 8HI14537 was determined to represent a redeposited historic artifact scatter and was determined to be ineligible for NRHP listing. Since the portion of MacDill Airforce Base that intersects with the survey area had been previously surveyed and Site 8HI14537 was fully delineated and evaluated, the extreme southern end of the proposed pipeline corridor was not revisited during this survey. It was photographed and is discussed in Chapter 4, however.

Since Site 8HI13768 could not be relocated within the survey area, EP does not recommend any change to the site's status as ineligible for the National Register of Historic Places (NRHP). Also, the previously recorded 8HI14537 was not revisited due to its previous evaluation as ineligible. Given this recommendation, the proposed project will not adversely affect any significant cultural resources, and EP recommends that the undertaking be granted clearance to proceed without further concern for cultural resources.

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CHAPTER 1. INTRODUCTION

On February 8 and 9, 2020, Edwards-Pitman, Inc. (EP) conducted a Phase I cultural resource assessment survey of the DFSP Pipeline in Hillsborough County, Florida. The survey area is located immediately northwest of MacDill Air Force Base and approximately 1-kilometer (km) east of Old Tampa Bay. The project lies in the Port Tampa City neighborhood in Tampa, Florida, and it falls within Section 20 of Township 30 South, Range 18 East on the Port Tampa, Florida USGS topographic quadrangle map (Figure 1.1). The cultural resource survey was performed on behalf of BioTech Consulting, Inc., who are assisting with the permitting process for the proposed pipeline. Proposed impacts will likely include directional drilling within the proposed pipeline corridor.

The investigation was undertaken as part of the permitting requirements associated with the National Environmental Policy Act (NEPA) process. These actions implement Section 106 of the *National Historic Preservation Act of 1966*, as amended, which necessitates a project review by the Florida SHPO. The purpose of this survey was to locate, identify, delineate, and evaluate any archaeological resources, historic structures, and potential districts within the project's APE, which corresponds with the proposed pipeline's path, as well as an additional 9.1-m (30-foot [ft]) buffer. This study was conducted to comply with Chapter 267 of the Florida Statutes Rule Chapter 1A-46, Florida Administrative Code. All work was performed according to the standards set forth by the FDHR's Cultural Resource Management Standards & Operations Manual, Module, Three: Guidelines for Use by Historic Preservation Professionals. The Principal Investigator for this project meets the Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-42). Ryan Sipe, MA, RPA, served as Principal Investigator for this project, conducted the fieldwork, and produced the report. Lynn Pietak, Ph.D., RPA, conducted the quality control review and edited the report.

The following chapters of this report present the results of the Phase I cultural resources assessment survey. Chapter 2 provides necessary context by detailing: the environmental and cultural settings of the project area, previous investigations, and known resources within the project vicinity. Chapter 3 presents the methods used for fieldwork and strategies employed to process the results. Chapter 4 presents the results of the field survey. Finally, the report findings are summarized and resource management recommendations are made in Chapter 5. The Florida Master Site File (FMSF) Survey Log sheet and site form are presented in Appendix A; the Principal Investigator's resume is included as Appendix B.

CHAPTER 2. CONTEXT

Environmental Setting

Physical Setting

The proposed DFSP Pipeline lies immediately northwest of MacDill Air Force Base in Hillsborough County, Florida. The project lies in Tampa, Florida within the Port Tampa City neighborhood on the Interbay Peninsula. The project is bordered to the north with residential homes and the Chevron Bulk Terminal, to the west by the wetlands of Picnic Island Creek, to the south by MacDill Air Force Base, and to the east by a residential neighborhood and baseball field. The Port Tampa USGS topographic map characterizes the survey area as low-lying flatwoods. While the project's northern and southern termini lie in heavily developed regions (Figure 2.1), the majority of the survey area consists of very dense mixed wetland hardwoods (Figure 2.2).

Figure 2.1. Representative view of the northern portion of the survey area, within the Chevron storage facility, facing west.

Figure 2.2. Representative view of the central portion of the survey corridor, facing south.

Physioography and Geology

The survey area lies in the Tampa Plain region of the Ocala Uplift District of the Gulf Coastal Plain Province (Brooks 1981). In this district, limestone deposits are typically noted at or near the ground surface, which have allowed for the creation of dry caves across the district, as well as providing major recharge zones for aquifers.

Hydrology

The survey area lies on the Interbay Peninsula within the Tampa Bay, which opens into the Gulf of Mexico. The nearest large flowing body of water is the Hillsborough River, which spills into Hillsborough Bay approximately 12 km northeast of the survey area. Picnic Island Creek lies approximately 300 m west of the survey area, and wetlands associated with the creek directly border the survey area to the west. In addition to natural wetlands, artificial canals have been constructed across the peninsula, and one of these canals, which is oriented east-west, bisects the proposed pipeline's path.

Soils

Three different soil types lie within the survey area (Figure 2.3). The most common soil type is the Wabasso-Urban land complex, which covers 75.9% of the survey area. The Wabasso series typically consists of deep, poorly drained soils found on broad plains on the flatwoods. The second most common soil type is Urban land on 0-2% slopes and covers 20.7% of the survey area, while the remaining 3.4% consists of Myakka fine sand that is frequently flooded (Soil Survey Staff, Natural Resources Conservation Service [NRCS], United States Department of Agriculture [USDA] 2020).

Paleoenvironment

Florida was much cooler and drier between 18,000 and 12,000 years before present (BP) prior to the end of the Pleistocene. During this period, temperatures in the Florida panhandle are thought to have been as much as 5.3 degrees Celsius cooler with significantly less rainfall (Adams and Faure 1997). The landscape was thought to be relatively open savannah with an overstory of pine, palm, and rare deciduous trees (Johnson and Fredlund 1997). By 8000 BP, a warmer and drier climate began to take hold and an environmental setting characterized by oak was established (Delcourt and Delcourt 1985; Adams and Faure 1997). Sea levels at this time were rising due to the melting of continental ice sheets; however, they were much lower than present levels. Between 6000 to 5000 BP, precipitation increased significantly and allowed for higher levels of surface water flow. Climatic conditions reached approximately modern conditions around 4000 BP in Florida.

Historic and Modern Land Use in the Project Vicinity

The earliest detailed depiction of the APE is the Bureau of Land Management's (BLM) original plat survey of the Interbay Peninsula. This survey depicts the peninsula as totally undeveloped with scattered ponds and wetlands at the southern coast (BLM 1852). By the 1920s, maps indicate that the Atlantic Coast railroad line had been constructed on the peninsula to the north of the survey area. This map also displays the gridded roads of the Port Tampa neighborhood. The southern extent of the peninsula, where MacDill Air Force Base is now located, remained largely undeveloped, with the exception of some north-south features that likely represent canals (USGS 1921). The survey area appears to experience its first significant development in the early 1940s, when a cluster of six structures are depicted within the APE. Additionally, MacDill Air Force Base, titled MacDill Field on the map, appears to have been constructed (USGS 1943). USGS maps indicate that this portion of the Interbay Peninsula seemed to reach its peak development around the mid-twentieth century (USGS 1957), and aerial images from 1969, 1982, and 1995 indicate that land use, including residential development and the extent of vegetation, has remained consistent and largely unchanged since the mid-1900s (NETR 2020a, 2020b, 2020c).

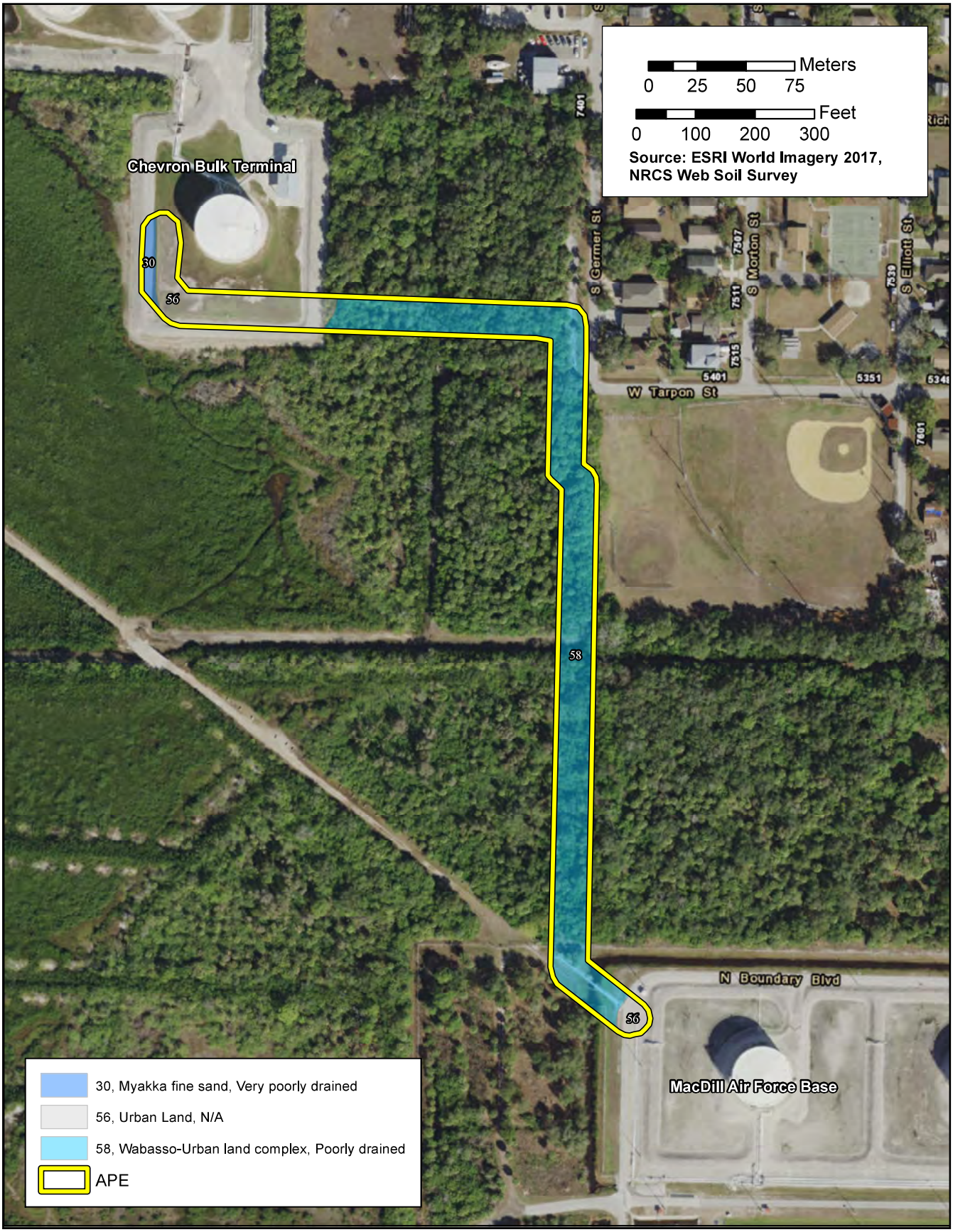

Figure 2.3. Soils map.

Cultural Setting

Introduction

As discussed previously in the chapter, the survey area is located within Hillsborough County, Florida. This chapter summaries the precontact and historic cultural development of the survey area in order to provide a context for assessing the significance of archaeological resources recovered from the survey area. This context is intended to aid in the interpretation and assessment of archaeological resources identified during the project.

Paleoindian Period (ca. 12,000-8000 BC)

It is during the Paleoindian period that human occupation of the New World began. At present, it is uncertain when the first human populations permanently settled the western hemisphere, although most scholars believe it was sometime between 20,000 and 13,000 years ago, in the last stages of the Pleistocene glaciation. Reliable dates as early as ca. 11,800 BC have been obtained from a Paleoindian site in Monte Verde, Chile (Dillehay 1989). The end of the Paleoindian Period coincides with the Pleistocene/Holocene transition and in most areas of the Southeast is given an arbitrary terminal date of 8,000 BC. In the Southeast, the Paleoindian period is typically divided into three broad temporal categories, Early, Middle, and Late or Transitional, based, in part, on the occurrence of specific point types (Anderson et al. 1990).

Traditional characterizations of Paleoindians portrayed them as nomadic hunters of Pleistocene megafauna, such as mammoth, mastodon, and bison. However, these descriptions were based on data from archaeological sites in the western United States. Recent reevaluations, based on Southeastern (Clausen et al. 1979; Sassaman et al. 1990) and Northeastern (Cushman 1982) data, suggests that these groups relied on a broader diet that included small mammals and plants. These new interpretations further suggest that settlement patterns were probably less mobile or nomadic than traditionally thought. Research in north-central and peninsular Florida has contributed greatly to the study of site distribution and subsistence of Paleoindian groups (Waller and Dunbar 1977; Dunbar and Waller 1983). Waller and Dunbar (1977) concluded that Paleoindian sites in Florida were typically located along waterways in central, northern, and northwestern Florida. It was also noted that aggregations of sites within these areas may be reflective of fairly large population concentrations; however, the east coast of Florida seemed to be largely uninhabited (Waller and Dunbar 1977). Later analysis pointed to several factors that contributed to the settlement location for Paleoindian groups. Dunbar and Waller (1983) make a correlation between the location of Florida's Paleoindian sites and the tertiary-age karst outcrops, which provided access to reliable water sources and chert. Milanich and Fairbanks (1980) also suggest that access to water was the

driving factor in Paleoindian settlement patterns while Carbone (1983) posits that proximity to lithic resources is a better indicator.

Archaic Period (ca. 8000-1000 BC)

The transition from the Paleoindian to the Archaic Period is gradual and related to the evolution of modern climatic conditions, similar to those the first European explorers and settlers encountered. In the Southeast, the transition has been somewhat arbitrarily designated as 8,000 BC. Changes in technology, population demography, and diversity in social organization characterize this era. The growth of subregional traditions is indicated by the appearance of a range of notched and/or stemmed hafted biface types across the Southeast (Sassaman et al. 1990). The Archaic period is generally divided into three subperiods, Early, Middle, and Late.

During the Early Archaic (ca. 8000-6000 BC), a dramatic increase in population, based on the identification of a larger number of archaeological sites dating to that period, resulted in decreased group mobility and exploitation of a wider range of food resources. The larger variety of Early Archaic tools suggest more specialized tasks were undertaken as sites were occupied for longer periods. The population was likely organized into small bands of 25-50 individuals that coalesced at specific times of the year to more efficiently exploit seasonal resources and take advantage of the benefits provided by a wider social network. In Florida, Early Archaic sites are typically one of two site types: base camps and smaller extraction sites. Bense (1994) posits that small, family-based groups would occupy the smaller, short-term campsites throughout the spring and summer, but would gather in the larger base camps during the fall. Early Archaic assemblages are recognized by the occurrence of diagnostic side and corner-notched projectile points, such as the Bolen point type. While subsistence data for Early Archaic sites is typically limited, several sites in Florida have yielded important clues. Blood residue analysis conducted on side-notched points recovered from Site 8LE2105 in Leon County revealed that these points were used to kill or process rabbit and bear (Hornum et al. 1996). In Brevard County, the submerged deposits at Windover Pond (8BR246) revealed preserved plant and animal remains that suggest the Early Archaic occupants of the site exploited a variety of species included acorn, persimmon, wild plum, deer, opossum, duck, heron, and a variety of freshwater fish (Doran and Dickel 1988).

The Middle Archaic (ca. 6,000 – 3,000 B.C.) is not well-documented in the Coastal Plain. This timeframe coincides with a climatic episode known as the Hypsithermal, which was characterized by warmer temperatures and diminished precipitation. Elsewhere in the Coastal Plain, research suggests that settlement patterns shifted to a system of nucleated base camps situated in the floodplains that were supported by smaller satellite camps. Sassaman et al. (1990) notes that large-scale tool production and more intensive occupation are typical of Middle Archaic sites in the Coastal Plain, while in the Piedmont sites are smaller and exhibit less variability in technology.

While these sites are somewhat underreported in the vicinity of the survey area, these occupations can be recognized by the presence of broad-bladed, stemmed projectile point types such as Hardee, Newnan, Alachua, Sumter, and Putnam types.

During the Late Archaic period (ca. 3000-1000 BC) many important cultural developments took place, including the introduction of stone and pottery vessels for use in food preparation, the first instances of plant cultivations, mound building, and the establishment of long-distance trade networks. The earliest pottery types documented for the Southeast were also created during this time period. This trend seemed to originate in the Georgia and South Carolina Coastal Plains, but it spread throughout much of the Southeast (Sassaman 1993). These early ceramics were tempered with plant fibers and were often decorated with punctations and incised designs. In northwest Florida, this pottery type is typically referred to as Norwood pottery (Milanich 1994). Other diagnostic indicators of this time period include additional broad-bladed, stemmed projectile points, such as the Savannah Point and, in the Piedmont, steatite cooking vessels.

Woodland Period (ca. 1000 BC-AD 1000)

Archaeologists also divide the Woodland Period into early, middle and late subperiods. Widespread Woodland characteristics such as an increase in long distance trade, changes in ceramic technology, the development of sedentary village life, and the cultivation of domestic plants are not as pronounced in the Coastal Plain region.

The early years of the Woodland Period are typically associated with the Deptford culture in Florida and much of the Coastal Plain. Sites of this type are recognized by characteristic sand tempered pottery which exhibit plain, linear check stamped, check stamped, simple stamped, cord-marked, and zoned incised surface designs. The ceramic series was defined on the basis of the results obtained during the WPA excavations at the Deptford Site (9CH2), a large shell midden along the Savannah River near Savannah, Georgia (Waring and Holder 1968). In coastal settings, Deptford villages tend to be located within maritime hammocks near salt marshes, while interior Deptford settlements are found along lakes and streams where hickory and oak are present. Deptford sites in northwest Florida are associated with a characteristic mortuary complex known as the Yent Complex (Sears 1962). This complex is characterized by the inclusion of exotic goods, such as galena, mica, artifacts composed of metamorphic rock, and unique ceramic vessels which may be associated with the Hopewell cultures far to the north (Milanich 1994). Sites associated with the Yent Complex are most common in the Big Bend region of northwest Florida, however, the complex is conspicuously absent from eastern Deptford sites (Milanich 1994).

During the middle Woodland Period, Deptford culture seems to be replaced by the Santa Rosa-Swift Creek culture throughout northwest Florida (Milanich 1994). As its name suggests, this tradition is

characterized by the presence of Swift Creek and Santa Rosa series ceramics. Swift Creek ceramics, which originated in South Georgia, are recognized by complicated stamped designs consisting of scrolls, concentric circles, tear drops and spirals. Santa Rosa ceramics seemed to originate in the Lower Mississippi Valley and consisted of incised, punctated, and rocker-stamped designs.

The terminal portion of the Woodland Period saw the emergence of the Weeden Island culture in the panhandle of Florida. Milanich (1994) defines Weeden Island as a religious-ceremonial complex that was adopted by regional cultures in southern Georgia, Alabama, and along the west coast of Florida. Weeden Island occupations are characterized by complicated stamped pottery found alongside distinct pottery decorated with incised and punctated lines such as Carrabelle Incised, Carrabelle Punctated, Keith Incised, and Weeden Island Incised (Milanich 1994). Weeden Island settlements also displayed characteristic mortuary ceremonialism associated with ornately decorated ceramics and vessels in the form of stylized designs or animal effigies, which were interred in burial mound contexts (Milanich and Fairbanks 1980). It is believed that maize agriculture was adopted in the Florida panhandle during the late stages of the Weeden Island phenomenon. This can be seen by the presence of cob marked Wakulla Weeden Island pottery decorated with corn cob impressions.

Mississippi Period (ca. AD 1000-1540)

Approximately 1,100 years ago, American Indian life in the Southeast changed dramatically. Archaeologists have identified the emergence of a new way of life known as Mississippian culture around AD 1000 in multiple locations across the Southeast. Mississippi period culture is typically recognized in the archaeological record through the presence of a series of traits, including but not limited to, intensive maize cultivation, settlement in the floodplains of major rivers, shell tempered pottery, rectangular wall-trench structures, pyramidal earthen mounds, and the long-distance circulation of well-crafted prestige objects. The principal trait that defines Mississippi period culture beyond all those previously listed in the emergence of ranked societies that were politically and economically organized into chiefdoms of varying size and complexity. According to Fried (1967:109), ranked societies are those in which positions of elevated status are limited to such an extent that not everyone has access. In ranked societies, chiefly positions of elevated status are typically inherited within a single group of elites and are recognized archaeologically by the presence of platform mounds, upon which chiefly elites resided, conducted religious rituals, and in some cases were buried.

During the Mississippi period, the Safety Harbor culture occupied Hillsborough County. This cultural complex encompassed a large portion of Florida's western Gulf Coast, extending from the mouth of the Withlacoochee River south to Charlotte Harbor (Bense 1994:238; Milanich 1994:389). The culture is named after the Safety Harbor site (8PI2), located on Old Tampa Bay in Pinellas

County; this site is thought to be one of the southernmost extensions of Mississippian culture (National Park Service [NPS] 1981). The Safety Harbor culture likely developed from the Weeden Island culture and was most densely concentrated around the Tampa Bay area, with the region containing 15-20 pyramidal mounds that were frequently located where streams enter the bay. Sites often held ceremonial districts with platform mounds and plazas (Bense 1994:238). Archaeologists recognize two cultural phases during the Mississippi period: the Englewood (AD 900-1100) and the Pinellas (AD 1100-1500). Ceramic types at Safety Harbor sites include Englewood Incised, Sarasota Incised, and Lemon Bay Incised; however, most Safety Harbor ceramics are plain wares. Lack of decoration can make it difficult to distinguish these ceramics from preceding periods, and therefore, it is the presence of mounds that define Safety Harbor sites (Milanich 1994:389-390).

Historic Overview

Florida was the stage for much of the earliest European exploration of continental North America. The earliest documented European exploration of Florida occurred when the Spanish explorer Juan Ponce de Leon landed near Cape Canaveral or perhaps modern-day Melbourne in April of 1513 (Eriksen 1994; Gannon 1996). He named the new land *La Florida*, because his visit coincided with the *Pascua Florida* or Feast of Flowers, typically associated with the Easter season (Milanich 1994). In 1528, Panfilo de Narvaez landed near Tampa Bay and trekked an interior route through Florida into the Apalachee region in northwest Florida. Narvaez died shortly after his trek when his ships sank en route to Mexico. Cabeza de Vaca and his companion Estevan survived this shipwreck and walked from northwest Florida all the way to Mexico, documenting much of their 10-year journey through southern North America (Clayton et al. 1993). In 1539, Hernando de Soto arrived in Florida, also landing in the vicinity of Tampa Bay. The de Soto entrada proceeded to march across Florida and much of the Southeast, providing extensive accounts of encounters with indigenous groups (Clayton et al. 1993). De Soto and his men likely camped in present-day Tallahassee; however, De Soto himself died soon after he reached the Mississippi River in 1542 (Milanich and Hudson 1993).

Colonial Period

Spanish settlement in Florida was first attempted in the vicinity of present-day Pensacola by Tristan de Luna y Arellano, who brought 1,500 settlers from Veracruz, Mexico in 1559. This colony quickly failed, however, as a result of a catastrophic hurricane which destroyed the settlement later that same year. Pedro Menendez de Aviles established a more permanent base at St. Augustine in 1565 in order to thwart French colonization efforts at Fort Caroline. This settlement was to last with the full support of the Spanish crown in order to establish Spain's control of La Florida. In doing this, Menendez and his successors established a string of Spanish missions west across Florida, towards Tallahassee, and north towards the Savannah River (Tebeau 1971). The

Apalachee of northwest Florida fiercely resisted Spanish missionary efforts at first and the Spanish typically avoided them when possible (Hann and McEwan 1998). In 1612, several Apalachee Chiefs decided it was beneficial to engage in the trade network that the Spanish Missions were facilitating and requested missionaries be sent to the region (Jones et al. 1991). The missionization of the Apalachee province did not occur, however, until 1633. The centerpiece of this missionization effort in the Apalachee province was the mission at San Luis de Talimali, in present-day Tallahassee (Hann and McEwan 1998).

With the establishment of the Carolina Colony to the north of La Florida, the British began exerting maximum pressure on Spain's North American colony and even actively incited Native American groups under Spanish control to rise up against their colonial rule (Tebeau 1971). Spain's control of the region began to weaken. By the end of the Seven Years War in 1763, Spain was willing to part with La Florida and traded it to the British to regain the conquered city of Havana. As the Apalachee province declined, the missions retreated east towards St. Augustine, leaving the area uninhabited. This vacuum was soon filled by a steady supply of Creek refugees migrating from Georgia after the Yamassee War of 1715. The Spanish referred to these refugees as "Cimarrone" or runaway, as seen in the notes of the 1765 de Brahm's map of Florida (Fairbanks 1973). It is believed that this reference eventually led to the name "Seminole" to describe Creek groups that migrated to Florida (Fernald and Purdum 1992). During the British Period, these Seminole groups established permanent towns from the Apalachicola River to the St. Johns River and the British set up trading posts to trade with these groups for foodstuffs and furs in exchange for guns and iron tools (Fairbanks 1973). These Seminole towns were also bolstered by runaway slaves from the Carolina colonies, who joined the settlements and were protected from recapture by slave catchers (Fairbanks 1973).

Ultimately, the British only controlled Florida for 20 years and it was ceded back to Spain as a result of the Treaty of Paris in 1783, which ended the American Revolution. During what is known as the Second Spanish Period, Spain continued to operate trading posts with the established Seminole towns; however, commercial hunting of deer led to severely decreased population and the inability to produce enough skins for trade. In these cases, Spanish traders extended credit to Seminoles who were unable to pay with skins and eventually accepted land as payment for credit that could not be repaid (Fairbanks 1973). This led to an increase in Spanish controlled land and increased tension with Seminole groups. The slave states of the newly established United States that bordered Spanish Florida also resented the Seminole's protection of escaped slaves and tensions began to spread across the border as well.

AMERICAN FLORIDA

Border tensions over escaped slaves increased in the early portion of the nineteenth century to a point that armed raids occurred across both sides of the border on a regular basis. The United States eventually appointed General Andrew Jackson to head an official military operation to pacify the Seminole groups in Spanish Florida. In 1818 Jackson led a group of 3,500 men, most of whom were Creek, into Florida to engage the Seminole, and ultimately seize control of a portion of Florida from St. Marks to Pensacola (Page 2001). This became known as the First Seminole War, though the land was ceded back to Spain that same year. Continued disputes eventually led Spain to realize that the cost of controlling Florida was not worth the obstacles and in 1821, Florida became a U.S. territory and Jackson was appointed Governor. He continued his conflict with the Seminole until the Treaty of Moultrie Creek in 1823, which stipulated that the Seminole move to a reservation in the middle of the state. This is considered the official end to the First Seminole War. As a result of this treaty, a Seminole village known as Tallahassee was abandoned. This location was ultimately chosen as the seat of the new territorial government as it represented the halfway point between St. Augustine and Pensacola (Ellis and Rogers 1999). Additionally, the United States installed a series of military outposts throughout the newly acquired Florida territory; one of these included Fort Brooke, which was built at the mouth of the Hillsborough River in 1824.

As governor of the new U.S. Territory, Jackson divided Florida into two counties: Escambia and St. Johns. The county of Escambia included all of the panhandle section of Florida west of the Suwannee River, while St. Johns County included all of peninsular Florida (Tabeau 1971). With the basic groundwork laid, the legislative council of Florida began meeting for the first time in 1822 in Pensacola and then in 1823 in St. Augustine. During subsequent meetings of the legislature, Florida began to be subdivided further into additional counties (Morris 1995).

In 1832, The U.S. established the Payne's Landing Treaty with the Seminole, which stated that Seminole groups would have to relinquish their land in Florida within three years and move to reservations within the Indian Territories in the western United States (Sprague 1964). In 1835, U.S. troops were sent to forcibly remove the Seminole groups who had not given up their land; however, a group of Seminole warriors organized by Chiefs Micanopy and Alligator attacked the detachment of soldiers en route near present-day Ocala. The Seminole overwhelmed the U.S. soldiers and killed all but three men. This began the Second Seminole War (Sprague 1964; Tebeau 1971). This war lasted from 1835 until 1842 and was characterized by guerilla attacks by the Seminole throughout south Florida, ultimately hobbling the settlement of the U.S. territory.

Following the end of the Second Seminole War, the United States granted Florida statehood in 1845. Settlement within Hillsborough County remained sparse throughout the mid-nineteenth century. However, people began settling around Fort Brooke at the Hillsborough River, and this

community eventually developed into Tampa in the 1850s (City of Tampa 2020). Florida seceded from the United States at the onset of the Civil War (1861-1865), and the Confederate States of America garrisoned troops and supplies at Fort Brooke, resulting in the Union blockading Tampa Bay. Aside from relatively small skirmishes and raids, the area experienced little conflict. After the Civil War, the United States decommissioned Fort Brooke, diminishing Tampa's population (AMEC Environment and Infrastructure, Inc. 2012).

Tampa remained small during the Reconstruction Period (1865-1877), and it was not until the 1880s that the community would begin to gain traction. Businessman Henry B. Plant took interest in the South's transportation industry and envisioned expanding his shipping business to include routes between the United States and the Caribbean. Plant chose Tampa as his ideal port and commissioned a railroad to run between Tampa and the town of Sanford. Plant's railway, the South Florida Railroad, opened in 1883, initiating a significant circulation of goods and passengers as Plant's steamships carried products from the mainland through Tampa to ports throughout the Caribbean. Plant's ambitions were successful, so the entrepreneur extended his rail line and established a port on the Interbay Peninsula known as Port Tampa City (Long 1971; Johnson 1966; de Quesada 1998).

Port Tampa City remained successful for several years, and the community attracted people seeking work and leisure, particularly at the peninsula's Picnic Island. In the 1898 Spanish-American War, Port Tampa City acted as one of the primary staging and embarkation areas for materiel and troops. However, the community experienced several setbacks during the early twentieth century, and these included infrastructure damage from fires and hurricanes in the 1920s, as well as the economic repercussions of the Great Depression during the late 1920s and 1930s (Long 1971).

Despite the community's misfortunes, Port Tampa City experienced a revival in the late 1930s and early 1940s. The same strategic positioning that had attracted Henry B. Plant to Tampa in the 1880s caught the attention of the United States military, and in 1939 construction began on the Southeast Air Base, located at the southern tip of the Interbay Peninsula in an area known as Catfish Point. Over 2,600 Works Progress Administration laborers worked to build the base for roughly two years, and work involved draining Catfish Point's wetlands, as well as logging, excavation, and grading. Troops began arriving in 1940, but the base, then titled the MacDill Army Air Field, officially opened in 1941. MacDill acted as a training and staging area during World War II (1941-1945). Throughout the mid-1900s, MacDill Air Force Base continued to be active, albeit at a lessened capacity than during the Second World War (Stallings 2016). The United States Air Force continues to utilize MacDill to this day, and the base remains an economic cornerstone of the Tampa area (Cole 2016).

Previous Archaeological Investigations

A review of the records maintained by the Florida Master Site File (FMSF) in Tallahassee was completed on January 28, 2020 in order to identify any previously recorded cultural resources within the project APE. These data indicate that one site has been previously recorded within the survey area: 8HI13768. Site 8HI13768 is a twentieth century surface and subsurface domestic refuse scatter that was initially identified by Cardno in 2017 in advance of a property development project. It is recommended ineligible for the NRHP (Stack 2017). Expanding the search to a 1 km radius reveals that there are nine additional archaeological sites within this vicinity (Figure 2.3; Table 2.1). All sites are recommended ineligible for the NRHP, excluding Site 8HI11586 (eligibility unknown).

Two previously conducted archaeological surveys lie within the current survey area and its 1 km research radius (see Figure 2.3). The first survey was the previously mentioned Cardno survey, entitled *Cultural Resource Assessment Survey of the Hurley Property*. This survey revisited one previously identified archaeological site and identified eight additional archaeological sites, one of which includes 8HI13768 within the current survey area (Stack 2017). The second archaeological survey (*Phase I Archaeological Survey of 2,297.79 Acres Within MacDill Air Force Base, Hillsborough County, Florida)* was conducted by New South Associates, Inc. on portions of MacDill Air Force Base, and this survey revisited one previously recorded archaeological site, as well as documenting 33 additional previously unrecorded sites (Schnitzer et al. 2018).

Table 2.1. Previously Identified Archaeological Sites within a 1-km.radius.

Site	Site Type	Period	NRHP Eligibility	Proximity
8HI11586	Historic shipwreck	19th Century	Unknown	1,000 m (3,280.8 ft) NW
8HI13763	Homestead	20th Century	Ineligible	655 m (2,149 ft) NE
8HI13764	Homestead	20th Century	Ineligible	555 m (1,820.9 ft) NE
8HI13765	Homestead	20th Century	Ineligible	375 m (1,230.3 ft) NE
8HI13766	Homestead	20th Century	Ineligible	595 m (1,952.1 ft) E
8HI13767	Homestead	20th Century	Ineligible	465 m (1,525.6 ft) E
8HI13768	Homestead	20th Century	Ineligible	Within
8HI13769	Historic refuse / dump	20th Century	Ineligible	255 m (836.3 ft) E
8HI13770	Historic refuse / dump	20th Century	Ineligible	600 m (1,968.5 ft) E
8HI14537	Redeposited site	19th Century	Ineligible	0 (immediately adjacent) S

CHAPTER 3. METHODS

Literature and Records Search

Prior to fieldwork, background research was conducted with the FMSF in Tallahassee. This research sought information on previous cultural resource studies in the region and archaeological sites recorded near the survey area. Research was also conducted using the NETR website, which was used to provide data pertaining to changes in the natural and built landscape of the survey area. The research was used in preparation of the cultural context (see Chapter 2) and guided the execution of the project.

Archaeological Field Study

The Phase I archaeological field study consisted of systematic subsurface shovel testing throughout the APE for this project, as well as pedestrian survey for the presence of exposed artifacts and aboveground features. As recommended by the Florida SHPO, all shovel tests measured 50-x-50 centimeters (cm) square and were dug to a depth of 1-m or until the water table was encountered. Shovel testing was conducted in accordance with Florida testing standards outlined in the FDHR Cultural Resource Management Standards and Operations Manual, which define appropriate shovel testing intervals for high, medium, and low probability zones of archaeological potential. According to the FDHR Manual, high probability zones are typically those which include elevated, well drained landforms within 100 m of a fresh water source. These zones are to be tested at 25-m intervals. The manual defines portions of upland landforms between 100 and 300 m from a potable water source as being medium probability zones. It is recommended that these zones be tested at 50-m intervals. Portions of a project area that are more than 300 m from a potable water source or are characterized by low-lying, poorly drained soils or significant disturbance are typically characterized as low probability. The FDHR Manual recommends testing a 10% sample of these areas using 100-m interval shovel testing.

Since large portions of the survey area intersect the previously identified site 8HI13768 and lay adjacent to 8HI14537 to the south, the entirety of the survey area was systematically surveyed on one transect with shovel tests spaced no more than 25 m apart. All excavated material was sifted through 6.35 mm (1/4”) mesh mounted upon portable shakers. For all excavations, including negative tests lacking artifacts, soil colors, textures, and strata depths were recorded, and any soil disturbances were noted.

Laboratory Methods

No artifacts were recovered during this survey and thus, no laboratory analysis was required.

Curation

The original maps and field notes are housed at the Tallahassee, Florida office of EP. These will be turned over to the client, upon request.

Informant Interviews

Local citizens that spend time within close proximity to a survey area can often provide important information regarding the location of cultural resources, including archaeological sites and historic structures, or local land use. No such individuals were available during the course of this project.

Unexpected Discoveries

All efforts have been made in accordance with Florida state guidelines to identify and evaluate possible locations of prehistoric and historic archaeological sites. It is always possible, however, that cultural resources may not have been detected through the accepted sampling techniques employed during this project. Unexpected discoveries, such as previously undetected archaeological sites or even human remains could occur during project development. Should evidence of unrecorded cultural features be encountered, all work in that portion of the project area must stop and a qualified professional archaeologist should be contacted to assist in the identification of the remains. Additional coordination with the Florida SHPO may be required. In the case of human remains, additional coordination with the state archaeologist will be necessary in compliance with Chapter 872.05, Florida Statutes, or a medical examiner if the remains appear less than 75 years old.

CHAPTER 4. RESULTS

On February 8 and 9, 2020, EP conducted a Phase I cultural resource assessment of the proposed DFSP pipeline in Hillsborough County, Florida. The survey was designed to locate and evaluate archaeological sites within the proposed APE for this project. Fieldwork included visual inspection, pedestrian survey, and systematic shovel testing. The results of the survey, including the locations of all sites, transects (TR), and shovel tests (ST), are mapped below in Figure 4.1.

The survey area can be characterized as lying in flatwoods, with vegetation mainly consisting of very dense mixed wetland hardwoods; however, the northern and southern termini exhibit significant development near the Chevron Bulk Terminal and MacDill Air Force Base, respectively. Archaeologists encountered low-lying, poorly drained soils during survey, and an average shovel test consisted of very dark grey (10YR 3/1) humic sand that extended 30 cm below surface. Below this stratigraphic layer, archaeologists encountered the water table and terminated excavation. As noted in Chapter 3, this survey consisted of a single transect along the proposed pipeline's route, with shovel tests spaced no more than 25 m apart. This transect contains 24 shovel tests, of which 18 were negative for cultural material and 6 were not dug due to obstructions. Shovel tests within the northern portion of the survey corridor, which corresponds with the Chevron Bulk Terminal, were not dug due to existing pavement and development. Similarly, the southern portion of the survey corridor corresponds with a previously developed entrance road into the northwestern section of MacDill Air Force Base (see Figure 4.1). This portion of the corridor was paved and developed, and had also been previously subjected to cultural resource survey in 2018 (Schnitzer et al. 2018). No shovel testing was conducted within this portion of the corridor during the present survey.

The current survey corridor intersected with two previously recorded archaeological sites: 8HI13768 and 8HI14537. Both of these resources have been surveyed and evaluated during previous investigations (Stack 2017; Schnitzer et al. 2018). No archaeological signatures associated with these resources were encountered during the current survey; however they are discussed below.

Site 8HI13768

EP revisited a portion of the previously identified Site 8HI13768, which was initially identified during a cultural resource survey of the Hurley property (Stack 2017). This site represents a twentieth century surface and subsurface domestic refuse scatter. It measures approximately 260 m north-south and 150 m east-west, covering 13,692 square m. Stack (2017) notes that artifacts were recovered from the surface down to 30 cm and that flooding, modern development, and modern waste disposal have substantially disturbed the site's integrity.

EP's revisit to the site investigated only portions of the site that lie within the current survey area, which encompasses roughly 185 m of the site's western extent. Seven shovel tests lie within or immediately adjacent to the site boundaries, and all shovel tests were negative, with no surface artifacts noted during pedestrian survey (see Figure 4.1). Modern dumping was noted throughout this portion of the corridor as it lies adjacent to a public park. Soil profiles were identical to the typical shovel tests described above, and archaeologists encountered topography and vegetation consistent with the previously noted environmental conditions (Figure 4.2).

EP did not identify any artifacts within the current APE, and this is likely due to the survey area intersecting the very western extent of the site's boundary. Cultural materials are likely more densely concentrated farther to the east, where the site's area expands within the treeline. Additionally, recent efforts such as litter cleanups at the adjacent recreational field or property developments could have removed material from the area. Since archaeologists did not relocate any artifacts associated with Site 8HI13768 within the survey area, EP does not recommend any changes to the site's status as ineligible for the NRHP.

Figure 4.2. Representative view of 8HI13768 within the survey area.

8HI14537

The southern tip of the survey corridor intersected with the previously recorded Site 8HI14537, where the proposed pipeline bends to the southeast to enter MacDill Air Force Base (see Figure 4.1). The proposed pipeline itself does not intersect with 8HI14537; however, a small portion of the project APE intersects with the northern tip of the site. The site was recorded within the boundaries of MacDill Air Force Base during the *Phase I Archaeological Survey of 2,297.79 Acres within MacDill Air Force Base, Hillsborough County, Florida,* which was conducted in 2018 (Schnitzer et al. 2018). This site was determined to represent a scatter of historic debris that was redeposited at this location as part of a dumping episode. As such it was recommended as ineligible for NRHP listing during the original survey.

Because this portion of the survey corridor had already been recently exposed to cultural resource investigation, it was not resurveyed during the current project. The site was photographed from outside the base boundaries in order to show the present condiction of the site (Figure 4.3). No testing was conducted within the MacDill Air Force Base boundaries, as this would necessitate an ARPA permit, which was outside the scope of the current survey project given that this portion of the project had been previously surveyed for cultural resources. Shovel testing was conducted immediately north of 8HI14537; however, no cultural material was identified other than modern dumping. Based on this, it would seem that the northern boundary of 8HI14537 stops at the limits of MacDill Air Force Base, as depicted by Schnitzer et al. (2018).

Figure 4.3. Representative view of 8HI14537 within the survey area.

As a result of the current survey, EP did not encounter any additional archaeological artifacts or signatures that would change the original evaluation of 8HI14537, which was ineligible for NRHP listing.

Given these results, the proposed project will not adversely affect significant cultural resources, and EP recommends that the undertaking be granted clearance to proceed without further concern for cultural resources.

CHAPTER 5. SUMMARY AND RECOMMENDATIONS

On February 8 and 9, 2020, EP conducted a Phase I cultural resource assessment survey of the proposed DFSP Pipeline in Hillsborough County, Florida. The survey area is located immediately northwest of MacDill Air Force Base and approximately 1 km east of Old Tampa Bay. The project lies in the Port Tampa City neighborhood in Tampa, Florida, and it falls within Section 20 of Township 30 South, Range 18 East on the Port Tampa, Florida USGS topographic quadrangle map. The survey was performed on behalf of BioTech Consulting, Inc., who is assisting their client with the permitting process for the proposed pipeline. The investigation was conducted as part of the permitting requirements associated with the National Environmental Policy Act (NEPA). These actions implement Section 106 0f the *National Historic Preservation Act of 1966*, as amended, which necessitates a project review by the Florida SHPO.

The proposed pipeline extends roughly 617 meters (m). Proposed impacts will likely include directional drilling along the proposed pipeline corridor. The goals of the survey were to locate delineate, identify, and evaluate all cultural resources within the project area, and to assess their significance and potential eligibility for listing in the NRHP in accordance with National Register Criteria (36 CFR 60.4).

The investigation included background research focused on the history of the area, as well as a review of FMSF records of cultural resources in the vicinity of the survey area. Fieldwork consisted of pedestrian inspection and subsurface testing. The pedestrian survey was conducted to locate artifacts and/or historic structural remains in areas of exposed and/or disturbed ground surface throughout the project area. Shovel testing (n=24) was conducted at 25 m intervals along a single transect throughout the entirety of the survey area.

As a result of the survey, EP revisited one previously identified archaeological site, 8HI13768. Site 8HI13768 represents a twentieth century surface and subsurface domestic refuse scatter. The site was initially identified by Cardno in 2017 in advance of property development (Stack 2017). The site lies partially within the APE, and the site's revisit during the current survey did not locate any artifacts within the survey area. The extreme southern portion of the APE also intersected with the northwestern boundaries of MacDill Airforce Base and previously recorded Site 8HI14537. This portion of MacDill Air Force Base was previously surveyed for cultural resources in 2018 (Schnitzer et al. 2018). Site 8HI14537 was determined to represent a redeposited historic artifact scatter and was determined to be ineligible for NRHP listing. Since the portion of MacDill Airforce Base that intersects with the survey area had been previously surveyed and Site 8HI14537 was fully delineated and evaluated, the extreme southern end of the proposed pipeline corridor was not revisited during this survey. It was photographed and is discussed in Chapter 4, however.

Since Site 8HI13768 could not be relocated within the survey area, EP does not recommend any change to the site's status as ineligible for the National Register of Historic Places (NRHP). Also, the previously recorded 8HI14537 was not revisited due to its previous evaluation as ineligible. Given this recommendation, the proposed project will not adversely affect any significant cultural resources, and EP recommends that the undertaking be granted clearance to proceed without further concern for cultural resources.

REFERENCES

Adams, J.M. and H. Faure

1997 *Review and Atlas of Paleovegetation: Preliminary Land Ecosystem Maps of the World Since Last Glacial Maximum*. Oak Ridge National Laboratory, Oak Ridge, Tennessee.

AMEC Environment & Infrastructure, Inc.

2012 *Cultural Resources Study of Twenty Buildings at MacDill Air Force Base, Tampa, Hillsborough County, Florida.* Report available from MacDill Air Force Base, Tampa, Florida.

Anderson, David G., R. Ledbetter, and Lisa D. O'Steen

1990 *Paleoindian Period Archaeology of Georgia*. Georgia Archaeological Research DesignPaper No. 6. University of Georgia, Athens, Georgia.

Bense, Judith A.

1994 *Archaeology of the Southeastern United States: Paleoindian to World War I*. Academic Press, San Diego, California.

Brooks, H.K.

1981 *Guide to the Physiographic Divisions of Florida.* Florida Cooperative Extension Service, University of Florida, Gainesville.

Bureau of Land Management (BLM)

1852 Plat Map of Township 30 South, Range 18 East, Hillsborough County, Florida. General Land Office Records, BLM, Washington, D. C.

Carbone, Victor A.

1983 Late Quaternary Environments in Florida and the Souteast. *The Florida Anthropologist* 36(1-2):3-17.

City of Tampa

2020 History of Tampa. *City of Tampa, Florida*. Electronic document, https://www.tampagov.net/info/tampa-history, accessed February 21, 2020.

Clausen, C.J., A.D. Cohen, Cesare Emiliani, J.A. Holman, and J.J. Stipp

1979 Little Salt Spring, Florida: A Unique Underwater Site. *Science* 203:603-614.

Clayton, Lawrence A., Vernon James Knight, Jr., and Edward C. Moore (editors)

1993 *The De Soto Chronicles: The Expedition of Hernando de Soto to North America in 1539-1543.* The University of Alabama Press, Tuscaloosa, Alabama.

Cole, Dennis

2016 MacDill Air Force Base: 75 Years of Dedicated Service. In *MacDill Air Force Base: The 75th Anniversary*. Faircount Media Group, Tampa, Florida.

Cushman, Kathleen A.
1982 Floral Remains from Meadowcroft Rockshelter, Washington County, Southwestern Pennsylvania. In *Meadowcroft: Collected Papers on the Archaeology of Meadowcroft Rockshelter and the Cross Creek Drainage*, edited by Ronald C. Carlisle and James M. Adovasio, pp. 207-220. Department of Anthropology, University of Pittsburgh, Pennsylvania.

Delcourt, P.A., and H.R. Delcourt
1985 Quaternary Palynology and Vegetation History of the Southeastern United States. In *Pollen Records of Late-Quaternary North American Sediments*, V.M. Bryant and R.G. Holloway, editors. American Association of Stratigraphic Palynologists Foundation.

de Quesada, Alejandro M.
1998 *The Spanish-American War in Tampa Bay*. Arcadia Publishing. Dover, New Hampshire.

Dillehay, Tom D.
1989 *Monte Verde: A Late Pleistocene Settlement and Chile*. Smithsonian Institution Press, Washington, D.C.

Doran, Glen H. and David N. Dickel
1988 Multidisciplinary Investigations at the Windover Site. In *Wet Site Archaeology*, edited by Barbara Purdy, pp. 263-289. Telford Press, Caldwell, New Jersey.

Dunbar, James S., and Benjamin I. Waller
1983 A Distribution Analysis of the Clovis/Suwannee Paleo-Indian Sites of Florida: A Geographic Approach. *The Florida Anthropologist* 36(1-2):18-30.

Ellis, Mary Louise and William Warren Rogers
1999 *Tallahassee*. Second Edition. The Donning Company/Publishers, Virginia Beach, Virginia.

Eriksen, John M.
1994 *Brevard County*: *A History to 1955*. The Florida Historical Society Press, Tampa, Florida.

Fairbanks, Charles H.
1973 *The Florida Seminole People*. Indian Tribal Series, Phoenix, Arizona.

Fernald, Edward A. and Elizabeth D. Purdum
1992 *Atlas of Florida*. University Press of Florida, Gainesville, Florida.

Fried, Morton H.
1967 *The Evolution of Political Society: An Essay in Political Anthropology*. Random House, New York.

Gannon, Michael
1996 *The New History of Florida*. University Press of Florida, Gainesville, Florida.

Hann, John H. and Bonnie G. McEwan
1998 *The Apalachee Indians and Mission San Luis*. University Press of Florida, Gainesville, Florida.

Hornum, Michael B., Donald J. Maher, Cliff ord Brown, Julian Granberry, Frank Vento, Arlene Fradkin, and Michele Williams
1996 *Phase III Data Recovery of Site 8LE2105 for the Proposed Florida Gas Transmission Company Phase III Expansion Project, Leon County, Florida*. R. Christopher Goodwin and Associates, Inc., Manuscript of File, Florida Division of Historical Resources, Tallahassee, Florida.

Johnson, Dudley S.
1966 Henry Bradley Plant and Florida. *The Florida Historical Quarterly* 45(2):118-131.

Johnson, William C. and Glen Fredlund
1993 Geomorphological Studies. *Eglin Air Force Base Historic Preservation Plan: Technical Synthesis of Cultural Resources Investigations at Eglin, Santa Rosa, Okaloosa, and Walton Counties, Florida*. Prentice M. Thomas and Janice Campbell. New World Research Inc., Report of Investigations 192.

Jones, B. Calvin, John Hann, and John F. Scarry
1991 San Pedro Y San Pablo De Patale: A Seventeenth-century Spanish Mission in Leon County, Florida. *Florida Archaeology*, Number 5. Florida Department of State, Tallahassee, Florida.

Joseph, Joseph W., Theresa M. Hamby, and Catherine S. Long
2004 *Historical Archaeology in Georgia.* University of Georgia Laboratory of Archaeology Series, Report Number 39, Athens, Georgia.

Long, Durward
1971 The Making of Modern Tampa: A City of the New South, 1885-1911. *The Florida Historical Quarterly* 49(4):333-345.

Milanich, Jerald T.
1994 *Archaeology of Precolumbian Florida*. University of Florida, Gainesville, Florida.

Milanich, Jerald T. and Charles H. Fairbanks
1980 *Florida Archaeology*. Academic Press, New York.

Milanich, Jerald T., and Charles Hudson
1993 *Hernando de Soto and the Indians of Florida*. University of Florida Press, Gainesville, Florida.

Morris, Allen
1995 *Florida Place Names.* Pineapple Press, Sarasota, Florida.

National Park Service (NPS), United States Department of the Interior
1981 *Safety Harbor Site.* National Register of Historic Places Inventory-Nomination Form. United States Department of the Interior, National Park Service, Washington, D.C.

1997 *How to Apply the National Register Criteria for Evaluation.* National Register Bulletin 15. United States Department of the Interior, National Park Service, Washington, D.C.

2000 *Guidelines for Evaluating and Registering Archaeological Properties.* National Register Bulletin 36. United States Department of the Interior, National Park Service, Washington, D.C.

Nationwide Environmental Title Research (NETR).
2020a 1969 Aerial Photograph of Tampa, Florida. Electronic document, https://historicaerials.com/viewer.

2020b 1982 Aerial Photograph of Tampa, Florida. Electronic document, https://historicaerials.com/viewer.

2020c 1995 Aerial Photograph of Tampa, Florida. Electronic document, https://historicaerials.com/viewer.

Page, Eddie
2001 *Images of America: Wakulla County.* Arcadia Publishing, Charleston, South Carolina.

Sassaman, Kenneth E.
1993 Early Pottery in the Southeast. University of Alabama Press, Tuscaloosa, Alabama.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson
1990 Native American Prehistory of the Middle Savannah River Valley. Savannah River Archaeological Research Papers No. 1. Occasional Papers of the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia, South Carolina.

Schnitzer, Laura Kate, Brian Snyder, Stefanie M. Smith, and Katie Dykens Quinn
2018 *Phase I Archaeological Survey of 2,297.79 Acres Within MacDill Air Force Base, Hillsborough County, Florida.* Manuscript on File, Florida Master Site File, Tallahassee, Florida.

Sears, William H.
1962 Hopewellian Affiliations of Certain Sites on the Gulf Coast of Florida. *American Antiquity* 9:25-73.

Sprague, John T.
1964 *The Origin, Progress, and Conclusion of the Florida War*. A Facsimile Reproduction of the 1848 edition. Quadricentennial Edition of the Floridiana Facsimile & Reprint Series. University of Florida, Gainesville, Florida.

Stack, Meg
2017 *Cultural Resource Assessment Survey of the Hurley Property, Hillsborough County, Florida.* Manuscript on File, Florida Master Site File, Tallahassee, Florida.

Stallings, Patricia
2016 *Cold War Architectural Inventory (1966-1970) of MacDill Air Force Base, Hillsborough County, Florida*. Brockington and Associates, Inc., Atlanta, Georgia.

Tebeau, Charlton W.
1971 *A History of Florida*. Revised 1980. University of Miami Press, Coral Gables, Florida.

United States Department of Agriculture (USDA)
2020 National Resources Conservation Service (NRCS) Official Soil Series Descriptions. Electronic document, http://websoilsurvey.nrcs.usda.gov/app/, accessed February 19, 2020.

United States Geological Survey (USGS)
1921 St. Petersburg, Florida Topographic Map. 1:62,500 Scale. USGS, Washington, D.C.

1957 Port Tampa, Florida 7.5' Topographic Map. 1:24,000 Scale. Port Tampa, Florida Quadrangle. USGS, Washington, D.C.

Waller, Benjamin I. and James Dunbar
1997 Distribution of Paleo-Indian Sites in Florida. *The Florida Anthropologist* 30(2):79-80.

Waring, Antonio J. Jr., and Preston Holder
1968 The Deptford Ceramic Complex. In *The Waring Papers: The Collected Works of Antonio J. Waring, Jr.*, edited by Stephen Williams, pp. 135-151. Papers of the Peabody Museum of Archaeology and Ethnology Vol. 54, Harvard University, Cambridge, Massachusetts.

APPENDIX A:
FMSF SURVEY LOG SHEET AND UPDATED SITE FORM

Clear Form Values

Ent D (FMSF only) _____

Survey Log Sheet

Florida Master Site File
Version 5.0 3/19

Survey # (FMSF only) _____

Consult *Guide to the Survey Log Sheet* for detailed instructions.

Manuscript Information

Survey Project (name and project phase)
DFSP Pipeline Phase I Survey

Report Title (exactly as on title page)
Phase I Cultural Resource Assessment Survey of the DFSP Pipeline, Hillsborough County, Florida

Report Authors (as on title page)
1. Blake Bottomley
2. Ryan Sipe
3. _____
4. _____

Publication Year 2020 **Number of Pages in Report** (do not include site forms) _____

Publication Information (Give series, number in series, publisher and city. For article or chapter, cite page numbers. Use the style of *American Antiquity*.)
Bottomley, Blake and Ryan O. Sipe.
2020 Phase I Cultural Resource Assessment Survey of the DFSP Pipeline, Hillsborough County, Florida. Edwards-Pitman, Inc. Tallahassee, Florida.

Supervisors of Fieldwork (even if same as author) Names Ryan Sipe

Affiliation of Fieldworkers: Organization Edwards-Pitman City Tallahassee, FL

Key Words/Phrases (Don't use county name, or common words like *archaeology, structure, survey, architecture, etc.*)
1. DFSP
2. MacDill AFB
3. Hillsborough County
4. _____
5. _____
6. _____
7. _____
8. _____

Survey Sponsors (corporation, government unit, organization, or person funding fieldwork) Clear Sponsor Values
Name Edwards-Pitman, Inc. Organization _____
Address/Phone/E-mail 241 John Knox Road, Suite 102, Tallahassee, Florida 32303

Recorder of Log Sheet Ryan Sipe **Date Log Sheet Completed** 3-9-2020

Is this survey or project a continuation of a previous project? ☒No ☐Yes: **Previous survey #s (FMSF only)** _____

Project Area Mapping

Clear Mapping Values

Counties (select every county in which field survey was done; attach additional sheet if necessary)
1. Hillsborough
2. _____
3. _____
4. _____
5. _____
6. _____

USGS 1:24,000 Map Names/Year of Latest Revision (attach additional sheet if necessary)
1. Name PORT TAMPA Year 1983
2. Name _____ Year _____
3. Name _____ Year _____
4. Name _____ Year _____
5. Name _____ Year _____
6. Name _____ Year _____

Field Dates and Project Area Description

Fieldwork Dates: Start 2-8-2020 End 2-9-2020 **Total Area Surveyed** (fill in one) _____ hectares _____ acres
Number of Distinct Tracts or Areas Surveyed _____
If Corridor (fill in one for each) **Width:** 18 meters _____ feet **Length:** 0.60 kilometers _____ miles

Florida Master Site File / Div. of Historical Resources / R.A. Gray Bldg / 500 S Bronough St., Tallahassee, Florida 32399-0250
Phone 850.245.6440, Fax 850.245.6439, Email: SiteFile@dos.myflorida.com

Survey Log Sheet

Survey #_____

Research and Field Methods

Types of Survey (select all that apply): ☒archaeological ☐architectural ☐historical/archival ☐underwater ☐damage assessment ☐monitoring report ☐other(describe): _____

Scope/Intensity/Procedures

24 shovel tests (50-x-50 cm)were dug at 25 meter intervals throughout the survey corridor. All tests were negative.

Preliminary Methods (select as many as apply to the project as a whole)

☒Florida Archives (Gray Building)	☐library research- *local public*	☒local property or tax records	☐other historic maps	☐LIDAR
☐Florida Photo Archives (Gray Building)	☐library-special collection	☐newspaper files	☒soils maps or data	☐other remote sensing
☒Site File property search	☐Public Lands Survey (maps at DEP)	☐literature search	☐windshield survey	
☒Site File survey search	☐local informant(s)	☐Sanborn Insurance maps	☒aerial photography	

☐other (describe): _____

Archaeological Methods (select as many as apply to the project as a whole)

☐Check here if **NO** archaeological methods were used.

☐surface collection, controlled	☐shovel test-other screen size	☐block excavation (at least 2x2 m)	☐metal detector
☒surface collection, uncontrolled	☐water screen	☐soil resistivity	☐other remote sensing
☒shovel test-1/4"screen	☐posthole tests	☐magnetometer	☐pedestrian survey
☐shovel test-1/8" screen	☐auger tests	☐side scan sonar	☐unknown
☐shovel test 1/16"screen	☐coring	☐ground penetrating radar (GPR)	
☐shovel test-unscreened	☐test excavation (at least 1x2 m)	☐LIDAR	

☐other (describe): _____

Historical/Architectural Methods (select as many as apply to the project as a whole)

☐Check here if **NO** historical/architectural methods were used.

☐building permits	☐demolition permits	☐neighbor interview	☐subdivision maps
☐commercial permits	☒windshield survey	☐occupant interview	☒tax records
☐interior documentation	☒local property records	☐occupation permits	☐unknown

☐other (describe): _____

Survey Results

Resource Significance Evaluated? ☐Yes ☒No Clear Check Boxes

Count of Previously Recorded Resources 2 **Count of Newly Recorded Resources** 0

List Previously Recorded Site ID#s with Site File Forms Completed (attach additional pages if necessary)

8HI13768, 8HI14537

List Newly Recorded Site ID#s (attach additional pages if necessary)

n/a

Site Forms Used: ☐Site File Paper Forms ☒Site File PDF Forms

REQUIRED: Attach Map of Survey or Project Area Boundary

SHPO USE ONLY	SHPO USE ONLY	SHPO USE ONLY

Origin of Report: ☐872 ☐Public Lands ☐UW ☐1A32 # _____ ☐Academic ☐Contract ☐Avocational ☐Grant Project # _____ ☐Compliance Review: CRAT # _____

Type of Document: ☐Archaeological Survey ☐Historical/Architectural Survey ☐Marine Survey ☐Cell Tower CRAS ☐Monitoring Report ☐Overview ☐Excavation Report ☐Multi-Site Excavation Report ☐Structure Detailed Report ☐Library, Hist. or Archival Doc ☐Desktop Analysis ☐MPS ☐MRA ☐TG ☐Other: _____

Document Destination: Plottable Projects **Plotability:** _____

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Phone 850.245.6440, Fax 850.245.6439, Email: SiteFile@dos.myflorida.com

Page 1

☐Original
☒Update

ARCHAEOLOGICAL SITE FORM
FLORIDA MASTER SITE FILE
Version 5.0 3/19

Consult *Guide to Archaeological Site Form* for detailed instructions

Clear Form Values

Site # HI13768
Field Date 2-8-2020
Form Date 2-21-2020
Recorder #

Site Name(s) No Name — Multiple Listing (DHR only)
Project Name DFSP Pipeline Phase I Survey — Survey # (DHR only)
Ownership: ☐private-profit ☐private-nonprofit ☐private-individual ☒private-nonspecific ☐city ☐county ☐state ☐federal ☐Native American ☐foreign ☐unknown

LOCATION & MAPPING

Clear Location Values

USGS 7.5 Map Name PORT TAMPA — USGS Date 1983 — Plat or Other Map
City/Town (within 3 miles) Port Tampa — In City Limits? ☐yes ☒no ☐unknown — County Hillsborough
Township 30S — Range 18E — Section 20 — ¼ section: ☐NW ☒SW ☐SE ☐NE — Irregular-name:
Township — Range — Section — ¼ section: ☐NW ☐SW ☐SE ☐NE
Landgrant — Tax Parcel #
UTM Coordinates: Zone ☐16 ☒17 — Easting 348920 — Northing 3082109
Other Coordinates: X: — Y: — Coordinate System & Datum
Address / Vicinity / Route to:

South of Tarpon Street within Public Park.

Name of Public Tract (e.g., park)

TYPE OF SITE (select all that apply)

SETTING

☒Land (*terrestrial*)
☐Lake/Pond (*lacustrine*)
☐River/Stream/Creek (*riverine*)
☐Tidal (*estuarine*)
☐Saltwater (*marine*)
☒Wetland (*palustrine*)
  ☐usually flooded
  ☒usually dry
☐Cave/Sink (*subterranean*)
  ☐terrestrial
  ☐aquatic

STRUCTURES OR FEATURES

☐log boat
☐agric/farm building
☐burial mound
☐building remains
☐cemetery/grave
☐dump/refuse
☐earthworks (historic)
☐fort
☐midden
☐mill
☐mission
☐mound, nonspecific
☐plantation
☐platform mound
☐road segment
☐shell midden
☐shell mound
☐shipwreck
☐subsurface features
☐surface scatter
☐well

FUNCTION

☐campsite
☐extractive site
☐habitation (prehistoric)
☒homestead (historic)
☐farmstead
☐village (prehistoric)
☐town (historic)
☐quarry (prehistoric)

Other Features or Functions (Choose from the list or type a response.)
1. — 2.

CULTURE PERIODS (select all that apply)

ABORIGINAL

☐Alachua
☐Archaic (nonspecific)
☐Archaic, Early
☐Archaic, Middle
☐Archaic, Late
☐Belle Glade
☐Cades Pond
☐Caloosahatchee
☐Deptford
☐Englewood
☐Fort Walton
☐Glades (nonspecific)
☐Glades I
☐Glades II
☐Glades III
☐Hickory Pond
☐Leon-Jefferson
☐Malabar I
☐Malabar II
☐Manasota
☐Mississippian
☐Mount Taylor
☐Norwood
☐Orange
☐Paleoindian
☐Pensacola
☐Perico Island
☐Safety Harbor
☐St. Augustine
☐St. Johns (nonspecific)
☐St. Johns I
☐St. Johns II
☐Santa Rosa
☐Santa Rosa-Swift Creek
☐Seminole (nonspecific)
☐Seminole: Colonization
☐Seminole: 1st War To 2nd
☐Seminole: 2nd War To 3rd
☐Seminole: 3rd War & After
☐Swift Creek (nonspecific)
☐Swift Creek, Early
☐Swift Creek, Late
☐Transitional
☐Weeden Island (nonspecific)
☐Weeden Island I
☐Weeden Island II
☐Prehistoric (nonspecific)
☐Prehistoric non-ceramic
☐Prehistoric ceramic

NON-ABORIGINAL

☐First Spanish 1513-99
☐First Spanish 1600-99
☐First Spanish 1700-1763
☐First Spanish (nonspecific)
☐British 1763-1783
☐Second Spanish 1783-1821
☐American Territorial 1821-45
☐American Civil War 1861-65
☐American 19th Century
☐American 20th Century
☐American (nonspecific)
☐African-American

Other Cultures (Choose from the list or type a response. For historic sites, give specific dates.)
1. — 3.
2. — 4.

OPINION OF RESOURCE SIGNIFICANCE

Clear Significance Values

Potentially eligible individually for National Register of Historic Places? ☐yes ☒no ☐insufficient information
Potentially eligible as contributor to a National Register district? ☐yes ☒no ☐insufficient information
Explanation of Evaluation (required if evaluated; use separate sheet if needed)

Seven shovel tests dug within the boundaries of this site during the DFSP pipeline survey. No cultural material associated with the site was identified. Therefore, there is no reason to revise the original NRHP evaluation of not eligible.

Recommendations for Owner or SHPO Action

No further work is recommended.

DHR USE ONLY — OFFICIAL EVALUATION — DHR USE ONLY

NR List Date
☐Owner Objection

SHPO – Appears to meet criteria for NR listing: ☐yes ☐no ☐insufficient info — Date — Init.
KEEPER – Determined eligible: ☐yes ☐no Clear Check Boxes — Date
NR Criteria for Evaluation: ☐a ☐b ☐c ☐d (see *National Register Bulletin 15*, p. 2)

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ARCHAEOLOGICAL SITE FORM

Site #8 HI13768

FIELD METHODS (select all that apply)

SITE DETECTION

- ☐no field check
- ☐literature search
- ☐informant report
- ☐remote sensing
- ☐exposed ground
- ☐posthole tests
- ☐auger tests
- ☐unscreened shovel
- ☐screened shovel
- ☐screened shovel-1/4"
- ☐screened shovel-1/8"
- ☐screened shovel-1/16"

SITE BOUNDARY

- ☐bounds unknown
- ☐none by recorder
- ☐literature search
- ☐informant report
- ☐remote sensing
- ☐exposed ground
- ☐posthole tests
- ☐auger tests
- ☐unscreened shovel
- ☐screened shovel
- ☐block excavations
- ☐estimate or guess

Other methods; number, size, depth, pattern of units; screen size (attach site plan)

SITE DESCRIPTION

Clear Description Values

Extent/Size (m^2) _____ Depth/stratigraphy of cultural deposit (describe below)

Temporal Interpretation - Components (check one): ☐single component ☐multiple component ☐uncertain

Describe each occupation in plan (refer to attached large scale map) and stratigraphically. Discuss temporal and functional interpretations:

Integrity - Overall disturbance: ☐none seen ☐minor ☐substantial ☐major ☐redeposited ☐destroyed-**document!** ☐unknown

Disturbances / threats / protective measures

Surface collection: area collected _____ m^2 # collection units_____ | Excavation: # noncontiguous blocks _____

ARTIFACTS

Clear Artifact Values

Total Artifacts #_____ Ocount Oestimate | Surface #_____ | Subsurface #_____

COLLECTION SELECTIVITY

- ☐unknown
- ☐unselective (all artifacts)
- ☐selective (some artifacts)
- ☐mixed selectivity

SPATIAL CONTROL

- ☐uncollected
- ☐unknown
- ☐general (not by subarea)
- ☐controlled (by subarea)
- ☐variable spatial control
- ☐other (describe in comments below)

ARTIFACT CATEGORIES and DISPOSITIONS

____ - _____
____ - _____
____ - _____
____ - _____
____ - _____
____ - _____
____ - _____
____ - _____

select a disposition from the list below for each artifact category selected at left

- A - category always collected
- S - some items in category collected
- O - observed first hand, but not collected
- R - collected and subsequently left at site
- I - informant reported category present
- U - unknown

Artifact Comments

DIAGNOSTICS (type or mode, and frequency: e.g., *Suwanee ppk, heat-treated chert, Deptford Check-stamped, ironstone/whiteware*)

1. _____ N=____ 4. _____ N=____ 7. _____ N=____
2. _____ N=____ 5. _____ N=____ 8. _____ N=____
3. _____ N=____ 6. _____ N=____ 9. _____ N=____

ENVIRONMENT

Clear Environment Values

Nearest fresh water: Type_____ Name_____ Distance from site (m) _____

Natural community_____ Topography_____ Elevation: Min ____m Max ____m

Local vegetation _____

Present land use _____

SCS soil series _____ Soil association _____

DOCUMENTATION

Clear Documentation Values

Accessible Documentation Not Filed with the Site File - including field notes, analysis notes, photos, plans and other important documents

1) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

2) Document type _____ Maintaining organization _____
Document description _____ File or accession #'s _____

RECORDER & INFORMANT INFORMATION

Informant Information: Name _____
Address / Phone / E-mail _____

Recorder Information: Name _____ Affiliation _____
Address / Phone / E-mail _____

Required Attachments

❶ **PHOTOCOPY OF 7.5' USGS QUAD MAP WITH SITE BOUNDARIES MARKED *and* SITE PLAN**
Plan at 1:3,600 or larger. Show boundaries, scale, north arrow, test/collection units, landmarks and date.

APPENDIX B:
RESUME OF PRINCIPAL INVESTIGATOR

Ryan O. Sipe

POSITION:	Principal Investigator/Senior Archaeologist
EDUCATION:	B.A. Anthropology (2002) The University of North Florida M.A. Social Science (Archaeology Emphasis) (2013) Georgia Southern University
CONTINUING EDUCATION:	Current Archaeological Prospection Advances for Non-Destructive Investigations in the 21st Century FHWA-NHI-310110 Federal-Aid Highways – 101
PROFESSIONAL AFFILIATIONS:	Registered Professional Archaeologist (RPA) Southeastern Archaeological Conference (SEAC) Archaeological Society of South Carolina (ASSC) Southern Georgia Archaeological Research Team (SOGART)

EXPERIENCE:

Mr. Sipe serves as a Principal Investigator/Archaeologist for the firm. He has over 15 years of experience and training in cultural resource management, including archaeological survey, archaeological site assessment, archaeological mitigation, technical report writing, geographic information systems, and public outreach. Mr. Sipe has conducted many cultural resource surveys and data recovery projects throughout the Southeastern United States and has also served as a Field Director on academic field school projects. He has worked with federal, state, and private entities in preparing documents in accordance with Section 106 of the National Historic Preservation Act (NHPA) of 1966. While primarily interested in the late prehistoric cultures of the coastal Southeast, Mr. Sipe also has a strong background in historical research, including early contact/colonial period, plantation, and postbellum archaeology.

The following are projects Mr. Sipe has managed or has served in a supervisory capacity:

- **Phase I Archaeological Survey of the Proposed SR 4/US 1 Widening from Tobacco Road to Meadowbrook Drive, Richmond County, Georgia:** Served as Principal Investigator for this project in Richmond County, Georgia for Edwards-Pitman Environmental, Inc.
- **Phase I Archaeological Survey of the I 20, 26, and 126 Corridor in Richland and Lexington Counties, South Carolina:** Acted as Principal Investigator for this project in Lexington and Richland Counties, South Carolina.
- **Phase I Cultural Resource Survey of the I 85 Widening Corridor from Mile Marker 80 to 96 in Spartanburg and Cherokee Counties, South Carolina.** Served as Principal Investigator for this project in Spartanburg and Cherokee Counties, South Carolina.
- **Phase I Archaeological Survey of the Proposed SR 223/Robinson Avenue Road Improvements, Columbia County, Georgia:** Acting as Principal Investigator for this project in Telfair County, Georgia for Edwards-Pitman Environmental, Inc.

APPENDIX A-2
USFWS Consultation

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

MEMORANDUM FOR U.S. FISH AND WILDLIFE SERVICE
ATTN: MR. JAY HERRINGTON
600 4TH STREET SOUTH
ST PETERSBURG, FL 32399

FROM: 6 CES/CEIE
7621 Hillsborough Loop Drive
MacDill Air Force Base 33621-5207

SUBJECT: Endangered Species Act (ESA) Section 7 Consultation Request, Defense Fuel Receipt Pipelines Project Adjacent to MacDill Air Force Base (AFB)

1. The Defense Logistics Agency (DLA) intends to decommission two existing underground Defense Fuel Receipt Pipelines (Figure 1) and provide new underground Defense Fuel Receipt Pipelines (Figure 2). The new pipelines will provide receipt capacity of Jet A fuel to the Defense Fuel Supply Point (DFSP) Tampa at the northwest corner of MacDill AFB. The new pipeline will be routed from the Chevron Bulk Fuel Terminal at 5500 Commerce Street, Tampa, through a city-owned right-of-way to the DFSP Tampa. Figure 1 is an overview of the current Defense Fuel Receipt Pipelines to be decommissioned and left in place. Figure 2 is an aerial overview of the proposed route of the new pipelines.

2. The existing Defense Fuel Receipt Pipelines have lost about half of their former fuel transfer capacity as a result of natural corrosion during their 60+ years of service combined with the environmental conditions of the area. Given these considerations, a systematic repair or replacement of the current Defense Fuel Receipt Pipelines is needed for continued use of the system.

3. The installation of the new Defense Fuel Receipt Pipelines would include an aboveground section of 10-inch piping extending from the Chevron fuel pipelines and following through the Chevron Bulk Fuel Terminal near the terminal's southeastern boundary. From there, a pair of 8-inch FlexSteel pipelines would travel underground from inside the southeastern corner of the berm that surrounds Chevron Tank #59. The pair of pipelines would then travel eastward under the berm and under a chain link fence towards South Germer Street. The pipelines would reach the public right-of-way along South Germer Street at approximately 100 feet north of the corner of South Germer Street and Tarpon Street. The underground Defense Fuel Receipt Pipelines would then turn southward and extend to the boundary of MacDill AFB near the DFSP Tampa (Figure 1). At this point, the piping would connect to the DFSP Tampa via existing aboveground piping. The underground pipeline route would extend through undeveloped properties owned by Chevron and the City of Tampa.

4. Installation of the underground portions of the Defense Fuel Receipt Pipelines would require traditional open-cut trenching, including clearing an approximately 30-foot-wide swath along the pipeline route. The length of underground piping is expected to total 1,717 feet based on current (35% complete) design drawings. Although the proposed new route of the pipelines avoids most

wetlands (wetland boundaries are shown in Figure 1), some minor wetland impacts (under 0.5 acres) at man-made ditch crossings are possible. There are three identified ditch crossings along the proposed pipeline route. The mangrove wetlands associated with Picnic Island Creek are located west of the Chevron Bulk Fuel Terminal. Their boundaries are delineated in Figure 1 and do not extend west into the project area (aerial-interpreted wetland polygons by National Wetlands Inventory appear inaccurate for this area). MacDill also considered any reasonably foreseeable projects that would also result in wetland impacts and could be constructed around the same time as the Defense Fuel Receipt Pipeline project to determine if cumulative impacts to wetlands would be a concern. Two potential future projects were identified: 1) City of Tampa Rails to Trails project, and 2) Port Tampa Mitigation project. Both of these project are proposed to be constructed within the mangrove wetlands surrounding the DFSP Tampa facility; however, these projects are not currently being designed nor has the wetland permitting process begun for either project. It is not likely that either project would be constructed at the same time as the Defense Fuel Receipt Pipeline project. Therefore, no cumulative impacts are anticipated beyond the less than 0.5 acres describe above.

5. The existing underground piping is planned to be decommissioned and left in situ (Figure 1). The decommissioning would involve emptying and cleaning the pipelines and ensuring that they are gas-free and inert using a flowable fill slurry.

6. The proposed pipeline route is through mixed deciduous forest of native trees and palms and introduced invasive plants. Wabasso-Urban land complex is the dominant soil series in the project area. This soil series is poorly drained, has a depth to water table of about 6 to 18 inches, and is composed primarily of fine sand.

7. A survey for threatened and endangered species was conducted by Bio-Tech Consulting on 25 Nov 2019 at the project area. The survey consisted of standard methods to observe imperiled species directly and indirectly (e.g., tracks, burrows, scat, vocalizations). The Wood Stork (*Mycteria americana*) was the only federally threatened or endangered species to have been recorded from the project area by Bio-Tech Consulting. A search of the online birding database eBird on 14 Dec 2020 revealed that the most recent records of Wood Storks reported to eBird involved four Wood Storks that were observed on 9 Jan 2011 on nearby Port Tampa property. A site visit was conducted on 28 Oct 2020 by ANAMAR Environmental Consulting and Austin Brockenbrough & Associates, resulting in no observations of any threatened or endangered species. At this time, an exact quantity of wetland impacts has not been defined. Based on the initial assessment of wetland disturbance associated with installation of the pipeline, it appears that substantially less than 0.5 acres of suitable foraging habitat for Wood Storks would be affected by the project.

8. A query of the Florida Natural Areas Inventory (FNAI) Biodiversity Matrix database was conducted on 21 Aug 2020 for matrix unit 24453, which is a 1-square-mile area that includes the approx. 2.8-acre project area along with the Chevron Bulk Fuel Terminal, Port Tampa City, and much of the western portion of MacDill AFB. The query did not indicate that any Endangered Species Act (ESA) listed species have been documented from this matrix unit and reported to FNAI. However, the query indicated that the federally threatened Wood Stork and the federally threatened Florida Manatee (*Trichechus manatus latirostris*) were likely to occur within the matrix unit.

9. Florida supports an estimated 200 to 500 breeding pairs of the federally threatened Eastern Black Rail (*Laterallus jamaicensis jamaicensis*) (ESA protection effective 9 Nov 2020). The project area lacks the extensive marsh habitat typically used for nesting by coastal populations of this subspecies. Online searches on 15 Dec 2020 of the birding database eBird and the University of Florida Ornithology Collection database revealed no records of Black Rails anywhere in Hillsborough County, Florida.

10. Populations of the Gopher Tortoise (*Gopherus polyphemus*) inhabiting Florida and surrounding states are currently candidates for listing under the ESA. No direct observations or indirect evidence (e.g., burrows, scat, tracks) of Gopher Tortoises occurring within the project area were noted by BioTech Consulting during their survey. Habitats within the project area and west of this area are composed of poorly drained to very poorly drained soils having a shallow depth to the water table, indicating that these areas are unsuitable for this species. Thus, the occurrence of this species within the project area is unlikely. However, it is possible that Gopher Tortoises may occur along the edges of the baseball diamond that is east of the project area, where the soils have been anthropogenically altered.

11. Although it is difficult to rule out the possibility that the federally threatened Eastern Indigo Snake (*Drymarchon couperi* [including the population proposed as the new species *D. kolpobasileus*]) may occur in the project area, this area appears poorly suited for this species. The area lacks Gopher Tortoise burrows which Eastern Indigo Snakes are well-known to utilize to avoid desiccation and as shelter against extreme temperatures. This species has also been documented to utilize voids within old tree stumps and in karst formations such as limestone solution holes. The presence of chthonic subterranean microhabitats that could be used by this species for desiccation prevention and temperature regulation have not been observed within the project area. However, it is difficult to rule out such microhabitats. The mangrove wetland habitat to the west of the project area appears suitable for foraging by the Eastern Indigo Snake. A search of the online database iNaturalist showed one record of this species in the Tampa area, observed and photographed on 7 Oct 2018, from an undisclosed location. No records were found for this species anywhere in Hillsborough County from searching the online databases HerpMapper and the University of Florida's Herpetology Collection. The Eastern Indigo Snake has not been recorded within MacDill AFB and; therefore, its presence within the project area seems unlikely.

12. Florida Manatees have been observed in the past in MacDill AFB's Channel A and in both marina basins. However, there are no known records of Florida Manatees having been observed in or near the man-made ditches within the project area. A photo-documented observation on 29 Oct 2017 of an adult Florida Manatee was recorded in iNaturalist from a canal in northern Picnic Island Creek.

13. Based on analysis of the proposed Defense Fuel Receipt Pipelines project and the associated project area, and in compliance with Section 7(a)(2) of the ESA, the Air Force has determined that the Proposed Action may affect but is not likely to adversely affect ESA-listed or candidate species such as the Eastern Indigo Snake, Gopher Tortoise, Eastern Black Rail, Wood Stork, and Florida Manatee. In addition, the project area is devoid of designated critical habitat. Pre-construction briefs will be given to construction crews to inform them of appropriate procedures should any of these, or other ESA-protected species, be observed. An emphasis will be given for Gopher Tortoise and Eastern Indigo Snake protection measures.

14. The Air Force requests on behalf of DLA your concurrence on the determination that the planned fuel pipeline project may affect but is not likely to adversely affect the listed species in the above paragraphs. If you have any questions or require additional information on the Proposed Action, please contact me or Mr. Jason Kirkpatrick, 6 CES/CEIE at (813) 828-2718 or (813) 828-0459, respectively.

RIDER.ANDREW.WARRICK.1153194676

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Date: 2021.01.14 07:04:48 -05'00'

ANDREW W. RIDER, GS-12, DAF
Chief, Environmental Element

FIGURES

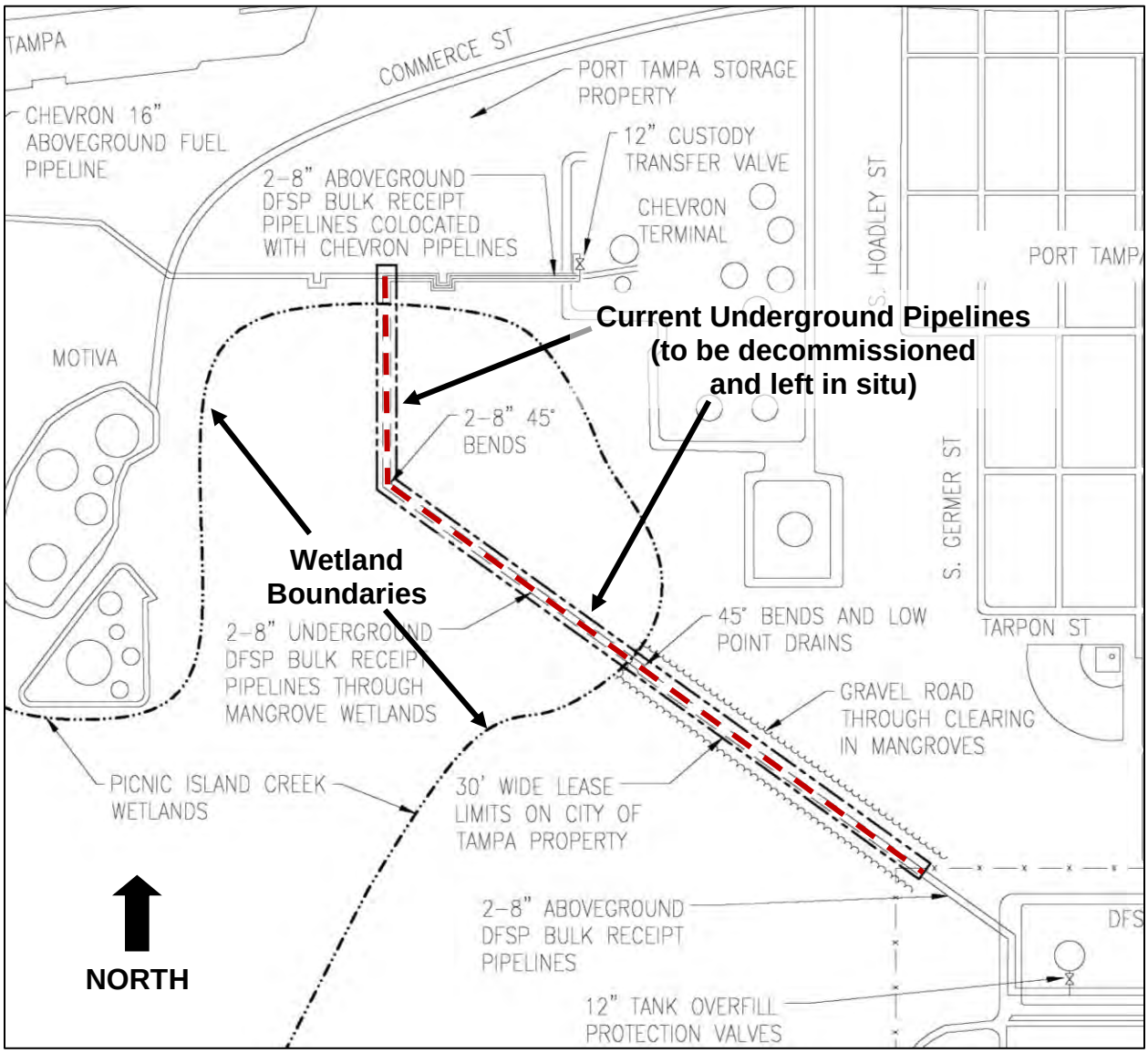

Figure 1. Overview of the Current Defense Fuel Receipt Pipelines (dashed line in red) and the Wetland Boundaries Associated with Picnic Island Creek (dashed line in black)

Figure 2. Aerial Image with General Route of Underground Portion of Proposed New Pipeline (yellow line) and Approximate Project Area (red polygon)

United States Department of the Interior

US FISH AND WILDLIFE SERVICE
Florida Ecological Services Office
7915 Baymeadows Way, Suite 200
Jacksonville, FL 32256

FWS Log No. 04EF1000-2021-I-0255

January 29, 2020

Andrew W. Rider, 6 CES/CEIE Chief
6 Civil Engineering Squadron
6 Air Refueling Wing
7621 Hillsborough Loop Drive
MacDill AFB, Florida 33621

Mr. Rider:

The U.S. Fish and Wildlife Service (Service) has reviewed your correspondence dated January 14, 2020 regarding the project identified below, with additional correspondence on January 28, 2021. Prior technical assistance was provided by the Service on December 2, 2020. We submit the following comments in accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) and the Marine Mammal Protection Act of 1972 (MMPA) as amended (16 U.S.C. 1361 *et seq.*).

PROJECT	FWS LOG NUMBER
MacDill AFB Defense Logistics Agency New Pipeline Construction	04EF1000-2021-I-0255

The applicant, the United States Air Force on behalf of the Defense Logistics Agency (DLA), is proposing to decommission two existing underground Defense Fuel Receipt Pipelines and provide new underground Defense Fuel Receipt Pipelines. The new pipelines will provide receipt capacity of Jet A fuel to the Defense Fuel Supply Point (DFSP) Tampa at the northwest corner of MacDill Air Force Base (AFB). The new pipeline will be routed from the Chevron Bulk Fuel Terminal at 5500 Commerce Street, Tampa, Hillsborough County, Florida through a city-owned right-of-way to the DFSP Tampa. The decommissioned pipelines will be left in place, emptied, cleaned, and filled with a flowable fill slurry. The proposed project is located at the Chevron Bulk Fuel Terminal, a City of Tampa rights-of-way, and MacDill Air Force Base. All are located in Hillsborough County, Florida (Section 28, Township 30, Range 18).

The Air Force reviewed this proposed project for potential impacts to federally-listed species and determined the proposed project occurs within the range of the West Indian (Florida) manatee (*Trichechus manatus latirostris*), wood stork (*Mycteria americana*), eastern black rail (*Laterallus jamaicensis jamaicensis*), bald eagle (*Haliaeetus leucocephalus*) and eastern indigo snake

(*Drymarchon corais couperi)*. There are no known federally listed plants occurring within the proposed project area.

West Indian (Florida) manatee

The Air Force evaluated potential impacts to the West Indian (Florida) manatee using the *Effect Determination Key for the Manatee in Florida, April 2013* and determined the proposed project may affect, but is not likely to adversely affect the species. This is due to the lack of access to the areas where the pipeline construction will cross tidally-influenced ditches without the aid of high water levels and the implementation of the standard manatee conditions for in-water work. The Service therefore concurs with the Air Force's determination that the proposed project "may affect, but is not likely to adversely affect" the manatee. In addition, because no incidental take of manatees is anticipated, no authorization under the MMPA is needed.

Wood stork

The proposed project will occur within two core foraging areas for wood stork and involve the direct and temporary disturbance of approximately 0.077 acres of suitable foraging habitat (SFH) acres as determined through desktop aerial image analysis, including construction and equipment laydown and staging areas. The Air Force has determined, in accordance to the *Jacksonville Wood Stork Effect Determination Key for Wood Stork, September 2008*, that the direct impacts to SFH fall below 0.5 acres stipulated in the consultation key. The temporary and indirect effects to the adjacent stormwater wetland system are negligible and discountable. Wood stork have not been observed utilizing MacDill AFB for nesting or the proposed project area for roosting or nesting. The Service concurs with the Air Force's determination that the proposed project "may affect, but not likely to adversely affect" the wood stork.

Eastern black rail

The eastern black rail was listed as a federally threatened species in the Federal Register (85 FR 63764) on October 8, 2020 and became effective November 9, 2020. The Service is currently working on a species-specific consultation key, though it is currently unavailable. This species inhabits high marsh areas characterized by fine-stemmed emergent plants, rushes, grasses, and/or sedges. MacDill AFB has previously been identified as having potential habitat for this species, though no incidental observations or species-specific surveys have occurred or been completed. The proposed project does not occur within an area identified to have eastern black rail habitat and it is not known at this time whether individuals found within the region are year-round inhabitants or migrants. The Service concurs with the Air Force's determination of "may affect, but not likely to adversely affect" for the eastern black rail.

Eastern indigo snake and gopher tortoise

The Service concurs with the Air Force's determination that the project "may affect, but is not likely to adversely affect" the eastern indigo snake, based on the *Revised Consultation Key for the Eastern Indigo Snake, 2017*, due to the project implementing the most current guidance for Standard Protection Measures for the eastern indigo snake, being less than 25 acres and having

no known refugia where a snake could be buried, trapped and/or injured. Although the Service does not consult on candidate species such as the gopher tortoise (*Gopherus polyphemus*), the Service greatly appreciates the effort the Air Force and DLA will engage in to limit the risk to this species during the project in accordance with the *Gopher Tortoise Candidate Conservation Agreement, 2012*.

Although this does not represent a biological opinion as described in section 7 of the Act, it does fulfill the requirements of the Act and no further action is required. Reinitiation of consultation is required if modifications are made to the project that were not previously considered and may adversely affect the West Indian (Florida) manatee, wood stork, eastern indigo snake, and eastern black rail or its habitat; if additional information involving potential effects to listed species not previously considered becomes available; or if take of listed species occurs.

If you have any questions regarding this response, please contact Brendan Myers of my staff by e-mail at brendan_myers@fws.gov or by calling (850) 348-6560.

Sincerely,

CECELIA DZIERGOWSKI

Digitally signed by CECELIA DZIERGOWSKI
Date: 2021.01.29 16:00:31 -05'00'

Annie Dziergowski
Deputy Field Supervisor

CC: Jason Kirkpatrick (MacDill AFB)
Andrew Lykens (MacDill AFB)

APPENDIX A-3
NOAA Consultation

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

MEMORANDUM FOR NOAA NATIONAL MARINE FISHERIES SERVICE
SOUTHEASTERN REGIONAL OFFICE
263 13TH AVENUE SOUTH
ST PETERSBURG, FL 33701

FROM: 6 CES/CEIE
7621 Hillsborough Loop Drive
MacDill Air Force Base 33621-5207

SUBJECT: Endangered Species Act (ESA) Section 7 Consultation Request, Defense Fuel Receipt Pipelines Project Adjacent to MacDill Air Force Base (AFB)

1. The Defense Logistics Agency (DLA) intends to decommission two existing underground Defense Fuel Receipt Pipelines (Figure 1) and provide new underground Defense Fuel Receipt Pipelines (Figure 2). The new pipelines will provide receipt capacity of Jet A fuel to the Defense Fuel Supply Point (DFSP) Tampa at the northwest corner of MacDill AFB. The new pipeline will be routed from the Chevron Bulk Fuel Terminal at 5500 Commerce Street, Tampa, through a city-owned right-of-way to the DFSP Tampa. The proposed new pipeline route will cross three ditches that are connected to Picnic Island Creek in Old Tampa Bay. Figure 1 is an overview of the current Defense Fuel Receipt Pipelines to be decommissioned and left in place. Figure 2 is an aerial overview of the proposed route of the new pipelines.

2. The existing Defense Fuel Receipt Pipelines have lost about half of their former fuel transfer capacity as a result of natural corrosion during their 60+ years of service combined with the environmental conditions of the area. Given these considerations, a systematic repair or replacement of the current Defense Fuel Receipt Pipelines is needed for continued future use of the system.

3. The installation of the new Defense Fuel Receipt Pipelines would include an aboveground section of 10-inch piping extending from the Chevron fuel pipelines and following through the Chevron Bulk Fuel Terminal near the terminal's southeastern boundary. From there, a pair of 8-inch FlexSteel pipelines would travel underground from inside the southeastern corner of the berm that surrounds Chevron Tank #59. The pair of pipelines would then travel eastward under the berm and under a chain link fence towards South Germer Street. The pipelines would reach the public right-of-way along South Germer Street at approximately 100 feet north of the corner of South Germer Street and Tarpon Street. The underground Defense Fuel Receipt Pipelines would then turn southward and extend to the boundary of MacDill AFB near the DFSP Tampa (Figure 1). There the piping would connect to the DFSP Tampa via existing aboveground piping. The underground pipeline route would extend through undeveloped properties owned by Chevron and the City of Tampa.

4. Installation of the underground portions of Defense Fuel Receipt Pipelines would require traditional open cut trenching, including clearing an approximately 30-foot-wide swath along the pipeline route. The length of underground piping is expected to total 1,717 feet based on current

(35% complete) design drawings. Although the proposed new route of the pipelines avoids most wetlands (wetland boundaries are shown in Figure 1), some minor wetland impacts (under 0.5 acres) at man-made ditch crossings are possible. Three such ditch crossings are identified along the proposed pipeline route. The mangrove wetlands associated with Picnic Island Creek are located west and south of the Chevron Bulk Fuel Terminal. Their boundaries are delineated in Figure 1 and do not extend east into the project area (aerial-interpreted wetland polygons by National Wetlands Inventory appear inaccurate for this area).

5. The existing underground piping is planned to be decommissioned and left in situ (Figure 1). The decommissioning would involve emptying and cleaning the pipelines and ensuring that they are gas-free and inert using a flowable fill slurry.

6. The proposed pipeline route is through mixed deciduous forest of native trees and palms and introduced invasive plants. Wabasso-Urban land complex is the dominant soil series in the project area. This soil series is poorly drained, has a depth to water table of about 6 to 18 inches, and is composed primarily of fine sand.

7. A survey for threatened and endangered species was conducted by Bio-Tech Consulting on 25 Nov 2019 at the project area. The survey consisted of standard methods to observe imperiled species directly and indirectly (e.g., tracks, burrows, scat, vocalizations). No NOAA Fisheries-managed species were recorded during the survey. A site visit was conducted on 28 Oct 2020 by ANAMAR Environmental Consulting and Austin Brockenbrough & Associates, resulting in no observations of any threatened or endangered species.

8. A query of the Florida Natural Areas Inventory (FNAI) Biodiversity Matrix database was conducted on 21 Aug 2020 for matrix unit 24453, which is a 1-square-mile area that includes the approx. 2.8-acre project area along with the Chevron Bulk Fuel Terminal, Port Tampa City, and much of the western portion of MacDill AFB. The query did not indicate that any ESA-listed species have been documented from this matrix unit and reported to FNAI. The query did not indicate that any NOAA Fisheries-managed threatened or endangered species were likely to occur within the matrix unit.

9. A search of the International Sawfish Encounter Database at the University of Florida (UF) revealed a total of 29 unique encounters with federally endangered Smalltooth Sawfish (*Pristis pectinata*) recorded from Hillsborough County, Florida. The records spanned from August 1957 to 3 May 2019. Of these, six encounters were recorded near MacDill AFB or Picnic Island (see Table 1 below). These six encounters occurred from 1999 to 2017. Figure 3 is a chart showing the locations of these six encounters relative to MacDill AFB and other landmarks. Two encounters were located near Picnic Island but were outside of Picnic Island Creek. No records of Smalltooth Sawfish are known from the ditches that run from Picnic Island Creek eastward to the project area. Tampa Bay is outside (north) of the designated critical habitat for this primarily tropical species.

Table 1. Smalltooth Sawfish (*Pristis pectinata*) Encounters near MacDill AFB or Picnic Island Based on a Query of the International Sawfish Encounter Database (ISED)

Date of Encounter	ISED ID	Locality Description	Bottom Type	Latitude	Longitude
02/17/1999	ISED-00075	Tampa Bay near MacDill AFB	sand, mud	27.83716667	-82.46916667

08/xx/2004	ISED-00550	Grass flat at south end of MacDill AFB, near creek mouth off Gadsden Point	sand, mud	27.82254	-82.48873
06/xx/2007 – 08/xx/2007	ISED-01646	Between Picnic Island and MacDill AFB, 30 yards from the beach on the eastern side of the point	(not recorded)	27.84825	-82.55085
04/11/2015	NSED-08652	Grass flat at the south end of MacDill AFB inside the restricted area/exclusion zone	sand, seagrass	27.816761	-82.500133
08/12/2015	NSED-08931	Mangroves at Picnic Island	sand, seagrass	27.851317	-82.547967
03/27/2017	NSED-10375	Between Ballast Point and MacDill AFB	sand, rocks	27.866883	-82.481883

ISED = International Sawfish Encounter Database

NSED = National Sawfish Encounter Database (predecessor of the ISED)

Source: ISED query results provided on 15 Dec 2020 by Tyler Bowling, Florida Program for Shark Research, Florida Museum of Natural History.

10. The federally threatened Giant Manta Ray (*Manta birostris*) includes the Gulf of Mexico in its range and probably enters Tampa Bay on occasion. Such occasions are probably much rarer now than when Springer and Woodburn (1960) noted that individuals "are frequently seen in the bays and on the Gulf beaches" in their landmark work "An Ecological Study of the Fishes of the Tampa Bay Area." The UF Ichthyology Collection database and the Florida Fish and Wildlife Research Institute (FWRI) database were searched on 16 Dec 2020 but revealed no records of the Giant Manta from Tampa Bay. It seems very unlikely for this species to enter Picnic Island Creek or its associated ditches.

11. Federally threatened Gulf Sturgeon (*Acipenser desotoi* [also referred to as *Acipenser oxyrinchus desotoi*]) have been recorded from Tampa Bay in the past. The UF Ichthyology Collection database and the FWRI database were searched on 15–16 Dec 2020, revealing three sturgeon records from Tampa Bay (Table 2). The UF database included one record from Tampa Bay; specimen UF 138941 was collected on 11 Dec 1987 at the northernmost drawbridge of the Sunshine Skyway Bridge in southern Tampa Bay (Pinellas County). This location is several miles southwest of the project area. Although this specimen was cataloged as *Acipenser oxyrinchus* (the Atlantic Sturgeon), it is probably a Gulf Sturgeon based on the latest research on Gulf and Atlantic Sturgeon species. The "South Atlantic Distinct Population Segment" of Atlantic Sturgeon is also federally protected as endangered. A specimen recorded in the FWRI online database as FWRI 18060 and having the same date of collection and similar locality coordinates as UF 138941 may be samples from the same specimen.

12. A large Gulf Sturgeon was discovered dead on Davis Island in Hillsborough Bay (Hillsborough County) on 5 March 2018 and was necropsied by researchers from FWRI. This specimen (FWRI 32937) was found closest to the project area but was still several miles from Picnic Island Creek. Overall, it is very unlikely that Gulf Sturgeon would be found in the ditches within the project area as no records were found from Picnic Island Creek and the use of shallow ditches seems unlikely for this species.

Table 2. Gulf Sturgeon (*Acipenser desotoi*) Records from Tampa Bay Based on a Search of Institutional Collection Databases

Date Collected	Specimen ID	Locality Description	County	Latitude	Longitude
12/11/1987	UF 138941	Northernmost drawbridge along the Sunshine Skyway Bridge, southern Tampa Bay	Pinellas	27.68333	-82.6667
12/11/1987	FWRI 18060	Tampa Bay (may be the same specimen as UF 138941 above)	Pinellas	27.69195	-82.6786
03/05/2018	FWRI 32937	Davis Island, Hillsborough Bay	Hillsborough	27.91097	-82.446

UF = University of Florida

FWRI = Florida Fish and Wildlife Research Institute

Sources: UF Ichthyology Collection online database (http://specifyportal.flmnh.ufl.edu/fishes/) and the FWRI Ichthyology Collection online database (https://webportal.specifycloud.org/fwrf/) searched 15–16 Dec 2020.

13. Online databases were searched on 15 Dec 2020 for records of federally threatened or endangered sea turtle species within the vicinity of Picnic Island Creek. These consisted of the UF Herpetology Collection along with the amateur naturalist sites Naturalist and HerpMapper. No records were found for Loggerhead Sea Turtles (*Carettta caretta*), Green Sea Turtles (*Chelonia mydas*), Hawksbill Sea Turtles (*Eretmochelys imbricata*), Kemps Ridley Sea Turtles (*Lepidochelys kempii*), or Leatherback Sea Turtles (*Dermochelys coriacea*) in Picnic Island Creek or its associated network of ditches.

14. Based on analysis of the proposed Defense Fuel Receipt Pipelines project and the associated project area, and in compliance with Section 7(a)(2) of the ESA, the Air Force has determined that the Proposed Action may affect but is not likely to adversely affect ESA-listed species such as the Smalltooth Sawfish, Giant Manta Ray, Gulf Sturgeon, and various sea turtle species. In addition, the project area is devoid of designated critical habitat. Pre-construction briefs will be given to construction crews to inform them of appropriate procedures should any of these, or other ESA-protected species, be observed.

15. An Environmental Assessment is being prepared to address the potential environmental impacts as required under the National Environmental Policy Act (NEPA). The Air Force requests concurrence from NOAA Fisheries on the above-stated determination of effect for NOAA Fisheries-managed species. The latest Sea Turtle and Smalltooth Sawfish Construction Conditions will be followed. See also, the NOAA Fisheries Section 7 consultation checklist (PDF) included with this submittal.

16. If you would like to inspect the proposed project area, or if you have any questions or require additional information on the Proposed Action, please contact Mr. Andy Rider or Mr. Jason Kirkpatrick, 6 CES/CEIE at (813) 828-2718 or (813) 828-0459, respectively.

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Date: 2021.01.14 06:58:35 -05'00'

ANDREW W. RIDER, GS-12, DAF
Chief, Environmental Element

Jason Seitz

From: KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
Sent: Tuesday, January 19, 2021 11:29 AM
To: Bryan Strayer; Olivia J. Langford; Jason Seitz
Subject: FW: [Non-DoD Source] Re: DLA Fuel Receipt Pipeline - MacDill AFB - NOAA Consultation
Attachments: NOAA Consult Ltr v2 FINAL 14Jan21.pdf; Figures DLA Pipeline Location.pdf; [Non-DoD Source] Re: DLA Fuel Receipt Pipeline - MacDill AFB - NOAA Cons... (13.5 KB)

ALCON; Below is the response from NOAA Habitat Conservation Division. We are still awaiting a response from the NOAA Protected Species Division. We submitted the letter to NOAA through their consultation website, per their request.

JasonK

JASON W. KIRKPATRICK, Contractor, PAE Inc.
Environmental Flight Manager
Cell 813-614-5729

From: Mark Sramek - NOAA Federal <mark.sramek@noaa.gov>
Sent: Friday, January 15, 2021 6:52 PM
To: KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
Cc: RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>; Myers, Brendan <brendan_myers@fws.gov>; _NMFS ser HCDconsultations <nmfs.ser.hcdconsultations@noaa.gov>
Subject: Re: [Non-DoD Source] Re: DLA Fuel Receipt Pipeline - MacDill AFB - NOAA Consultation

Hi Jason,

Thank you for your follow up email below regarding the subject project. NOAA's National Marine Fisheries Service, Southeast Region, Habitat Conservation Division, has reviewed the subject Department of the Air Force/Defense Logistics Agency fuel pipeline replacement activities proposed at MacDill Air Force Base in Hillsborough County, Florida.

From our review of the additional information in your email and attached project description, evaluation of the project areas using Google Earth Pro software, and proposed restoration of the wetland areas following construction, we anticipate any adverse effects that might occur on marine and anadromous fishery resources would be minimal. Therefore, we do not have any essential fish habitat conservation recommendations to provide and no further consultation with our office is necessary regarding these activities.

Mark
727-824-5311

27 51' 19.4"
082 32' 26.5"

Wetland (Forested, Estuarine)

---------- Forwarded message ---------
From: **KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE** <jason.kirkpatrick.2.ctr@us.af.mil>

Date: Thu, Jan 14, 2021 at 6:09 PM
Subject: RE: [Non-DoD Source] Re: DLA Fuel Receipt Pipeline - MacDill AFB - NOAA Consultation
To: Mark Sramek - NOAA Federal <mark.sramek@noaa.gov>
Cc: Joe Heublein - NOAA Federal <joe.heublein@noaa.gov>, brendan_myers@fws.gov <brendan_myers@fws.gov>, RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>

Mark; Good afternoon.

I got some feedback from the environmental analysis consulting team (see attached, with photograph). There are still some details to be worked out (regarding replanting the site) during the design process, but see the below response to give you an initial feel for the site conditions and project construction plans.

1. The ditches are tidally influenced and both red and black mangroves are found along the ditch banks. Impacts to mangroves are expected since the design currently calls for cut-and-cover installation of the new fuel transfer pipes, even through the drainage ditches. The impacts would be temporary and are estimated to be roughly 2,700 square feet in total area (30 ft x 30 ft x 3 ditches).

2. No permanent impacts to adjacent wetlands would occur with the project. Access to the construction corridor can be accomplished through adjacent uplands and no construction activities within adjacent wetlands (besides the 3 drainage ditches) would be required (or expected). Construction activities within the drainage ditches would result in temporary impacts to mangroves since the construction approach is currently a cut-and-cover installation for the piping. Design drawings will include instructions to minimize impacts mangroves to the extent practicable. No changes to the ditch bottom elevations or hydrology of the drainage ditches would occur with the project and upon completion of the work, the drainage ditch sites will have the correct hydrology to support mangroves. We will work with the project design team to include replanting of disturbed ditch banks (wetlands) with appropriate mangrove species to encourage the quickest re-establishment of a mangrove canopy in the disturbed wetland areas; however, if replanting is not an option, the hydrology of restored sites will be suitable for natural recruitment of wetland species, including mangroves. Over the long term, these drainage ditches will continue to support mangroves.

Please let us know if I have mis-interpreted your questions below or if you require any additional information. If you have any specific requirements related to restoring the tidally influenced drainage ditches after construction, please let us know. We are standing by for additional feedback.

Thank you. Talk to you soon.

Jason K

JASON W. KIRKPATRICK, Contractor, PAE Inc.

Environmental Flight Manager

Cell 813-614-5729

From: Mark Sramek - NOAA Federal <mark.sramek@noaa.gov>
Sent: Thursday, January 14, 2021 8:57 AM
To: KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
Cc: Joe Heublein - NOAA Federal <joe.heublein@noaa.gov>; brendan_myers@fws.gov; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>
Subject: [Non-DoD Source] Re: DLA Fuel Receipt Pipeline - MacDill AFB - NOAA Consultation

Good morning Jason,

Thank you for your email and I hope my message finds you/yours well following the holidays and into 2021.

In reviewing the USAF coordination letter, Item 4 discusses anticipated wetland impacts associated with this project. Specifically, some minor wetland impacts (less than one-half acre) are expected to occur at three man-made ditch crossings on MacDill AFB. Onsite mangrove wetlands associated with Picnic Island Creek are located west and south of the Chevron Bulk Fuel Terminal.

I have two questions:

1. Would mangrove wetlands be impacted or are they outside of the proposed pipeline construction corridor, and

2. Would unavoidably impacted wetlands adjacent to the three man-made ditch crossing be graded and re-planted with comparable wetland species (or otherwise be allowed to recruit replacement wetland vegetation naturally)?

Please advise.

All the best to you in 2021!

Mark

On Thu, Jan 14, 2021 at 8:14 AM KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil> wrote:

> Good morning Mark & Joe;
>
> Wasn't sure exactly who to send this consultation letter to, but I trust that you will get it pushed in the right direction in the event that you are not the correct recipient.
>
> The Defense Logistics Agency needs to replace the aging fuel transfer pipeline between the Chevron Terminal and the fuel farm on MacDill AFB. The new pipeline will be installed below ground and within an upland environment (on property owned by the City of Tampa) although the pipeline installation will involve three tidal ditch crossings. The existing fuel transfer pipeline (located in mangrove wetlands) will be abandoned in place. We request your feedback on the attached consultation letter as part of the Air Force Environmental Impact Analysis Process.
>
> Please let me know if you have any questions.
>
> JasonK
>
> JASON W. KIRKPATRICK, Contractor, PAE Inc.
>
> 6th Civil Engineer Squadron
>
> 7621 Hillsborough Loop Dr.
>
> MacDill AFB, FL 33621
>
> Cell 813-614-5729
>
> Comm 813-828-0459
>
> DSN 968-0459

--

Mark Sramek

Fishery Biologist, Southeast Regional Office

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--
Mark Sramek
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FIGURES:

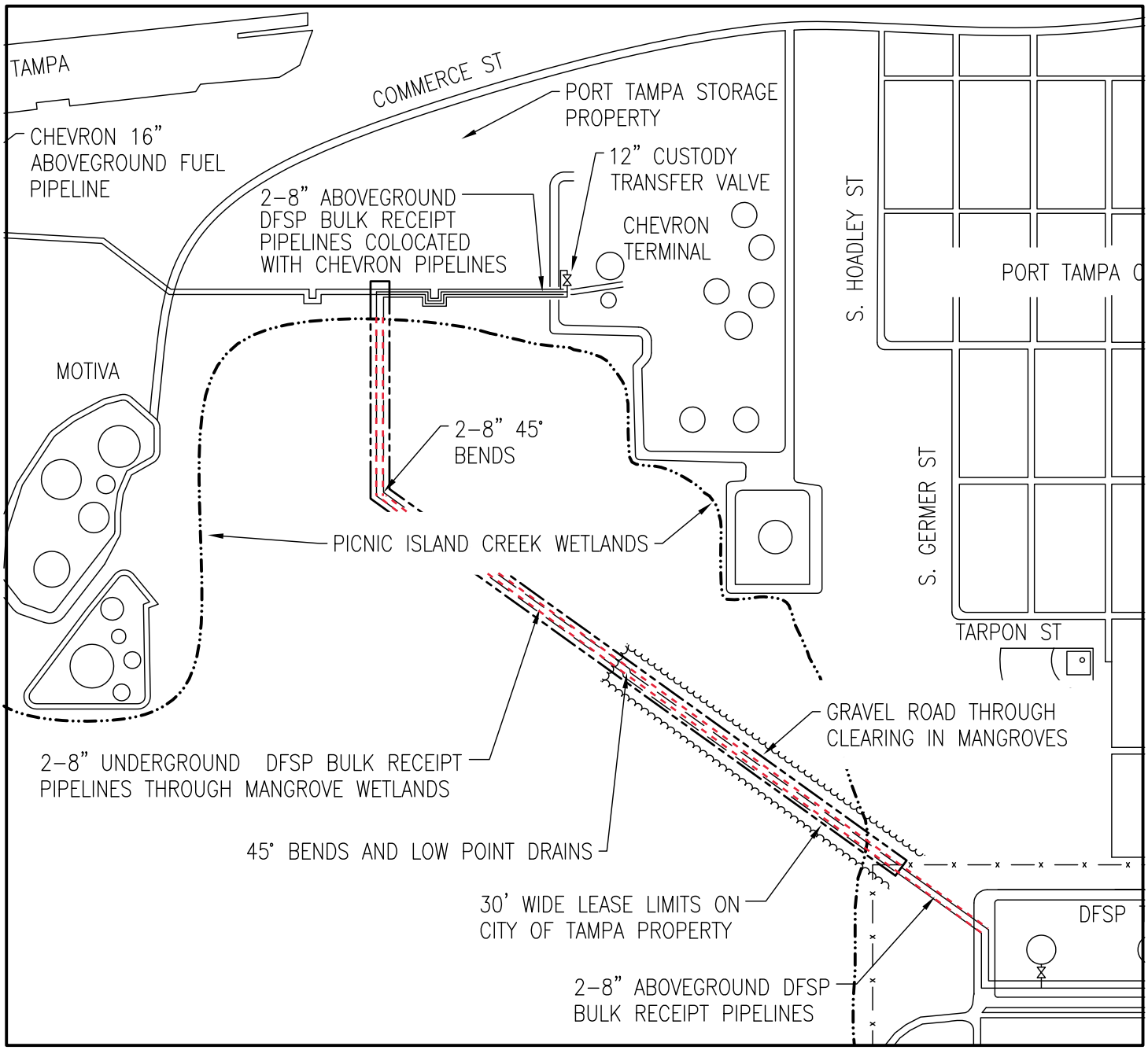

Figure 1. Overview of the Current Defense Fuel Receipt Pipelines (Dashed line in red) and the Wetland Boundaries Associated with the Picnic Island Creek (Dashed line in black)

Figure 2. Aerial Image with General Route of Underground Portion of Proposed New Pipeline (yellow line) and Approximate Project Area (red polygon)

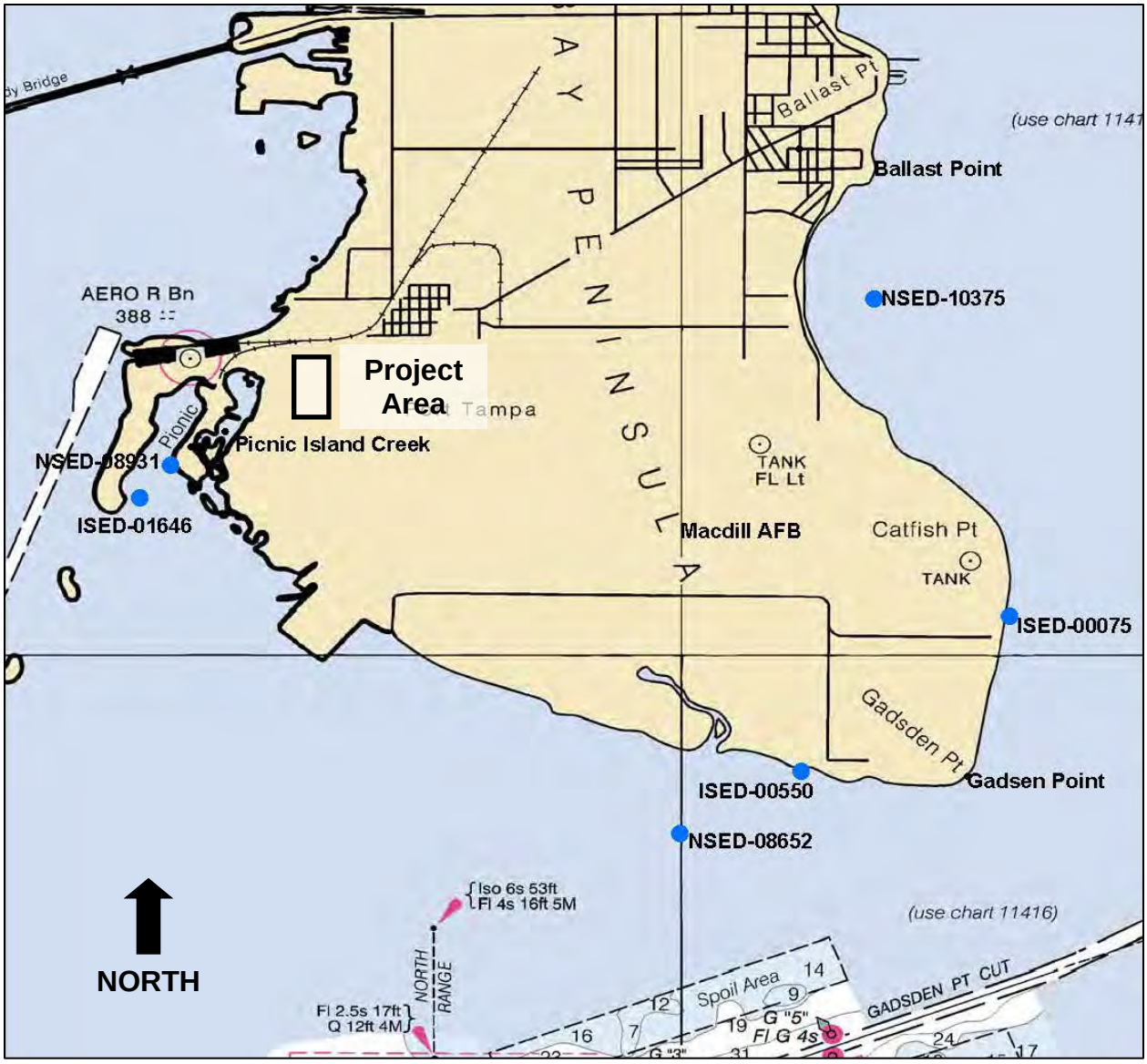

Figure 3. Encounters with Smalltooth Sawfish (*Pristis pectinata*) Recorded from near MacDill AFB and Picnic Island based on a International Sawfish Encounter Database (ISED) Query

Notes: Blue dots each represent an encounter with a Smalltooth Sawfish; ISED = International Sawfish Encounter Database; NSED = National Sawfish Encounter Database (predecessor of the ISED); see Table 1 for details on each sawfish encounter.

Source: ISED query results provided on 15 Dec 2020 by Tyler Bowling, Florida Program for Shark Research, Florida Museum of Natural History.

From:	Karla Reece - NOAA Federal
To:	KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE
Cc:	LYKENS, ANDREW S CTR USAF AMC 6 CES/CEIE; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE
Subject:	Re: [Non-DoD Source] MacDill AFB Section 7 Consultation requests
Date:	Friday, February 5, 2021 11:03:04 AM

All,

Thank you for taking the time to talk with me today about these 2 projects you requested ESA Section 7 Consultation for recently.

DLA Fuel Receipt Pipeline - MacDill AFB: We talked about the lack of a route of effects to our species for this project based on the project location due to the shallow ditches leading to the project area. We talked about installing turbidity curtains in the dry and in a way that would not allow species to be entangled or trapped behind the curtains. Implementing the project in this fashion mitigates the risks to species because the project area is isolated behind the turbidity curtains. Additionally, the area is upstream of shallow tidal creeks that have minimal potential for our species to be present due to the shallow depths and location.

MacDill AFB Golf Course Ave: Similar to the Pipeline project, this action is located within a tidally influenced canal (approximately 3-feet deep at high water). You plan to install a temporary rubberized dike system to isolate the project area from marine waters during low water tide levels. Installing this dike in lower water conditions will allow you to confirm the absence of ESA listed species (you determined NLAA for Smalltooth Sawfish, the five sea turtle species, Gulf Sturgeon, or Giant MantaRay) before installation. Once the dike is installed, I see no route of effects to any of these species for project work carried out behind the dike.

In situations like this where the project areas are isolated from waters where our species occur and other routes of effect are not identified, it is appropriate to determine "No Effect" for the project. NMFS does not provide concurrence on an action agency's no effect determination. It is prudent to document in project records the rationale behind your 'no effect' decisions as it will act as the official ESA consultation Agency's no-effect determination. In this case, I encourage you to save this email to the project files as that documentation. You can, of course, add additional documentation confirming the shallow depth of the water (which limits our species ability to access the areas), and the mitigation requirements for the project of installing the barriers in the dry after confirming the lack of our species upstream of the barriers.

I hope this helps. Please reach out if you have any questions, and please let me know if you agree and intend to withdraw these consultation requests.

Thanks again.

Karla

I am Teleworking due to Covid-19. If you need to reach me directly please call my cell during business hours (9 am-3:30 pm M-F) at 727/612-2012

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Karla Reece-
Section 7 Team Lead
Interagency Cooperation Branch
Protected Resources
NOAA Fisheries | U.S. Department of Commerce
Southeast Regional Office
National Marine Fisheries Service
Office: 727/824-5348

email: karla.reece@noaa.gov

Section 7 Guidance Webpage - UPDATED URL

Action Agencies, want your consultations quicker? Check out the Expedited process!

On Thu, Feb 4, 2021 at 3:14 PM KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil> wrote:

> Good afternoon Karla; It looks like tomorrow between 9 and 11 works for all of us. I can provide a call in number and code to use since most are working from home. Will that work? Shall we make is 0900?
>
> JasonK
>
> JASON W. KIRKPATRICK, Contractor, PAE Inc.
>
> Environmental Flight Manager
>
> Cell 813-614-5729
>
> **From:** Karla Reece - NOAA Federal <karla.reece@noaa.gov>
> **Sent:** Thursday, February 4, 2021 1:35 PM
> **To:** LYKENS, ANDREW S CTR USAF AMC 6 CES/CEIE <andrew.lykens.ctr@us.af.mil>; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>; KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
> **Subject:** [Non-DoD Source] MacDill AFB Section 7 Consultation requests
>
> Gentlemen, I am reviewing your recent ESA Section 7 requests for these projects, DLA Fuel Receipt Pipeline - and MacDill AFB Golf Course Ave projects.

I'm having a hard time identifying a route of effects to our species for both projects. I'd like to set up a time to talk about the effects you expect to our species.

I'm available for a call (maybe an hour) to discuss any of the following times:

- tomorrow (2/5) between 9 and 11am
- Monday (2/8) afternoon between 1-5
- Tuesday (2/9) between 11-2, or
- Friday (2/12) anytime between 9-5pm.

Let me know if any of those timeframes work for you and I'll set up a call. We use Google Meet and can invite anyone to use that platform. Alternatively, if you have a different way to meet I will adapt.

Looking forward to speaking with you.

Karla

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Karla Reece-

Section 7 Team Lead

Interagency Cooperation Branch

Protected Resources

NOAA Fisheries | U.S. Department of Commerce

Southeast Regional Office

National Marine Fisheries Service

Office: 727/824-5348

email: karla.reece@noaa.gov

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From:	Karla Reece - NOAA Federal
To:	KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE
Cc:	LYKENS, ANDREW S CTR USAF AMC 6 CES/CEIE; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE
Subject:	Re: [Non-DoD Source] MacDill AFB Section 7 Consultation requests
Date:	Friday, February 5, 2021 2:14:54 PM

Thank you. I will withdraw both consultations.

Have an excellent weekend.
Karla

I am Teleworking due to Covid-19. If you need to reach me directly please call my cell during business hours (9 am-3:30 pm M-F) at 727/612-2012

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email: karla.reece@noaa.gov

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On Fri, Feb 5, 2021 at 11:44 AM KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil> wrote:

> Karla; Thank you for the consultation and feedback regarding the DLA Fuel Receipt Pipeline project and the MacDill AFB Golf Course Avenue project. We will insure that the installation of all turbidity curtains and dikes required for construction of these project are installed when the affected drainage ditches are dry or the water level is low enough to confirm that no ESA listed species are trapped within the construction zone. Implementing construction of these projects in this manner will ensure that no ESA listed species are affected by the project, consequently, we have determined that both the DLA Fuel Receipt Pipeline project and the MacDill AFB Golf Course Avenue project would have No Effect on ESA species managed by NOAA Fisheries.

At this time, MacDill AFB would like to withdraw our request for consultation with NOAA Fisheries for the two projects reference below.

Thank you again. We look forward to working with you on future projects.

JasonK

JASON W. KIRKPATRICK, Contractor, PAE Inc.

Environmental Flight Manager

Cell 813-614-5729

From: Karla Reece - NOAA Federal <karla.reece@noaa.gov>
Sent: Friday, February 5, 2021 11:01 AM
To: KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
Cc: LYKENS, ANDREW S CTR USAF AMC 6 CES/CEIE <andrew.lykens.ctr@us.af.mil>; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>
Subject: Re: [Non-DoD Source] MacDill AFB Section 7 Consultation requests

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Karla Reece-

Section 7 Team Lead

Interagency Cooperation Branch

Protected Resources

NOAA Fisheries | U.S. Department of Commerce

Southeast Regional Office

National Marine Fisheries Service

Office: 727/824-5348

email: karla.reece@noaa.gov

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> JasonK
>
> JASON W. KIRKPATRICK, Contractor, PAE Inc.
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> Environmental Flight Manager
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> Cell 813-614-5729

From: Karla Reece - NOAA Federal <karla.reece@noaa.gov>
Sent: Thursday, February 4, 2021 1:35 PM
To: LYKENS, ANDREW S CTR USAF AMC 6 CES/CEIE <andrew.lykens.ctr@us.af.mil>; RIDER, ANDREW W GS-12 USAF AMC 6 CES/CEIE <andrew.rider.2@us.af.mil>; KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE <jason.kirkpatrick.2.ctr@us.af.mil>
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- Tuesday (2/9) between 11-2, or
- Friday (2/12) anytime between 9-5pm.

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Karla Reece-

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APPENDIX A-4
Coastal Zone Consistency Determination

COASTAL ZONE MANAGEMENT ACT (CZMA) CONSISTENCY DETERMINATION

This document provides the State of Florida with the U.S. Air Force's Consistency Determination under the Coastal Zone Management Act Section 307 and 15 C.F.R. Part 930 Subpart C, for the proposed action as analyzed in the accompanying Environmental Assessment (EA). This statement examines the potential environmental consequences of the proposed action and ascertains the extent to which the proposed action would be consistent with the enforceable policies of the Florida Coastal Management Program (FCMP), as presented in the latest FCMP Guide (Florida Department of Environmental Protection 2020 [available at https://floridadep.gov/sites/default/files/FCMP_Program_Guide_Aug_2020.pdf]).

Table of Florida Coastal Management Program Review

Statute	Federal Consistency of the Proposed Action	Scope of Statute
Chapter 161 *Beach and Shore Preservation*	The proposed action would not affect the state's management or preservation of beaches and shores.	This statute provides policy for the regulation of construction, reconstruction, and other physical activities related to the beaches and shores of the state. Additionally, this statute requires the restoration and maintenance of critically eroding beaches.
Chapter 163, Part II *Growth Policy; County and Municipal Planning; Land Development Regulation*	The proposed action would not affect local government comprehensive plans.	Requires local governments to prepare, adopt, and implement comprehensive plans that encourage the most appropriate use of land and natural resources in a manner consistent with the public interest.
Chapter 186 *State and Regional Planning*	The proposed action would be consistent with the state's statutes and regulations regarding state plans for water use, land development, and transportation.	Details state-level planning efforts. Requires the development of special statewide plans governing water use, land development, and transportation.
Chapter 252 *Emergency Management*	The proposed action would not affect the state's vulnerability to natural disasters. The proposed action would not affect emergency response and evacuation procedures.	Provides for planning and implementation of the state's response to, efforts to recover from, and the mitigation of natural and manmade disasters.
Chapter 253 *State Lands*	The proposed action would not involve the use of state lands and would not restrict public access to state lands. Therefore, the proposed action would be consistent with the state's administration of public lands.	Addresses the state's administration of public lands and property of this state and provides direction regarding the acquisition, disposal, and management of all state lands.

Statute	Federal Consistency of the Proposed Action	Scope of Statute
Chapter 258 *State Parks and Preserves*	The proposed action would not affect state parks or preserves.	Addresses administration and management of state parks and preserves.
Chapter 259 *Land Acquisition for Conservation or Recreation*	The proposed action would not affect the state's acquisition of environmentally endangered lands or outdoor recreation lands.	Authorizes acquisition of environmentally endangered lands and outdoor recreation lands.
Chapter 260 *Florida Greenways and Trails Act*	The proposed action would not affect the Florida Greenways and Trails Program.	Established in order to conserve, develop, and use the natural resources of Florida for healthful and recreational purposes.
Chapter 267 *Historical Resources*	Potential impacts on cultural resources are analyzed in Subsection 4.4 of the EA. The Air Force and the Florida State Historic Preservation Officer have determined that the proposed action will have no effect on historic properties of the area.	Addresses management and preservation of the state's archaeological and historical resources.
Chapter 288 *Commercial Development and Capital Improvements*	Potential impacts on socioeconomics are analyzed in Subsection 3.1.9 of the EA. The EA presents the socioeconomic impact of the proposed action. The proposed action would not have significant adverse effects on any key Florida industries or economic diversification efforts.	Promotes and develops general business, trade, and tourism components of the state economy.
Chapter 334 *Transportation Administration*	The proposed action would not affect the state's administration of transportation.	Addresses the state's policy concerning transportation administration.
Chapter 339 *Transportation Finance and Planning*	The proposed action would not affect the finance and planning needs of the state's transportation system.	Addresses the finance and planning needs of the state's transportation system.
Chapter 373 *Water Resources*	Potential impacts on water resources are analyzed in Subsection 4.1 of the EA. Based on the analysis conducted, there would be no significant impacts to surface waters or groundwater quality or quantity under the proposed action, as discussed in the EA. Only minor, short-term impacts are predicted for any of the actions considered in the EA. No long-term impacts are anticipated. Under Part IV of Chapter 373, the Florida Department of Environmental Protection, water management districts, and delegated local governments review and take agency action on wetland resources, environmental resources, and stormwater permit applications for work in, on, and over wetlands and other surface waters. Although the proposed action occurs outside of natural wetlands, some minor impacts to ditches having wetland characteristics are expected to	Addresses sustainable water management; the conservation of surface and ground waters for full beneficial use; the preservation of natural resources, fish, and wildlife; protecting public land; and promoting the health and general welfare of Floridians

Statute	Federal Consistency of the Proposed Action	Scope of Statute
	occur. Therefore, an Environmental Resource Permit may be applicable.	
Chapter 375 *Outdoor Recreation and Conservation Lands*	The proposed action would not affect recreational opportunities on state lands.	Develops comprehensive multipurpose outdoor recreation plan to document recreational supply and demand, describe current recreational opportunities, estimate need for additional recreational opportunities, and propose means to meet the identified needs.
Chapter 376 *Pollutant Discharge Prevention and Removal*	Management of hazardous materials and wastes is discussed in Subsection 3.1.7 of the EA. Based on the analysis conducted, the proposed action would not have significant impacts associated with hazardous materials and wastes. Handling, storage, and disposal of hazardous materials/wastes during all activities under the proposed action would be conducted in compliance with all applicable environmental compliance regulations, and MacDill AFB environmental management plans. Therefore, the proposed action would be consistent with the state's statutes and regulations regarding the transfer, storage, or transportation of pollutants.	Regulates transfer, storage, and transportation of pollutants, and cleanup of pollutant discharges.
Chapter 377 *Energy Resources*	The proposed action would not affect oil and gas resources of the state.	Addresses regulation, planning, and development of oil and gas resources of the state.
Chapter 379 *Fish and Wildlife Conservation*	Potential impacts on fish and wildlife, including special-status species, are analyzed in Subsection 4.2 and 4.8.2 of the EA. The EA addresses fish and wildlife and their habitat. No significant impacts are expected under the proposed action or the alternative actions. Only minor short-term impacts are expected. BMPs and, where appropriate, mitigation actions are proposed and discussed for each action considered.	Addresses the management and protection of the state's wide diversity of fish and wildlife resources.
Chapter 380 *Land and Water Management*	The proposed action would not affect state management of land or water.	Establishes land and water management policies to guide and coordinate local decisions relating to growth and development.
Chapter 381 *Public Health, General Provisions*	The proposed action would not affect the state's policy concerning the public health system.	Establishes public policy concerning the state's public health system.
Chapter 388 *Mosquito Control*	The proposed action would not affect mosquito control efforts.	Addresses mosquito control effort in the state.

Statute	Federal Consistency of the Proposed Action	Scope of Statute
Chapter 403 *Environmental Control*	Potential impacts on hazardous materials/wastes, floodplains, water quality, and air quality are analyzed in Subsections 3.1.7, 4.1, 4.1.3, 4.7, respectively, of the EA. The EA addresses the issues of conservation and protection of environmentally sensitive living resources; protection of groundwater and surface water quality; potable water supply; protection of air quality; minimization of adverse hydrogeologic impacts; protection of endangered and threatened species; solid, sanitary, and hazardous waste disposal; and protection of floodplains and wetlands. Impacts to these resources are not anticipated.	Establishes public policy concerning environmental control in the state.
Chapter 553 *Building Construction Standards*	The infrastructure proposed to be constructed under the proposed action would meet or exceed the state's building construction standards. Therefore, the proposed action would be consistent with the state's regulations and standards pertaining to building construction.	Addresses the building construction standards established by the state.
Chapter 582 *Soil and Water Conservation*	Potential impacts on water and soils are analyzed in Subsections 4.1 and 4.3, respectively, of the EA. As presented in the EA, implementation of the proposed action would result in negligible impacts to soil. Furthermore, implementation of best management practices (BMPs) would avoid/minimize impacts to soil and water resources, thus, conserving these resources to the extent practicable. Therefore, the proposed action would be consistent with the state's statutes and regulations regarding soil and water conservation efforts.	Provides for the control and prevention of soil erosion.
Chapter 597 *Aquaculture*	The proposed action would not affect the state's policy pertaining to aquaculture.	Addresses enhancement and regulation of aquaculture in the state.

CONCLUSION

Based on the foregoing and the analysis contained in the EA, the Air Force finds that implementation of the proposed action, as presented and discussed in the EA, would be consistent with the FCMP.

APPENDIX B
Native American Tribal Government Consultations

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

Colonel Stephen P. Snelson
6th Air Refueling Wing Commander
8208 Hangar Loop Drive, Suite 1
MacDill Air Force Base, Florida 33621-5407

Mr. Billy Cypress, Chairman
Miccossukee Tribe of Indians of Florida
Tamiami Station
PO Box 440021
Miami FL 33144

Dear Mr. Cypress

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility and are located within the Picnic Island Creek Recreation area. The routing of the new proposed project is presented for your reference in Figure 1. An archaeological survey will be conducted as part of the study phase for this project. The field survey for the archeological study will investigate the proposed pipeline construction location highlighted in the attached graphic. Once we have the initial findings from our archeological survey, we will forward you the results and look forward to working with you as we develop a plan forward.

In accordance with Executive Order 13175 and Section 106 of the NHPA (36 CFR Part 800 – Protection of Historic Properties), the Air Force would like to initiate government-to-government consultation regarding construction of this new aviation fuel pipeline. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, or suggestions you may have.

Please contact me at (813) 828-4444 to arrange a date and time to meet to discuss the proposal and your expectations on how we should proceed with the consultation process.

Sincerely

SNELSON.STEPHEN.P.10101 66124

Digitally signed by SNELSON.STEPHEN.P.10101 66124
Date: 2020.02.04 13:53:55 -05'00'

STEPHEN P. SNELSON, Colonel, USAF
Commander

Attachment
Figures 1 & 2: Project Location and Site Plan

cc:
Mr. Kevin Donaldson

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

6 July 2020

Mr. Robert T. Wynn
6th Civil Engineer Squadron
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621-5407

Mr. Kevin Donaldson
Miccosukee Tribe of Indians of Florida
Tamiami Station
PO Box 440021
Miami, FL 33144

Dear Mr. Donaldson

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility. We initially contacted your tribe about this project in February 2020, but recently received additional information. As part of the environmental impact analysis process an archaeological survey of the proposed route for the new underground pipeline was accomplished. The cultural resources assessment survey did not identify any new archaeological sites within the Area of Potential Effect for the new pipeline; but does note the existence of two previously identified archaeological sites adjacent to the pipeline route. Both sites (8Hi13768 and 8Hi14537) have been determined ineligible for the National Register of Historic Places.

The *Phase I Cultural Resources Assessment Survey of the DFSP pipeline, Hillsborough County, Florida* is attached for your review and comment. Based on the findings presented in the survey, we believe the proposed pipeline project would not adversely affect cultural resources, but we are interested in your feedback on the survey and the potential for this project to affect cultural resources.

Please contact me directly at 813-828-3577, or Mr. Jason Kirkpatrick at jason.kirkpatrick.2.ctr@us.af.mil if you would like to discuss the findings of the cultural resources survey or discuss the proposed DFSP pipeline project.

Sincerely

WYNN.ROBERT.T.1103491670
Digitally signed by WYNN.ROBERT.T.1103491670
Date: 2020.07.06 10:46:58 -04'00'

ROBERT T. WYNN, GS-15, DAF
Director, 6th Civil Engineer Squadron

Attachment;
Cultural Resources Assessment Survey for DFSP Pipeline Project

MacDill Air Force Base Environmental
6 CES/CEIEC
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621

MEMORANDUM FOR RECORD

FROM: 6 CES/CEIEC

SUBJECT: Consultation with the Miccosukee Tribe of Indians of Florida Regarding DFSP Pipeline Replacement Project at MacDill AFB

1. A consultation letter for the subject project was sent to the Miccosukee Tribe of Indians of Florida the week of 10 February 2020. A digital copy of the letter was emailed to Mr. Kevin Donaldson.

2. A follow-up phone call was made to the tribe office on 29 April 2020 and an error message was received after waiting for an operator. A follow-up email to Mr. Kevin Donaldson was sent on 29 April 2020 but the following message was generated "Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server." Previous correspondence with the Miccosukee Tribe of Indians of Florida have determined that if no responses or phone calls are received within 30-60 days we can assume the tribe has no objection to the project. The final NEPA documents will be executed, but it is understood that the tribe may provide comments or requests at any time and those requests will be considered accordingly.

VICHICH.ERIC.J.1285560558 Digitally signed by VICHICH.ERIC.J.1285560558 Date: 2020.05.01 11:34:19 -04'00'

ERIC J. VICHICH, Contractor
Cultural Resources Manager, 6th Civil Engineer Squadron

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

6 July 2020

Mr. Robert T. Wynn
6th Civil Engineer Squadron
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621-5407

Ms. RaeLynn Butler
Muscogee (Creek) Nation
P.O. Box 580
Okmulgee, OK 74447

Dear Ms. Butler

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility. Your tribe recently expressed interest in consulting on projects that may affect cultural resources, and we wanted to notify you about the recent work completed for the DFSP pipeline project. As part of the environmental impact analysis process an archaeological survey of the proposed route for the new underground pipeline was accomplished. The cultural resources assessment survey did not identify any new archaeological sites within the Area of Potential Effect for the new pipeline; but does note the existence of two previously identified archaeological sites adjacent to the pipeline route. Both sites (8Hi13768 and 8Hi14537) have been determined ineligible for the National Register of Historic Places.

The *Phase I Cultural Resources Assessment Survey of the DFSP pipeline, Hillsborough County, Florida* is attached for your review and comment. Based on the findings presented in the survey, we believe the proposed pipeline project would not adversely affect cultural resources, but we are interested in your feedback on the survey and the potential for this project to affect cultural resources.

Please contact me directly at 813-828-3577, or Mr. Jason Kirkpatrick at jason.kirkpatrick.2.ctr@us.af.mil if you would like to discuss the findings of the cultural resources survey or discuss the proposed DFSP pipeline project.

Sincerely

WYNN.ROBERT.T.1103491670
Digitally signed by WYNN.ROBERT.T.1103491670
Date: 2020.07.06 10:30:02 -04'00'

ROBERT T. WYNN, GS-15, DAF
Director, 6th Civil Engineer Squadron

Attachment;
Cultural Resources Assessment Survey for DFSP Pipeline Project

MacDill Air Force Base Environmental
6 CES/CEIEC
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621

16 September 20

MEMORANDUM FOR RECORD

FROM: 6 CES/CEIE

SUBJECT: Consultation with the Muscogee (Creek) Nation Regarding DFSP Pipeline Replacement Project and Archaeological Resources Survey

1. The Muscogee (Creek) Nation were not included in the initial 4 February 2020 consultation letters for this project because we were not aware of their interest in consulting with MacDill AFB at that time. We began including them in all tribal consultation efforts after we became aware of their interest around May 2020. Upon receipt of the Cultural Resources Assessment Survey (CRAS) report for the DFSP Pipeline project, we mailed a hard copy consultation letter dated 6 July 2020 notifying them about the project and requesting feedback on the CRAS. A digital copy of the letter was also emailed to Ms. Brigita Leader's at her raebutler@mcn-msn.gov email address.

2. A follow-up phone call was made to the tribe office on 19 August 2020. I reached the voicemail for the historic preservation office and left a message. The final NEPA documents will be executed, but it is understood that the tribe may provide comments or requests at any time and those requests will be considered accordingly.

KIRKPATRICK.JASON.W.1048568706 Digitally signed by KIRKPATRICK.JASON.W.1048568706 Date: 2021.07.13 15:15:50 -04'00'

JASON W. KIRKPATRICK, Contractor
Environmental Manager, 6th Civil Engineer Squadron

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

Colonel Stephen P. Snelson
6th Air Refueling Wing Commander
8208 Hangar Loop Drive, Suite 1
MacDill Air Force Base Florida 33621-5407

Mr. Greg Chilcoat, Principal Chief
Seminole Nation of Oklahoma
PO Box 1498
Wewoka OK 74884

Dear Mr. Chilcoat

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility and are located within the Picnic Island Creek Recreation area. The routing of the new proposed project is presented for your reference in Figure 1. An archaeological survey will be conducted as part of the study phase for this project. The field survey for the archeological study will investigate the proposed pipeline construction location highlighted in the attached graphic. Once we have the initial findings from our archeological survey, we will forward you the results and look forward to working with you as we develop a plan forward.

In accordance with Executive Order 13175 and Section 106 of the NHPA (36 CFR Part 800 – Protection of Historic Properties), the Air Force would like to initiate government-to-government consultation regarding construction of this new aviation fuel pipeline. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, or suggestions you may have.

Please contact me at (813) 828-4444 to arrange a date and time to meet to discuss the proposal and your expectations on how we should proceed with the consultation process.

Sincerely

SNELSON.STEPHEN.P.1010166124
Digitally signed by SNELSON.STEPHEN.P.1010166124
Date: 2020.02.04 13:54:20 -05'00'

STEPHEN P. SNELSON, Colonel, USAF
Commander

Attachment
Figures 1 & 2: Project Location and Site Plan

cc:
Ms. Brigita Leader

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

6 July 2020

Mr. Robert T. Wynn
6th Civil Engineer Squadron
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621-5407

Ms. Brigita Leader
Seminole Nation of Oklahoma
PO Box 1498
Wewoka, OK 74884

Dear Ms. Leader

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility. We initially contacted your tribe about this project in February 2020, but recently received additional information. As part of the environmental impact analysis process an archaeological survey of the proposed route for the new underground pipeline was accomplished. The cultural resources assessment survey did not identify any new archaeological sites within the Area of Potential Effect for the new pipeline; but does note the existence of two previously identified archaeological sites adjacent to the pipeline route. Both sites (8Hi13768 and 8Hi14537) have been determined ineligible for the National Register of Historic Places.

The *Phase I Cultural Resources Assessment Survey of the DFSP pipeline, Hillsborough County, Florida* is attached for your review and comment. Based on the findings presented in the survey, we believe the proposed pipeline project would not adversely affect cultural resources, but we are interested in your feedback on the survey and the potential for this project to affect cultural resources.

Please contact me directly at 813-828-3577, or Mr. Jason Kirkpatrick at jason.kirkpatrick.2.ctr@us.af.mil if you would like to discuss the findings of the cultural resources survey or discuss the proposed DFSP pipeline project.

Sincerely

WYNN.ROBERT.T.1103491670
Digitally signed by WYNN.ROBERT.T.1103491670
Date: 2020.07.06 10:34:35 -04'00'

ROBERT T. WYNN, GS-15, DAF
Director, 6th Civil Engineer Squadron

Attachment
Cultural Resources Assessment Survey for DFSP Pipeline Project

MacDill Air Force Base Environmental
6 CES/CEIEC
7621 Hillsborough Loop Dr.
MacDill AFB, FL 33621

MEMORANDUM FOR RECORD

FROM: 6 CES/CEIEC

SUBJECT: Consultation with the Seminole Nation of Oklahoma Regarding DFSP Pipeline Replacement Project at MacDill AFB

1. A consultation letter for the subject project was sent to the Seminole Nation of Oklahoma the week of 10 February 2020. A digital copy of the letter was emailed to Ms. Brigita Leader's work and personal email accounts.

2. A follow-up phone call was made to the tribe office on 29 April 2020. I was connected with the historic preservation office and left a message. A follow-up email was sent on 29 April 2020 to Ms. Brigita Leader and Ms. Shema Lincoln. The following reply was generated: "Delivery to these recipients or groups is complete, but no delivery notification was sent by the destination server." The email to Ms. Shema Lincoln was deleted without being read. The final NEPA documents will be executed, but it is understood that the tribe may provide comments or requests at any time and those requests will be considered accordingly.

VICHICH.ERIC.J.1285560558
Digitally signed by VICHICH.ERIC.J.1285560558
Date: 2020.05.01 12:10:22 -04'00'

ERIC J. VICHICH, Contractor
Cultural Resources Manager, 6th Civil Engineer Squadron

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

Colonel Stephen P. Snelson
6th Air Refueling Wing Commander
8208 Hangar Loop Drive, Suite 1
MacDill Air Force Base Florida 33621-5407

Mr. Marcellus W. Osceola, Jr., Chairman
Seminole Tribe of Florida
30290 Josie Billie Hwy, PMB 1004
Clewiston FL 33440

Dear Mr. Osceola

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility and are located within the Picnic Island Creek Recreation area. The routing of the new proposed project is presented for your reference in Figure 1. An archaeological survey will be conducted as part of the study phase for this project. The field survey for the archeological study will investigate the proposed pipeline construction location highlighted in the attached graphic. Once we have the initial findings from our archeological survey, we will forward you the results and look forward to working with you as we develop a plan forward.

In accordance with Executive Order 13175 and Section 106 of the NHPA (36 CFR Part 800 – Protection of Historic Properties), the Air Force would like to initiate government-to-government consultation regarding construction of this new aviation fuel pipeline. The Air Force desires to discuss the proposal in detail with you so that we may understand and consider any comments, concerns, or suggestions you may have.

Please contact me at (813) 828-4444 to arrange a date and time to meet to discuss the proposal and your expectations on how we should proceed with the consultation process.

Sincerely

SNELSON.STEPHEN.P.1010166124

Digitally signed by SNELSON.STEPHEN.P.1010166124
Date: 2020.02.04 13:54:57 -05'00'

STEPHEN P. SNELSON, Colonel, USAF
Commander

Attachment
Figure 1: Project Location

cc:
Dr. Paul Backhouse

From: Bradley Mueller
To: VICHICH, ERIC J CTR USAF AMC 6 CES/CEIEC
Subject: [Non-DoD Source] MacDill AFB - DFSP Pipeline Project, Hillsborough County, Florida
Date: Tuesday, April 28, 2020 10:08:18 AM

April 28, 2020

Eric J. Vichich, Contractor
6 CES/CEIEC
MacDill Air Force Base, Florida
Phone: 813-828-0460
Email: eric.vichich.ctr@us.af.mil

Subject: MacDill AFB - DFSP Pipeline Project, Hillsborough County, Florida
THPO Compliance Tracking Number: 0032365

Dear Ms. D'Amato,

Thank you for contacting the Seminole Tribe of Florida – Tribal Historic Preservation Office (STOF-THPO) Compliance Section regarding the MacDill AFB - DFSP Pipeline Project, Hillsborough County, Florida. The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the documents you provided and have no objections at this time. Please notify us if any archaeological, historical, or burial resources are inadvertently discovered during project implementation and feel free to contact us with any questions or concerns.

Respectfully,

Bradley M. Mueller, MA, Compliance Specialist
STOF-THPO, Compliance Review Section
30290 Josie Billie Hwy, PMB 1004
Clewiston, FL 33440

Office: 863-983-6549 ext 12245
Fax: 863-902-1117
Email: bradleymueller@semtribe.com
Web: www.stofthpo.com

DEPARTMENT OF THE AIR FORCE
6TH AIR REFUELING WING (AMC)
MACDILL AIR FORCE BASE, FLORIDA

6 July 2020

Mr. Robert T. Wynn
6th Civil Engineer Squadron
7621 Hillsborough Loop Drive
MacDill Air Force Base, Florida 33621-5407

Dr. Paul Backhouse
Seminole Tribe of Florida
30290 Josie Billie Hwy, PMB 1004
Clewiston, FL 33440

Dear Dr. Backhouse

Defense Fuel Supply Point (DFSP) Tampa, in conjunction with MacDill Air Force Base, is planning to construct a 2,000 linear foot aviation fuel receipt pipeline to replace the aging twin pipelines that currently serve the DFSP fuel facility. We initially contacted your tribe about this project in February 2020, but recently received additional information. As part of the environmental impact analysis process an archaeological survey of the proposed route for the new underground pipeline was accomplished. The cultural resources assessment survey did not identify any new archaeological sites within the Area of Potential Effect for the new pipeline; but does note the existence of two previously identified archaeological sites adjacent to the pipeline route. Both sites (8Hi13768 and 8Hi14537) have been determined ineligible for the National Register of Historic Places.

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Please contact me directly at 813-828-3577, or Mr. Jason Kirkpatrick at jason.kirkpatrick.2.ctr@us.af.mil if you would like to discuss the findings of the cultural resources survey or discuss the proposed DFSP pipeline project.

Sincerely

WYNN.ROBERT.T.1103491670
Digitally signed by WYNN.ROBERT.T.1103491670
Date: 2020.07.06 10:42:54 -04'00'

ROBERT T. WYNN, GS-15, DAF
Director, 6th Civil Engineeer Squardon

Attachment
Cultural Resources Assessment Survey for DFSP Pipeline Project

From: Bradley Mueller
To: KIRKPATRICK, JASON W CTR USAF AMC 6 CES/CEIE
Subject: [Non-DoD Source] MacDill AFB, Defense Fuel Supply Point Project, Tampa, Hillsborough County, Florida
Date: Tuesday, July 21, 2020 11:55:51 AM

SEMINOLE TRIBE OF FLORIDA
TRIBAL HISTORIC PRESERVATION OFFICE

TRIBAL HISTORIC
PRESERVATION OFFICE
SEMINOLE TRIBE OF FLORIDA
30290 JOSIE BILLIE HIGHWAY
PMB 1004
CLEWISTON, FL 33440
THPO PHONE: (863) 983-6549
FAX: (863) 902-1117
THPO WEBSITE: WWW.STOFTHPO.COM

July 21, 2020

Mr. Jason Kirkpatrick
MacDill Air Force Base Florida
Email: jason.kirkpatrick.2.ctr@us.af.mil

Subject: MacDill AFB, Defense Fuel Supply Point Project, Tampa, Hillsborough County, Florida
THPO Compliance Tracking Number: 0033265

Dear Mr. Kirkpatrick,

Thank you for contacting the Seminole Tribe of Florida – Tribal Historic Preservation Office (STOF-THPO), Compliance Section regarding the MacDill AFB, Defense Fuel Supply Point Project, Tampa, Hillsborough County, Florida. The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the Phase I report you provided and have no objections at this time. Please notify us if any archaeological, historical, or burial resources are inadvertently discovered during project implementation and feel free to contact us with any questions or concerns.

Respectfully,

Bradley M. Mueller

Bradley M. Mueller, MA, Compliance Specialist
STOF-THPO, Compliance Review Section
30290 Josie Billie Hwy, PMB 1004
Clewiston, FL 33440

Office: 863-983-6549 ext 12245
Fax: 863-902-1117
Email: bradleymueller@semtribe.com

APPENDIX C
Early Public Notice

0000062263-01

Tampa Bay Times
Published Daily

STATE OF FLORIDA
COUNTY OF Pinellas, Hillsborough, Pasco, Hernando Citrus } ss

Before the unersigned authority personally appeared **Jean Mitotes** who on oath says that he/she is **Legal Advertising Representative** of the **Tampa Bay Times** a daily newspsper printed in St. Petersburg, in Pinellas County, Florida, that the attached copy of adertisment, being a Legal Notice in the matter **RE: Proposed Activity in Wetlands** was published in **Tampa Bay Times: 2/17/20** in said newspaper in the issues of **Tampa Bay Times\Local B\Full Run**

Affiant further says the said **Tampa Bay Times** is a newspaper published in Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida and that the said newspaper has heretofore been continuously published in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida each day and has been entered as a second class mail mater at the post office in said Pinellas, Hillsborough, Pasco, Hernando Citrus County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement, and affiant further says that he/she neither paid not promised any person, firm or corporation any discount, rebate, commission or refund for the purpose of securing this advertisement for publication in the said newspaper.

Signature Affiant

Sworn to and subscribed before me this **02/17/2020**

Signature of Notary Public

Personally known X or produced identification

Type of identification produced _____

NOTARY PUBLIC STATE OF FLORIDA
JESSICA ATTARD
Commission # GG 308686
Expires March 28, 2023
Bonded Thru Budget Notary Services

LEGAL NOTICE

NOTICE FOR EARLY PUBLIC REVIEW OF A PROPOSED ACTIVITY IN WETLANDS AND 100-YEAR FLOODPLAIN

The Air Force is inviting public input on any practicable alternatives for a proposed activity within wetlands and the 100-year floodplain. The Proposed Action is a pipeline replacement project that will occur between the Chevron Receipt Facility and DFSP Tampa Storage Tanks (located at MacDill AFB) in Hillsborough County, Florida. This notice is required by Section 2(b) of Executive Order (EO) 11990, Protection of Wetlands, and by Section 2(a)(4) of EO 11988, Floodplain Management, and has been prepared and made available to the public by the Air Force in accordance with 32 Code of Federal Regulations, Part 989.24(c) and Air Force Instruction 32-7064 for actions proposed in wetlands and floodplains.

Currently, two 8-inch pipelines transport petroleum products from the Chevron receipt facility to DFSP Tampa. The pipelines are located underground and traverse Picnic Island Bayou. The current pipelines are at the end of their service life. A route has been identified to install a new petroleum pipeline. This new line will be installed within uplands and located within the City of Tampa Right of Way. The new route will lower the risk associated with transportation of petroleum product to aquatic and terrestrial faunal and floral species. Prior to any work occurring all appropriate permits will be approved from the appropriate agencies. Once the new pipeline is fully operational, the two existing pipelines will be taken out of service and decommissioned in accordance with all applicable Federal, State, and Local regulations.

The public comment period is from 2/17/2020 to 3/17/2020 Address written comments to 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215. Comments must be received by 3/17/2020.

2/17/2010 0000062263-01

LEGAL NOTICE

NOTICE FOR EARLY PUBLIC REVIEW OF A PROPOSED ACTIVITY IN WETLANDS AND 100-YEAR FLOODPLAIN

The Air Force is inviting public input on any practicable alternatives for a proposed activity within wetlands and the 100-year floodplain. The Proposed Action is a pipeline replacement project that will occur between the Chevron Receipt Facility and DFSP Tampa Storage Tanks (located at MacDill AFB) in Hillsborough County, Florida. This notice is required by Section 2(b) of Executive Order (EO) 11990, Protection of Wetlands, and by Section 2(a)(4) of EO 11988, Floodplain Management, and has been prepared and made available to the public by the Air Force in accordance with 32 Code of Federal Regulations, Part 989.24(c) and Air Force Instruction 32-7064 for actions proposed in wetlands and floodplains.

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The public comment period is from 2/17/2020 to 3/17/2020 Address written comments to 6 AMW Public Affairs, 8209 Hangar Loop Drive, Suite 14, MacDill AFB, FL 33621-5502. The telephone number is (813) 828-2215. Comments must be received by 3/17/2020.

2/17/2010 0000062263-01

LOCAL & STATE

School officials seek impact fee hike

BY JEFFREY S. SOLOCHEK
Times Staff Writer

Crowding continues unabated in southeast Hillsborough County schools, as housing development booms.

Financial support for the school district to build seats to accommodate the children from the new homes has not kept pace, though. The county's school impact fee on residential development hasn't changed since 2006, leaving it at half the rate of neighboring Pasco County, which boosted its fee in 2017.

Hillsborough district leaders are seeking to change that equation.

Just more than a year after winning voter approval to increase local sales taxes for school maintenance projects, superintendent Jeff Eakins has sent a letter to county government officials urging their support for higher school impact fees.

An outside expert's analysis of the district's construction cost per student, compared to the amount collected, justifies the proposal to boost the charge on new homes from $4,000 for a 2,000-square-foot structure to $8,595.

"The School Board has a duty to students, families and taxpayers to require development to pay for itself, and to ensure that schools do not become further overcrowded," Eakins wrote to County Commission Chairman Les Miller and county administrator Mike Merrill.

Times (2018)

Hillsborough's school impact fee on new developments like this one in the Apollo Beach area hasn't changed since 2006 and is half the rate of neighboring Pasco County.

The proposed change would generate an additional sum of nearly $30 million a year for the school district, Eakins stated. Just to start, that increase would allow the district to accelerate plans to build a planned new elementary school near Apollo Beach, a new high school, and a South Tampa middle school conversion to a K-8 campus.

District officials have recently used impact fees to pay for such projects as additions to Sickles, Robinson, East Bay, Lennard, Alonso and Newsome high schools, and the construction of four elementary schools.

County commissioners could hold a public hearing on the proposal as early as March 4. It likely would come along with recommended increases in other impact fees, such as those for transportation and wastewater.

At-large commissioner Mariella Smith predicted the commission, with its new Democratic majority, would look favorably on the request.

"I ran on the promise to make development pay its fair share of our infrastructure costs," Smith said. "For far too long, our impact fees have been far too low."

She mentioned that the county's transportation impact fee has collected $80 million since 2006, which barely makes a dent in the county's needs, considering the widening of a 3.4-mile stretch of road could cost $100 million.

"Schools are in the same boat," she said. "That's why our schools are overcrowded. It's a real problem, especially in south county."

Commissioner Sandy Murman, now in the Republican minority, said she understood the needs. But she wanted to get more information on how the various proposals would affect the county economy as a whole.

"There's a big push to get these fees increased. But there's a big push to get a lot of fees increased," Murman said. "If we take too huge of a jump, it can have a really big impact."

The commission is set to consider scheduling a public hearing on the impact fees when it next meets Wednesday. If it has that hearing, expected to be on March 4, it could vote on the same day.

Contact Jeffrey S. Solochek at jsolochek@tampabay.com. Follow @jeffsolochek

Wrongly convicted man to receive $2M in reparations

BY JOSH FIALLO
Times Staff Writer

The Florida attorney general's office announced Saturday that it would reverse an earlier decision to deny reparations to a Jacksonville man who served nearly 43 years in prison over a murder he did not commit.

Nathan Myers, now 62, will be given $2 million from the state, the maximum allowed under Florida's Victims of Wrongful Incarceration Act. He had been arrested as a teenager in 1976.

Myers was originally granted a petition for the reparations last summer. That petition was then denied by the Office of Attorney General, which vetoed it for not having "clear and convincing evidence" of his innocence. The office went back on that decision Saturday, however, saying in a letter that it was wrong — and that it had no authority to strike down a court's decision.

Florida Times-Union via AP (2019)

Nathan Myers, left, embraces Clifford Williams after their convictions were overturned.

"The DLA (Department of Legal Affairs) cannot second-guess decisions made by courts," general counsel Richard H. Martin wrote. "The DLA will inform the Chief Financial Officer that the application meets the requirements of the statute and is complete."

Myers has been free for a year now and lives with his wife in Orlando, according to the *Florida Times-Union*.

"I can't stay down. I can't sit down now," Myers told the TV station First Coast News. "I feel so good right now, as good as I feel since the day I got out."

Still, though, Myers says he will not believe the $2 million compensation is real until he can feel it in his hands himself.

"Once that money lands in my bank, that'll be the time to celebrate, because that's how I know it's real," he told the *Times-Union*.

APPENDIX D
Air Conformity Applicability Model Report
- Air Emissions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: MACDILL AFB
State: Florida
County(s): Hillsborough
Regulatory Area(s): Hillsborough County, FL; Tampa, FL

- Action Title: Improvements to the Defense Fuel Receipt Pipelines, MacDill AFB FL

- Project Number/s (if applicable): n/a Defense Logistics Agency Project

- Projected Action Start Date: 7 / 2022

- Action Purpose and Need:

The purpose of the fuel pipeline improvements project is to provide DFSP Tampa with a modern and improved bulk fuel receipt system. The proposed pipeline improvements are necessary to prevent the failure of the nearly seventy-year-old pipelines and prevent fuel leaks into the environmentally sensitive wetland and mangrove area.

- Action Description:

The proposed action entails locating a pair of new pipelines between the Chevron Bulk Terminal, Port Tampa and the Defense Fuels Supply Point (DFSP), MacDill AFB. The placement of the new pipelines would include a new, aboveground section of piping through the Chevron Bulk Terminal, an underground section through City of Tampa property, and a section of aboveground piping at the MacDill AFB DFSP facility. The new underground pipelines would be installed using traditional open cut trenching after clearing an approximately 30-foot-wide swath along the pipeline route. The length of underground piping would total approximately 2,000 feet.

This ACAM model evaluates the preferred project design as described above (and as identified in the 65% design documents) and, therefore, identifies the estimated air quality impact associated with the project. The environmental assessment also evaluated alternatives for the pipeline routing as well as installation of the underground pipeline via directional boring instead of open cut trenching to reduce the amount of clearing and trenching. These alternatieve would reduce the time needed for construction, the amount of equipment used, and area of land disturbance which would result in lower air quality impact.

- Point of Contact

Name: Mike Harrison
Title: Air Program Manager
Organization: 6 CES/CEIE
Email: michale.harrison.19.ctr@us.af.mil
Phone Number: 813-828-0462

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Install new Defense Fuel Receipt Pipelines

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Location
County: Hillsborough
Regulatory Area(s): Hillsborough County, FL; Tampa, FL

- Activity Title: Install new Defense Fuel Receipt Pipelines

- Activity Description:
Construct two new pipelines between the Chevron Bulk Terminal, Port Tampa and the Defense Fuels Supply Point(DFSP), MacDill AFB. Approximately 2,000 fee of new underground pipelines would be installed as part of the project using traditional open cut trenching after clearing an approximately 30-foot-wide swath along the pipeline route.

- Activity Start Date
Start Month: 7
Start Month: 2022

- Activity End Date
Indefinite: False
End Month: 3
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.438034
SO_x	0.007576
NO_x	2.545658
CO	2.886934
PM 10	6.549549

Pollutant	Total Emissions (TONs)
PM 2.5	0.103216
Pb	0.000000
NH_3	0.001029
CO_2e	734.8

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2022

- Phase Duration
Number of Month: 9
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 60000
Amount of Material to be Hauled On-Site (yd^3): 300
Amount of Material to be Hauled Off-Site (yd^3): 300

- Site Grading Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	6
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0806	0.0014	0.4657	0.5731	0.0217	0.0217	0.0072	132.92
Other Construction Equipment Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0507	0.0012	0.2785	0.3488	0.0105	0.0105	0.0045	122.61
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1919	0.0024	1.3611	0.7352	0.0536	0.0536	0.0173	239.51
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0383	0.0007	0.2301	0.3598	0.0095	0.0095	0.0034	66.884

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.282	000.002	000.207	003.392	000.006	000.005		000.023	00341.791
LDGT	000.376	000.003	000.373	004.889	000.007	000.006		000.024	00439.705
HDGV	000.832	000.005	000.964	016.217	000.016	000.014		000.046	00814.851
LDDV	000.084	000.003	000.127	002.822	000.004	000.004		000.008	00334.379
LDDT	000.227	000.004	000.365	004.850	000.007	000.006		000.008	00473.628
HDDV	000.423	000.014	004.175	001.653	000.176	000.162		000.028	01559.331
MC	003.040	000.003	000.626	013.017	000.026	000.023		000.052	00392.775

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Trenching/Excavating Phase

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 7
Start Quarter: 1
Start Year: 2022

- Phase Duration
Number of Month: 9
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 12000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Trenching Default Settings
Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Excavators Composite	2	8
Other General Industrial Equipmen Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Trenching / Excavating Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Graders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0806	0.0014	0.4657	0.5731	0.0217	0.0217	0.0072	132.92
Other Construction Equipment Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0507	0.0012	0.2785	0.3488	0.0105	0.0105	0.0045	122.61

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1919	0.0024	1.3611	0.7352	0.0536	0.0536	0.0173	239.51
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0383	0.0007	0.2301	0.3598	0.0095	0.0095	0.0034	66.884

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.282	000.002	000.207	003.392	000.006	000.005		000.023	00341.791
LDGT	000.376	000.003	000.373	004.889	000.007	000.006		000.024	00439.705
HDGV	000.832	000.005	000.964	016.217	000.016	000.014		000.046	00814.851
LDDV	000.084	000.003	000.127	002.822	000.004	000.004		000.008	00334.379
LDDT	000.227	000.004	000.365	004.850	000.007	000.006		000.008	00473.628
HDDV	000.423	000.014	004.175	001.653	000.176	000.162		000.028	01559.331
MC	003.040	000.003	000.626	013.017	000.026	000.023		000.052	00392.775

2.2.4 Trenching / Excavating Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: MACDILL AFB
State: Florida
County(s): Hillsborough
Regulatory Area(s): Hillsborough County, FL; Tampa, FL

b. Action Title: Improvements to the Defense Fuel Receipt Pipelines, MacDill AFB FL

c. Project Number/s (if applicable): n/a Defense Logistics Agency Project

d. Projected Action Start Date: 7 / 2022

e. Action Description:

The proposed action entails locating a pair of new pipelines between the Chevron Bulk Terminal, Port Tampa and the Defense Fuels Supply Point (DFSP), MacDill AFB. The placement of the new pipelines would include a new, aboveground section of piping through the Chevron Bulk Terminal, an underground section through City of Tampa property, and a section of aboveground piping at the MacDill AFB DFSP facility. The new underground pipelines would be installed using traditional open cut trenching after clearing an approximately 30-foot-wide swath along the pipeline route. The length of underground piping would total approximately 2,000 feet.

This ACAM model evaluates the preferred project design as described above (and as identified in the 65% design documents) and, therefore, identifies the estimated air quality impact associated with the project. The environmental assessment also evaluated alternatives for the pipeline routing as well as installation of the underground pipeline via directional boring instead of open cut trenching to reduce the amount of clearing and trenching. These alternatieve would reduce the time needed for construction, the amount of equipment used, and area of land disturbance which would result in lower air quality impact.

f. Point of Contact:

Name: Mike Harrison
Title: Air Program Manager
Organization: 6 CES/CEIE
Email: michale.harrison.19.ctr@us.af.mil
Phone Number: 813-828-0462

2. Analysis: Total combined direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the "worst-case" and "steady state" (net gain/loss upon action fully implemented) emissions. General Conformity under the Clean Air Act, Section 1.76 has been evaluated for the action described above according to the requirements of 40 CFR 93, Subpart B.

Based on the analysis, the requirements of this rule are: _____ applicable
__X__ not applicable

Conformity Analysis Summary:

2022

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Hillsborough County, FL			
VOC	0.292		
NOx	1.697		
CO	1.925		
SOx	0.005	100	No
PM 10	4.366		
PM 2.5	0.069		
Pb	0.000		
NH3	0.001		
CO2e	489.9		
Tampa, FL			
VOC	0.292		
NOx	1.697		
CO	1.925		
SOx	0.005		
PM 10	4.366		
PM 2.5	0.069		
Pb	0.000	25	No
NH3	0.001		
CO2e	489.9		

2023

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Hillsborough County, FL			
VOC	0.146		
NOx	0.849		
CO	0.962		
SOx	0.003	100	No
PM 10	2.183		
PM 2.5	0.034		
Pb	0.000		
NH3	0.000		
CO2e	244.9		
Tampa, FL			
VOC	0.146		
NOx	0.849		
CO	0.962		
SOx	0.003		
PM 10	2.183		
PM 2.5	0.034		
Pb	0.000	25	No
NH3	0.000		
CO2e	244.9		

2024 - (Steady State)

Pollutant	Action Emissions (ton/yr)	GENERAL CONFORMITY	
		Threshold (ton/yr)	Exceedance (Yes or No)
Hillsborough County, FL			
VOC	0.000		
NOx	0.000		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF CONFORMITY ANALYSIS (ROCA)

CO	0.000		
SOx	0.000	100	No
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000		
NH3	0.000		
CO2e	0.0		
Tampa, FL			
VOC	0.000		
NOx	0.000		
CO	0.000		
SOx	0.000		
PM 10	0.000		
PM 2.5	0.000		
Pb	0.000	25	No
NH3	0.000		
CO2e	0.0		

None of estimated emissions associated with this action are above the conformity threshold values established at 40 CFR 93.153 (b); Therefore, the requirements of the General Conformity Rule are not applicable.

HARRISON.MICHAEL.J.1266152490

Digitally signed by HARRISON.MICHAEL.J.1266152490
Date: 2021.05.21 13:13:08 -04'00'

Mike Harrison, Air Program Manager

5/21/2021

DATE