Final
Environmental Assessment for Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements Tyndall Air Force Base, Florida

Unique Identification Number: EAXX-007-57- UAF-1753182316 **March 2026**

United States Air Force
325th Fighter Wing

Tyndall Air Force Base, Florida



U.S. Air Force photo by Tech. Sgt. Betty R. Chevalier

Privacy Advisory

This Environmental Assessment (EA) has been provided for public comment in accordance with the National Environmental Policy Act (NEPA), which provides an opportunity for public input on United States Department of the Air Force (DAF) decision-making, allows the public to offer input on alternative ways for DAF to accomplish what it is proposing, and solicits comments on DAF's analysis of environmental effects.

Public input allows DAF to make better-informed decisions. Letters or other written or verbal comments provided may be published in this EA. Providing personal information is voluntary. Private addresses will be compiled to develop a stakeholders inventory. However, only the names of the individuals making comments and specific comments will be disclosed. Personal information, home addresses, telephone numbers, and e-mail addresses will not be published in this EA.

Section 508 of the Rehabilitation Act of 1973

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR COMBAT COMMAND

9 March 2026

MEMORANDUM FOR WHOM IT MAY CONCERN

SUBJECT: Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) Facility Improvements Environmental Assessment (EA)/March 2026 Certification of Page Limits and Deadline

This memorandum pertains to the Tyndall CEMIRT Facility Improvements EA (attached). In accordance with the National Environmental Policy Act (NEPA), 42 United States Code § 4321, et seq., the Department of the Air Force (DAF) has considered the factors mandated by NEPA in the preparation of this EA.

I certify that the analysis within the EA has been tailored to comply with page limits and deadlines. The EA represents DAF's good-faith effort to prioritize and document the most important considerations required by NEPA within the congressionally mandated page limits and timeline. This prioritization reflects DAF's expert judgment. The effort is substantially complete. Considerations addressed briefly or unaddressed were, in DAF's judgment, to be comparatively not of a substantive nature that meaningfully informed the consideration of environmental effects and the resulting decision on how to proceed.

In the DAF's expert opinion, it has thoroughly considered the factors mandated by NEPA. The analysis contained within the EA is, in DAF's judgment, adequate to inform and reasonably explain the DAF's final decision regarding the proposed action for facility and infrastructure improvements at the Tyndall CEMIRT facility.

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COVER SHEET
ENVIRONMENTAL ASSESSMENT FOR CIVIL ENGINEER MAINTENANCE, INSPECTION AND REPAIR TEAM FACILITY IMPROVEMENTS
TYNDALL AIR FORCE BASE, FLORIDA

a. *Responsible Agency:* Department of the Air Force (DAF)

b. *Cooperating Agency:* None

c. *Proposals and Actions:* This environmental assessment (EA) analyzes the Proposed Action to construct, operate, and maintain a 60,000-square foot (SF) reinforced concrete slab and associated infrastructure for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Florida. The Proposed Action would provide facility and infrastructure improvements to support the current and future CEMIRT operations at Tyndall AFB and meet applicable DoD and DAF safety and security requirements.

d. *For Additional Information:* Mr. Edwin Wallace, 325 CES/CEIEC, edwin.wallace.1@us.af.mil.

e. *Report Designation:* Final Environmental Assessment

f. *Abstract:* This EA has been prepared pursuant to provisions of the National Environmental Policy Act (NEPA) of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code §§ 4321-4347) and the DoD NEPA Implementing Procedures.

The purpose of the Proposed Action is to provide facility and infrastructure improvements that support the current and future CEMIRT operations at Tyndall AFB. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. Further, the proposed improvements are needed to meet applicable DoD and DAF requirements specified in the most current versions of Unified Facilities Criteria (UFC) 3-250-01, *Pavement Design for Roads and Parking Areas*, UFC 3-530-01, *Interior and Exterior Lighting Systems*, UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, UFC 4-022-03, *Security Fences and Gates*, and Air Force Manual 32-1040, *Civil Engineer Airfield Infrastructure Systems*.

The Proposed Action consists of constructing, operating, and maintaining a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT. Construction of the concrete slab and associated infrastructure improvements would cumulatively disturb up to 190,000 SF and would include a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action would be implemented within the existing boundaries of Tyndall AFB. The Proposed Action is proposed for implementation between fiscal years 2026 and 2028.

The EA analyzes two alternatives for implementing the Proposed Action (Alternative 1 [Preferred Alternative] and Alternative 2). Based on the analysis of the affected environment and potential environmental consequences presented in the EA, the Proposed Action as implemented by Alternative 1 (Preferred Alternative) would have no significant adverse impacts on environmental resources on or near Tyndall AFB.

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LIST OF ACRONYMS AND ABBREVIATIONS

°F ..... degrees Fahrenheit
325 CES ..... 325th Civil Engineer Squadron
ACAM ..... Air Conformity Applicability Model
AFB ..... Air Force Base
AFCEC ..... Air Force Civil Engineer Center
AFMAN ..... Air Force Manual
AFOSH ..... Air Force Occupational Safety and Health
AMSL ..... above mean sea level
APE ..... Area of Potential Effect
AQCR ..... Air Quality Control Region
AT/FP ..... antiterrorism/force protection
BA ..... Biological Assessment
BGEPA ..... Bald and Golden Eagle Protection Act
BMP ..... best management practice
CEMIRT ..... Civil Engineer Maintenance, Infrastructure and Repair Team
CES ..... Civil Engineer Squadron
CFR ..... Code of Federal Regulations
CH_4 ..... methane
CO_2 ..... carbon dioxide
CO_2e ..... carbon dioxide equivalent
CWA ..... Clean Water Act
CY ..... cubic yard
DAF ..... Department of the Air Force
dBA ..... A-weighted decibel
E.O. ..... Executive order
EA ..... Environmental Assessment
ECF ..... entry control facility
EIS ..... Environmental Impact Statement
ERP ..... Environmental Restoration Program
ESA ..... Endangered Species Act
ESQD ..... explosives safety quantity-distance
FAC ..... Florida Administrative Code
FCMP ..... Florida Coastal Management Program
FDEP ..... Florida Department of Environmental Protection
FEMA ..... Federal Emergency Management Agency
FONPA ..... Finding of No Practicable Alternative
FONSI ..... Finding of No Significant Impact
FWC ..... Florida Fish and Wildlife Conservation Commission
FY ..... fiscal year
GHG ..... greenhouse gas
GWP ..... global warming potential

HWMP ..... Hazardous Waste Management Plan
INRMP ..... Integrated Natural Resources Management Plan
IRP ..... Installation Restoration Program
ISWMP ..... Integrated Solid Waste Management Plan
MAAS ..... Mobile Aircraft Arresting System
MBTA ..... Migratory Bird Treaty Act
MMRP..... Military Munitions Response Program
mton/yr..... metric ton per year
N_2O ..... nitrous oxide
NAAQS..... National Ambient Air Quality Standards
NEPA ..... National Environmental Policy Act
NHPA ..... National Historic Preservation Act
NPDES..... National Pollutant Discharge Elimination System
NPL ..... National Priority List
NPS ..... National Park Service
NRHP..... National Register of Historic Places
OSHA..... Occupational Safety and Health Administration
PFAS ..... per- and polyfluoroalkyl substances
PM..... particulate matter
PM_{10} ..... particulate matter equal to or less than 10 microns
$PM_{2.5}$ ..... particulate matter equal to or less than 2.5 microns
POL ..... petroleum, oil, and lubricants
PSD ..... Prevention of Significant Deterioration
ROI..... Region of Influence
SF ..... square foot or feet
SFHA ..... Special Flood Hazard Area
SHPO ..... State Historic Preservation Officer
SPCC..... Spill Prevention, Control, and Countermeasures
T&E..... threatened and endangered
TMDL ..... Total Maximum Daily Load
tpy ..... tons per year
U.S.C..... United States Code
UFC..... Unified Facilities Criteria
UMAM..... Uniform Mitigation Assessment Method
US-98 ..... U.S. Highway 98
USACE ..... U.S. Army Corps of Engineers
USDOT ..... U.S. Department of Transportation
USEPA ..... U.S. Environmental Protection Agency
USFWS ..... U.S. Fish and Wildlife Service
USGS ..... U.S. Geological Survey
WOTUS ..... Waters of the United States

CHAPTER 1 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

The Department of the Air Force (DAF) has prepared this Environmental Assessment (EA) to evaluate the potential environmental consequences from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Florida. Tyndall AFB is in northwestern Florida, along the coast of the Gulf of America, immediately south of Panama City and approximately 80 miles southwest of Tallahassee.

1.2 Location and Background

Tyndall AFB covers 29,276 acres in Bay County, Florida, immediately south of Panama City **(Figure 1.2-1)**. More than 30 units and organizations operate at the base, including the 325th Fighter Wing, the First Air Force, the 53rd Weapons Evaluation Group, and the Air Force Civil Engineer Center (AFCEC). U.S. Highway 98 (US-98) bisects Tyndall AFB into northern and southern sections. The base's main aircraft runways, taxiways, aircraft hangars and maintenance facilities, drone runway, and other infrastructure associated with the airfield are primarily north of US-98, while its administrative facilities, residential areas, and other support facilities and infrastructure are primarily south and west of US-98. Tyndall AFB is bounded by waterbodies on three sides: East Bay to the north, the Gulf of America to the south, and St. Andrew Bay to the west.

The existing CEMIRT facility occupies approximately 323,170 square feet (SF) (7.4 acres) along Mississippi Road on the southern side of Tyndall AFB **(Figure 1.2-2)**. This facility is one of four locations in the world that stores and maintains mobile aircraft arresting systems (MAAS). CEMIRT operates and maintains 30 MAAS and anticipates adding 20 MAAS in the future, although the timeframe for receiving these additional MAAS is not currently known.

CEMIRT also operates and maintains airfield resources generators, emergency power system generators, testing platforms, cargo trailers of various sizes to haul equipment, and large machinery and trailers to load and unload equipment. CEMIRT provides DAF-wide specialized maintenance, installation, and repair support on electrical and mechanical systems; aircraft arresting systems; and heating, ventilation, and air conditioning systems during peacetime, war, and emergency response operations. In support of its operations, CEMIRT conducts an average of more than 300 planned events, 30 to 40 emergency events, and up to 150 unplanned deployments of its team members annually (AFCEC, 2024).



Figure 1.2-1 Location of Tyndall AFB



Figure 1.2-2 Location of Existing CEMIRT Facility on Tyndall AFB

Space at the existing CEMIRT facility on Tyndall AFB is not sufficient to support current or anticipated future operational requirements. These requirements include equipment storage, maintenance, mobilization, and logistics. Because of the lack of available space, CEMIRT's MAAS equipment is temporarily stored at rotating locations throughout Tyndall AFB, resulting in unnecessary transport delays, inefficiencies in equipment maintenance, operations, and mobilization, and corresponding delays in DAF mission readiness.

The current temporary storage location for MAAS equipment is nearly 3 miles from the existing CEMIRT facility at a vacant lot off Beacon Beach Road. Ongoing construction at Tyndall AFB to repair or replace facilities and infrastructure damaged by Hurricane Michael in 2018 necessitates the frequent relocation of temporary CEMIRT storage locations. The current temporary storage location is not adjacent to or readily accessible from the existing CEMIRT facility and is scheduled to be repurposed as part of the ongoing hurricane reconstruction at Tyndall AFB. Therefore, this location is not a viable long-term storage solution for MAAS equipment.

1.3 Purpose and Need

The purpose of the Proposed Action is to provide facility and infrastructure improvements that support current and future CEMIRT operations at Tyndall AFB. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The proposed improvements are also needed to meet applicable DoD and DAF requirements specified in the most current versions of Unified Facilities Criteria (UFC) 3-250-01, *Pavement Design for Roads and Parking Areas*, UFC 3-530-01, *Interior and Exterior Lighting Systems*, UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, UFC 4-022-03, *Security Fences and Gates*, and Air Force Manual (AFMAN) 32-1040, *Civil Engineer Airfield Infrastructure Systems*. Given the proximity of the CEMIRT facility to the shoreline of St. Andrew Sound and the Gulf of America beyond, proposed improvements must also comply with the requirements of the Florida Fish and Wildlife Commission and Chapter 62B-55 of the Florida Administrative Code, *Model Lighting Ordinance for Marine Turtle Protection*.

1.4 Decision to be Made

This EA evaluates the potential environmental consequences associated with the Proposed Action to implement facility and infrastructure improvements to support CEMIRT operations at Tyndall AFB. Based on the analysis in this EA, the DAF will make one of three decisions regarding the Proposed Action:

1. Determine the Proposed Action and alternatives would have no significant environmental impacts and issue a signed Finding of No Significant Impact (FONSI) and Finding of No Practicable Alternative (FONPA).
2. Initiate preparation of an Environmental Impact Statement (EIS) if it is determined that implementing the Proposed Action or alternatives would result in significant environmental impacts.
3. Select the No Action Alternative, whereby the Proposed Action would not be implemented.

As required by the National Environmental Policy Act (NEPA), preparation of an environmental document must precede final decisions regarding a federal proposed action and be available to inform decision-makers of the potential environmental impacts. The information presented in this EA will serve as the basis for deciding whether the Proposed Action would result in a significant impact on the human environment, requiring preparation of an EIS, or whether no significant impacts would occur, in which case a FONSI would be appropriate.

The Proposed Action would involve construction in a wetland as defined in Executive Order (E.O.) 11990, Protection of Wetlands, or "action" in a floodplain as defined in E.O. 11988, Floodplain Management. Therefore, a FONPA was prepared in conjunction with the FONSI to document that no other practicable alternatives for implementing the Proposed Action outside a wetland or floodplain exist.

1.5 Interagency and Intergovernmental Coordination and Consultations

1.5.1 Interagency Coordination and Consultations

The DoD NEPA Implementing Procedures, in compliance with NEPA, requires opportunities for the public and agencies to review information relevant to the Proposed Action and alternatives. NEPA also requires federal agencies to consider the effects of their proposed actions in accordance with relevant environmental laws and regulations, including Section 7 of the Endangered Species Act (ESA) and Section 106 of the National Historic Preservation Act (NHPA). Consultation with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service is required, as applicable, to comply with Section 7 of the ESA.

1.5.2 Government-to-Government Consultations

Government-to-government consultation between the DAF and Native American tribes with historic, cultural, or religious ties to areas where the Proposed Action would be implemented is being conducted in accordance with DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*; DAF Instruction 90-2002, *Interactions with Federally Recognized Tribes*; and DAF Manual 32-7003, *Environmental Conservation*. Information regarding public, agency, and tribal stakeholder consultation and coordination during preparation of this EA, including relevant correspondence, is provided in **Appendix A**.

1.6 Applicable Laws and Environmental Regulations

This EA has been prepared in accordance with the NEPA of 1969 (42 United States Code [U.S.C.] §§ 4321 - 4347, as amended). The requirements of other applicable federal, state, and local regulations are briefly described below and in **Chapter 3,** as applicable.

1.6.1 National Environmental Policy Act

NEPA is a federal law enacted in 1969 that requires federal agencies to consider the potential environmental consequences of their proposed actions. The intent of NEPA is to protect, restore, or enhance the environment through well-informed federal decisions. DAF regulations specify that an EA be prepared to:

- briefly provide sufficient analysis and evidence for determining whether to prepare an EIS or a FONSI/FONPA
- aid in an agency's compliance with NEPA when no EIS is necessary
- facilitate preparation of an EIS when one is necessary

Adherence to the NEPA process ensures that federal agencies consider the potential environmental effects of their proposed actions, provide opportunities for public and agency input, and comply with the requirements of relevant laws and regulations such as the ESA and NHPA.

1.6.2 Environmental Impact Analysis Process

The DoD NEPA Implementing Procedures are the procedures the DAF uses to facilitate compliance with relevant environmental laws and regulations, including NEPA, which is the primary legislation affecting the agency's decision-making process.

1.7 Public and Agency Review of the Environmental Assessment

An Early Public Notice announcing the Proposed Action's potential to affect wetlands and floodplains and requesting public comments was published in the *Panama City News Herald* on May 4, 2025 and May 7, 2025. Letters were sent to federal and state agencies and Native American tribes in May 2025 requesting comments on the Proposed Action and potentially affected resources. Letters to the Florida State Historic Preservation Officer (SHPO) and Native American tribes also requested consultation in accordance with Section 106 of the NHPA. Copies of the Early Public Notice and relevant correspondence are provided in **Appendix A**.

The Draft EA was available for a 30-day public comment period in accordance with NEPA. The Draft EA was also available to Florida state agencies for a concurrent 60-day review period through the Florida Department of Environmental Protection (FDEP) State Clearinghouse process. A Notice of Availability was published in the *Panama City News Herald* inviting the public to review and comment on the Draft EA during the 30-day public comment period. The Draft EA and proposed FONSI/FONPA were available for review and download on the Tyndall AFB website at https://www.tyndall.af.mil/About/. Printed copies of the Draft EA and proposed FONSI/FONPA were also available for review at the Bay County Public Library, 898 West 11th Street, Panama City, Florida 32401. No comments were received during the Draft EA public comment period.

1.8 Scope of Environmental Analysis

This EA analyzes the potential environmental consequences from the Proposed Action to implement facility and infrastructure and improvements to support CEMIRT operations at Tyndall AFB. The EA analysis focuses on resources that would be measurably or meaningfully affected by the Proposed Action; detailed discussions of these resources are provided in **Chapter 3**. Cumulative effects are also described for each resource, as applicable. Resources dismissed from detailed analysis in the EA because the Proposed Action would have no effects on them are briefly described in **Section 3.2**.

Information and correspondence relevant to public involvement and DAF consultations with agencies and Native American tribes are provided in **Appendix A**. Resources dismissed from

analyses are in **Appendix B**. Reasonably foreseeable future actions are in **Appendix C**. **Appendix D** provides additional information on resources analyzed in the EA, methodologies, and modeling, including air quality modeling outputs using the Air Conformity Applicability Model. The USFWS Official Species List is provided in **Appendix E**. The Federal Coastal Consistency Determination is in **Appendix F**. **Appendix G** contains information regarding the Florida Uniform Mitigation Assessment Method (UMAM), and worksheets for determining functional loss values for wetlands. Persons involved in the preparation of the EA are listed in **Appendix H**. A Biological Assessment prepared to evaluate potential impacts on threatened and endangered species is in **Appendix I**. A Stream and Wetland Delineation Report prepared to support the impact analysis and future permitting requirements is in **Appendix J**.

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CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

This section describes the Proposed Action analyzed in this EA, alternatives for implementing the Proposed Action, and a summary of impacts from the Proposed Action based on the detailed analysis presented in **Chapter 3**.

2.1 Proposed Action

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB, as described below, to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (approximately 4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Site preparation would include clearing and grubbing vegetation, excavating soil or adding fill soils up to 24 inches, grading and leveling to achieve positive drainage of stormwater runoff, and installing new or relocating existing buried utilities. The proposed concrete slab would likely require a minimum of 12 inches of base course, up to 12 inches of concrete, and reinforced slab edges of up to 24 inches of concrete. Existing subsurface utilities would be relocated using either directional boring or open trenching; trenching would not exceed 4 feet wide by 8 feet deep and 1,028 feet in length. Stormwater management would include open or underground drainages, swales, and retention ponds in accordance with the requirements of the installation's existing National Pollutant Discharge Elimination System (NPDES) Permit or a new permit issued by FDEP.

Perimeter fencing would consist of an 8-foot-tall welded-wire fence, include lightning rods, grounding cables, fence posts installed every 10 feet, and security/access gates as needed. Fencing would be topped by barbed wire supported on angled outriggers and may include either a 6-inch-wide by 1-foot-deep concrete footer strip or a 4-foot-wide skirt of fencing material buried at a 45-degree angle along its entire length to prevent or deter animals from burrowing under the fence. A cleared buffer area 20 feet wide (10 feet on each side of the fence) would be maintained along the entire length of the fence in accordance with applicable DoD antiterrorism / force protection (AT/FP) requirements to provide a firebreak, clear sight lines, and access for security and maintenance.

As needed, overhead lighting would be provided on aluminum or steel poles with foundations of up to 6 feet deep. Based on the cumulative disturbance area (approximately 4.4 acres), up to 30 overhead lights could be needed. Lighting would comply with guidelines set forth in Chapter 62B-55 of the Florida Administrative Code (FAC) to minimize impacts on nesting and hatchling sea turtles. Additional considerations would include the use of amber-colored lights and mounting lights on shorter poles to minimize glare, disorientation, and other adverse effects on wildlife, in accordance with the Tyndall AFB Landscape Master Plan Site Development Criteria for Lighting (Tyndall AFB, 2020a). Construction of the equipment area and infrastructure improvements,

including relocation of existing subsurface utilities and installation of light poles and fencing, would require an estimated 19,233 cubic yards (CY) of total excavation and soil disturbance.

2.2 Alternatives Development

2.2.1 Selection Standards

The DAF developed the following selection standards to evaluate the reasonableness of an alternative and determine if an alternative should be carried forward for detailed analysis in the EA:

1. The alternative must provide necessary facilities and infrastructure that meet established DoD and DAF sizing, siting, safety, and security requirements specified in UFC 3-250-01, UFC 3-530-01, UFC 4-010-01, UFC 4-022-03, and AFMAN 32-1040.
2. The alternative must promote mission adjacency and operational efficiency.
3. The alternative must avoid, minimize, or mitigate disturbance of environmental resources to the extent practicable and in accordance with applicable regulatory requirements.

Project alternatives that did not satisfy one or more of the selection standards were considered not reasonable and were eliminated from detailed analysis in the EA. The consideration of practicable alternatives is also required by E.O. 11988 and E.O. 11990 to avoid adverse effects on floodplains and wetlands, respectively. Practicable alternatives are those that are capable of being implemented within existing constraints and include consideration of pertinent factors, including the environment, community welfare, cost, and available technology.

2.2.2 Alternatives Considered

The DAF considered multiple alternatives to implement the Proposed Action. The rationale used to retain or dismiss the alternatives from detailed analysis in the EA is described below. A summary of the alternatives screening is presented in **Table 2.2-1**. Of the alternatives described below, Alternatives 1 and 2 met all the selection standards and are retained for detailed analysis in the EA. Alternatives 3 and 4 failed to meet at least one of the selection standards and were eliminated from detailed analysis.

Although it does not meet the purpose and need, the No Action Alternative is carried forward for detailed analysis. The No Action Alternative is described in **Section 2.2.2.5**.

Table 2.2-1 Summary of Alternatives Screening

Selection Standards	Alternative 1*	Alternative 2*	Alternative 3	Alternative 4
1. Provide necessary facilities and infrastructure	Yes	Yes	No	Yes
2. Promote mission adjacency and efficiency	Yes	Yes	No	No
3. Minimize environmental disturbance	Yes	Yes	Yes	No
Retained for Analysis in the EA?	**Yes**	**Yes**	**No**	**No**

Notes:
*See Figure 2.2-1 for locations of Alternatives 1 and 2

2.2.2.1 Alternative 1 (Preferred Alternative)

Under Alternative 1, the Proposed Action would be implemented adjacent to and immediately northeast of the existing CEMIRT facility **(Figure 2.2-1)**. Available space for development near the CEMIRT facility is limited, and the location of Alternative 1 was identified to maximize adjacency to and efficiency with the existing facility and to minimize potential impacts on existing wetlands, floodplains, and other environmental resources. Alternative 1 would result in an estimated 190,000 SF (approximately 4.4 acres) of cumulative land disturbance, corresponding to approximately 19,233 CY of soil disturbance **(Table 2.2-2)**. Construction of the equipment area and associated infrastructure in this location would be as described in **Section 2.1**. Based on the analysis in the EA and agency comments received during the Draft EA public comment period, the DAF has identified Alternative 1 as the Preferred Alternative for implementing the Proposed Action.

2.2.2.2 Alternative 2

Under Alternative 2, the Proposed Action would be implemented on a site south of and across Mississippi Road from the existing CEMIRT facility **(Figure 2.2-1)**. Although not adjacent to the existing CEMIRT facility, its location directly across Mississippi Road would nonetheless maximize mission adjacency and efficiency with the existing facility while minimizing potential impacts on existing wetlands, floodplains, and other environmental resources. Alternative 2 would result in an estimated 155,542 SF (3.6 acres) of cumulative land disturbance, corresponding to approximately 16,839 CY of soil disturbance **(Table 2.2-2)**. Other than a reduced overall footprint and corresponding reduced soil disturbance relative to Alternative 1, construction of the equipment area and associated infrastructure under Alternative 2 would be as described in **Section 2.1**.

2.2.2.3 Alternative 3

Under Alternative 3, MAAS equipment would continue to be stored at a vacant lot on Beacon Beach Road, approximately 3 miles away from the CEMIRT facility. This location is not a viable long-term solution because it does not provide necessary facilities that comply with all applicable DoD and DAF facility requirements. Alternative 3 also does not promote mission adjacency or operational efficiency because it is approximately 3 miles away from the existing CEMIRT facility.

Furthermore, this location is scheduled to be repurposed as part of ongoing construction to repair hurricane damage at Tyndall AFB, which would necessitate relocation of CEMIRT equipment to another temporary storage location. Therefore, this alternative does not meet selection standards 1 or 2 and was dismissed from detailed analysis in the EA.

2.2.2.4 Alternative 4

Siting the proposed CEMIRT equipment area in locations on Tyndall AFB other than those considered under Alternatives 1 and 2 would result in operational inefficiencies because it would not collocate the equipment area in a permanent location near the CEMIRT facility, thereby failing to meet selection standard 2. Furthermore, implementing the Proposed Action on other sites near the existing CEMIRT facility other than those considered under Alternatives 1 and 2 would have the potential to result in more extensive environmental impacts based on the presence of previously undisturbed and potentially high-value wetlands, thereby failing to meet selection standard 3.

Therefore, potential sites near the CEMIRT facility outside of the areas considered under Alternatives 1 and 2 were dismissed from detailed analysis in the EA.

Table 2.2-2 Summary of Estimated Soil Disturbance

Project Component		Approximate Soil Disturbance (CY)
Alternative 1 – Construct Equipment Area Northeast of CEMIRT		
A	Site preparation [1]	15,752.9
B	Light poles and electrical panels [2]	22.1
C	Trenching for fence installation and 20-foot cleared buffer area [3]	2,309.2
D	Fence posts [4]	47.8
E	Concrete footer strip [5]	33.5
F	Angled fence skirt [6]	267.7
G	Stormwater Basin [7]	833.0
Total Estimated Soil Disturbance – Components A, B, C, D, E, and G		**18,998.5**
Total Estimated Soil Disturbance – Components A, B, C, D, F, and G		**19,232.7**
Alternative 2 – Construct Equipment Area South of CEMIRT		
A	Site preparation [1]	13,679.3
B	Light poles and electrical panels [2]	17.9
C	Trenching for fence installation and 20-foot cleared buffer area [3]	2,030.9
D	Fence posts [4]	42.1
E	Concrete footer strip [5]	29.4
F	Angled fence skirt [6]	235.5
G	Stormwater Basin [7]	833.0
Total Estimated Soil Disturbance – Components A, B, C, D, E, and G		**16,632.71**
Total Estimated Soil Disturbance – Components A, B, C, D, F, and G		**16,838.75**

Notes:

[1] Includes all soil disturbance associated with site grading and leveling, soil excavation or addition of fill soils, and installation of new or relocation of existing utilities.

[2] Based on a total of 30 light poles and 26 electrical panel posts under Alternative 1 and 24 light poles and 22 electrical panel posts under Alternative 2 with estimated excavation of 0.69 CY per pole and 0.04 CY per post.

[3] Based on a 3-foot-wide by 3-foot-deep excavation along the entire length of the proposed perimeter fence and a permanently maintained cleared area 10 feet wide on either side of the proposed perimeter fence along its entire length (approximately 1,807 linear feet under Alternative 1 or 1,589 linear feet under Alternative 2).

[4] Based on a total of 183 fence posts under Alternative 1 and 161 fence posts under Alternative 2, installed every 10 feet along the length of each proposed perimeter fence with estimated excavation of 0.26 CY per fence post.

[5] Based on a 6-inch-wide by 12-inch-deep concrete footer strip installed along the entire length of the proposed fence (approximately 1,807 linear feet under Alternative 1 or 1,589 linear feet under Alternative 2).

[6] Based on fence material buried approximately 2.8 feet deep at a 45-degree angle along the entire length of the proposed fence (approximately 1,807 linear feet under Alternative 1 or 1,589 linear feet under Alternative 2).

[7] Based on an estimated stormwater basin area requirement in design drawings at an adjacent and similar site.



Figure 2.2-1 Locations of Alternative 1 (Preferred Alternative) and Alternative 2

2.2.2.5 No Action Alternative

Under the No Action Alternative, the Proposed Action described in **Section 2.1** would not be implemented at Tyndall AFB and existing conditions would continue. The existing CEMIRT facility would not acquire sufficient capacity to store, maintain, and mobilize current or future equipment needs, resulting in associated inefficiencies and corresponding delays in DAF mission readiness. The No Action Alternative does not meet the purpose of and need for the Proposed Action but is carried forward for detailed analysis in accordance with the DoD NEPA Implementing Procedures. The No Action Alternative provides a baseline for evaluating potential impacts from the Proposed Action and also represents a potential and viable decision to not implement the Proposed Action.

2.3 Environmental Commitments and Best Management Practices

Based on the analysis presented in this EA, the Proposed Action would have no significant adverse impacts on environmental resources at or around Tyndall AFB; therefore, mitigation measures to mitigate significant impacts are not identified. As applicable, environmental commitments and best management practices (BMPs) to prevent or minimize non-significant effects from the Proposed Action are described for environmental resources evaluated in Chapter 3.

2.4 Summary of Potential Environmental Consequences

Potential impacts from the Proposed Action are summarized in **Table 2.4-1**. This summary is derived from the detailed discussion of potential impacts on each resource presented in **Chapter 3** of this EA.

Table 2.4-1 Summary of Potential Environmental Consequences

Resource	Proposed Action (Alternative 1 and Alternative 2)	No Action Alternative
Air Quality	No significant short-term or long-term effects on air quality. Beneficial long-term effects on air quality from a net reduction in pollutant emissions when combined with the reduction in commuting distance from the CEMIRT facility to temporary equipment storage areas.	No change.
Cultural Resources	No significant short-term or long-term impacts on cultural resources under Alternative 1. The SHPO concurred with this determination in a letter dated January 20, 2026. If Alternative 2 had been selected for implementation, the DAF would have reinitiated Section 106 consultation and sought SHPO concurrence with its determination of effects on historic properties.	No change.
Biological Resources	No significant short-term or long-term impacts on biological resources. The DAF determined that the Proposed Action would have no effect on the bald eagle (*Haliaeetus leucocephalus*); may affect, but is not likely to adversely affect federally listed threatened species; and would not jeopardize the continued existence of federally proposed species. USFWS concurred with these determinations on December 2, 2025.	No change.
Water Resources	No significant short-term or long-term impacts on water resources. The DAF determined that the Proposed Action is	No change.

Table 2.4-1 Summary of Potential Environmental Consequences

Resource	Proposed Action (Alternative 1 and Alternative 2)	No Action Alternative
	consistent with the applicable Florida statutes of the Florida Coastal Management Program (FCMP). FDEP concurred with this determination on June 16, 2025.	
Hazardous Materials and Waste	No significant short-term or long-term impacts on or from hazardous materials and waste.	No change.
Infrastructure / Utilities	No significant short-term or long-term impacts on infrastructure and utilities.	No change.
Soils	No significant short-term or long-term impacts on soils.	No change.
Safety	No significant short-term or long-term impacts on safety.	No change.
Socioeconomics	No significant short-term or long-term impacts on socioeconomics. Beneficial short-term effects on the local economy if local contractors are hired to design and construct the Proposed Action, or from local purchases of construction materials, meals, lodging, and equipment.	No change.
Noise	No significant short-term or long-term impacts from noise.	No change.
Transportation	No significant short-term or long-term impacts on transportation.	No change.

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CHAPTER 3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the affected environment and environmental consequences for resources that would potentially be affected by the Proposed Action. Resources that were dismissed from detailed analysis because the Proposed Action would have no potential to affect them are also briefly summarized. Throughout this EA, the terms "environmental consequences," "effects," and "impacts" are used interchangeably and have the same meaning.

3.1 Resources Analyzed in the Environmental Assessment

Table 3.1-1 lists the environmental resources analyzed in this EA and the Region of Influence (ROI) for each resource. The ROI is the geographic area where potential impacts on a particular resource from Alternative 1, Alternative 2, or the No Action Alternative could occur or be experienced. The area and extent of the ROI varies for each resource based on the characteristics of the particular resource being evaluated.

Table 3.1-1 Summary of Environmental Resources Analyzed

Resource	Region of Influence
Air Quality and Greenhouse Gases	Tyndall AFB, its environs, and the Bay County region (Mobile [Alabama]-Pensacola-Panama City [Florida]-Southern Mississippi Interstate Air Quality Control Region [AQCR]).
Cultural Resources	The Area of Potential Effect (APE) includes the Alternative 1 and 2 sites and a 100-foot buffer around each site.
Biological Resources	Alternative 1 and 2 sites where direct impacts on biological resources could occur and a 50-foot buffer around each site where indirect impacts on biological resources such as disturbance from noise and human activity could be experienced. The biological resources ROI also includes barrier islands located south of the CEMIRT facility where potential impacts from lighting could be experienced.
Water Resources	Alternative 1 and 2 sites and water bodies on and around Tyndall AFB that potentially receive drainage or infiltration from those sites.
Hazardous Materials and Waste	Alternative 1 and 2 sites and adjacent or nearby lands where adverse effects from hazardous materials and hazardous wastes could occur.
Infrastructure / Utilities	Alternative 1 and 2 sites and utility and infrastructure systems on Tyndall AFB that could be affected by the Proposed Action.
Soils	Alternative 1 and 2 sites.
Safety	Alternative 1 and 2 sites.
Socioeconomics	Tyndall Air Force Base, Panama City, Bay County, and Florida.
Noise	Alternative 1 and 2 sites and areas within 0.25 miles of each site. Beyond this distance, it is expected that noise associated with the construction and operation of the proposed project would not be readily identifiable or distinguishable from other noise sources contributing to the ambient noise environment on and around the installation.
Transportation	Segments of US-98 adjacent to Tyndall AFB and on-base roads and transportation infrastructure south of US-98.

3.2 Resource Areas Dismissed from Analysis

Airspace and Airfield Safety Zones, Land Use, Geology and Topography, and Visual Resources have been dismissed from analysis in this EA because the Proposed Action would have no potential to affect them. A detailed rationale for dismissal of resource areas is provided in **Appendix B**.

3.3 Air Quality

Ambient air quality in a specified area or region is measured by the concentration of various pollutants in the atmosphere. Pollutant concentrations are affected by both the quantity of pollutants in the atmosphere and the extent to which these pollutants can be transported and diluted in the air.

Detailed information on air quality regulations, general conformity, and greenhouse gases (GHGs) is provided in **Appendix D.**

3.3.1 Affected Environment

Climate. The general climate conditions for Tyndall AFB are classified as humid subtropical, which is characterized by relatively high temperatures and humid conditions with evenly distributed precipitation throughout the year. Summers are usually somewhat wetter than winters, with much of the rainfall coming from convectional thunderstorm activity.

The hottest month of the year at Tyndall AFB is July, with an average high of 88 degrees Fahrenheit (°F) and a low of 76°F. The coldest month of the year at Tyndall AFB is January, with an average low of 46°F and a high of 62°F. The typical amount of precipitation for the year at Tyndall AFB is 50.4 inches (Weather Spark, 2025).

Clean Air Act Conformity and Permitting. Tyndall AFB is in Bay County, Florida, which is in attainment for all criteria pollutants (Air Conformity Applicability Model [ACAM], 2024). Therefore, the General Conformity Rule does not apply to the Proposed Action. In general, the air quality in the areas surrounding Tyndall AFB is considered good with minimal concern that the National Ambient Air Quality Standards (NAAQS) would be exceeded.

The installation currently operates under a minor source state operation permit issued by FDEP. This permit regulates specific major stationary sources of air emissions at Tyndall AFB and requires that emissions from these sources do not exceed major source values regulated under Title V air permitting. Activities that generate air pollutant emissions at Tyndall AFB include surface preparation and coating; gas, diesel, and jet fuel storage tanks; fuel transfers; fossil fuel boilers; and stationary emergency generator engines.

Tyndall AFB is not located within 100 kilometers (62 miles) of any U.S. Environmental Protection Agency (USEPA)-designated Class I areas protected by the Regional Haze Rule. No Class 1 areas would be affected by emissions associated with the Proposed Action.

Greenhouse Gases. Florida's GHG emissions estimates, based on a 5-year average (2016 through 2020), totaled 258 million metric tons, representing approximately 4.1 percent of the total U.S. GHG emissions (6,251 million metric tons) averaged over the same time period (ACAM, 2024). Florida's GHG emissions (in terms of million metric tons of carbon dioxide) have remained

generally steady over the last 25 years (USEIA, 2022a). In 2022, transportation accounted for 51 percent of carbon dioxide (CO_2) emissions in Florida, and 40 percent was from generation of electric power (USEIA, 2022b).

3.3.2 Environmental Consequences

3.3.2.1 Evaluation Criteria

The DAF has defined "insignificance indicators" for each criteria pollutant according to existing air quality conditions in areas across the country (Air Force, 2020). The insignificance indicator value for areas in attainment, which is the case for Bay County, is 250 tons per year (tpy) for each criteria pollutant (25 tpy for lead). Estimated criteria pollutant emissions from the Proposed Action were compared against these insignificance indicators. If the worst-case net annual emissions estimate for each pollutant are below the corresponding insignificance indicator values, a less than significant impact is indicated.

The ACAM Version 5.0.24a (ACAM, 2024) was used to estimate the total direct and indirect emissions from the Proposed Action. Project emissions estimated using ACAM would primarily be associated with construction and earth disturbance (such as excavation, fill, and grading using heavy equipment), operation of diesel-powered construction equipment and vehicles hauling materials, worker trips to and from the project sites, and paving. All construction activities are assumed to occur within a single calendar year (2026) to provide a conservative analysis of potential air quality impacts, although the Proposed Action is proposed for implementation between FY26 and FY28. Operational emissions would begin in 2027, once construction of the new CEMIRT facility is completed and the facility becomes operational.

Contractors would adhere to typical BMPs to reduce fugitive dust (particulates equal to or less than 10 microns in diameter [PM_{10}]) during construction, grading, trenching, and land and vegetation clearing associated with the Proposed Action. Such BMPs could include regular spraying of water or approved chemical dust suppressants on exposed soil and on unpaved roads, proper soil stockpiling methods including installation of windbreakers around soil storage piles, and replacing ground cover. Additional measures, such as use of efficient grading practices, proper use of equipment in accordance with manufacturer instructions, and lowering engine idling times, would reduce combustion emissions.

Table 3.3-1 summarizes the estimated total area (in square feet) used for construction activities in ACAM, by feature and for each of the two alternatives. In addition, net operational emissions were estimated for transport of equipment to and from the new CEMIRT compound via vehicles.

Table 3.3-1 Key ACAM Input Data for Alternative 1 (Preferred Alternative) and Alternative 2

ACAM Activities	Construction Feature	ACAM Input Area (square feet)	
		Alternative 1	Alternative 2
Construction	Concrete Slab	60,000	60,000
	Reinforced Slab Edge	2,000	2,000
	Permanent Access Road	-	8,512
	Fencing Footer Concrete Strip	904	795
Grading	Reinforced Concrete Slab	66,000	66,000
	Stormwater Basin	25,000	25,000
	Permanent Access Road	-	9,363
	Fence Buffer Area	36,140	31,780
	Brush Clearing, Grubbing	190,000	155,542
Trenching	Utilities Relocation	4,112	4,112
	Fencing	5,421	4,767
	Light and Panel Posts	224	184
	Stormwater Management	25,000	25,000
Paving Asphalt	Roads	-	8,512

Greenhouse Gases. ACAM Version 5.0.24a (ACAM, 2024) was also used to evaluate GHG emissions from the Proposed Action. The GHG Emissions Evaluation calculates potential GHG emissions (CO_2 equivalent [CO_2e]) from the action, determines if the action's emissions are insignificant, and provides a relative significance comparison. For the analysis, the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 tpy of CO_2e (or 68,039 metric ton per year, [mton/yr] was used as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. Therefore, actions with a net change of emissions below this threshold are considered insignificant. If activities would involve *de minimis* (insignificant) GHG emissions, then on a global scale the emissions are effectively zero and irrelevant (AFCEC, 2023).

ACAM model assumptions, detailed emissions calculations, and summary results for the Proposed Action are provided in **Appendix D**.

3.3.2.2 Alternative 1 (Preferred Alternative)

Construction Activities. Table 3.3-2 presents the total annual estimated emissions from construction associated with Alternative 1. For this analysis, the emissions are calculated considering the worst-case component option presented in **Table 2.2-2** and assuming that all construction activities would be compressed into one 12-month period. As a result, impacts would be less than those described here. As shown in **Table 3.3-2**, the highest annual emission rate from construction-phase activities would be for PM_{10} (6.714 tpy), which would be well below the insignificance indicator value of 250 tpy (25 tpy for lead).

Anticipated increases in construction emissions would be associated with fugitive dust from grading and trenching, operation of diesel-fuel construction equipment and vehicles hauling materials, and workers commuting to and from the project sites. These emissions would be

localized and temporary, occurring only for the duration of construction. Adherence to applicable BMPs during construction would reduce emissions by minimizing generation of dust and other pollutants. Contractors would comply with applicable regulations and take reasonable measures for mitigating dust that may become airborne during construction. Such measures, if implemented, would further reduce dust and other pollutant emissions to levels below those estimated for this EA.

Thus, construction activities associated with Alternative 1 would have short-term, less-than-significant effects on air quality, regardless of the component option selected for the alternative.

Table 3.3-2 Net Change in Criteria Pollutant Construction Emissions from Alternative 1 (Preferred Alternative)

Project Alternative	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	Pb	NH_3
Total tpy (Alternative 1)[1,2]	2.049	1.517	6.714	0.052	0.003	0.190	0.000	0.004
Insignificance Indicator (tpy)[3]	250	250	250	250	250	250	25	250
Indicator Exceeded (Yes/No)	No	No	No	No	No	No	No	No

Notes:

[1] Air Conformity Applicability Model output results. Includes emissions from worst-case component option.

[2] To be conservative, all construction projects are assumed to occur over one calendar year (2026).

[3] Insignificance Indicator values are for attainment area criteria pollutants.

CO = carbon monoxide; NH_3 = ammonia; NO_x = nitrogen oxides; Pb = lead; $PM_{2.5}$ = particulate matter less than 2.5 microns; PM_{10} = particulate matter less than 10 microns; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

Operational Activities. Table 3.3-3 presents the total annual estimated operational emissions from Alternative 1. Operational emissions would begin in 2027, once construction of the new CEMIRT facility is completed and the facility becomes operational.

Currently, the temporary storage location for MAAS equipment is nearly 3 miles from the existing CEMIRT facility. Once the proposed new CEMIRT facility becomes operational, vehicles transporting MAAS and other equipment would no longer need to travel the 6-mile round-trip distance from the existing CEMIRT facility, resulting in a net decrease in annual miles traveled. This decrease in commuting distance would result in a negligible net reduction in annual operational emissions (indicated with a minus sign in **Table 3.3-3**). Thus, Alternative 1 would have a minimally beneficial, long-term effect on air quality and no significant adverse effects.

Table 3.3-3 Net Change in Criteria Pollutant Operational Emissions from Alternative 1 (Preferred Alternative)

Project Alternative	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	Pb	NH_3
Net Emissions tpy (Alternative 1)[1,2]	-0.044	-0.001	0.000	0.000	0.000	-0.003	0.000	0.000
Insignificance Indicator (tpy)[3]	250	250	250	250	250	250	25	250
Indicator Exceeded (Yes/No)	No	No	No	No	No	No	No	No

Notes:

[1] Air Conformity Applicability Model output for operational emissions. Minus sign (-) indicates net reduction in total emissions.

[2] Would occur after construction ends and operations begin, assumed 2027 and beyond.

[3] Insignificance Indicator values are for attainment area criteria pollutants.

CO = carbon monoxide; NH_3 = ammonia; NO_x = nitrogen oxides; Pb = lead; $PM_{2.5}$ = particulate matter less than 2.5 microns; PM_{10} = particulate matter less than 10 microns; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

No new stationary sources of emissions or fuel-burning equipment are anticipated to be installed as part of the Proposed Action. Minor changes in location, design, or operation of the new facility would not substantially change the estimated emissions, and they would not change the level of air quality impact as described here.

The ACAM Report Record of Air Analysis and the Detail ACAM Report are provided in **Appendix D.**

Greenhouse Gases. Table 3.3-4 summarizes estimated annual GHG emissions through the projected life cycle of Alternative 1 and provides its relative significance in a global context. The total net increase in GHG emissions from Alternative 1 is estimated to be 307 metric tons of CO_2e, which would result from the use of fossil fuel in combustion equipment and vehicles. This increase would account for approximately 0.00004 percent of total GHG (CO_2e) emissions in the state of Florida and approximately 0.000002 percent of total U.S. GHG (CO_2e) emissions. At these low levels, Alternative 1 would not result in a significant impact on a regional, national, or global scale. The ACAM GHG Report is included in **Appendix D**.

Table 3.3-4 Net Change in GHG Emissions from Alternative 1 (Preferred Alternative)

Year	CO_2 (mton/yr)[1]	CH_4 (mton/yr)[1]	N_2O (mton/yr)[1]	CO_2e (mton/yr)[1]	Threshold (mton/yr)[2]	Exceeded ?
2026	313	0.01238506	0.0041282	314	68,039	No
2027	-4	-0.0001544	-0.00005853	-4	68,039	No
2028 [SS Year]	-4	-0.0001544	-0.00005853	-4	68,039	No
Total Greenhouse Gas (CO_2e) Relative Significance (mton)[1]						
Percent of State Totals	0.00003959%					
Percent of U.S. Totals	0.00000164%					
Action (2026-2028)	305	0.012076	0.004011	307	Not applicable	

Notes:
[1] ACAM output results of GHG emissions (see **Appendix D**).
[2] Air Force PSD threshold for GHG of 75,000 tpy CO_2e (or 68,039 metric tpy) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas.

3.3.2.3 Alternative 2

Criteria pollutant emissions for Alternative 2 were estimated using the same methodology and assumptions described for Alternative 1 **(Section 3.3.2.2)**.

Construction Activities. Table 3.3-5 presents the total annual estimated emissions for Alternative 2. As shown in **Table 3.3-5**, the highest annual emission rate from construction-phase activities would be for PM_{10} (6.123 tpy), which would be well below the insignificance indicator value of 250 tpy (25 tpy for lead). Emissions from Alternatives 1 and 2 are comparable; therefore the emissions findings and impacts for Alternative 2 would be the same as those discussed for Alternative 1 **(Section 3.3.2.2)**. There would be short-term, less-than-significant effects on air quality, regardless of the component option selected for Alternative 2.

Table 3.3-5 Net Change in Criteria Pollutant Construction Emissions from Alternative 2

Project Alternative	CO	NO_X	PM_{10}	$PM_{2.5}$	SO_2	VOC	Pb	NH_3
Total tpy (Alternative 1)[1,2]	2.125	1.565	6.123	0.054	0.004	0.197	0.000	0.004
Insignificance Indicator (tpy)[3]	250	250	250	250	250	250	25	250
Indicator Exceeded (Yes/No)	No	No	No	No	No	No	No	No

Notes:

[1] Air Conformity Applicability Model output results. Includes emissions from worst-case component option.

[2] To be conservative, all construction projects are assumed to occur over one calendar year (2026).

[3] Insignificance Indicator values are for attainment area criteria pollutants.

CO = carbon monoxide; NH_3 = ammonia; NO_x = nitrogen oxides; Pb = lead; $PM_{2.5}$ = particulate matter less than 2.5 microns; PM_{10} = particulate matter less than 10 microns; SO_2 = sulfur dioxide; tpy = tons per year; VOC = volatile organic compound

Operational Activities. The estimated operational emissions from Alternative 2 are the same as those for Alternative 1 **(Table 3.3-3)**. As such, the emissions findings and impacts for Alternative 2 would be the same as those discussed for Alternative 1 **(Section 3.3.3.2)**. Alternative 2 would have a minimally beneficial, long-term effect on air quality and no significant adverse effects.

Greenhouse Gases. Table 3.3-6 summarizes estimated annual GHG emissions through the projected life cycle of Alternative 2 and provides its relative significance in a global context. The total net increase in GHG emissions from Alternative 2 is estimated to be 317 metric tons of CO_2e, which would be slightly higher than, but comparable to, those from Alternative 1. This increase would account for approximately 0.00004 percent of total GHG (CO_2e) emissions in the State of Florida and approximately 0.000002 percent of total U.S. GHG (CO_2e) emissions. Similar to Alternative 1, at these low levels, Alternative 2 would not result in a significant impact on a regional, national, or global scale. The ACAM GHG Report is included in **Appendix D**.

Table 3.3-6 Net Change in GHG Emissions from Alternative 2

Year	CO_2 (mton/yr)[1]	CH_4 (mton/yr)[1]	N_2O (mton/yr)[1]	CO_2e (mton/yr)[1]	Threshold (mton/yr)[2]	Exceeded ?
2026	322	0.01277822	0.00426808	324	68,039	No
2027	-4	-0.0001544	-0.00005853	-4	68,039	No
2028 [SS Year]	-4	-0.0001544	-0.00005853	-4	68,039	No
Total Greenhouse Gas (CO_2e) Relative Significance (mton)[1]						
Percent of State Totals	0.00004088%					
Percent of U.S. Totals	0.00000169%					
Action (2026-2028)	315	0.012469	0.004151	317	Not applicable	

Notes:

[1] ACAM output results of GHG emissions (see **Appendix D**).

[2] Air Force PSD threshold for GHG of 75,000 tpy CO_2e (or 68,039 metric tpy) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas.

3.3.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. This alternative would have no impact on air quality at Tyndall AFB or the surrounding region.

3.3.2.5 Reasonably Foreseeable Future Actions

Criteria pollutants regulated by the NAAQs would be emitted during the construction and operational phases of the reasonably foreseeable future projects listed in **Appendix C**. Quantities of criteria pollutants emitted would be regulated in accordance with applicable regulatory and permitting requirements to ensure that they do not contribute to the substantial degradation of local or regional air quality or result in a change to an AQCR attainment designation. Therefore, when considered with these reasonably foreseeable future actions, the Proposed Action would not contribute to significant cumulative impacts on air quality.

The Proposed Action would generate very low levels of GHG emissions. In a global context, its contribution would be negligible when taken into consideration with past, present, and reasonably foreseeable future projects.

3.4 Cultural Resources

Cultural resources in a specified area include archaeological and architectural sites that provide essential information to understand to understand the prehistory and historical development of the United States. This may include historic properties or properties of religious or cultural importance. Detailed information on cultural resources is provided in **Appendix D.**

In May 2025, the DAF initiated government-to-government consultation with Native American tribes having historic, cultural, and religious ties to lands underlying the proposed airspace. Government-to-government correspondence is included in **Appendix A**.

The cultural resources ROI consists of the APE for both alternative sites, as described above, plus an additional 100-foot buffer that was applied to identify and analyze potential effects on cultural resources.

3.4.1 Affected Environment

The APEs for Alternatives 1 and 2 are located between US-98 and St. Andrew Sound, flanking Mississippi Road near the existing CEMIRT facility **(Figure 2.2-1)**. Situated within the Gulf Coast Lowlands Lake Region of the Florida panhandle, this region is characterized by coastal dune and flatwood lakes, underlain by Pleistocene beach and dune sands, silt, and clay (Brooks, 1981; Griffith et al., 1997). Vegetation consists of sand (*Pinus clausa*) and slash pine (*Pinus elliottii*), saw palmetto (*Serenoa repens*), and live oak (*Quercus virginiana*) communities. Overall drainage at the sites is to the southeast, toward an off-site seasonal pond located approximately 330 feet away. Elevations at the sites vary between 7 and 25 feet above mean sea level (AMSL).

Previous archaeological surveys at Tyndall AFB have identified 402 archaeological sites across the installation (Tyndall AFB, 2022a). These sites include prehistoric, historical (pre-military), and military sites. Prehistoric site types consist of artifact scatters, shell middens, and occupation locales spanning the Paleoindian through Late Woodland periods (12000 – 450 Before Present). Historical sites span mid-19th to mid-20th centuries and include refuse dumps, homesteads, turpentine processing locations, transportation infrastructure, and agricultural features. Military-era sites consist of World War II-era target and training ranges and an aircraft crash site.

Additionally, 11 family or community cemeteries are within the boundaries of Tyndall AFB; all are unevaluated for National Register of Historic Places (NRHP) eligibility.

In total, 233 buildings at Tyndall AFB have been evaluated for NRHP eligibility (Tyndall AFB, 2022a). These buildings were constructed between 1941 and 1998, with the majority constructed between 1941 and 1959 (n=89) and 1970 to 1989 (n=87). Of the total, 21 buildings have been determined eligible for listing in the NRHP, 207 have been determined not eligible for listing, and 5 are currently unevaluated. Sixty-five buildings were demolished at Tyndall AFB following damage sustained during Hurricane Michael in 2018, including two NRHP-eligible buildings (8BY1117 and 8BY1178). Two potentially eligible historic districts have been identified at Tyndall AFB, representing the former communities of Cromanton and Farmdale; these districts are located 5 miles west and 7 miles east of the APE, respectively.

There are no NRHP-listed, NRHP-eligible, or unevaluated historic properties within 1,000 feet of the APE. The APE for Alternative 1 has been surveyed for cultural resources, including systematic shovel testing at 50-meter intervals (Mikell, 2017; Bradley et al., 2020). No cultural resources were identified within the Alternative 1 APE. The Alternative 2 APE was not surveyed in 2019 because of downed trees caused by a recent hurricane and has not been surveyed since. In 2023, a cultural resources survey was conducted north and south of the APE for Alternative 2 within developed portions of the current CEMIRT facility and along the St. Andrew Bay shoreline (Bradley et al., 2024). The survey included systematic shovel testing at 50- to 100-meter intervals. No cultural resources were identified in areas adjacent to the Alternative 2 APE. Based on the shovel test intervals used in the adjacent survey areas, they were considered to have low to moderate archaeological potential, suggesting some potential for archaeological deposits within the Alternative 2 APE.

3.4.2 Environmental Consequences

3.4.2.1 Evaluation Criteria

Adverse effects on cultural resources could include altering characteristics of the resource that make it eligible for listing in the NRHP. Such impacts could include introducing visual or audible elements that are out of character with the property or its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or the sale, transfer, or lease of the property out of agency ownership (or control) without adequate enforceable restrictions or conditions to ensure preservation of the property's historic significance. For this EA, an adverse effect would be considered significant if it alters the integrity of an NRHP-listed or eligible historic property or if it has the potential to adversely affect traditional cultural properties and the practices associated with the property.

3.4.2.2 Alternative 1 (Preferred Alternative)

No historic properties have been identified during previous cultural resource surveys conducted within the Alternative 1 APE, and no NRHP-listed, NRHP-eligible, or unevaluated historic properties are within 1,000 feet of the APE. Therefore, in accordance with 36 Code of Federal Regulations (CFR) § 800.5, the DAF has determined that Alternative 1 would have no adverse effect on historic properties if selected for implementation. The SHPO concurred with this

determination in a letter dated January 20, 2026. Section 106 correspondence is included in **Appendix A**.

Should inadvertent discovery of archaeological deposits or human remains be made during construction or other ground-disturbing activities, all ground-disturbing work would cease, and the DAF would follow standard operating procedures for Discoveries of Archaeological Resources and Native American Graves Protection and Repatriation Act Cultural Items, as detailed in the Tyndall AFB *Integrated Cultural Resources Management Plan* (Tyndall AFB, 2022a). Adherence to these procedures would ensure that adverse impacts on previously undocumented archaeological deposits or human remains would not be significant.

3.4.2.3 Alternative 2

No historic properties are known to be present within the Alternative 2 APE, and no Section 110 cultural resources surveys have been conducted within the APE. The Florida SHPO confirmed that the APE of Alternative 2 has not been surveyed in a letter dated May 30, 2025. Based on a survey conducted in 2023 near the Alternative 2 APE, there is potential for archaeological deposits to be present within the Alternative 2 APE. Therefore, in accordance with 36 CFR § 800.5, the DAF has determined that implementation of the Proposed Action on the Alternative 2 site would have the potential to affect currently undocumented historic properties within the APE. If the Alternative 2 site had been selected for implementation of the Proposed Action, Tyndall AFB would have performed Section 110 cultural resources surveys and conducted additional Section 106 consultation with the SHPO as needed prior to construction to avoid, minimize, or mitigate potentially significant adverse effects on historic properties, as applicable.

3.4.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Cultural resources at Tyndall AFB would continue to be managed as they currently are. This alternative would have no effect on cultural resources.

3.4.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Other reasonably foreseeable future actions listed in **Appendix C** are located outside of the APE and would adhere to Section 106 consultation requirements and/or coordination with federal, state, and local agencies as applicable to ensure that potential effects on cultural resources would be avoided or remain less than significant. Therefore, when considered with other reasonably foreseeable future actions occurring on Tyndall AFB or in the vicinity of the APE, the Proposed Action would not contribute to cumulatively significant adverse effects on cultural resources or historic properties, including architectural resources, archaeological resources, or traditional cultural properties and sacred sites.

3.5 Biological Resources

Biological resources include plants and animals in a specified area or region. This includes native and nonnative species; protected species; and the habitats in which these species occur. Detailed information on biological resources is provided in **Appendix D.**

The ROI for biological resources consists of the Alternative 1 and Alternative 2 sites **(Figure 2.2-1)** where direct impacts on biological resources could occur, and areas within the immediate vicinity of the alternative sites where indirect impacts on biological resources, such as disturbance from noise and human activity, could be experienced. The ROI also includes barrier islands located south of the CEMIRT facility where potential effects on nesting and hatchling sea turtles and beach mice from artificial lighting could occur. The Proposed Action does not involve in-water activities and would have no potential to alter or otherwise disturb surface water bodies that provide suitable habitat for fish and aquatic or marine mammals; therefore, the analysis of biological resources in this EA is limited to terrestrial species of birds, mammals, reptiles, amphibians, and plants, including those having potential to occur in wetlands. A Biological Assessment (BA) (DAF, 2025a) was prepared to evaluate potential impacts from the Proposed Action on federally listed species and support Section 7 consultation with the USFWS and is included as **Appendix I**.

3.5.1 Affected Environment

3.5.1.1 Vegetation

Tyndall AFB contains approximately 22,891 acres of vegetative cover (Tyndall AFB, 2020b). Vegetation within the ROI primarily consists of scrub shrub habitat and contains dense patches of vegetation with few overstory trees. Prior to Hurricane Michael in 2018, the ROI contained dense mixed pine and hardwood forests. Hurricane Michael removed nearly the entire canopy within the ROI. Vegetation communities listed in **Table 3.5-1** are based on on-site conditions observed during field surveys conducted at Tyndall AFB in April 2025 to support development of the BA (DAF, 2025a).

Table 3.5-1 Vegetation Community Acreage within the ROI

	Alternative 1		Alternative 2	
Vegetation Community	**Acres**	**FLCCS Comparable Class**	**Acres**	**FLCCS Comparable Class**
Upland	1.06	Scrubby Flatwoods	2.61	Scrubby Flatwoods
Wetland	1.41	Hydric Pine Flatwoods / Wet Flatwoods	0.96	Hydric Pine Flatwoods / Wet Flatwoods
Upland / Wetland Ecotone	1.58	Coastal Scrub	--	--
Mowed / Maintained Areas	0.31	Mowed Grass	--	--
Total	**4.36**		**3.57**	

Notes:
FLCCS = Florida Land Cover Classification System

Common plant species within wet, mesic, or scrubby flatwoods include longleaf and slash pine overstories; shrubby understories consisting of saw palmetto, high bush blueberry (*Vaccinium corymbosum*), dwarf huckleberry (*Gaylussacia dumosa*), swamp titi, and fetterbush (*Lyonia lucida*); and groundcover assemblages dominated by wiregrass (*Aristida stricta*), other native warm season grasses, sedges, and suites of other herbaceous species. Common plant species within inland grassland communities include bluestem species (*Andropogon* spp., *Schizachyrium scoparium*), sea oats (*Uniola paniculata*), muhly grass (*Muhlenbergia capillaris*), wax myrtle (*Morella cerifera*), bush goldenrod (*Chrysoma pauciflosculosa*), and Godfrey's goldenaster (*Chrysopsis godfreyi*) (Tyndall AFB, 2020b).

Uplands vegetation primarily consists of inkberry (*Ilex glabra*), sweetbay magnolia (*Magnolia virginiana*), black titi (*Cliftonia monophyla*), upland oaks (*Quercus* spp.), saw palmetto, greenbrier (*Smilax* spp.), blackberry (*Rubus* spp.), coastal pepperbush (*Clethra alnifolia*), and slash pine. The predominant wetland community within the ROI is freshwater scrub-shrub. Wetlands primarily consist of ferns, sand blackberry, bluestem, muscadine (*Vitus rotundifolia*), wiregrass, slash pine, and greenbrier. Ecotones primarily consist of inkberry, blackberry, fetterbush (*Lyonia lucida*), persimmon (*Diospyros virginiana*), yaupon holly (*Ilex vomitoria*), saw palmetto, gallberry (*Ilex coriacea*), slash pine muscadine, and greenbrier.

3.5.1.2 Wildlife

Undeveloped areas on Tyndall AFB support a wide range of wildlife, including mammals, songbirds, shorebirds, neotropical migrant birds, reptiles, and amphibians. Examples of common wildlife species known or having potential to occur at Tyndall AFB, and potentially within the ROI, are listed in **Table 3.5-2**.

Table 3.5-2 Examples of Common Wildlife Species Potentially Occurring in the ROI

Common Name	Scientific Name	Common Name	Scientific Name
Birds			
bluejay	*Cyanocitta cristata*	house sparrow	*Passer domesticus*
catbird	*Dumetella carolinensis*	northern cardinal	*Cardinalis cardinalis*
eastern towhee	*Pipilo erythrophthalmus*	northern mockingbird	*Mimus polyglottos*
Mammals			
black bear	*Ursus americanus floridanus*	gray fox	*Urocyon cineroargenteus*
coyote	*Canis latrans*	opossum	*Didelphis virginiana*
eastern mole	*Scalopus aquaticus*	white-tailed deer	*Odocoileus virginianus*
eastern red bat	*Lasiurus borealis*		
Reptiles and Amphibians			
black racer	*Coluber constrictor*	slender glass lizard	*Ophisaurus attenuatus*
common five-lined skink	*Plestiodon fasciatus*	southern cricket frog	*Acris gryllus*
cottonmouth	*Agkistrodon piscivorus*	southern toad	*Anaxyrus terrestris*
garter snake	*Thamnophis sirtalis*	southern leopard frog	*Lithobates sphenocephalus utricularius*
green anole	*Anolis carolinensis*	squirrel treefrog	*Hyla squirella*

Source: Tyndall AFB, 2020b

3.5.1.3 Invasive Species

Invasive species are defined in E.O. 13112, Invasive Species, as "an alien species whose introduction does or is likely to cause economic or environmental harm to human health." Invasive species are highly adaptable and often displace native species. Characteristics of invasive species include high reproduction rates, resistance to disturbances, lack of natural predators, efficient dispersal mechanisms, and the ability to outcompete native species.

The primary invasive plants of concern at Tyndall AFB are Japanese climbing fern (*Lygodium japonicum*), Chinese tallow tree (*Triadica sebifera*), torpedo grass (*Panicum repens)*, and cogon grass (*Imperata cylindrica*). Invasive animal and insect species include feral hogs (*Sus scrofa*) and fire ants (*Solenopsis invicta*) (Tyndall AFB, 2020b). Objectives for invasive species management set forth in Tyndall AFB's *Nuisance and Invasive Species Component Plan* include treating and controlling infestations, preventing new infestations, restoring infested areas to the natural ecological community type, and protecting threatened and endangered (T&E) species and habitats (Tyndall AFB, 2020b).

3.5.1.4 Threatened and Endangered Species

T&E species include plants and animals listed as threatened or endangered under the ESA and species listed under Chapters 5B-40 and 68A-27 FAC. The ESA defines an endangered species as "any species in danger of extinction through all, or a large significant portion, of its range," while a threatened species is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Critical habitat designated under the ESA contains features essential for the conservation of a threatened or endangered species and may require special management and protection (USFWS, 2017). The National Defense Authorization Act of 2004 amended Section 4 of the ESA to preclude the USFWS and the National Marine Fisheries Service from designating critical habitat on any lands or other geographical areas owned or controlled by the DoD, or designated for its use, that are subject to an approved DoD INRMP, provided that USFWS and/or National Marine Fisheries Service certify in writing that the INRMP benefits the federally-listed species for which critical habitat has been designated.

Federally Listed Species. Federally listed or proposed species or designated critical habitat known or having potential to occur in the ROI are listed in **Table 3.5-3** (USFWS, 2025; Tyndall AFB, 2020b). All bird species listed in **Table 3.5-3** are also protected under the Migratory Bird Treaty Act (MBTA). Although delisted from the federal endangered species list in 2007, the bald eagle remains federally protected under the Bald and Golden Eagle Protection Act (BGEPA), as well as the MBTA. The golden eagle is not known to be present on Tyndall AFB (Tyndall AFB, 2020b) and the Florida panhandle is at the southeastern end of the nonbreeding range (Cornell Labs, n.d.). Federally designated critical habitat for the Choctawhatchee beach mouse (*Peromyscus polionotus allophrys*) is present within the ROI. This critical habitat was designated by the USFWS prior to the approval of the Tyndall AFB INRMP. The USFWS Official Species List for the ROI is provided in **Appendix E**.

Table 3.5-3 Federally Listed Species with Suitable and/or Critical Habitat in the ROI

Common Name	Scientific Name	Federal Status	Known to Occur at Tyndall AFB	Suitable Habitat within the ROI[1]	Critical Habitat within the ROI
Birds					
bald eagle	*Haliaeetus leucocephalus*	BGEPA	Yes	Yes	No
Invertebrates					
monarch butterfly	*Danaus plexippus*	PT	No	Yes	No
Mammals					
Choctawhatchee beach mouse	*Peromyscus polionotus allophrys*	E	Yes	Yes	Yes
St. Andrew beach mouse	*Peromyscus polionotus peninsularis*	E	Yes	Yes	No
tricolored bat	*Perimyotis subflavus*	PE	No	Yes	No
Plants					
Godfrey's butterwort	*Pinguicula ionantha*	T	Yes	Yes	No
telephus spurge	*Euphorbia telephioides*	T	Yes	Yes	No
white birds-in-a-nest	*Macbridea alba*	T	No	Yes	No
Reptiles					
eastern indigo snake	*Drymarchon couperi*	T	No	Yes	No
green sea turtle	*Chelonia mydas*	T	Yes	Yes	No
hawksbill sea turtle	*Eretmochelys imbricata*	E	No	Yes	No
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	Yes	Yes	No
leatherback sea turtle	*Dermochelys coriacea*	E	Yes	Yes	No
loggerhead sea turtle	*Caretta caretta*	T	Yes	Yes	No

Notes:
Sources: Tyndall AFB, 2020b; USFWS, 2025

[1] Based on habitat conditions observed during Biological Assessment field surveys conducted at Tyndall AFB in April 2025.
BGEPA = Bald and Golden Eagle Protection Act; E = Endangered; PE = Proposed Endangered; PT = Proposed Threatened; T = Threatened

State-Listed Species. State-listed T&E species known or having potential to occur at Tyndall AFB and in the ROI include 1 mammal species, 3 bird species, 1 reptile species, and more than 40 plant species. These species are shown in **Table 3.5-4** (FWC, 2022). Suitable habitat is present in the ROI for the Florida black bear (*Ursus americanus floridanus*), protected under the Florida Black Bear Conservation Rule (Chapter 68A-4.009 FAC) and the state-threatened southern milkweed (*Asclepias viridula*), a wildflower endemic to the Florida panhandle and northeast Florida that can be found in wet prairies, flatwoods, seepage slopes, and pitcher plant bogs. Southern milkweed serves as a larval host plant for the monarch butterfly (*Danaus plexippus*), proposed for federal listing as threatened.

Florida black bears can be found in a wide variety of forested communities statewide and are frequently observed at Tyndall AFB. Generally, state-listed species occurring at Tyndall AFB are managed in accordance with polices established in the installation's *Integrated Natural Resources Management Plan* (INRMP) (Tyndall AFB, 2020b).

Table 3.5-4 State-Listed Species Potentially Occurring in the ROI

Common Name	Scientific Name	State Status	Known to Occur at Tyndall AFB
Mammals			
Florida black bear	*Ursus americanus floridanus*	FBBCR	Yes
Birds			
bald eagle	*Haliaeetus leucocephalus*	FBER	Yes
Marian's marsh wren	*Cistothorus palustris marianae*	T	Yes
southeastern American kestrel	*Falco sparverius paulus*	T	Yes
Reptiles			
Florida pine snake[1]	*Pituophis melanoleucus mugitus*	T	No
Plants			
Apalachicola aster	*Eurybia spinulosa*	E	Yes
Apalachicola dragonhead	*Physostegia godfreyi*	T	Yes
Apalachicola wild-indigo	*Baptisia megacarpa*	E	No
Baltzell's sedge	*Carex baltzellii*	T	No
Burk's southern pitcher plant	*Sarracenia rosea*	T	Yes
Chapman's butterwort	*Pinguicula planifolia*	T	Yes
Chapman's crownbeard	*Verbesina chapmanii*	T	Yes
dew thread sundew	*Drosera filiformis*	E	Yes
eastern featherbells	*Stenanthium gramineum*	E	No
fever-tree	*Pinckneya bracteate*	T	No
fire pink	*Silene virginica*	E	No
giant water dropwort	*Oxypolis greenmanii*	E	Yes
Godfrey's goldenaster	*Chrysopsis godfreyi*	E	Yes
Gulf Coast lupine	*Lupinus westianus*	T	Yes
Harper's yellow-eyed grass	*Xyris scabrifolia*	T	Yes
hummingbird-flower	*Macranthera flammea*	E	No
karst pond yellow-eyed grass	*Xyris longisepala*	E	Yes
large-leaved jointweed	*Polygonum smallianum*	T	Yes
mock pennyroyal	*Stachydeoma graveolens*	E	No
naked-stemmed panic grass	*Panicum nudicaule*	T	No
narrow-leaved beakrush	*Rhynchospora stenophylla*	T	No
orange rein orchid	*Platanthera integra*	E	No
Panhandle bogbuttons	*Lachnocaulon digynum*	T	No
Panhandle meadow-beauty	*Rhexia salicifolia*	T	No
parrot pitcher plant	*Sarracenia psittacina*	T	Yes
pinewoods bluestem	*Andropogon arctatus*	T	Yes
primrose-flowered butterwort	*Pinguicula primuliflora*	E	No
purple pitcher plant	*Sarracenia purpurea*	T	No
quillwort yellow-eyed grass	*Xyris isoetifolia*	E	Yes
silky camellia	*Stewartia malacodendron*	E	No

Table 3.5-4 State-Listed Species Potentially Occurring in the ROI

Common Name	Scientific Name	State Status	Known to Occur at Tyndall AFB
Plants *(continued)*			
small spreading pogonia	*Cleistes bifaria*	E	Yes
snakemouth orchid	*Pogonia ophioglossoides*	T	Yes
southern milkweed	*Asclepias viridula*	T	Yes
southern red lily	*Lilium catesbaei*	T	Yes
spoon-leafed sundew	*Drosera intermedia*	T	Yes
spring hill flax	*Linum macrocarpum*	E	No
St. John's susan	*Rudbeckia nitidia*	E	No
thick-leaved water willow	*Justicia crassifolia*	E	Yes
toothed savory	*Calamintha dentata*	T	No
white-flowered plantain	*Arnoglossum album*	E	No
white-flowered wild petunia	*Ruellia noctiflora*	E	Yes
white-top pitcher-plant	*Sarracenia leucophylla*	E	No
wiregrass gentian	*Gentiana pennelliana*	E	Yes
yellow-flowered butterwort	*Pinguicula lutea*	T	Yes

Notes:
Sources: FDACS, 2024; Tyndall AFB, 2020b
[1] Not documented at Tyndall AFB, though the species occurs in the region and/or appropriate habitat exists at Tyndall AFB
FBBCR = Florida Black Bear Conservation Rule; FBER = Florida Bald Eagle Rule; E = Endangered; T = Threatened

3.5.2 Environmental Consequences

3.5.2.1 Evaluation Criteria

Adverse effects on biological resources could result from the temporary or permanent removal of vegetative cover, the temporary or permanent removal of vegetation providing suitable wildlife habitat, and the associated displacement, injury, or mortality of individual animals. Adverse effects would be significant if the Proposed Action introduced or contributed to the spread of invasive species at Tyndall AFB; prevented or impeded the continued propagation of common species of plants and wildlife at the community level, population level, or species level; or resulted in an adverse effect on federally listed T&E species that could not be avoided or mitigated through consultation with USFWS.

3.5.2.2 Alternative 1 (Preferred Alternative)

Vegetation. Under Alternative 1, up to approximately 4.4 acres of vegetation at Tyndall AFB would be permanently disturbed or removed from construction of the proposed equipment area and associated infrastructure **(Table 3.5-1)**. While impacts on vegetation from Alternative 1 would be adverse, they would be small within the overall context of all vegetative cover (approximately 22,891 acres) on Tyndall AFB. To the extent practicable, undeveloped areas within the ROI would be replanted with native vegetation to prevent or minimize soil erosion and generation of fugitive dust. All vegetation remaining within the ROI after construction is complete would be managed and maintained in accordance with the applicable requirements of the Tyndall AFB INRMP and

other applicable guidance documents. Contractors would adhere to applicable requirements of the Tyndall AFB INRMP and *Nuisance and Invasive Species Component Plan* to prevent the introduction and spread of invasive species on the installation. Therefore, adverse impacts on vegetation from implementation of Alternative 1 would not be significant.

Wildlife. In the short term, noise, vegetation clearing and site preparation, and other human activity associated with construction of the equipment area would disturb or displace wildlife within the ROI. Highly mobile animals would likely relocate to other areas of Tyndall AFB that provide suitable habitat, while less-mobile animals could experience inadvertent injury or mortality. In the long term, Alternative 1 would permanently remove up to approximately 4.4 acres of wildlife habitat on Tyndall AFB.

While these short- and long-term impacts would be adverse, they would occur at the individual rather than the community, population, or species level and would not jeopardize the continued existence of any species. Adherence to the applicable requirements of the Tyndall AFB *Nuisance and Invasive Species Component Plan* by construction contractors would support the plan's management objectives and minimize the potential for injury to contractors from nuisance wildlife species. Once operational, the proposed facilities would be operated and maintained in accordance with applicable Tyndall AFB management plans to prevent or minimize impacts on wildlife to the extent possible. Therefore, adverse impacts on wildlife from implementation of Alternative 1 would not be significant.

Threatened and Endangered Species. Alternative 1 could temporarily or permanently disturb federally and state-listed T&E plant and animal species and alter potential, but currently unoccupied (DAF, 2025a), habitat for such species within the footprint of the Alternative 1 site. Alternative 1 is not intended to result in the "take" of any federally or state-listed species; any "take" resulting from implementation of Alternative 1 would be inadvertent and unintentional. As project planning continues, the proposed equipment area and infrastructure would be designed, constructed, and operated to avoid and prevent temporary and permanent impacts on federally listed species, critical habitat, and suitable habitat for such species; and state-listed species and suitable habitat for such species. These measures would include lighting that complies with guidelines set forth in the Florida Code of Ordinances, Chapter 62B-55 FAC; Chapter 5 of the Bay County, Florida Code of Ordinances; and specifications set by Florida Fish and Wildlife Conservation Commission, to minimize impacts on nesting and hatchling sea turtles or beach mice that could occur on beaches located south of the Alternative 1 site. Construction contractors would adhere to Tyndall AFB measures to prevent or minimize adverse effects on federally and state-listed species, including time-of-year restrictions on construction if necessary. In the long term, activity and noise associated with aircraft operations would continue to be the primary source of potential effects on T&E species at Tyndall AFB.

While Alternative 1 would have the potential to result in the inadvertent disturbance or displacement of one or more federally or state-listed T&E species potentially occurring at Tyndall AFB, or alter potential but currently unoccupied habitat, any such impact would occur at the individual rather than the population, community, or species level, and would not jeopardize the continued existence of any federally or state-listed species. Tyndall AFB would continue to manage state-listed T&E species occurring within its boundaries as described in **Section 3.5.2.4**.

Based on the analysis presented in this EA and the BA, the DAF has determined that Alternative 1 would have no effect on the bald eagle; may affect, but is not likely to adversely affect, the Choctawhatchee beach mouse and its critical habitat, eastern indigo snake (*Drymarchon couperi*), Godfrey's butterwort (*Pinguicula ionantha*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), St. Andrew beach mouse (*Peromyscus polionotus peninsularis*), telephus spurge (*Euphorbia telephioides*), and white birds-in-a-nest (*Macbridea alba*); and is not likely to jeopardize the continued existence of the monarch butterfly and tricolored bat (*Perimyotis subflavus*). Alternative 1 may affect, but is not likely to adversely affect, the monarch butterfly or the tricolored bat if either were to become listed under the ESA. These determinations are summarized in **Table 3.5-5**.

Table 3.5-5 Effects Determinations for Federally Protected Species and Critical Habitat

Common Name	Scientific Name	Federal Status	Determination
eastern indigo snake	*Drymarchon couperi*	T	May affect, not likely to adversely affect
Choctawhatchee beach mouse	*Peromyscus polionotus allophrys*	E	May affect, not likely to adversely affect the species or its critical habitat
Godfrey's butterwort	*Pinguicula ionantha*	T	May affect, not likely to adversely affect
green sea turtle	*Chelonia mydas*	T	May affect, not likely to adversely affect
hawksbill sea turtle	*Eretmochelys imbricata*	E	May affect, not likely to adversely affect
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	May affect, not likely to adversely affect
leatherback sea turtle	*Dermochelys coriacea*	E	May affect, not likely to adversely affect
loggerhead sea turtle	*Caretta caretta*	T	May affect, not likely to adversely affect
St. Andrew beach mouse	*Peromyscus polionotus peninsularis*	E	May affect, not likely to adversely affect
telephus spurge	*Euphorbia telephioides*	T	May affect, not likely to adversely affect
white birds-in-a-nest	*Macbridea alba*	T	May affect, not likely to adversely affect
bald eagle	*Haliaeetus leucocephalus*	BGEPA	No effect
tricolored bat	*Perimyotis subflavus*	PE	Not likely to jeopardize the continued existence; if it becomes listed, the determination would be "may affect, not likely to adversely affect"
monarch butterfly	*Danaus plexippus*	PT	Not likely to jeopardize the continued existence; if it becomes listed, the determination would be "may affect, not likely to adversely affect"

Notes:
BGEPA = Bald and Golden Eagle Protection Act; E = Endangered; PE = Proposed Endangered; PT = Proposed Threatened; T = Threatened

In accordance with Section 7 of the ESA, the DAF has initiated consultation with USFWS regarding the potential effects of Alternative 1 on federally protected species. USFWS concurred

with the effects determinations listed in **Table 3.5-5** on December 2, 2025. Section 7 consultation correspondence is provided in **Appendix A**.

3.5.2.3 Alternative 2

Vegetation. Under Alternative 2, the Proposed Action would permanently disturb up to 3.6 acres of land on Tyndall AFB from construction of the equipment area and associated infrastructure **(Table 3.5-1)**.

Other than a reduced overall footprint and corresponding reduced vegetation disturbance, impacts on vegetation would be similar to those described for Alternative 1. Therefore, adverse impacts on vegetation from Alternative 2 would not be significant.

Wildlife. Under Alternative 2, up to 3.6 acres of wildlife habitat would be permanently removed. Other than a reduced overall footprint and corresponding reduced habitat removal, impacts on wildlife would be similar to those described for Alternative 1. Therefore, adverse impacts on wildlife from Alternative 2 would not be significant.

Threatened and Endangered Species. Impacts on T&E species and designated critical habitat under Alternative 2 would be similar to those described for Alternative 1. Any impacts to federally or state-listed species would occur at the individual level rather than the population, community, or species level, and would not jeopardize the continued existence of any federally or state-listed species. Tyndall AFB would continue to manage state-listed T&E species occurring within its boundaries as described in **Section 3.5.2.4**. Therefore, impacts on and effects determinations for T&E species and designated critical habitat would be the same as those described for Alternative 1.

In accordance with Section 7 of the ESA, the DAF has initiated consultation with USFWS regarding the potential effects of Alternative 2 on federally protected species. USFWS concurred with the effects determinations listed in **Table 3.5-5** on December 2, 2025. Section 7 consultation correspondence is provided in **Appendix A**.

3.5.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Vegetation, wildlife, and federally and state-listed species would continue to be managed as they currently are. The No Action Alternative would have no effect on biological resources.

3.5.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Other reasonably foreseeable future actions listed in **Appendix C** that would occur on Tyndall AFB or in the vicinity of, but outside the biological resources ROI would adhere to the requirements of applicable permits and management plans to minimize adverse effects on biological resources and ensure that any such effects are not significant. Therefore, when considered with potential impacts from other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts on biological resources.

3.6 Water Resources

Water resources include naturally occurring and human-built bodies of surface water, such as oceans, lakes, ponds, rivers, streams, canals, ditches, and wetlands, and their associated watersheds; stormwater; groundwater; floodplains; and the coastal zone. Detailed information on water resources is provided in **Appendix D.**

The ROI for the analysis of water resources consists of the Alternative 1 and Alternative 2 sites **(Figure 2.2-1)** where direct impacts on water resources could occur and areas within the immediate vicinity of the alternative sites where indirect impacts on water resources could be experienced. The applicable requirements of the federally approved FCMP are also addressed in this section. A stream and wetland delineation was conducted on the Alternative 1 and Alternative 2 sites in April 2025 to support the impact analysis in this EA, as well as future permitting requirements and is included as **Appendix J**.

3.6.1 Affected Environment

3.6.1.1 Groundwater

Tyndall AFB is underlain by three groundwater aquifers, from shallowest to deepest: surficial aquifer, intermediate confining unit, and the Floridan aquifer (Tyndall AFB, 2020b). Three permitted on-base wells are used to draw some potable water from the Floridan aquifer; however, most of the potable water used at Tyndall AFB is supplied by the Bay County Utility Services Department (Tyndall AFB, 2021).

3.6.1.2 Water Quality

Tyndall AFB manages and discharges stormwater generated within its boundaries to receiving water bodies in accordance with the applicable requirements of Section 438 of the Energy Independence and Security Act (EISA) of 2007, UFC 3-210-10, *Low Impact Development*, the NPDES, and a Multi-Sector Generic Permit issued by FDEP. Under Section 438 of the EISA, federal agencies are required to reduce stormwater runoff from development projects to protect water resources. UFC 3-210-10 provides the technical criteria and requirements for the planning and design of DoD projects to comply with stormwater requirements under Section 438 of the EISA. Tyndall AFB implements BMPs such as preventative maintenance, prevention and response to accidental spills, sediment and erosion control, structural runoff controls, hazardous material and waste management, and shoreline cleanups to effectively prevent stormwater pollution (Tyndall AFB, 2020b). Runoff on Tyndall AFB is conveyed via multiple naturally occurring and man-made open drainage channels to receiving water bodies in accordance with the base's NPDES permit.

As of 2022, East Bay (located 2.5 miles northeast of the ROI) was listed as *Impaired* for fish and shellfish consumption based on elevated mercury concentrations (USEPA, 2022). East Bay does not currently exceed the 303(d) listing thresholds for nutrients (nitrogen), but it is still classified as Category 5 *Impaired* for elevated nutrients (USEPA, 2022). FDEP currently classifies water quality for aquatic life and swimming/boating uses as *Good*. Impairment within the larger St. Andrew Bay watershed (specifically near the mouth of the bay and east of US-98) is the result of

elevated concentrations of mercury, bacteria (and other microbes), and nitrogen (or phosphorus) (USEPA, 2022). A Total Maximum Daily Load (TMDL) plan for the St. Andrew Bay watershed was developed by the USEPA and FDEP because of the mercury contamination present. TMDL plans quantify the maximum amount of a particular pollutant that a surface water body can absorb without exceeding water quality standards and are a tool used to help track and reduce pollutants in those water bodies. The Gulf of America side of St. Andrew Bay and East Bay west of US-98 currently meet Clean Water Act (CWA) water quality standards (USEPA, 2022).

3.6.1.3 Wetlands and Surface Waters

Tyndall AFB is located in the St. Andrew Bay watershed, which covers approximately 740,000 acres of the central Florida panhandle. This watershed is unique in that it contains no major rivers, resulting in estuarine waters that are deeper, clearer, and characterized by high and consistent salinity (NWFWMD, 2017). Felix Lake, located in the northwestern section of the base, is the only naturally occurring lake on Tyndall AFB (Tyndall AFB, 2020b). Major bodies of surface water near the ROI include St. Andrew Sound (0.3 miles to the southeast), St. Andrew Bay (1.0 miles to the northwest), and East Bay (2.5 miles to the northeast) **(Figure 1.2-1).** It is estimated that wetlands cover approximately 40 percent (11,710 acres) of Tyndall AFB (Tyndall AFB, 2020b). The ROI is located in the Walker Bayou-Fred Bayou Frontal Gulf of Mexico sub-watershed (USGS Hydrologic Unit Code 031401010705) and Hog Island Sound (State Waterbody ID FL1170) (USGS, 2025).

A wetland delineation conducted at Tyndall AFB in April 2025 identified four potentially jurisdictional wetlands totaling approximately 2.4 acres within the Alternative 1 and Alternative 2 sites. No streams, open waters, surface waters, or Section 10 waters subject to regulation under the Rivers and Harbors Act of 1899 were identified within the ROI (DAF, 2025b). These wetlands are summarized in **Table 3.6-1** and shown on **Figure 3.6-1**. Wetland 1 on the Alternative 1 site and Wetland 2 on the Alternative 2 site are potentially subject to regulation as Waters of the United States (WOTUS). Wetland 3 and Wetland 4, both on the Alternative 2 site, are isolated wetlands and potentially subject to state regulation. Additional information regarding the wetland delineation is provided in the Final Wetland Delineation Report **(Appendix J)** (DAF, 2025b).

Table 3.6-1 Potentially Jurisdictional Wetlands Identified within the Alternative Sites

Site	Wetland Number	Potential Jurisdiction	Area (Acres)
Alternative 1	1	WOTUS	1.410
		Alternative 1 Subtotal	*1.410*
Alternative 2	2	WOTUS	0.940
	3	Waters of the State	0.001
	4	Waters of the State	0.020
		Alternative 2 Subtotal	*0.961*
		Total	**2.371**

Source: DAF, 2025b

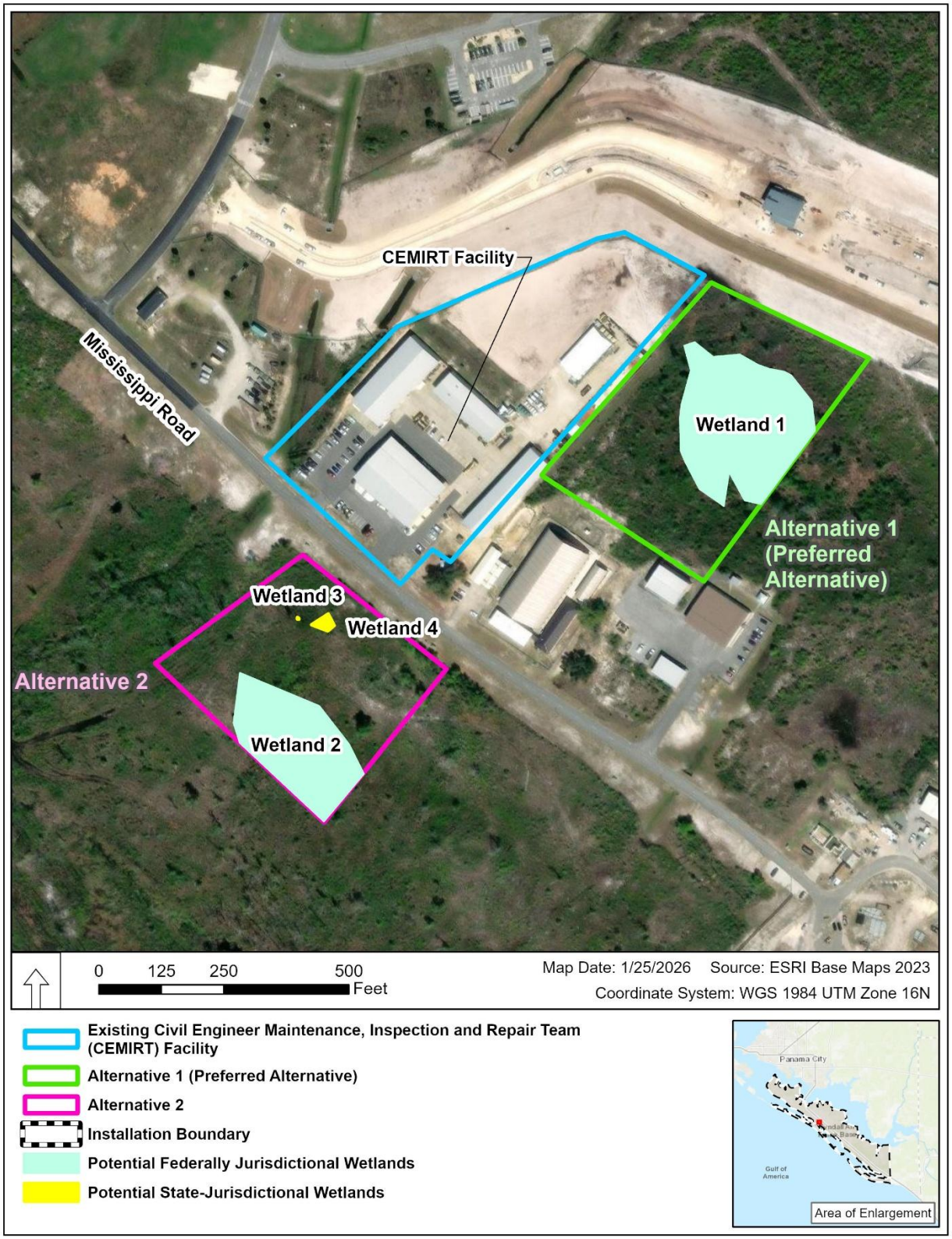


Figure 3.6-1 Potentially Jurisdictional Wetlands within the ROI

Drainage in the ROI is to the southeast from the Alternative 1 site and to the southwest from the Alternative 2 site, although runoff from both sites is ultimately conveyed toward St. Andrew Sound. However, the generally flat topography and underlying sandy soils likely minimize actual overland flow during most precipitation events. The absence of streams or other surface waters is largely the result of the sandy soils and the ROI's location on a narrow peninsula with a small watershed area.

3.6.1.4 Floodplains

Tyndall AFB contains approximately 16,047 acres of regulated 100-year floodplains. Each of the alternative sites contains nearly 3 acres of floodplains **(Table 3.6-2, Figure 3.6-2)** (FEMA, 2024).

Table 3.6-2 Regulated Floodplains within the ROI

Alternative 1	**Acres**
100-Year Floodplain (Special Flood Hazard Areas (SFHAs) Zone A, 1 percent Annual Chance Flood Hazard)	2.74
Total	**2.74**
Alternative 2	**Acres**
100-Year Floodplain (SFHA Zone AE, 1 percent Annual Chance Flood Hazard, with Base Flood Elevation of 10 feet AMSL)	1.37
100-Year Floodplain (SFHA Zone A, 1 percent Annual Chance Flood Hazard)	1.17
500-Year Floodplain (SFHA Zone B, 0.2 percent Annual Chance Flood Hazard)	0.23
Total	**2.77**

Source: FEMA, 2024

3.6.1.5 Coastal Zone Management

Florida's coastal zone includes the entirety of the state's 67 counties and adjacent territorial waters. The federally approved FCMP comprises 24 Florida statutes that are intended to protect and enhance the state's natural, cultural, and economic coastal resources. Under the FCMP, federal consistency requirements apply to proposed federal actions that would occur in any of Florida's 35 coastal counties or adjoining territorial waters (FDEP, 2024).

Tyndall AFB is in Bay County, one of Florida's coastal counties where federal consistency requirements are applicable. As a federally owned military installation, Tyndall AFB is statutorily excluded from the Florida's coastal zone. However, federal actions occurring at Tyndall AFB that have the potential to affect coastal zone resources outside the installation's boundaries must be consistent, to the maximum extent practicable, with the statutes that constitute the FCMP. Therefore, the DAF is required to determine the consistency of proposed activities potentially affecting Florida's coastal zone resources with the FCMP.

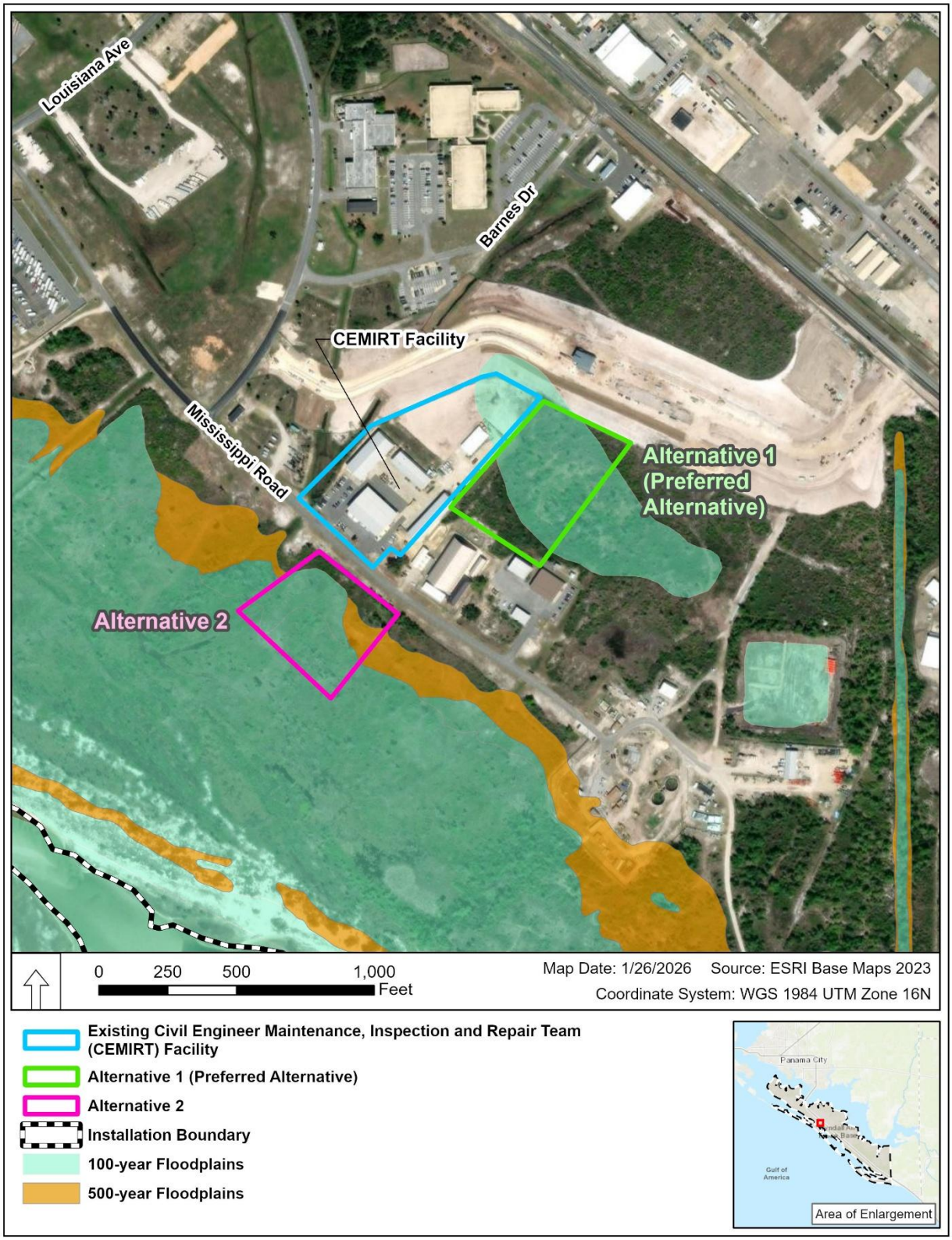


Figure 3.6-2 Regulated Floodplains within the ROI

3.6.2 Environmental Consequences

3.6.2.1 Evaluation Criteria

Potential impacts on water resources would be adverse if the Proposed Action resulted in one or more of the following:

- the reduction of water availability or supply to existing users
- overdrafts of groundwater basins
- increases in impervious surface that decrease or prevent groundwater infiltration and recharge, or increase stormwater runoff generated on the installation
- increased sediment or pollution that causes the receiving water bodies to exceed applicable regulatory criteria, water quality standards, and/or permitting requirements
- accidental releases of hazardous or toxic substances to surface waters or groundwater that cannot be contained, controlled, or cleaned up in accordance with the Tyndall AFB Spill Prevention, Control, and Countermeasures (SPCC) Plan
- the clearing or filling of wetlands or wetland habitat
- would not be consistent to the maximum extent practicable with the Enforceable Policies of the FCMP

Adverse impacts on water resources would be considered significant if one or more of the impacts listed above could not be avoided or minimized through adherence to applicable BMPs or permitting requirements.

3.6.2.2 Alternative 1 (Preferred Alternative)

Groundwater. Under Alternative 1, construction of the proposed equipment area and associated infrastructure would not require new or increased withdrawals of groundwater and would not involve intentional discharges to groundwater. Accidental releases of hazardous substances during construction, operation, and maintenance, such as fuel spills, would be prevented or minimized to the extent possible through adherence to applicable BMPs. Any accidental spills or releases would be immediately contained and cleaned up in accordance with the Tyndall AFB *SPCC Plan* (Tyndall AFB, 2022b) before the spilled substances could infiltrate groundwater underlying the base.

In the long term, construction of the proposed equipment area would increase impervious surface on Tyndall AFB by approximately 60,000 SF (1.4 acres). This increase would have the potential to decrease or prevent some groundwater infiltration and recharge. However, these increases would be small in the context of permeable surfaces that would remain on the base after Alternative 1 has been implemented, as well as surrounding bodies of surface water that would continue to contribute to the recharge of groundwater underlying the base. Therefore, short-term and long-term adverse impacts on groundwater would not be significant.

Water Quality. In the short term, exposure of soils during ground-disturbing construction activities, such as excavation, fill, vegetation removal, and grading/leveling, would increase the potential for erosion by wind and water and the corresponding sedimentation and pollution of

receiving water bodies. Projects involving ground-disturbing activities would be subject to applicable requirements of the Florida NPDES Stormwater Program and would not contribute to releases that would exceed applicable water quality standards. Stormwater runoff would continue to be discharged in accordance with the Tyndall AFB NPDES permit. Adherence to applicable erosion and sediment control measures and stormwater management BMPs during construction would ensure that discharges of runoff from the project sites do not introduce new sources of pollutants, contribute to releases that would exceed applicable water quality standards, or prevent the achievement of water quality objectives established in applicable TMDLs. Therefore, short-term adverse impacts on surface water and water quality would not be significant.

In the long term, construction of 60,000 SF of new impervious cover would result in a corresponding increase in the volume of stormwater runoff generated and discharged from the Alternative 1 site. However, permanent on-site stormwater management BMPs constructed as part of the project would help increase infiltration, would limit stormwater runoff rates to pre-construction conditions, and would reduce the potential for downstream flooding. Stormwater runoff would continue to be managed in accordance with the requirements of Tyndall AFB's NPDES permit and would not be expected to introduce new sources of pollutants, contribute to releases that would exceed applicable water quality standards, or prevent the achievement of water quality objectives established in applicable TMDLs. As applicable, Tyndall AFB would obtain and adhere to the requirements of an Individual Environmental Resource Permit for stormwater (Chapter 62-330.020, FAC) generated by projects that would add more than 4,000 square feet of impervious surface subject to vehicular activity or 9,000 square feet of total impervious surface. No in-water activities or alteration of surface water bodies would occur under Alternative 1. Alternative 1 would not establish a new permitted source of pollutant discharges, and any accidental spills or releases of hazardous substances, such as fuels, during periodic maintenance would be immediately contained and cleaned up in accordance with the Tyndall AFB *SPCC Plan*. Therefore, long-term adverse effects on surface water and water quality from Alternative 1 would not be significant.

Wetlands. Based on the wetland delineation conducted in April 2025, construction of the proposed equipment area and associated infrastructure on the Alternative 1 site would have the potential to directly impact up to 1.410 acres of wetlands. Potential impacts on wetlands from Alternative 1 are summarized in **Table 3.6-3**.

Table 3.6-3 Potential Wetland Impacts and Functional Loss at Alternative 1 (Preferred Alternative)

Site	Potential Regulatory Jurisdiction	Area (acres)	Functional Loss Units (UMAM)
Alternative 1	WOTUS	1.410	0.85

Source: DAF, 2025b

All wetlands located within the Alternative 1 site were further assessed in accordance with the Florida UMAM (Chapter 62-345, FAC). The UMAM provides a standardized procedure all regulatory agencies in Florida use for assessing the functions provided by wetlands and other surface waters, the amount that those functions are reduced by a proposed impact, and the amount of mitigation necessary to offset that loss. Based on this assessment, impacts on wetlands from Alternative 1 would result in up to 0.85 functional loss units of wetland values **(Table 3.6-3)**. These

functional loss units are approximate and would be further refined during the permitting process and formal jurisdictional approval.

As project planning continues, the proposed equipment area and associated infrastructure improvements would be designed to avoid or minimize impacts on regulated wetlands and surface waters to the maximum extent practicable. The DAF would also coordinate with U.S. Army Corps of Engineers (USACE) and FDEP to obtain a jurisdictional determination and applicable permits for federal or state-regulated wetlands within the limits of disturbance for the selected alternative site that would be impacted during project construction. Such permits could include an Environmental Resource Permit issued by the State of Florida. The DAF and its contractors would adhere to all applicable permit requirements to avoid, minimize, or mitigate adverse impacts on regulated wetlands and surface waters. Although adverse, the loss or reduction in function and values of 1.410 acres of wetlands would be small in the context of all wetlands on Tyndall AFB, representing less than 0.1 percent of wetlands on the base. Therefore, short-term adverse impacts on wetlands would not be significant. In the long term, operation and periodic maintenance of the proposed equipment area and associated infrastructure would not involve additional or ongoing disturbance of wetlands. Therefore, Alternative 1 would have no significant long-term impacts on wetlands.

Based on the security, mission, and operational requirements of the DAF, 325th Fighter Wing, and other units based at Tyndall AFB, the DAF has determined that, other than the alternative sites analyzed in this EA, no practicable alternatives exist for implementing the Proposed Action outside of wetlands and floodplains on Tyndall AFB. Accordingly, the DAF has prepared a FONPA to document its decision to consider this project, which would have the potential to impact jurisdictional wetlands and regulated floodplains at Tyndall AFB. The FONPA is included in the FONSI for this EA. Furthermore, in accordance with E.O. 11990, the DAF published an Early Public Notice in the *Panama City News Herald* in May 2025 requesting public and agency comments on its proposal to implement the proposed project at Tyndall AFB. No comments in response to this notice were received.

Floodplains. Assuming the entirety of the Alternative 1 site is disturbed during construction, the proposed project would affect up to 2.74 acres of 100-year floodplains, but no 500-year floodplains on Tyndall AFB. As project planning continues, site design efforts would work to avoid and minimize floodplain impacts to the maximum extent practicable. Excavation, fill, grading/leveling, and other earth-disturbing activities during construction would alter topography and drainage characteristics, potentially altering the flow and storage of floodwaters. However, in the context of all 100-year floodplains on Tyndall AFB (approximately 16,047 acres), any such changes would be relatively small and highly localized. Potential impacts on floodplains from Alternative 1 would represent less than 0.1 percent of all floodplains on Tyndall AFB. Adherence to established BMPs, erosion and sediment control measures, and stormwater management practices during construction would control the discharge of runoff from the project sites and minimize displacement or increased volume of floodwaters elsewhere on Tyndall AFB. Any potential adverse effects from the localized displacement or increased volume of floodwaters from the proposed project would be contained within the boundaries of Tyndall AFB and would not increase the risk of downstream

property damage or human injury. Therefore, short- and long-term adverse effects on floodplains from Alternative 1 would not be significant.

As noted above, the DAF has determined that, other than the alternative sites analyzed in this EA, no practicable alternatives exist for implementing the Proposed Action outside of wetlands and floodplains on Tyndall AFB. The FONPA documenting the DAF's decision is included in the FONSI for this EA. No public or agency comments on the Early Public Notice published in the *Panama City News Herald* in May 2025 were received.

Coastal Zone Management. The DAF has determined that the Proposed Action (Alternative 1 and Alternative 2) would be consistent with the applicable Florida statutes of the FCMP. Therefore, potential impacts on Florida Coastal Zone resources would not be significant. The DAF's Federal Coastal Consistency Determination summarizing the Proposed Action's consistency with the FCMP is provided in **Appendix F**. In a response dated June 16, 2025, the State of Florida indicated that it has no objections to allocation of federal funds for the subject project and, therefore, the funding award is consistent with the FCMP. The State's final concurrence of the project's consistency with the FCMP would be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes.

3.6.2.3 Alternative 2

Groundwater. Short- and long-term impacts on groundwater from Alternative 2 would be the same as those as described for Alternative 1 because the Alternative 2 would not change withdrawals of groundwater and would not involve intentional discharges to groundwater, would prevent, minimize, or contain and clean up hazardous substances through adherence to applicable BMPs and in accordance with the Tyndall AFB *SPCC Plan* (Tyndall AFB, 2022b). Therefore, adverse impacts on groundwater from Alternative 2 would not be significant.

Water Quality. Short- and long-term impacts on water quality from Alternative 2 would be the same as those as described for Alternative 1 because ground-disturbing activities would be the same in size and actions for both project sites; adherence to applicable stormwater management BMPs and the Tyndall AFB NPDES permit would ensure that these activities would not contribute to releases of sediment or pollutants that would exceed water quality standards. Therefore, adverse impacts on water quality from Alternative 2 would not be significant.

Wetlands and Surface Waters. Based on the wetland delineation conducted at Tyndall AFB in April 2025, construction of the equipment area and associated infrastructure at the Alternative 2 site would have the potential to directly impact up to 0.961 acres of wetlands. Potential impacts on wetlands from Alternative 2 are summarized in **Table 3.6-4**. Based on UMAM scoring, wetland impacts from Alternative 2 would result in up to 0.74 functional loss units of wetland values **(Table 3.6-4)**. These functional loss units are approximate and would be further refined during the permitting process and formal jurisdictional approval. Although adverse, the loss or reduction in function and values of 0.961 acres of wetlands would be small in the context of all wetlands on Tyndall AFB, representing less than 0.1 percent of wetlands on the base. Therefore, impacts on wetlands and surface waters from Alternative 2 would not be significant.

Table 3.6-4 Potential Wetland Impacts and Functional Loss at Alternative Site 2

Site	Regulatory Jurisdiction	Area (acres)	Functional Loss Units (UMAM)
Alternative Site 2	WOTUS	0.940	0.72
	Waters of the State	0.021	0.02
	Total	**0.961**	**0.74**

Source: DAF, 2025b

The DAF has prepared a FONPA to document its decision to consider this project, which would have the potential to impact jurisdictional wetlands and regulated floodplains at Tyndall AFB. No public or agency comments were received on the Early Public Notice published in the *Panama City News Herald* in May 2025.

Floodplains. Impacts on regulated floodplains from Alternative 2 would be similar to those described for Alternative 1, except Alternative 2 would disturb up to 2.77 acres of regulated floodplains relative to 2.74 acres that would be disturbed by Alternative 1. The Proposed Action would incorporate permanent stormwater management BMPs to help reduce the potential for downstream flooding, and any potential adverse effects from localized displacement or increased volume of floodwaters would be contained within the boundaries of Tyndall AFB. Additionally, stormwater runoff from Alternative 2 would discharge only to undeveloped land before it reaches St. Andrew Sound (approximately 0.3 miles to the southeast). Therefore, short- and long-term adverse effects on floodplains from Alternative 2 would not be significant.

The FONPA documenting the DAF's decision to consider this project, which would have the potential to impact jurisdictional wetlands and regulated floodplains at Tyndall AFB, is included in the FONSI for this EA. No public or agency comments on the Early Public Notice published in the in the *Panama City News Herald* in May 2025 were received.

Coastal Zone Management. The DAF has determined that the Proposed Action (Alternative 1 and Alternative 2) would be consistent with the applicable Florida statutes of the FCMP. Therefore, potential impacts on Florida Coastal Zone resources would not be significant. The DAF's Federal Coastal Consistency Determination summarizing the Proposed Action's consistency with the FCMP is provided in **Appendix F**. In a response dated June 16, 2025, the State of Florida indicated that it has no objections to allocation of federal funds for the subject project and, therefore, the funding award is consistent with the FCMP. The State's final concurrence of the project's consistency with the FCMP would be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes.

3.6.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Groundwater, water quality, wetlands and surface waters, floodplains, and coastal zones would continue to be managed as they currently are. The No Action Alternative would have no adverse effects on water resources.

3.6.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Other reasonably foreseeable future actions listed in **Appendix C** would adhere to applicable BMPs and permitting requirements to minimize adverse effects on water resources and ensure that any such effects would not be significant. Therefore, when considered with potential impacts from other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts on water resources.

3.6.2.6 Mitigation Measures

The precise extent of potential impacts on federally and state-regulated wetlands and surface waters from Alternative 1 or Alternative 2, if either were selected for implementation, would be determined following USACE and FDEP preliminary jurisdictional determination of wetland boundaries at the two alternative sites and development of construction drawings. For this EA, impacts on the entirety of potentially jurisdictional wetland extents on each alternative site were considered. The DAF would acquire all necessary permits from USACE and FDEP prior to implementing Alternative 1 or Alternative 2. Potential impacts on wetlands and surface waters would be avoided and minimized to the maximum extent practicable, and compensatory mitigation would be provided in accordance with CWA permitting requirements. It is anticipated that the following permits and associated mitigations or other requirements would be applicable to the Proposed Action evaluated in this EA:

- Acquire all necessary wetland and water resource permits for the Proposed Action, including but not limited to a USACE Section 404 CWA permit authorization, NPDES permit, FDEP Environmental Resource Permit (Chapter 62-330.020, FAC, for wetlands and stormwater), and FDEP Section 401 CWA water quality certification.
- Provide mitigation for up to 1.410 acres of wetland impacts (0.85 functional loss units) at the Alternative 1 site or up to 0.961 acres of wetland impacts (0.74 functional loss units) at the Alternative 2 site. Compensatory mitigation would be confirmed during the required USACE and FDEP permitting process.
- Mitigate for the loss of up to 2.74 acres of 100-year floodplains at the Alternative 1 site or up to 2.54 acres of 100-year floodplains and up to 0.23 acres of 500-year floodplains at the Alternative 2 site by providing compensatory storage.

3.7 Hazardous Materials and Waste

This section evaluates the creating and disposal of hazardous materials and waste as part of the Proposed Action. Detailed information on hazardous materials and waste is provided in **Appendix D.**

The ROI for hazardous materials and hazardous waste consists of the sites where Alternative 1 or Alternative 2 would be implemented **(Figure 2.2-1)** and adjacent or nearby lands on Tyndall AFB where adverse effects on or from hazardous materials and hazardous wastes could occur.

3.7.1 Affected Environment

Activities at Tyndall AFB that typically involve the use of hazardous materials include construction, demolition, renovation, and maintenance of facilities and infrastructure; vehicle and aircraft operations and maintenance; and weapons and munitions maintenance. Such activities involve the use of some or all of the following: acids; aerosols; alcohols; batteries; caustics; compressed gases; explosives and munitions; fire retardants; glycols (e.g., antifreeze); paints, primers, and thinners; pesticides; petroleum, oil, and lubricants, (POL); photographic chemicals; refrigerants; sealants; and solvents. Hazardous materials at Tyndall AFB are used, handled, stored, and managed in accordance with the procedures set forth in DAF Instruction 32-7020 and the Tyndall AFB *Hazardous Waste Management Plan (HWMP)*. The handling and use of hazardous materials is limited to authorized personnel who have received appropriate training, including contractors involved in construction and renovation on the installation. All hazardous materials used at Tyndall AFB are securely stored in labeled containers when not in use.

The use of hazardous materials in the activities described above typically generates corresponding quantities of hazardous waste. Types of hazardous and POL waste generated include used oil and filters; spent antifreeze; spent solvents; spent sealants; waste diesel and motor gasoline and fuel filters; paint waste; spent hydraulic fluid; and waste corrosives. Hazardous waste generated at Tyndall AFB is managed in accordance with the *HWMP*. Accidental spills or releases of hazardous materials at the base are addressed in accordance with Tyndall AFB's *SPCC Plan*. Spent munitions are not considered hazardous waste under Resource Conservation and Recovery Act if they are not recovered because their intended or ordinary use results in application to the ground. Unexploded ordnance and spent munitions are managed under Comprehensive Environmental Response, Compensation, and Liability Act and are not considered hazardous unless there is a release or substantial threat of a release into the environment.

Nonhazardous solid waste generated at Tyndall AFB is managed in compliance with the Tyndall AFB *Integrated Solid Waste Management Plan (ISWMP)* (Tyndall AFB, 2022c) and includes residential and commercial refuse, and materials from construction demolition and debris such as concrete, brick, plaster, metals, wallboard, roofing, and asphalt. Nonhazardous solid waste is collected in appropriate containers and transported by a licensed contractor to a permitted off-base disposal facility. Tyndall AFB generated an average of 2,127 tons of nonhazardous solid waste and 1,326 tons of construction and demolition debris waste per year from 2022 to 2024.

USEPA classifies Tyndall AFB as a Large Quantity Generator of hazardous waste. Large quantity generators generate 1,000 kilograms (2,205 pounds) per month or more of hazardous waste or more than 1 kilogram per month of acutely hazardous waste (40 CFR Part 260). Hazardous waste at Tyndall AFB is controlled and managed from the point of generation to the point of ultimate disposal. Waste is temporarily stored at designated initial satellite accumulation points at work locations. Once the storage limit is reached, waste is transferred to the 90-Day Hazardous Waste Accumulation Site. Within 90 days, hazardous waste is transported off base by a licensed contractor and disposed of at a permitted facility in accordance with applicable regulations (DAF, 2022).

Tyndall AFB manages Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites within its boundaries in accordance with its installation-specific Environmental Restoration Program (ERP). ERP cleanup activities at Tyndall AFB are guided by a Federal Facility Agreement that was signed by USEPA, DAF, and FDEP in September 2013. This agreement ensures the coordination of cleanup priorities and establishes enforceable schedules for the duration of cleanup (DAF, 2022). To date, at least 80 ERP sites have been identified on the base; of these, 34 are identified as active, and the remainder have achieved closure or no further remedial action is planned (DAF, 2020; DAF, 2024). ERP sites on or near the proposed project sites are summarized in **Table 3.7-1** and shown on **Figure 3.7-1**. None of the ERP sites listed in **Table 3.7-1** are within the 500-foot soil and groundwater contamination buffer established by the Tyndall AFB *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* (Tyndall AFB, 2022d).

The National Priorities List (NPL) is a list of the waste sites in the United States that are the most hazardous as identified by the USEPA for long-term cleanup under the Superfund program. Sites on the NPL pose significant risks to human health or the environment and are prioritized for investigation and remediation using federal resources. Four of the six ERP sites within the vicinity of the Proposed Action are on the NPL.

The DoD has also recognized per- and polyfluoroalkyl substances (PFAS) as emerging environmental issues that have impacted various DAF installations. PFAS include substances contained in aqueous film forming foam, which the DAF adopted during the 1970s to combat petroleum fires. PFAS is a known or suspected contaminant at ERP Site TU205 in the vicinity of Alternative 1 **(Table 3.7-1, Figure 3.7-1)**. Tyndall AFB has developed base-specific *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* to establish health and safety requirements for workers and activities involving ground disturbance in or near areas of the installation where PFAS are known or suspected to be present in underlying soils and groundwater (Tyndall AFB, 2022d).

3.7.2 Environmental Consequences

3.7.2.1 Evaluation Criteria

Adverse impacts from the Proposed Action on or from hazardous materials, hazardous waste, nonhazardous solid waste, or ERP sites would be significant if one or more of the following occurred:

- Using hazardous materials that are highly toxic or have a potential to cause severe environmental damage.
- Increasing the risk of exposure of Tyndall AFB personnel, visitors, and the general public to hazardous material and hazardous waste that could not be managed to acceptable levels through adherence to established procedures and BMPs.
- Generating types or quantities of hazardous or nonhazardous solid waste that could not be accommodated by current management systems.
- Disturbing an ERP site that would pose a potential for environmental health impacts, result in additional remediation measures, or prevent the achievement of remediation objectives.

Table 3.7-1 ERP Sites within or Adjacent to Alternative Sites

Site	ERP Site	Site Description	Status
Alternative 1	**TU205** (OU03) Former Building 239 Engine Test Cell	21-acre Superfund building site housing former 5,000- and 10,000-gallon USTs used for jet fuel waste. COPCs include arsenic, PCBs, TRPHs, benzene, chlorinated solvents and insecticides, and PFAS. Remediation efforts include emulsified vegetable oil injections followed by planned MNA and LUCs. RI is ongoing. Site is in an active construction area.	Active IRP NPL
	TU917 Building 1120	1.5-acre building housing a former 1,000-gallon UST used for storing diesel fuel. UST was replaced in 1995 with an AST. Contaminants found in drinking water included chlorinated solvents, methylethyl ketone, lead, and benzo(a)pyrene. In 2000 FDEP issued a SRCO documenting passing screening levels for soil and water.	Active IRP
	SS709 Building 249	0.2-acre building previously used for cold storage. In 2000, benzo(a)pyrene and TRPH were identified in the area of a former UST. FDEP issued an SRCO in 2004 documenting passing screening levels. Building 249 is currently unoccupied and is used as a disaster response facility.	Active IRP
Alternative 2	**DB039** (OU16) Mississippi Road Debris Area	5-acre Superfund freshwater forested/shrub wetland site that contains pre-1953 construction debris. In 2016, an RI found COPCs including various metals, SVOCs, PAHs, TRPHs, and pesticides. Remedial activities are anticipated to remove soil and sediment. RI is ongoing.	Active IRP NPL
Alternative 1 and Alternative 2	**LF006** (OU04) Zone 1 Sewage Plant Vicinity Landfill	28-acre Superfund site operated as a former municipal solid waste landfill from 1965 through 1973. Primarily contaminated with metals, PAHs, and pesticides. Remedial action began in 2004 and included a thick soil cover over nine 1-acre grids and excavation of sediment. Institutional controls restrict residential land use and the use of the shallow aquifer beneath the site. RI is ongoing.	Active IRP NPL
	SR179 (OU24) Miniaturization Range	39.5-acre Superfund small arms range site operational from 1941 to 1946. Site was a Munitions Response Area under the MMRP. No signs of MEC or munitions debris were observed during a site evaluation in 2007. Three bullet casings were identified during an RI in 2016; no other munitions debris was identified. The site has been administratively closed and added to LF006.	Adminis-tratively Closed

Notes:

Sources: AFCEC, 2018; FDEP, 2019; USACE, 2022a; USACE 2022b; USACE, 2024

AST = aboveground storage tank; COPC = contaminant of potential concern; LUC = land use control; MEC = munitions and explosive of concern; MILCON = military construction; MNA = monitored natural attenuation; OU = Operable Unit; PAH = polyaromatic hydrocarbons PCB = polychlorinated biphenyl; RI = remedial investigation; ROD = Record of Decision; SRCO = Site Rehabilitation Completion Order; SVOC = semi-volatile organic compound; TRPH = total recoverable petroleum hydrocarbons; UST = underground storage tank

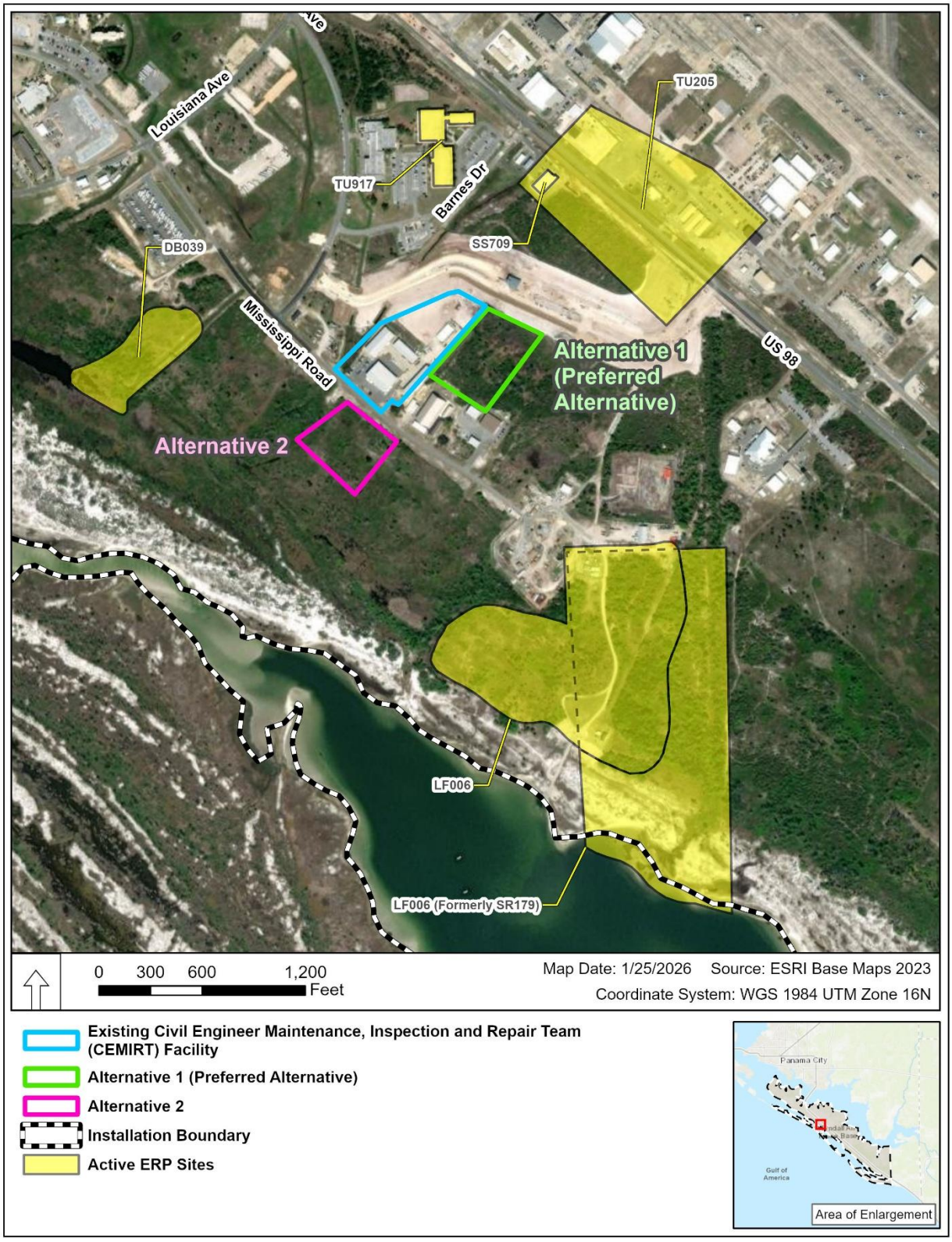


Figure 3.7-1 ERP Sites in Proximity to Alternative 1 (Preferred Alternative) and Alternative 2

3.7.2.2 Alternative 1 (Preferred Alternative)

Hazardous Materials, Hazardous Waste, and Nonhazardous Solid Waste. Construction of the proposed facilities would involve use of typical construction-related hazardous materials such as POL, paints, and solvents. Hazardous materials associated with construction would be used, handled, and stored in accordance with applicable federal, state, and Tyndall AFB requirements.

Bulk petroleum products (such as fuels and lubricants) used during construction would be stored on the site in double-walled tanks with appropriate secondary containment, as applicable, to prevent infiltration or runoff to soil and groundwater in the event of an accidental spill or release. Any accidental spills of hazardous materials would be immediately contained, controlled, and cleaned up in accordance with the Tyndall AFB *SPCC Plan* and applicable project- or site-specific plans (Tyndall AFB, 2022b). Hazardous waste generated from use of hazardous materials during construction would be stored, handled, and disposed of in accordance with the Tyndall AFB *HWMP* (Tyndall AFB, 2023). All such hazardous materials would be transported by licensed contractors to permitted off-site facilities for proper disposal or recycling. Through adherence to applicable regulatory requirements and established procedures, short-term adverse impacts from hazardous materials and hazardous wastes would not be significant.

In the long term, operation and periodic maintenance associated with the proposed facility would involve use of hazardous materials, such as paints, solvents, and POL. The use of these substances would generate corresponding quantities of hazardous waste. These activities would not require introduction of new or unusual hazardous materials not currently in use at Tyndall AFB. In the context of hazardous materials used and hazardous waste generated at Tyndall AFB, use and generation of these substances during the operational phase of Alternative 1 would be exceedingly small. All hazardous materials used and hazardous waste generated during the operational phase of Alternative 1 would continue to be handled, stored, transported, managed, and disposed of by authorized personnel in accordance with applicable DoD and DAF requirements. Any accidental releases of hazardous materials or hazardous waste would be immediately contained and cleaned up in accordance with the Tyndall AFB *HWMP* and *SPCC Plan*. Therefore, long-term adverse effects from hazardous materials and hazardous waste under Alternative 1 would not be significant.

Construction and operation of Alternative 1 would also generate nonhazardous solid waste. Given the type and size of the proposed facility, the volume of nonhazardous solid waste generated during construction and operational phases would be relatively small in the context of ongoing construction and operational activities at Tyndall AFB and the corresponding nonhazardous solid waste generated from such activities. All nonhazardous solid waste would be managed and recycled or disposed of in accordance with the Tyndall AFB *ISWMP* (Tyndall AFB, 2022c). Therefore, short-term and long-term adverse effects from solid waste associated with Alternative 1 would not be significant.

Environmental Restoration Program Sites. Construction contractors would be required to complete and submit AF Form 103, *Work Clearance Request/Dig Permit*, for review and approval by the 325 Civil Engineer Squadron (325 CES) before they can begin construction and ground-disturbing activities. Measures for avoiding known contaminants or responding to previously unknown contaminants, avoiding disturbance of active ERP sites, and adhering to land use controls

(for example, fencing, signage, or barricades) and other requirements on active ERP sites, would be specified in all final project construction documents and site- and project-specific health and safety plans, as applicable. All construction and ground-disturbing activities associated with the Proposed Action would be conducted in accordance with Tyndall AFB's *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* to ensure the health and safety of workers at each site (Tyndall AFB, 2022d). It is anticipated that workers on the Alternative 1 site would be unlikely to encounter soil and groundwater contamination associated within nearby ERP sites **(Table 3.7-1)** because the Alternative 1 site is outside the 500-foot soil and groundwater contamination buffer for active ERP sites established by the Tyndall AFB *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* (Tyndall AFB, 2022d). Construction and operation of the proposed equipment area and associated infrastructure would not disturb, delay, prevent, or otherwise interfere with the ongoing monitoring and remediation of active ERP sites at Tyndall AFB or prevent achievement of long-term objectives for those sites. Therefore, short-term and long-term adverse impacts on or from ERP sites at Tyndall AFB would not be significant.

3.7.2.3 Alternative 2

Short- and long-term impacts on and from hazardous materials, hazardous waste, nonhazardous solid waste, and ERP sites would be the same as those described for Alternative 1 because both alternatives would be implemented using the same methods over the same area, and all materials would be stored, disposed of, and contained, controlled, and cleaned up according to the same project- or site-specific plans, or applicable Tyndall AFB plan. Such impacts from Alternative 2 would not be significant.

3.7.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Hazardous materials, hazardous waste, nonhazardous solid waste, and ERP sites would continue to be managed as they currently are. This alternative would have no impact on or from hazardous materials, hazardous waste, nonhazardous solid waste, and ERP sites at Tyndall AFB.

3.7.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Management of hazardous materials, hazardous waste, nonhazardous solid waste, and remediation and monitoring activities at ERP sites during the course of other reasonably foreseeable future actions listed in **Appendix C** would continue to be conducted in accordance with applicable federal, state, and local requirements to prevent or minimize adverse effects and ensure they would not be significant. Therefore, when considered with other reasonably foreseeable future actions occurring on Tyndall AFB or in the vicinity of the ROI, the Proposed Action would not contribute to cumulatively significant adverse effects on hazardous materials, hazardous waste, nonhazardous solid waste, and ERP sites.

3.8 Infrastructure / Utilities

Infrastructure and utilities are the services and systems that support the efficient and comfortable operation of a facility or location. Utilities typically considered include water, wastewater, irrigation systems, steam, electricity, natural gas, and telecommunications. The ROI for the analysis of infrastructure and utilities consists of the Alternative 1 and Alternative 2 sites where the Proposed Action could be implemented and utility and infrastructure systems on Tyndall AFB that could be affected by the Proposed Action.

3.8.1 Affected Environment

Much of the portion of Tyndall AFB where the Proposed Action would be implemented is previously developed and served by networks of aboveground and underground utility systems, including electricity, telecommunications, potable water and sewer, stormwater management, and natural gas systems. A full network of utility systems supports operational facilities in the 1100 Area near the existing CEMIRT facilities. Portions of aboveground and underground utility systems are present in areas adjacent to both alternative sites. Most of these systems run parallel to Mississippi Road and are in proximity to the northern boundary of Alternative 2. Portions of utility systems in proximity to Alternative 1 include electricity, data/communications, potable water, stormwater, and natural gas. Both alternative sites are intersected by existing underground telecommunications networks (DAF, 2025c).

As Tyndall AFB continues to rebuild from damage experienced during Hurricane Michael in 2018, the capacity of utility systems on the installation is considered sufficient to serve existing and planned facilities. Utility systems are upgraded on the installation to provide additional capacity as needed. The 325 CES identifies the presence of existing or planned utility systems during the site review process before proposed construction projects can begin. As applicable, utilities crossing or underlying the proposed project sites are avoided, rerouted, or abandoned in place in accordance with applicable DoD and DAF requirements.

3.8.2 Environmental Consequences

3.8.2.1 Evaluation Criteria

Impacts on utilities and infrastructure would be adverse if the Proposed Action resulted in temporary disruption or loss of utility services without advance notice to the affected facilities. Adverse impacts would be significant if utility relocations necessitated by the Proposed Action required temporary shutdowns of utility services that could not be rerouted to maintain service during the relocation process, or if utility demand generated by the Proposed Action would exceed available capacity at Tyndall AFB.

3.8.2.2 Alternative 1 (Preferred Alternative)

Before construction of the proposed equipment area and associated infrastructure would begin, the 325 CES would review project plans to identify utility systems that would require avoidance or relocation during construction or other ground-disturbing activities. Any such systems would be clearly marked prior to ground disturbance and avoided during construction. As needed, portions of utility systems would be temporarily or permanently relocated to avoid disturbance during

construction. Any subsurface utility systems or components would be abandoned, if needed, in accordance with applicable DAF and other federal, state, and local requirements. Advance notice would be provided to any facilities that would potentially be affected by temporary utility shutdowns during construction, and utility systems would be temporarily rerouted or relocated as needed to avoid any such shutdowns to the extent possible. Therefore, any short-term adverse impacts on utilities and infrastructure at Tyndall AFB would not be significant.

In the long term, Alternative 1 would not increase in the number of personnel assigned to Tyndall AFB, nor does it involve construction or operation of permanently occupied facilities. Increased utility demand associated with Alternative 1 would primarily be limited to electricity required for overhead lighting and security-related infrastructure such as perimeter fencing, security gates, and surveillance systems. No long-term increase in potable water or wastewater generation is anticipated. The expected increase in utility demand would be well within the capacity of existing utility systems at Tyndall AFB. Therefore, any long-term adverse impacts on utility and infrastructure systems from the implementation of Alternative 1 would not be significant.

3.8.2.3 Alternative 2

Under Alternative 2, short-term impacts on utility and infrastructure systems would be less than those described for Alternative 1 because of the smaller overall construction footprint and increased distance of the site from already-developed areas, decreasing the likelihood of service disruptions or need to re-route existing utility systems. Long-term impacts under Alternative 2 would be similar to those described for Alternative 1. Therefore, any short- or long-term adverse impacts on utility and infrastructure systems at Tyndall AFB from implementation of Alternative 2 would not be significant.

3.8.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Infrastructure and utility systems at Tyndall AFB would continue to be operated and maintained as they currently are. This alternative would have no adverse impacts on utility and infrastructure systems at Tyndall AFB.

3.8.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Other reasonably foreseeable future actions listed in **Appendix C** would be planned and implemented to avoid or minimize potential impacts on utility and infrastructure systems, including those that may provide utility services to Tyndall AFB facilities planned or under construction near the Alternative 1 and Alternative 2 sites. Such planning would ensure the capacity of utility and infrastructure systems are sufficient to adequately service any new facilities or operations. Therefore, when considered with other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts on utility and infrastructure systems at Tyndall AFB.

3.9 Soils

Soils are the unconsolidated mineral or organic materials on the immediate surface of the Earth that serve as a natural medium for the growth of land plants (USDA NRCS, 2024a). Soils may

contain the materials or nutrients necessary to support hydrologic functions, farmlands, or serve as structural features. Detailed information on soils is provided in **Appendix D.**

The soils ROI consists of the areas within the Alternative 1 and Alternative 2 sites **(Figure 2.2-1)**.

3.9.1 Affected Environment

Twenty different soil units underlie Tyndall AFB. These soils are formed from sandy, marine sediments and are predominantly sandy, acidic, poorly drained, have low shrink-swell potential, and are relatively close to the underlying water table (Tyndall AFB, 2020b). Five different soil units are present in the ROI **(Figure 3.9-1)**. The area of each soil unit underlying the project sites is provided in **Table 3.9-1**. Characteristics of soil units in the ROI are provided in **Table 3.9-2**.

Table 3.9-1 Soil Units within Alternative 1 (Preferred Alternative) and Alternative 2

Site	Soil Unit	Acres within Alternative	Percent within Alternative
Alternative 1	Leon sand, 0 to 2 percent slopes	1.87	42.8
	Pamlico-Dorovan Complex	1.89	43.2
	Arents, 0 to 5 percent slopes	0.61	14.0
	Total – Alternative 1	**4.46**	**100.0**
Alternative 2	Rutlege sand, 0 to 2 percent slopes	2.06	57.7
	Arents, 0 to 5 percent slopes	1.33	37.3
	Resota fine sand, 0 to 5 percent slopes	0.18	5.0
	Total – Alternative 2	**3.57**	**100.0**

Source: USDA NRCS, 2025

Leon sand, 0 to 2 percent slopes, is the predominant soil unit within the ROI (40.6 percent), followed by Rutlege sand, 0 to 2 percent slopes (25.6 percent), and Pamlico-Dorovan Complex (23.6 percent). Rutlege sand and the Pamlico-Dorovan Complex are considered hydric, although minor components of other soil units in the ROI have hydric characteristics. The K factor for soils in the ROI generally is .05 or less, indicating low susceptibility to erosion. None of the soils underlying the ROI are considered prime farmland (USDA NRCS, 2024b). Building site development ratings of most soils within the ROI are classified as either “very limited” or “somewhat limited.”

Table 3.9-2 Summary of Soil Units in the ROI

Soil Unit	Acres in ROI	Percent of ROI	Soil Unit Description	Hydric (yes / no)	K Factor[1]	Building Site Development[2]
Leon sand 0 to 2 percent slopes	3.3	40.6	Leon sand soils are very deep, poorly drained, rapidly permeable on the surface, have high surface runoff, and are not prone to ponding. They are susceptible to wind erosion and strongly acidic.	No	.05	Very limited

Table 3.9-2 Summary of Soil Units in the ROI

Soil Unit	Acres in ROI	Percent of ROI	Soil Unit Description	Hydric (yes / no)	K Factor[1]	Building Site Development[2]
Rutlege sand 0 to 2 percent slopes	2.1	25.6	Rutledge sands are very deep, very poorly drained, have a low available water capacity, rapid permeability on the surface (but internal drainage is impeded by the high water table), negligible surface runoff, are not prone to flooding, but frequently pond. They are very susceptible to wind erosion and strongly acidic.	Yes	.02	Very limited
Pamlico-Dorovan Complex	1.9	23.6	The Pamlico-Dorovan Complex is composed of 40 percent Pamlico and similar soils, 35 percent Dorovan and similar soils, and 25 percent minor components. Pamlico and Dorovan soils are very deep, very poorly drained, have a high available water capacity, very high surface runoff, and are prone to flooding and ponding. These soils are susceptible to wind erosion.	Yes	--	Very limited
Arents 0 to 5 percent slopes	0.6	7.8	Arents soils are a mixture of various soil series from earth moving operations such as dredging and filling. They are very deep, somewhat poorly drained, have a very low available water capacity, variable permeability, negligible surface runoff, and are not prone to flooding or ponding.	No	.05	Somewhat limited
Resota fine sand 0 to 5 percent slopes	0.2	2.3	Resota fine sands are very deep, moderately well drained, have a very low available water capacity, very rapid permeability on the surface, negligible surface runoff, are not prone to ponding or flooding, and are very susceptible to wind erosion. They are also very acidic.	No	.05	Not limited
Total	**8.0[3]**	**100.0**				

Notes:

[1]K factors are reported for individual soil units. K factor is not reported for the Pamlico-Dorovan Complex because it is comprised of multiple soil units.

[2]This general information should be used in conjunction with other site-specific engineering analyses and information.

[3]Total of all soils across both sites is 8.0 due to rounding of individual soil units.

Source: USDA NRCS, 2025

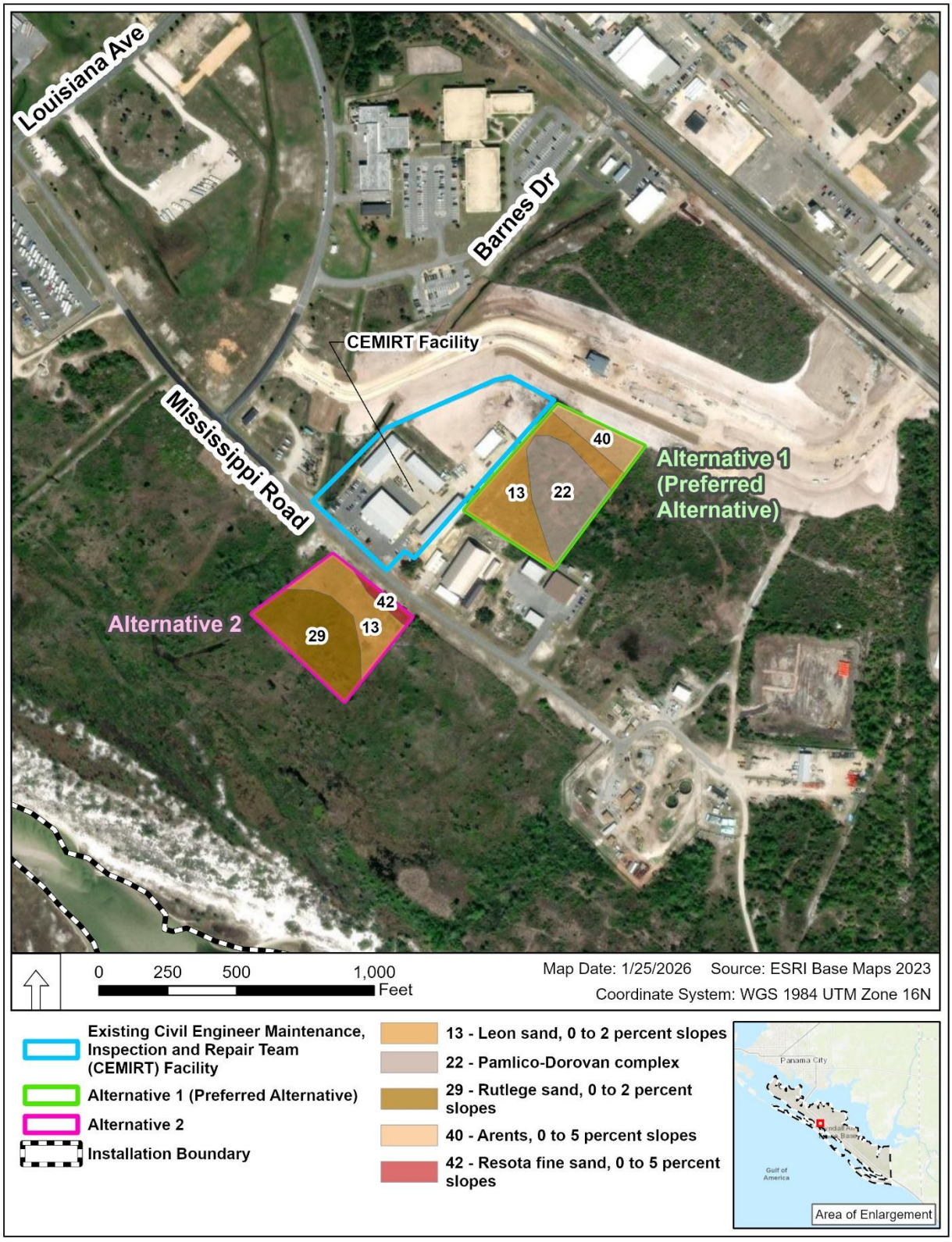


Figure 3.9-1 Soils Located within Alternative 1 (Preferred Alternative) and Alternative 2

3.9.2 Environmental Consequences

3.9.2.1 Evaluation Criteria

Adverse effects on soils could result from excavation, fill, leveling/grading, trenching, vegetation removal, compaction, or other disturbance during the construction or operational phases of the proposed project that alters soil layer structure or increases soil impermeability. Adverse effects would be significant if ground disturbance associated with the Proposed Action permanently increased the susceptibility of soils to erosion from wind and water and resulted in the corresponding sedimentation and turbidity in receiving water bodies.

3.9.2.2 Alternative 1 (Preferred Alternative)

In the short term, construction of the equipment area, including associated excavation, fill, grading/leveling, and trenching to route subsurface utilities, would disturb up to 19,233 CY of soils on Tyndall AFB. The total volume of soil disturbance that would result from Alternative 1, if selected for implementation, would depend on the methods used to construct the perimeter fencing. While such disturbance would represent an adverse impact on soils, contractors would implement and adhere to the applicable requirements of site-specific erosion and sediment control plans and stormwater pollution prevention plans to prevent or minimize soil erosion and migration of sediments and pollutants to receiving water bodies, as specified in Section 438 of the EISA and UFC 3-210-10. Applicable BMPs would include use of silt fences, covering temporary soil stockpiles and truckloads of soils transported off site to prevent generation of fugitive dust, and temporarily wetting or vegetating soils that would remain exposed for extended periods.

As needed, approximately 2,590 CY of clean fill soils would be imported to the site if site-specific engineering analysis prior to construction determines that existing soils would not be suitable to support construction of Alternative 1. Fill soils would either be obtained from on-base soil stockpiles or from a location off-base and certified as clean before placement on the Alternative 1 site. Construction of the proposed equipment area and associated infrastructure would not involve the intentional release of pollutants or hazardous substances to soils on the project site. In addition, any accidental spills would be immediately contained and cleaned up to minimize soil impacts and migration through soil media. Therefore, while short-term impacts on soils from Alternative 1 would be adverse, they would not be significant.

Before construction of the equipment area and associated infrastructure begins, the 325 CES would review project site plans to assess the potential for hazardous substances to be present in soils or groundwater underlying the site. Contractors would prepare and adhere to site- and project-specific health and safety plans in accordance with applicable DoD, DAF, and Tyndall AFB health and safety requirements, including Tyndall AFB's *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* (Tyndall AFB, 2022d) to minimize potential risks to workers involved in ground-disturbing activities. Soils suspected to contain pollutants or other hazardous substances would be tested before ground-disturbing activities begin and, if determined to contain elevated levels of such substances, would be removed and disposed of at a permitted off-base facility in accordance with applicable DoD and DAF requirements. Adherence to these procedures would ensure potential adverse effects on worker health and safety from potential contaminants in soils would not be significant.

After construction has been completed, any soils remaining exposed or otherwise not built on would be revegetated with native species in accordance with applicable operational and security requirements to prevent or minimize the potential for ongoing erosion of exposed soils. Other than soil disturbance associated with periodic maintenance, such as periodic vegetation trimming and removal to maintain visual sight lines along the perimeter fences, Alternative 1 would not involve ongoing soil disturbance; any such soil disturbance occurring as part of these activities would remain small in the context of Tyndall AFB. Therefore, long-term adverse impacts on soils from Alternative 1 would not be significant.

3.9.2.3 Alternative 2

Short- and long-term impacts on soils from Alternative 2 would be similar to those described for Alternative 1, except that Alternative 2 would disturb up to 16,839 CY of soils on Tyndall AFB. The total volume of soil disturbance that would result from Alternative 2, if selected for implementation, would depend on the methods used to construct the perimeter fencing. Contractors would implement and adhere to BMPs similar to those described for Alternative 1 to prevent or minimize adverse impacts on soils during construction. As needed, approximately 2,570 CY of clean fill soils would be imported to the site if site-specific engineering analysis prior to construction determines that existing soils would not be suitable to support construction of Alternative 2. Fill soils would either be obtained from on-base soil stockpiles or from a location off-base and certified as clean before placement on the Alternative 2 site. Construction of the proposed equipment area and associated infrastructure would not involve the intentional release of pollutants or hazardous substances to soils on the project site. In addition, any accidental spills would be immediately contained and cleaned up to minimize impacts to soil and migration through soil media. Therefore, short-term adverse impacts on soils from Alternative 2 would not be significant.

The 325 CES would review project site plans to assess the potential for hazardous substances to be present in soils or groundwater underlying the site. Contractors would prepare and adhere to site- and project-specific health and safety plans, in accordance with applicable DoD, DAF, and Tyndall AFB health and safety requirements, to minimize potential risks to workers involved in ground-disturbing activities. Soils determined to contain elevated levels of pollutants or other hazardous substances would be removed before construction begins and disposed of at a permitted off-base facility in accordance with applicable DoD and DAF requirements. Adherence to these procedures would ensure potential adverse effects on worker health and safety from potential contaminants in soils would not be significant.

Any soils remaining exposed or otherwise not built on would be revegetated with native species in accordance with applicable operational and security requirements to prevent or minimize the potential for ongoing erosion of exposed soils. Other than soil disturbance associated with periodic maintenance, Alternative 2 would not involve ongoing soil disturbance; any such soil disturbance occurring as part of these activities would remain small in the context of Tyndall AFB. Therefore, long-term adverse impacts on soils from Alternative 2 would not be significant.

3.9.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. Activities involving soil disturbance would adhere to applicable BMPs and permitting requirements to prevent or minimize soil erosion and prevent accidental releases of pollutants or hazardous substances to soils. The No Action Alternative would have no adverse effects on soils.

3.9.2.5 Reasonably Foreseeable Future Actions

Other reasonably foreseeable future actions listed in **Appendix C** would adhere to applicable BMPs and permitting requirements to minimize adverse effects on soils and ensure that any such effects would not be significant. Therefore, when considered with potential impacts from other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts on soils.

3.10 Safety

Safety, as addressed in this EA, includes worker health and safety during proposed construction and development; public safety during construction and subsequent operations; consideration of safety zones associated with munitions storage facilities; the potential presence of unexploded ordnance; and AT/FP requirements established by the DoD and DAF that are intended to safeguard personnel, visitors, facilities, and equipment on military installations. Additional information on safety regulations is provided in **Appendix D.**

The following sections describe applicable safety procedures, requirements, and conditions at Tyndall AFB. The safety ROI consists of the Alternative 1 and Alternative 2 sites and adjacent or nearby areas where workers or Tyndall AFB personnel or visitors could be present.

3.10.1 Affected Environment

3.10.1.1 Construction Safety

Construction, excavation, and infrastructure upgrade projects are ongoing activities at Tyndall AFB. All contractors involved in construction are responsible for following applicable Occupational Safety and Health Administration (OSHA) regulations and Air Force Occupational Safety and Health (AFOSH) standards. All construction must be conducted in a manner that does not pose any unmanageable risk to workers, personnel, or bystanders. Contractors must abide by the procedures set forth in approved, project-specific health and safety plans throughout construction. All construction and ground-disturbing activities performed in areas of Tyndall AFB where hazardous substances are known or suspected to be present in underlying soils or groundwater are conducted in accordance with the installation's *Environmental Restoration Program and Aqueous Film Forming Foam Guidelines* (Tyndall AFB, 2022d) to prevent or safely minimize worker exposure to such substances.

3.10.1.2 Explosives Safety

Tyndall AFB has established multiple explosives safety quantity-distance (ESQD) zones in accordance with DAF Manual 91-201 to safeguard on-base and off-base populations from the effects of an accidental detonation. These ESQD zones are established around facilities where ammunition, ordnance, or other highly explosive or combustible materials are routinely stored. One ESQD zone that stores small caliber munitions is adjacent to the southern boundary of the Alternative 1 site; no other ESQD zones are present near either alternative site **(Figure 3.10-1)**.

Neither of the alternative sites are in proximity to the existing Tyndall AFB explosive ordnance disposal range, which is located approximately 1.4 miles to the southeast, nor are the proposed sites in proximity to active firing ranges on the base.

3.10.1.3 Force Protection and Physical Security

Tyndall AFB is a secure military installation with access limited to DoD personnel, civilian employees, military dependents, and authorized visitors. Most personnel and visitors access the northern and southern sides of the base through Entry Control Facilities (ECFs) located along the north and south sides of US-98; these ECFs are staffed 24 hours a day, 7 days a week. Security fencing extends from these checkpoints to the east and west along the perimeter of the installation's most developed areas adjacent to US-98. Complete fencing is also present surrounding the existing CEMIRT facility storage area and stormwater retention pond. Security fencing may also be added where the installation commander deems necessary to protect capabilities, safeguard personnel and facilities, and accomplish the mission in accordance with DoD Regulation 5200.08-R, Physical Security Program (April 9, 2007). All new facilities and existing facilities that undergo substantial renovation are constructed in accordance with AT/FP requirements specified in UFC 4-010-01.

3.10.2 Environmental Consequences

3.10.2.1 Evaluation Criteria

Adverse impacts on safety would be considered significant if the Proposed Action resulted in an increased risk of accidents, injury to persons, or threats to Tyndall AFB's operations and overall mission that could not be minimized to an acceptable level through adherence to applicable BMPs and control measures.

3.10.2.2 Alternative 1 (Preferred Alternative)

In the short term, potential adverse effects on the health and safety of workers involved in construction of the equipment area and associated infrastructure would be minimized and managed to acceptable levels through adherence to applicable OSHA and AFOSH requirements and other requirements specified in project and site-specific health and safety plans. Before construction begins, the 325 CES would review project plans and the proposed sites to identify potential health and safety risks; any such potential risks would be identified and either addressed before or avoided during construction. After construction is complete, short-term risks to worker health and safety would cease; the Proposed Action would have no long-term effects on the health and safety of construction workers.

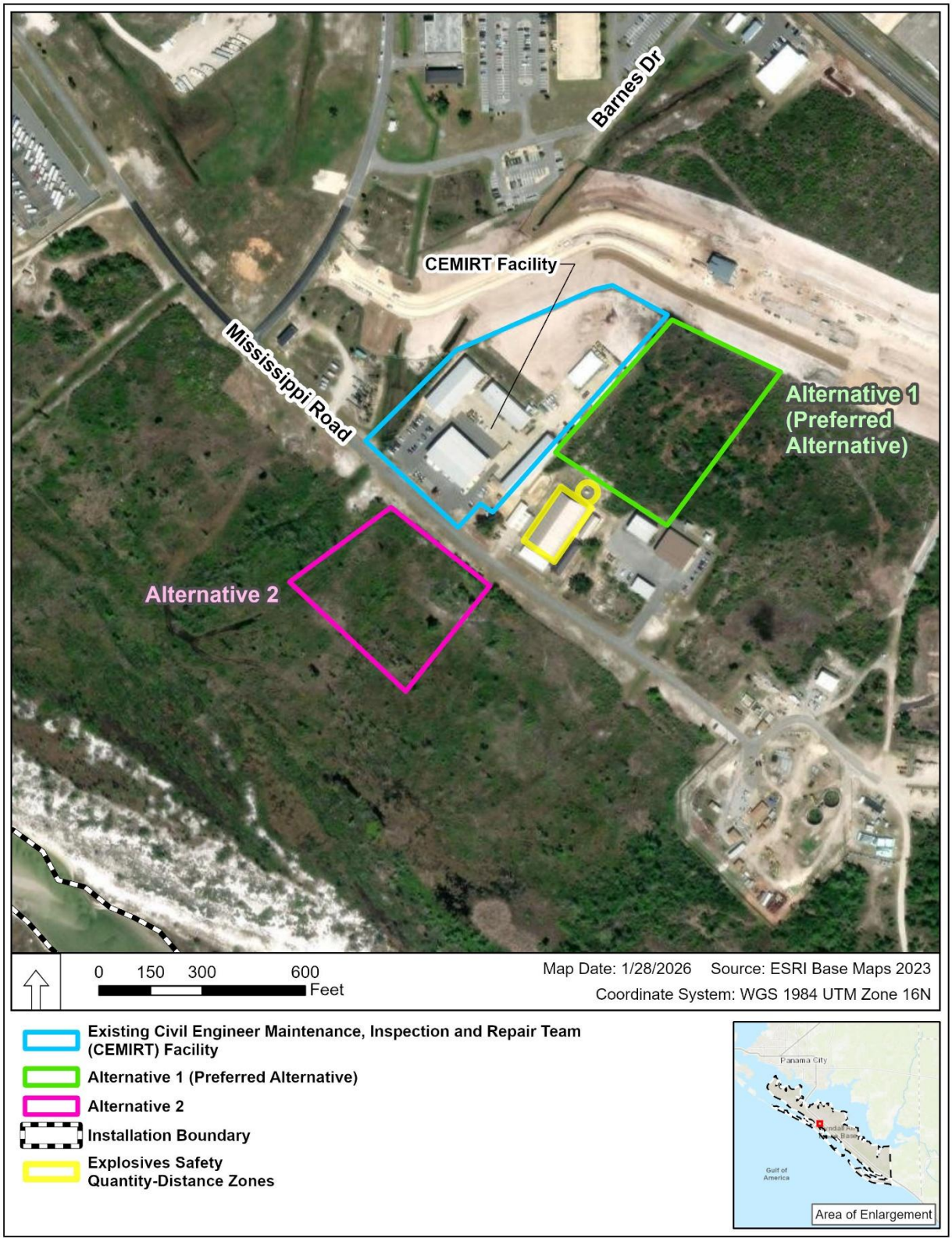


Figure 3.10-1 Existing ESQD Zones in Proximity to Alternative 1 (Preferred Alternative) and Alternative 2

The Alternative 1 site would be outside of, but would be compatible with, the requirements of the nearby existing ESQD zone. The proposed project would not require establishment of new or modification of existing ESQD zones. The proposed project is not near active explosive ordnance disposal ranges or firing ranges on Tyndall AFB or within active MMRP sites. Any munitions suspected of being present or encountered during construction would be removed and disposed of in accordance with applicable DAF and Tyndall AFB procedures. Therefore, implementation of Alternative 1 would have no short- or long-term effects on explosives safety or from unexploded ordnance at Tyndall AFB.

3.10.2.3 Alternative 2

Short-term and long-term impacts on safety from Alternative 2 would be the same as those described for Alternative 1. Impacts on safety from Alternative 2 would not be significant.

3.10.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. This alternative would have no impact on safety at Tyndall AFB.

3.10.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Other reasonably foreseeable future actions listed in **Appendix C** would adhere to applicable health and safety requirements to prevent or minimize impacts on the safety of Tyndall AFB workers, employees, and visitors to the extent possible and ensure they would not be significant. Therefore, when considered with other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse effects on safety.

3.11 Socioeconomics

This section evaluates the social and economic characteristics of populations or communities in or near the area where the Proposed Action would occur, and the Proposed Action's potential effects on those characteristics. Socioeconomic characteristics evaluated in this EA include population; sales, revenue, and expenditures; and employment, payroll and income, and poverty. The socioeconomics ROI includes Tyndall AFB, Panama City, and Bay County. Corresponding characteristics for the state of Florida are provided for reference and comparison, as applicable.

The ROI for socioeconomics includes Tyndall AFB, Panama City, Bay County, and Florida.

E.O. 13045, Protection of Children from Environmental Health Risks and Safety Risks (April 21, 1997), states that each federal agency "(a) shall make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children; and (b) shall ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks."

3.11.1 Affected Environment

3.11.1.1 Population and Economy

The estimated population of Bay County, where Tyndall AFB is located, was 190,679 people in 2023 (the most recent year for which estimates are available) **(Table 3.11-1)**. The estimated population of Panama City, the largest urbanized area in Bay County and immediately north of Tyndall AFB, was 35,660 people in 2023, representing approximately 19 percent of the county population. Bay County's population represented 0.8 percent of the total state population in 2023 (U.S. Census Bureau, 2025).

As of FY24, approximately 5,200 military and civilian personnel were assigned to Tyndall AFB. The installation also supported more than 11,000 active-duty military dependents, retirees, and retiree dependents (325th Comptroller Squadron, 2024).

Table 3.11-1 Population in the ROI Compared to Florida

Jurisdiction	Population
Florida	22,610,726
Bay County	190,679
Panama City	35,660

Source: U.S. Census Bureau, 2025

In 2022, Bay County businesses generated more than $7.3 billion in sales, revenue, and receipts in selected retail and services categories **(Table 3.11-2)**. Businesses in Panama City accounted for slightly less than half ($3.5 billion) of this economic activity (U.S. Census Bureau, 2025). Combined, total sales, revenue, and receipts generated in Bay County and Panama City in 2022 represented 1.2 percent of the total activity in these categories relative to the state of Florida.

Table 3.11-2 Total Sales and Receipts/Revenue for Selected Categories in the ROI Compared to Florida (2022)

Jurisdiction	Accommodation and Food Services ($1,000)	Health Care and Social Assistance ($1,000)	Transportation and Warehousing ($1,000)	Retail ($1,000)	Total ($1,000)
Florida	$94,559,362	$211,744,080	$98,048,310	$484,218,148	**$888,569,900**
Bay County	$1,061,284	$1,385,111	$331,137	$4,572,547	**$7,350,079**
Panama City	$236,884	$1,110,599	$196,785	$1,974,219	**$3,518,487**

Source: U.S. Census Bureau, 2025

Total payroll in FY24 for all military and civilian personnel assigned to Tyndall AFB was almost $688 million **(Table 3.11-3)**. Total expenditures in payroll, construction; services; and materials, equipment, and supply procurement categories at Tyndall AFB in FY24 were estimated to be $852 million **(Table 3.11-3)**. Tyndall AFB indirectly contributed more than 4,100 jobs and an estimated $461 million to the local and regional economy in FY24 **(Table 3.11-4)** (325th Comptroller Squadron, 2024).

Table 3.11-3 Tyndall AFB Direct Economic Expenditures (FY24)

Category	Expenditure
Payroll	$687,824,531
Construction	$69,019,148
Services	$66,542,843
Materials, Equipment, and Supply Procurement	$28,320,312
Total	**$851,706,834**

Source: 325th Comptroller Squadron, 2024

Table 3.11-4 Tyndall AFB Indirect Economic Impacts (FY24)

Category	Number of Indirect Jobs	Expenditure
Payroll	2,603	$369,381,462
Construction	655	$43,909,982
Goods and Services	789	$43,182,305
Visiting Tyndall Temporary Duty	99	$4,811,554
Total	**4,146**	**$461,285,303**

Source: 325th Comptroller Squadron, 2024

3.11.1.2 Age

Both Bay County and Panama City have a higher percentage of persons younger than 18 when compared to the state of Florida. The state of Florida, however, has a higher percentage than Bay County or Panama City, of persons older than 65 **(Table 3.11-5)**.

Table 3.11-5 Percent of Persons Younger than 18 and Older than 65 Years in the ROI Compared to Florida

Category	Persons Younger than 18 Years	Persons Older than 65 Years
Florida	19.4%	21.7%
Bay County	21.2%	18.5%
Panama City	22.3%	17.1%

Source: U.S. Census Bureau, 2025

3.11.1.3 Employment and Income

More than 59,000 people in Bay County were employed in 2022, and the total annual payroll for businesses in Bay County was more than $2.7 billion **(Table 3.11-6)**. Total employment in Bay County increased by 4.2 percent between 2021 and 2022, likely the result of economic recovery from the COVID-19 pandemic. This increase was approximately half of the increase in statewide employment (8.5 percent) that occurred during the same period.

Table 3.11-6 Total Employment, Payroll, and Change in Total Employment in the ROI Compared to Florida

Jurisdiction	Number of People Employed (2022)	Total Annual Payroll (2022)	Change in Employment from (2021 to 2022)
Florida	9,628,867	$556,430,324	8.5%
Bay County	59,681	$2,769,916	4.2%
Panama City	NA	NA	NA

Notes:
Source: U.S. Census Bureau, 2025
NA = data not available

Although median household income and per capita income are lower in Bay County relative to the state, the percentage of persons in poverty in the county is comparatively lower than both the state and Panama City (U.S. Census Bureau, 2025). Panama City has the lowest median household income and per capita income and the highest percentage of persons in poverty of the three jurisdictions shown in **Table 3.11-7**.

Table 3.11-7 Median Household Income, Per Capita Income in the Past 12 Months, and Persons in Poverty in the ROI Compared to Florida

Jurisdiction	Median Household Income (2019-2023)	Per Capita Income in the Past 12 Months (2018-2022)	Persons in Poverty
Florida	$71,711	$41,055	12.3%
Bay County	$70,188	$38,856	11.8%
Panama City	$61,125	$36,398	17.3%

Notes:
Source: U.S. Census Bureau, 2025
Dollar values are based on 2023 dollars.

As of March 2025, Panama City's unemployment rate (not seasonally adjusted) was slightly higher than both the state and Bay County **(Table 3.11-8)** (Bureau of Labor Statistics, 2025a; 2025b; 2025c). Unemployment in all three jurisdictions was less than the nationwide unemployment rate of 4.2 percent (Bureau of Labor Statistics, 2025d).

Table 3.11-8 Unemployment Rates in Florida, Bay County, and Panama City as of March 2025

Jurisdiction	Unemployment Rate
Florida	3.5%
Bay County	3.4%
Panama City	3.6%

Notes:
Source: Bureau of Labor Statistics, 2025a, 2025b, 2025c
Unemployment rates shown are not seasonally adjusted.

3.11.2 Environmental Consequences

3.11.2.1 Evaluation Criteria

Adverse impacts on socioeconomics would be significant if the Proposed Action resulted in substantial changes in the local or regional populations; in a population increase that would exceed a community's capacity to provide services; in a loss of tax revenue from a population decrease, layoffs or job losses, disinvestment, or in other economic losses that impaired a community's ability to provide services (such as schools/public education, or police and fire/emergency services) to its residents.

3.11.2.2 Alternative 1 (Preferred Alternative)

In the short term, Alternative 1 could have beneficial economic effects if local contractors are hired to design and construct the proposed project or from local purchases of construction materials, meals, lodging, and equipment. However, any such effects would be small given the small scale of the project in the context of the local economy of Bay County and the overall economic output of Tyndall AFB. All beneficial economic effects would end after construction associated with Alternative 1 is completed. Therefore, short-term beneficial effects on socioeconomics from Alternative 1 would not be significant.

In the long term, Alternative 1 would not increase or decrease the number of personnel at Tyndall AFB and therefore, would have no potential to affect local socioeconomic conditions such as population, age, employment, tax revenue, or other social or economic activity in the ROI. Therefore, Alternative 1 would have no significant long-term effects on socioeconomics.

3.11.2.3 Alternative 2

Short-term and long-term impacts on socioeconomics from Alternative 2 would be the same as those described for Alternative 1. Alternative 2 would have short-term beneficial effects and no long-term effects on socioeconomics. Effects on socioeconomics would not be significant.

3.11.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. This alternative would have no impact on local or regional socioeconomic conditions.

3.11.2.5 Reasonably Foreseeable Future Actions

Other reasonably foreseeable future actions listed in **Appendix C** would contribute to short-term beneficial effects on socioeconomic conditions from construction-related expenditures in the local and regional economy. Other projects that involve increases in the number of personnel at Tyndall AFB would also have long-term beneficial effects on local tax revenue and would not be expected to exceed the capacity of local communities to provide public services to their residents. Therefore, when considered with other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse effects on socioeconomics.

3.12 Noise

Noise in a specified area or region is characterized by the ambient environment and actions within that influence existing levels of noise. Detailed information on noise is provided in **Appendix D.**

The noise ROI consists of areas within 0.25 miles of the proposed project sites. Beyond this distance, it is expected that construction and operational noise associated with the Proposed Action would not be readily identifiable or distinguishable from other noise sources contributing to the ambient noise environment on and around the installation.

3.12.1 Affected Environment

The ambient noise environment at Tyndall AFB is influenced by the relatively flat topography of lands on and around the base, the expansive open spaces around the aircraft runways, the presence of existing development and vegetation, military aircraft operations, traffic noise on US-98 and other on-base and off-base roads, light industrial operations associated with aircraft and facility maintenance on the base, and other factors. Generally, however, military aircraft noise is the predominant source of noise on and around Tyndall AFB. Approximately 66,400 airfield operations were conducted annually at Tyndall AFB prior to Hurricane Michael in 2018. More than half of these operations consisted of takeoffs and landings by twin-engine F-22 (37,900 annual operations) and T-38 (11,800 annual operations) jet aircraft. Other aircraft historically or currently operating at Tyndall AFB include jet-powered QF-16 drones and propeller-driven E-9 and MU-2 aircraft (DAF, 2020).

The F-35, the DAF's primary twin-engine jet fighter, began operating at Tyndall AFB in 2023. Three F-35 squadrons totaling 78 aircraft are expected to be based at Tyndall AFB by 2026. Once fully operational, these squadrons will conduct approximately 33,440 annual operations at Tyndall AFB, or an average of 129 daily operations occurring on 260 flying days per year. Noise levels associated with the three fully operational F-35 squadrons that would exceed 65 A-weighted decibel (dBA) day/night sound level are anticipated to occur primarily within the boundaries of Tyndall AFB and relatively small offshore areas of the Gulf of America, St. Andrew Bay, and East Bay adjacent to Tyndall AFB (DAF, 2020).

Fifteen representative noise sensitive land uses, including on-base and off-base residential areas, schools, parks, and churches, were identified in the 2020 F-35 Final EIS (DAF, 2020). Generally, human-occupied facilities within the ROI include buildings within the 1100, 1700, and 1800 areas, distributed around and to the southeast of the alternative sites; some of the facilities in the 200 and 300 areas, north and northeast of the alternative sites; and some of the facilities in the 1000 and 1600 areas, northeast of the alternative sites (DAF, 2025c). Activities at non-residential facilities within the ROI can generally be characterized as light industrial and, therefore, are not considered noise sensitive receptors.

3.12.2 Environmental Consequences

3.12.2.1 Evaluation Criteria

Potential impacts from noise associated with the Proposed Action would be considered significant if noise levels (1) violated applicable noise regulations, (2) caused unsafe noise conditions for

nearby receptors during construction, or (3) substantially affected normal operations of noise-sensitive sites.

3.12.2.2 Alternative 1 (Preferred Alternative)

In the short term, construction associated with Alternative 1 would generate elevated noise levels from workers' commuting vehicles and heavy trucks traveling to and from the Alternative 1 site; heavy equipment used to clear vegetation, excavate, grade, level, and compact soils; electric and pneumatic tools and generators and compressors to power those tools; and generally increased levels of human activity. Noise levels generated by common types of equipment that could be used during the construction phase of Alternative 1 are listed in **Table 3.12-1**.

Table 3.12-1 Construction Equipment Noise Levels and Typical Human Response

Equipment	Maximum Sound Level (dBA)[1]
Air Compressor	78
Backhoe	78
Concrete Mixer Truck	79
Concrete Saw	90
Crane	81
Bulldozer	82
Dump Truck	76
Excavator	81
Flatbed Truck	74
Front-end Loader	79
Generator	81
Impact Hammer	90
Paving Equipment	77
Pickup Truck	75
Roller	80
Welding	74

Notes:
[1]Maximum Sound Level is measured at 50 feet
Source: USDOT, 2006

Alternative 1 would not be implemented near on-base or off-base noise sensitive land uses, and construction-related noise would not impede or prevent the continued operation of nearby facilities and land uses on Tyndall AFB. Generally, elevated noise levels would be highly localized, would diminish with increased distance from the source, and would be unnoticeable or indistinguishable to listeners outside the boundaries of the installation. To reduce impacts related to construction noise, all construction activities would be conducted during normal business hours (7:00 a.m. to 5:00 p.m.). Construction noise would also be reduced by utilization of mufflers, shields, dampeners, aprons, enclosures, and new equipment (USDOT, 2006), where appropriate. Noise from aircraft operations would remain the predominant source of noise at and around Tyndall AFB during construction. All construction-related noise would cease when construction of the proposed equipment area and associated infrastructure is completed. Therefore, short-term impacts from noise under Alternative 1 would not be significant.

In the long term, the proposed project would not create a new source of noise at Tyndall AFB. Noise associated with operation and periodic maintenance of the proposed facilities would be infrequent and similar to noise resulting from similar activities already occurring at Tyndall AFB. Such noise would not be particularly unusual or distinct from other sources contributing to the ambient noise environment on and around the base and would be unnoticeable outside the installation boundaries. Aircraft operations would continue to be the predominant source of noise at and around Tyndall AFB. For these reasons, long-term impacts from noise under Alternative 1 would not be significant.

3.12.2.3 Alternative 2

Short- and long-term impacts from noise associated with Alternative 2 would be the same as or somewhat less than those described for Alternative 1, as fewer human-occupied facilities are within the Alternative 2 ROI. Impacts from noise would not be significant.

3.12.2.4 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing noise conditions at Tyndall AFB would continue. This alternative would have no impact on noise on and around Tyndall AFB.

3.12.2.5 Reasonably Foreseeable Future Actions and Other Environmental Considerations

Construction and operation of the other reasonably foreseeable future actions listed in **Appendix C** would generate increased noise levels on and around Tyndall AFB. Short-term and long-term increases in noise would vary for each project; however, each project would adhere to applicable measures and procedures to prevent or minimize adverse effects from noise and ensure such effects remain less than significant. Therefore, when considered with potential impacts from other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts from noise.

3.13 Transportation

Transportation resources include elements of the transportation network in a community or area, including road networks, vehicular traffic, and associated infrastructure. The transportation ROI consists of segments of US-98 adjacent to Tyndall AFB, and on-base roads and transportation infrastructure south of US-98. This analysis assumes that workers constructing the proposed facilities would travel to and from the project sites using privately owned vehicles; therefore, public transportation and pedestrian and bicycle facilities are not addressed in this section.

3.13.1 Affected Environment

Major components of the road network and transportation infrastructure in the ROI consist of US-98, which bisects Tyndall AFB into northern and southern sections; ECFs that provide most vehicular access to the base; and on-base roads that facilitate traffic circulation and movement on the installation.

US-98 is a four-lane divided highway with a speed limit of 50 miles per hour in the vicinity of Tyndall AFB. The Tyndall Flyover Project, an overpass designed to help alleviate congestion on US-98, opened in March of 2025. This flyover provides grade separation between through-traffic and traffic entering and exiting Tyndall AFB and allows on-base traffic to travel between the north and south sides of the base without interrupting through-traffic on US-98 (FDOT, 2024).

Most vehicles traveling to and from the south side of Tyndall AFB access the installation via the ECF on Sabre Drive or the ECF on Airey Avenue, both of which are immediately south of US-98. Commercial vehicles entering Tyndall AFB access the base through the Commercial Vehicle Inspection ECF on Cleveland Avenue. The new Airey Avenue ECF opened in November 2024 and is the primary source of access for personnel accessing the CEMIRT facility. Vehicles traveling eastbound on US-98 access the Airey Avenue ECF via a signal-controlled right-turn lane. Vehicles traveling westbound on US-98 access the Airey Avenue ECF via an underpass and one signal-controlled left-turn lane. Morning and evening peak traffic periods occur at Tyndall AFB from 5:30 a.m. to 8:00 a.m. and 3:00 p.m. to 6:00 p.m., respectively (DAF, 2024).

In 2024, annual average daily traffic volumes on US-98, west of Tyndall Drive (24,000 vehicles) were substantially higher than volumes east of Tyndall Drive (7,000 vehicles) **(Table 3.13-1)** (FDOT, 2024). A traffic analysis prepared for the 2020 F-35 Final EIS assumed that 97 percent of vehicle trips to Tyndall AFB originate from the west and 3 percent originate from the east (DAF, 2020). This study identified morning peak traffic hours of 06:45 a.m. to 07:45 a.m. and evening peak traffic hours of 4:00 p.m. to 5:00 p.m. It is likely that traffic associated with construction of new facilities to replace those damaged or destroyed by Hurricane Michael in 2018 and construction of new facilities associated with the basing of three F-35 squadrons at the base substantially contribute to traffic volumes in the ROI.

Table 3.13-1 2024 Annual Average Daily Traffic Volumes on US-98 near Tyndall AFB

Road Segment	Average Annual Daily Traffic Volume	Approximate Length of Road Segment
Southern End of Dupont Bridge to Tyndall Drive	24,000	2.7 miles
Tyndall Drive to Canal Parkway	7,000	12.7 miles

Source: FDOT, 2024

The Tyndall Flyover along US-98 opened in March of 2025. Although traffic data assessing the impacts of the flyover are not yet available, it is likely that the flyover has substantially reduced congestion on US-98.

The on-base transportation network on the south side of Tyndall AFB generally consists of major roads that run east to west with shorter intersecting streets that run north to south. Mississippi Road and Suwanee Road are the major east-west roads on the south side of the base and provide vehicular access to multiple facilities. A new Commercial Vehicle ECF located along Barnes Drive, immediately north of the existing CEMIRT facility and the Alternative 1 site, is currently under construction and will provide additional commercial vehicle access to the south side of the base when completed. The on-base road network is considered sufficient to handle existing and future traffic volumes, including traffic associated with current and planned construction projects and the ongoing military mission at Tyndall AFB.

3.13.2 Environmental Consequences

Impacts on transportation would be significant if traffic associated with the Proposed Action exceeded the capacity of the existing transportation network in the ROI or conflicted with the military mission at Tyndall AFB.

3.13.2.1 Alternative 1 (Preferred Alternative)

Alternative 1 would result in short-term increases in daily traffic to and from Tyndall AFB from construction workers and other construction-related vehicles (such as heavy trucks delivering materials and equipment) commuting to and from the project sites. Approximately 173 truck trips would be needed to import an estimated 2,590 CY of clean fill soils to the Alternative 1 site (see **Section 3.9.2.2**). Fewer truck trips would be needed on off-base roads if suitable fill soils could be obtained from on-base soil stockpiles. These increases would have the potential to contribute to additional traffic congestion in the ROI. However, these increases and any additional congestion would be small in the context of existing traffic volumes traveling to and from Tyndall AFB in the ROI and would vary throughout the construction phase. Travel routes along on-base roads would be planned before construction begins to prevent or minimize conflicts with Tyndall AFB's overall military mission. Construction-related traffic impacts would not be expected to exceed the capacity of the existing transportation network in the ROI. After construction associated with Alternative 1 has been completed, construction-related impacts on the transportation network would end. For these reasons, short-term impacts on transportation would not be significant.

In the long term, Alternative 1 would not change the number of personnel assigned to Tyndall AFB and would have no potential to result in changes to commuting patterns, require improvements to on-base and off-base transportation networks, permanently increase traffic volumes on on-base and off-base roads, or otherwise increase demands on or the capacity of existing on-base and off-base transportation networks and infrastructure. Alternative 1 would have a beneficial impact on the on-base transportation network because there would no longer be a need to transport MAAS equipment to and from temporary storage locations in areas of the base that are geographically separated from the existing CEMIRT facility. In the context of existing traffic on the base, however, this effect would be small. Overall, impacts on transportation from Alternative 1 would not be significant.

3.13.2.2 Alternative 2

In the short term, approximately 171 truck trips would be needed to import an estimated 2,570 CY of clean fill soils to the Alternative 2 site during construction (see **Section 3.9.2.3**). Fewer truck trips would be needed on off-base roads if suitable fill soils could be obtained from on-base soil stockpiles. While increases in construction-related traffic would have the potential to contribute to additional traffic congestion in the ROI, these increases and any additional congestion would be small in the context of existing traffic volumes traveling to and from Tyndall AFB in the ROI and would vary throughout the construction phase. For the same reasons described for Alternative 1, short-term and long-term impacts on transportation from Alternative 2 would not be significant.

3.13.2.3 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented and existing conditions at Tyndall AFB would continue. This alternative would have no impact on transportation in the ROI.

3.13.2.4 Reasonably Foreseeable Future Actions

Other reasonably foreseeable future actions listed in **Appendix C** would have the potential to contribute to temporary or permanent increases in traffic volumes and congestion in the ROI. Temporary increases from construction-related traffic would vary throughout each project's construction phase and would end when each project has been completed. FDOT, the Federal Highway Administration, local agencies, and the DoD, as applicable, would continue to plan and implement improvements as needed to manage traffic safely and efficiently within their jurisdictions and ensure impacts on transportation are not significant. Therefore, when considered with other reasonably foreseeable future actions, the Proposed Action would not contribute to cumulatively significant adverse impacts on transportation in the ROI.

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CHAPTER 4 REFERENCES

325th Comptroller Squadron. 2024. Tyndall Air Force Base Economic Impact Analysis. https://www.tyndall.af.mil/Portals/107/documents/Economic%20Impact%20Analysis/FY24%20Tyndall%20EIA-Signed.pdf?. Accessed April 29, 2025.

ACAM. 2024. Air Conformity Applicability Model. Air Impact Modeling Software by Solutio Environmental, Inc. for U.S. Air Force Civil Engineering Center (AFCEC/CZTQ), Version 5.0.24a.

AFCEC. 2018. Air Force Civil Engineer Center. Remedial Investigation Scoping Documentation for Appendix B Sites AT055, SS219, SS221, SS709, TU917, TU056, TU222, TU529, TU919 Tyndall Air Force Base. May 3. Administrative Record No. MS_050318. https://ar.cce.af.mil/. Accessed April 30, 2025.

AFCEC. 2023. Compliance Technical Support Branch (CZTQ). DAF Greenhouse Gas (GHG) & Climate Change Assessment Guide. December. https://www.aqhelp.com/AQdocs.html. Accessed May 2025.

AFCEC. 2024. CEMIRT continues to power Air Force and prevent mission disruption. https://www.afcec.af.mil/News/Article-Display/Article /3776132/cemirt-continues-to-power-air-force-and-prevent-mission-disruption/. Accessed December 7, 2024.

Air Force. 2020. Air Force Air Quality EIAP Guide, Volume II - Advanced Assessments. July.

Bradley, D., S. Mocas, and B. Mohr. 2020. Phase I Archaeological Survey – Survey Areas TY-162, TY-163 and TY-164, Tyndall Air Force Base, Bay County, Florida. Prepared by Wood Environment & Infrastructure Solutions, Inc., Louisville, Kentucky.

Bradley, D., T. Reynolds, J. Myers-Rinehart, B. Mohr, and F. Kelly. 2024. Phase I Archaeological Survey – Survey Areas TY-0200 and TY-0201, Tyndall Air Force Base, Bay County, Florida. Prepared by WSP Environment & Infrastructure USA, Louisville, Kentucky.

Brooks, H.K. 1981. Geologic Map of Florida, Institute of Food and Agricultural Sciences Service, University of Florida, https://ngmdb.usgs.gov/Prodesc/proddesc_16530.htm. Accessed April 2025.

Bureau of Labor Statistics. 2025a. Local Area Unemployment Statistics (not seasonally adjusted) for Florida. https://data.bls.gov/dataViewer/view/timeseries/LAUST120000000000003. Accessed April 29, 2025.

Bureau of Labor Statistics. 2025b. Local Area Unemployment Statistics (not seasonally adjusted) for Bay County. https://data.bls.gov/dataViewer/view/timeseries/LAUCN120050000000003. Accessed April 29, 2025.

Bureau of Labor Statistics. 2025c. Local Area Unemployment Statistics (not seasonally adjusted) for Panama City. https://data.bls.gov/dataViewer/view/timeseries/LAUCT125470000000003. Accessed April 29, 2025.

Bureau of Labor Statistics. 2025d. Local Area Unemployment Statistics (not seasonally adjusted) for the United States. https://data.bls.gov/dataViewer/view/timeseries/LNU04000000. Accessed April 29, 2025.

Cornell Lab. n.d. Golden Eagle Range Map. Cornell Lab of Ornithology. https://www.allaboutbirds.org/guide/Golden_Eagle/maps-range. Accessed August 4, 2025.

DAF. 2020. Department of the Air Force. Final Environmental Impact Statement for F-35A Wing Beddown at Tyndall AFB and MQ-9 Wing Beddown at Tyndall AFB or Vandenberg AFB https://cdxapps.epa.gov/cdx-enepa-II/public/action/eis/search. CEQ Number 20200244. Accessed April 11, 2025.

DAF. 2022. *Draft Environmental Assessment for 8 Construction Sites*. Tyndall AFB, Florida. https://www.tyndall.af.mil/About/. Accessed April 11, 2025.

DAF. 2024. Environmental Assessment for Infrastructure Construction Projects Tyndall AFB, Florida.

DAF. 2025a. Final Biological Assessment for Civil Engineer Maintenance, Inspection, and Repair Team Facility Improvements. Tyndall AFB, Florida. August.

DAF. 2025b. Final Stream and Wetland Delineation Report for Civil Engineer Maintenance, Inspection, and Repair Team Facility Improvements. Tyndall AFB, Florida. August.

DAF. 2025c. Tyndall AFB Geographic Information Systems Data.

FDACS. 2024. Florida Department of Agriculture and Consumer Services. Endangered, Threatened and Commercially Exploited Plants of Florida. https://www.fdacs.gov/Consumer-Resources/Protect-Our-Environment/Botany/Florida-s-Endangered-Plants/Endangered-Threatened-and-Commercially-Exploited-Plants-of-Florida. Accessed May 23, 2025.

FDEP. 2019. Florida Department of Environmental Protection. Decision for No Further Action Site SR179, Miniaturization Range Tyndall Air Force Base with Environmental Protection Agency Concurrence Email. September 19. Environmental Protection Agency Operable Unit-24. October 14. Administrative Record No. SR179_100119. https://ar.cce.af.mil/. Accessed April 30, 2025.

FDEP. 2024. Florida Coastal Management Program Guide. 93pp. https://floridadep.gov/sites/default/files/FCMP-Program-Guide-2024.pdf. Accessed June 5, 2025.

FDOT. 2024. Florida Department of Transportation. 2024 Annual Average Daily Traffic Volumes on US-98. https://tdaappsprod.dot.state.fl.us/fto/. Accessed May 1, 2025.

FEMA. 2024. Federal Emergency Management Agency. FEMA Flood Map Service Center. https://msc.fema.gov/portal/search?AddressQuery=panama%20city%20fl. Accessed June 5, 2025.

FWC. 2022. Florida Fish and Wildlife Conservation Commission. Florida's Endangered and Threatened Species. https://myfwc.com/media/1945/threatened-endangered-species.pdf. Accessed May 23, 2025.

Griffith, G.E., D.E. Canfield, Jr., C.A. Horsburgh, J.M. Omernik, and S.H. Azevedo. 1997. Lake regions of Florida. Report to FDEP. USEPA, Corvallis, Oregon.

Mikell, G. 2017. Phase I Archaeological Survey of TY-158 and TY-159 on Tyndall Air Force Base Bay County, Florida. Prepared by Panamerican Consultants, Inc., Pensacola, Florida.

NWFWMD. 2017. Northwest Florida Water Management District: St. Andrew Bay Watershed Surface Water Improvement and Management Plan. https://www.nwfwater.com/content/download/15864/110073/St.%20Andrew%20Bay%20SWIM%20Plan%20November%202017.pdf. Accessed June 3, 2025.

Tyndall AFB. 2020a. Tyndall Air Force Base. Tyndall Air Force Base Landscape Master Plan Site Development Criteria for Lighting. https://www.tyndallifs.com/landscape_C09_lighting.php. Accessed April 23, 2025.

Tyndall AFB. 2020b. Integrated Natural Resources Management Plan. Tyndall AFB, Florida.

Tyndall AFB. 2021. Memorandum for 2020 Tyndall AFB Consumer Confidence Report. https://www.tyndall.af.mil/Portals/107/%5BReview%5D%20Tab%201_%20CCRs%20and%20cover%20memo%20v3.pdf. Accessed June 4, 2025.

Tyndall AFB. 2022a. Integrated Cultural Resources Management Plan. Tyndall AFB, Florida.

Tyndall AFB. 2022b. Spill Prevention, Control, and Countermeasure Plan. 325th Fighter Wing, Tyndall AFB, Florida. February.

Tyndall AFB. 2022c. Integrated Solid Waste Management Plan. 325th Fighter Wing, Tyndall AFB, Florida. November.

Tyndall AFB. 2022d. Environmental Restoration Program and Aqueous Film Forming Foam Guidelines. November.

Tyndall AFB. 2023. Hazardous Waste Management Plan. 325th Fighter Wing, Tyndall AFB, Florida. October.

U.S. Census Bureau. 2025. QuickFacts. https://www.census.gov/quickfacts. Accessed April 29, 2025.

USACE. 2022a. U.S. Army Corps of Engineers. Uniform Federal Policy Quality Assurance Project Plan Supplemental Remedial Investigation Work Plan Site DB039, Mississippi Road Debris Area. Environmental Protection Agency Operable Unit-16. June. Administrative Record DB039_080822. No. https://ar.cce.af.mil/. Accessed April 30, 2025.

USACE. 2022b. Uniform Federal Policy Quality Assurance Project Plan Supplemental Remedial Investigation Work Plan Site LF006, Sewage Plant Vicinity Landfill and Site LF007, Spray Field Vicinity Landfill. Environmental Protection Agency Operable Unit-04. March. Administrative Record No. LF006/LF007_050522. https://ar.cce.af.mil/. Accessed April 30, 2025.

USACE. 2024. Updated Basewide Uniform Federal Policy Quality Assurance Project Plan Florida Panhandle Optimized Remediation Contract for Installation Restoration Program Sites at Tyndall Air Force Base, Florida. March. Administrative Record No. BW_070324. https://ar.cce.af.mil/. Accessed April 30, 2025.

USDA NRCS. 2024a. U.S. Department of Agriculture Natural Resources Conservation Service. What is Soil? https://www.nrcs.usda.gov/resources/education-and-teaching-materials/what-is-soil. Accessed April 9, 2025.

USDA NRCS. 2024b. Hydric Soils. https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soil/hydric-soils. Accessed April 9, 2025.

USDA NRCS. 2025. Custom Soil Resource Report for Bay County, Florida. Accessed June 6, 2025.

USDOT. 2006. U.S. Department of Transportation. Construction Noise Handbook, Table 9.1. Research and Innovative Technology Administration. FHWA-HEP-06-015. https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed April 8, 2025.

USEIA. 2022a. U.S. Energy Information Administration. Energy-Related CO_2 Emission Data Tables Summary tables, Table 1.State energy-related carbon dioxide emissions by year (XLSX file format). https://www.eia.gov/environment/emissions/state/. Accessed May 20, 2025.

USEIA. 2022b. Energy-Related CO_2 Emission Data Tables Summary tables, Table 3.State energy-related carbon dioxide emissions by sector (XLSX file format). https://www.eia.gov/environment/emissions/state/. Accessed May 20, 2025.

USEPA. 2022. U.S. Environmental Protection Agency. How's My Waterway? Walker Bayou-Fred Bayou Watershed (031401010705). https://mywaterway.epa.gov/waterbody-report/21FL303D/FL1170/2022. Accessed June 5, 2025.

USFWS. 2017. U.S. Fish and Wildlife Service. Critical Habitat: What is it? https://www.fws.gov/sites/default/files/documents/critical-habitat-fact-sheet.pdf. Accessed May 23, 2025.

USFWS. 2025. Information for Planning and Consultation. https://ipac.ecosphere.fws.gov/. Accessed May 23, 2025.

USGS. 2025. U.S. Geological Survey. PAD – U.S. Data Explorer mapping system. https://maps.usgs.gov/padusdataexplorer/. Accessed on June 5, 2025.

Weather Spark. 2025. Tyndall AFB, Florida. https://weatherspark.com/y/146586/Average-Weather-at-Tyndall-Air-Force-Base-Florida-United-States-Year-Round. Accessed April 30, 2025.

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APPENDIX A
INTERAGENCY AND INTERGOVERNMENTAL COORDINATION AND CONSULTATION

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A.1 Introduction

Scoping is an early and open process for developing the breadth of issues addressed in an Environmental Assessment (EA) and for identifying significant concerns related to an action. Per the requirements of Executive Order (E.O.) 12372, Intergovernmental Review of Federal Programs, as amended by E.O. 12416, federal, state, and local agencies with jurisdiction that could be affected by the Proposed Action or alternatives were notified during development of this EA.

The Intergovernmental Coordination Act and E.O. 12372 require federal agencies to cooperate with and consider state and local views in implementing a federal proposal. Through the coordination process, potentially interested and affected government agencies, government representatives, elected officials, and interested parties that could be affected by the Proposed Action and alternatives were notified during development of this EA. The list of stakeholders and agency and intergovernmental coordination letters and responses are included in this appendix.

A.1.1 Agency Consultations

Implementation of the Proposed Action involves coordination with several organizations and agencies. Compliance with Section 7 of the Endangered Species Act and implementing regulations (50 Code of Federal Regulations [CFR] Part 402) requires communication with the U.S. Fish and Wildlife Service in cases where a federal action could affect listed threatened or endangered species, species proposed for listing, or candidates for listing. The primary focus of this consultation is to request a determination of whether any of these species occur in the proposal area. If any of these species is present, a determination would be made of any potential adverse impacts on the species.

The National Historic Preservation Act (NHPA) of 1966 (54 United States Code 300101 et seq.) established the National Register of Historic Places (NRHP) and outlined procedures for managing cultural resources on federal property. NHPA requires federal agencies to consider the potential impacts of federal undertakings on historic properties that are listed, nominated to, or eligible for listing on the NRHP; designated a National Historic Landmark; or valued by modern American Indians for maintaining their traditional culture. Section 106 of the NHPA requires federal agencies to consult with State Historic Preservation Officers, and others, if their undertakings have the potential to impact historic properties and to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings.

A.1.2 Government-to-Government Consultation

Consistent with the NHPA's implementing regulations (36 CFR Part 800), DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, Department of the Air Force (DAF) Instruction 90-2002, *Interactions with Federally Recognized Tribes*, and DAF Manual 32-7003, *Environmental Conservation*, the DAF has a responsibility to consult in good faith with federally recognized tribes who have a documented interest in DAF lands and activities, even though the tribe may not be geographically located near the installation or its airspace, regarding a Proposed Action's potential to affect properties of cultural, historical, or religious significance to the tribes. The tribal coordination process is distinct from National Environmental Policy Act consultation or

the intergovernmental coordination processes and requires separate notification of all relevant tribes. The timelines for tribal consultation are also distinct from those of intergovernmental consultations. The installation commander's role in tribal government-to-government consultation is similar to the commander's role with an ambassador. The installation commander may also designate a civilian government employee as the Installation Tribal Liaison Officer (ITLO). The ITLO must be a high-level civilian who is able to interact directly with base leaders and is allowed access to the installation commander without multiple chain of command impediments.

Government-to-government consultation is included in this appendix.

A.2 Public and Agency Review of Environmental Assessment

A Notice of Availability for the Draft EA and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) was published in the *Panama City News Herald* inviting the public to review and comment on the Draft EA during the 30-day review period.

Printed copies of the Draft EA and proposed FONSI/FONPA were available for review at the Bay County Public Library, 898 West 11th Street, Panama City, Florida 32401. An electronic copy of the Draft EA and proposed FONSI/FONPA was available on Tyndall AFB's website at https://www.tyndall.af.mil/About/.

Persons who were unable to access these documents online were asked to contact Edwin Wallace at 850-283-2714 or via email at edwin.wallace.1@us.af.mil to arrange alternative access.

A.3 Stakeholders List

The following is the stakeholder list for correspondence associated with this Environmental Assessment.

Federal Agencies

U.S. Army Corps of Engineers
Jacksonville Regulatory District
Panama City, FL

Ms. Catrina Martin
Supervisor, Environmental Review
U.S. Fish and Wildlife Service
Panama City, FL

State Agencies

Ms. Alissa Slade Lotane, Director
Florida Division of Historical Resources
Tallahassee, FL

Florida Fish and Wildlife Conservation Commission
Panama City, FL
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Ms. Lindsay Weaver, Clearinghouse Coordinator
Department of Environmental Protection
Tallahassee, FL
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Native American Tribes

Ryan Morrow, Town King
Thlopthlocco Tribal Town
Okemah, OK

Marcellus W. Osceola Jr., Chairman
Seminole Tribe of Florida
Hollywood, FL

Mr. Lewis J. Johnson, Chief
Seminole Nation of Oklahoma
Wewoka, OK

Stephanie A. Bryan, Tribal Chair
Poarch Band of Creek Indians
Atmore, AL

David Hill, Principal Chief
Muscogee Creek Nation
Okmulgee, OK

Tolbert Cypress, Chairman
Miccosukee Tribe of Indians of Florida
Miami, FL

A.4 Public Notices of Availability

A.4.1 Early Public Notice

EARLY PUBLIC NOTICE FOR A PROPOSED NEAR-TERM CONSTRUCTION PROJECT WITHIN WETLANDS AND 100-YEAR FLOODPLAINS AT TYNDALL AIR FORCE BASE, BAY COUNTY, FLORIDA

To: All Interested Agencies, Groups, and Individuals

The Department of the Air Force (DAF) is proposing to implement facility and infrastructure improvements (Proposed Action) for the Civil Engineer Maintenance, Inspection and Repair Team facility at Tyndall Air Force Base (AFB), Bay County, Florida. The Proposed Action would construct a reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The Proposed Action would be implemented entirely within the existing boundaries of Tyndall AFB

The DAF is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action. The EA is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.), and the DAF Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] Part 989). The DAF requests input on the Proposed Action from federal, state, and local regulatory agencies during preparation of the Draft EA as part of the NEPA review process. The DAF is also requesting early public comments on the Proposed Action, its potential environmental impacts, and potential project alternatives. The Draft EA will be released for a 30-day public review and comment period when available.

Portions of the Proposed Action are subject to the requirements of Sections 401, 404, and 404(b)(1) of the Clean Water Act, Executive Order (E.O.) 11988, Floodplain Management, and E.O. 11990, Protection of Wetlands, because they would be constructed in or adjacent to wetlands and 100-year floodplains on Tyndall AFB. Therefore, the DAF is hereby giving notice of the Proposed Action and requesting public comments in accordance with Section 2(a)(4) of E.O. 11988, Section 2(b) of E.O. 11990, and 32 CFR § 989.24.

Please submit written comments on the Proposed Action to Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Building 36234, Tyndall AFB, FL 32403. Written comments will be accepted for 30 days from the publication date of this notice.

NF-41726359

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Page 1 of 2

A.4.2 Notice of Availability for the Draft Environmental Assessment

NOTICE OF AVAILABILITY

Draft Environmental Assessment for Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental consequences from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team facility at Tyndall Air Force Base (AFB), Florida. Tyndall AFB is in northwestern Florida, along the coast of the Gulf of America, immediately south of Panama City and approximately 80 miles southwest of Tallahassee.

The Proposed Action would construct a 60,000-square-foot reinforced concrete slab and associated infrastructure improvements on one of two alternative sites on Tyndall AFB south of U.S. Highway 98. The Proposed Action would be implemented entirely within the existing boundaries of Tyndall AFB. No changes to the number of personnel assigned to Tyndall AFB would occur under the Proposed Action. No practicable alternatives to implementing the Proposed Action in floodplains and wetlands on Tyndall AFB were identified; therefore, a proposed FONPA has been prepared in accordance with Executive Order (E.O). 11988, Floodplain Management and E.O. 11990, Protection of Wetlands, to document the DAF's proposed decision to implement the Proposed Action in floodplains and wetlands.

Printed copies of the Draft EA and proposed FONSI / FONPA are available for review at the Bay County Public Library, 898 W 11th St., Panama City, FL 32401. An electronic copy (Adobe .pdf) of the Draft EA and proposed FONSI/FONPA is available for review and download on Tyndall AFB's website at https://www.tyndall.af.mil/About/.

The DAF is requesting comments on the Draft EA and proposed FONSI/FONPA from interested local, state, and federal elected officials and agencies, as well as interested members of the public. Comments are requested by **January 7, 2026** to allow sufficient time for their consideration in the Final EA and FONSI/FONPA. Comments can be submitted by mail to the attention of Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Bldg. 36234, Tyndall AFB, FL 32404 or via email at edwin.wallace.1@us.af.mil.

PRIVACY ADVISORY NOTICE

This Draft EA and proposed FONSI/FONPA are provided for public comment in accordance with the National Environmental Policy Act (NEPA), as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.). NEPA provides an opportunity for the public to provide comments on the proposed action and alternatives and solicits comments on the analysis of potential environmental effects.

Public commenting allows the DAF to make better informed decisions. Letters or other written comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will only be added to a stakeholder inventory. Only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published.

Mom

Continued from Page 3A

wire. She'd check out library books on the occult and possessions and ghosts. She wanted to probe supernatural experiences because she, too, was prey to invisible forces. And she had an imaginary friend, Murphy, who broke his legs or was in a wheelchair.

"She was trying to figure out her own legs," said Albanese, Viles' sister. "She knew something wasn't right, and even as a little child, it was her way of trying to understand something's different."

The family "wore out the road" between Des Moines and the Mayo Clinic during much of the 1970s and '80s, Dopf said. Viles, the oldest sibling, endured the most time in clinics and operating rooms. The parents believed the invasive tests and procedures were helping researchers find a cure – or a salve, maybe. An answer, at least, to what had burrowed into their family tree.

"The sad thing was nobody was working on it," Dopf said. "I think that's where Jill felt like she had to take things into her own hands and seek out the people that were doing something specifically with this muscular dystrophy."

Even as Viles was struggling with worsening symptoms, leapfrogging her father in the disease's severity, Dopf said, "her spirit was so strong."

Most days, Viles' default attitude was sweet, a complement to her soft feminine look. But righteous defiance always stood in its shadow. Like when she spewed pink liquid over a snotty nurse's whines for being too rough, or when she hissed "I hate you" to the smug photographer taking a "before" photo of her extreme scoliosis. Her forced positioning, her nakedness, was an immodesty almost too much to bear.

The photo was the kind used in textbooks, she knew, her eyes sure to be covered by a black bar. Anonymous. Was that to guard patient privacy, Viles wondered in her book, "or to shield the medical community from the humanity before them"?

As Viles graduated high school, finding the answer to her family's medical mystery seemed a necessary key to unlocking the goals she'd long journaled about: namely, having a child.

By then, she'd stopped accepting shrugs and half-measures. Defining what had gone so "haywire" in her body, she wrote, had become "a matter of human dignity."



Mary Dopf's book club read and discussed a book written by her daughter Jill Viles, who had Emery-Dreifuss muscular dystrophy and wrote a book about her medical journey before her death in June 2025.
ZACH BOYDEN-HOLMES/DES MOINES REGISTER

Viles finds an answer – but will anyone believe her?

When Viles started at Drake University with the aim of studying genetics, she stood a little over 5 feet and weighed less than 100 pounds: a child's amount of muscle, and nearly no fat, on an adult frame.

With access to a research library, she took up residence in its stacks during her freshman year. She riffled through the "muscle disease" sections in textbooks and scientific journals, trying to pair her particular symptoms with a diagnosis.

Nothing in this article, so on to the next. And the next. And the next. Day after day. Per months.

Until the flip of a page prompted her to stop short.

The man in the photo had her dad's "Popeye" arms: thin bicep, huge forearm. The text said they were a hallmark of an ultrarare disease: Emery-Dreifuss muscular dystrophy.

Viles ticked through traits: Arms bent at the elbow? *Yes.* Heels that float off the ground? *Uh-huh.* Chin perpetually unable to touch chest? *Check.*

But the report also mentioned cardiac issues, serious ones – concerns that seemed much graver than they'd ever considered the flutters in their chests.

When Viles' dad stumbled across her research in a pile of papers on the kitchen table a few weeks later, he went ashen. He told his daughters that doctors had always assured him his heart conditions had nothing to do with his muscle disease.

They do, she insisted, as sure they had Emery-Dreifuss as that the sun would set that night. *And you need to be seen by a cardiologist.*

Viles' called the local heart clinic to make an appointment – and called, and called, and called, until the nurse finally put her father on the schedule. The tests they ran produced such worrying results, including a lethally slow pulse, that her dad had a pacemaker installed before the week's end.

In her family's telling of the story, this marked the first life Viles saved. Her father's.

But even in the face of her dad's experience, neurologists didn't put faith in Viles' diagnosis. Some wouldn't even entertain it. A teenager who had seen lookalike photos in a journal? A stretch in the best of times. And, to give them a bit of grace, Emery-Dreifuss was thought to be a male-only disease.

"I remember a doctor just stared at her and said, 'You're wrong, you're wrong, you're wrong,'" Mary Dopf said. "But 'relentless' is a word for Jill."

She adopted the mindset of constant movement, Albanese said. *Forward is a pace.*

"She said: I'm going to move where I see things that haven't been explored or discovered. I'm not going to put the idea out there for somebody else to do, I'm going to figure out how to do it," Albanese said. "And she knew she had the smarts."

Viles' days in the reference department led her to a group of Italian scientists studying Emery-Dreifuss in hopes of identifying the gene mutation that caused the disorder. She put together a packet of information for the researchers, replete with family history. By then, the family knew that four of the Dopf children had inherited their father's condition, though only two had severe cases: Viles and her brother, Aaron, who were born on the same day exactly four years apart. "Soul twins," as Dopf called them, who shared a special connection, given their circumstances.

Viles decided to send the researchers photos. That's how she identified the disease in her family members, she figured. And visibility, as she learned in her kindergarten favorite, "Charlotte's Web," created interest. So she stripped down to her underwear and set the timer on her camera. Immodesty was replaced with brazenness when on her own terms.

She'd ship them blood, too, after cajoling a friend into snatching a few needles and vials from the hospital where she worked.

Nearly four years later – just before the turn of the new millennium and prior to the human genome being fully mapped – Viles heard that the diagnosis was confirmed.

The family had Emery-Dreifuss muscular dystrophy, the result of a rare mutation on the Lamin gene. A single base pair flipped out of 3 billion letters in the genome – "a G where a C was supposed to be," as Viles often said – and her entire musculature system went "haywire."

She was right.

The story got around in genetic circles, and a researcher at Johns Hopkins University offered Viles, then 25, a position doing what she'd done as a freshman at Drake: riffle through textbook and journals – only now she was to search for references to Lamin mutations.

One article. And the next. Day after day. And then, a photo caused her to pull up – again. She saw a patient with partial lipodystrophy. But she was looking at herself, too.

A rare genetic disorder that restricts fat from growing mostly on the arms and legs, lipodystrophy causes veins to protrude and skin to retract around muscles and joints, but extra tightly, like legs stuffed in outgrown pants.

Check and check.

Two ultrarare diseases in the same family? Doctors told her that just wasn't possible. The odds were "one in far more than the number of people who lived on Earth ever," as journalist David Epstein later put it on "This American Life."

This time, Viles acquiesced to the doctors who told her she was wrong. The evil stepchild of diagnosis is prognosis, and the stress of knowing what might happen to her and maybe her siblings was getting to be too much – as though she was staring down a Magic 8 Ball all the time.

"She just carried so much weight about our family and that she is the one that should solve our whole family's medical problems," her mother said. "And that's just too much weight for any one person to have."

Viles stepped away from genetics. For a time. She had other goals.

Live a full life before writing about one

After she left Hopkins, Viles turned to creative writing, her first passion.

She loved books like "The Immortal Life of Henrietta Lacks," where science shared equal page time with personal narrative. She liked to read about full lives, of love and loss and, yes, medicine when relevant. She hoped to write books and books about those pursuits, her mother said, wanting, desperately, to be called an author.

And she craved a full life of her own. Viles wanted a husband and children, Dopf said, and she tackled finding a spouse as she did most everything else: with order and grace.

If only 1 in 100 men would date a woman with a disability, as she later wrote in her book, that was still more than enough to fill a year's worth of Saturdays. Let the scheduling begin!

Viles began using a mobility scooter for long walks or crowded events starting in her late 20s, and it became her primary mode of transportation when she lost the ability to walk completely at 33. But through drastic physical changes, Viles maintained her brand of femininity, which had a dainty, English tea party-type aesthetic. A taste summed up by one of her most favorite possessions: her great-grandmother's Gatsby-like ornate punch bowl, Dopf said, which she used at every opportunity – in rural Gowrie, Iowa.

She'd wear Jessica Simpson-brand stilettos and frilly dresses. "She'd say: The only thing I can control is my hair and my shoes," Albanese recalled.

Viles didn't need a protector; she needed a partner who liked adventures as much as she did. She found that in Jeremy Viles, who never outgrew his quiet nature but whose small acts of kindness spoke for him. On their wedding day in 2005, the pair harbored a secret: They were pregnant.

As happy as she was to soon be a mother, Viles feared, too, that her baby would be stuck by the family's disease. But their son, Martin, didn't inherit the family's genetic conditions.

"I remember Jill holding up this one set of pictures of Martin as a child and saying, 'Look at him *running*,'" Albanese said. "That was a big deal to her."

"Jill was at her fullest then: She'd met Jeremy, she'd had Martin," Albanese added. "It was one of those great sunny peaks of her life, and it just propelled her forward."

The air around her felt electric, and the energy was shifting, Albanese said. Like how you feel rain before you see it.

Jill Viles was ready for something new.

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NOTICE OF AVAILABILITY

Draft Environmental Assessment for Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental consequences from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team facility at Tyndall Air Force Base (AFB), Florida. Tyndall AFB is in northwestern Florida, along the coast of the Gulf of America, immediately south of Panama City and approximately 80 miles southwest of Tallahassee.

The Proposed Action would construct a 60,000-square-foot reinforced concrete slab and associated infrastructure improvements on one of two alternative sites on Tyndall AFB south of U.S. Highway 98. The Proposed Action would be implemented entirely within the existing boundaries of Tyndall AFB. No changes to the number of personnel assigned to Tyndall AFB would occur under the Proposed Action. No practicable alternatives to implementing the Proposed Action in floodplains and wetlands on Tyndall AFB were identified; therefore, a proposed FONPA has been prepared in accordance with Executive Order (E.O.) 11988, Floodplain Management, and E.O. 11990, Protection of Wetlands, to document the DAF's proposed decision to implement the Proposed Action in floodplains and wetlands.

A printed copy of the Draft EA and proposed FONSI / FONPA is available for review at the Bay County Public Library, 898 W 11th St., Panama City, FL 32401. An electronic copy (Adobe .pdf) of the Draft EA and proposed FONSI/FONPA is available for review and download on Tyndall AFB's website at https://www.tyndall.af.mil/About/.

The DAF is requesting comments on the Draft EA and proposed FONSI/FONPA from interested local, state, and federal elected officials and agencies, as well as interested members of the public. Comments are requested by **January 7, 2026** to allow sufficient time for their consideration in the Final EA and FONSI/FONPA. Comments can be submitted by mail to the attention of Mr. Travis Wetzel, 325 CES/CEI, HC, 102 Chesterfield Way, Bldg. 36224, Tyndall AFB, FL 32404 or via email at edwin.wetzel.3@us.af.mil.

PRIVACY ADVISORY NOTICE

This Draft EA and proposed FONSI/FONPA are provided for public comment in accordance with the National Environmental Policy Act (NEPA), as amended by Public Law 90-190, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.). NEPA provides an opportunity for the public to provide comments on the proposed action and alternatives and solicits comments on the analysis of potential environmental effects.

Public commenting allows the DAF to make better informed decisions. Letters or other written comments provided may be published in the EA. As required by law, comments provided will be addressed in the EA and made available to the public. Providing personal information is voluntary. Any personal information provided will only be added to a stakeholder roster once. Only the names of the individuals making comments and specific comments will be disclosed. Personal home addresses and phone numbers will not be published.

Kennedy Center Honors lauds legends

Stallone, Strait, Kiss, Gaynor among honorees

N'dea Yancey-Bragg
USA TODAY

WASHINGTON – Donald Trump traded the presidential box for center stage Dec. 7 as he became the first president to host the Kennedy Center Honors.

After skipping all of the ceremonies during his first term, the president brought his signature showmanship to the star-studded evening honoring his "very special friend" actor Sylvester Stallone, Broadway great Michael Crawford, famed rockers Kiss, disco icon Gloria Gaynor and the "undisputed king of country music" George Strait.

Trump alternated between lavishing praise on the attendees, boasting about the "greatest night in the history of the Kennedy Center," throwing a few jabs at audience members as well as former President Joe Biden and quipping about renaming the venue in his honor: "The Trump Kennedy Center, I mean ... I'm sorry, this is terribly embarrassing."

Legends of stage and screen, including a strong country music contingent, offered sung and spoken tributes to the honorees.

The show will air on CBS and Paramount+ Dec. 23.

The night kicked off with a rousing rendition of "Gonna Fly Now" – aka the "Theme from Rocky" – performed by musicians including legendary jazz trumpeter Arturo Sandoval, a 2024 honoree who donned his rainbow stripes for the ceremony.

Stallone costar Kurt Russell said the action star's "legendary toughness is underrated" as he recalled getting a "love tap" from him after executing a particularly painful stunt.


Stallone

"You weren't born, you were forged," Russell joked.

In a prerecorded video tribute that featured some of Stallone's paintings, the "Rambo" star acknowledged the similarities between himself and some of the iconic characters he's played, saying that's part of what makes his television show "Tulsa King" so successful. "I'm just playing me," Stallone said.



Gene Simmons, left, Peter Criss and Paul Stanley of Kiss attend the 48th Kennedy Center Honors on Dec. 7. PAUL MORIGI/GETTY IMAGES

Actor Kelsey Grammer started off his tribute to Broadway legend Michael Crawford singing a few lines from "Hello, Dolly!," Crawford's breakout film. He praised Crawford for his physical comedy skills and his "powerful tenor voice" that earned him a Tony Award for his role as the Phantom in "The Phantom of the Opera," a longtime favorite of Trump's.

"You, sir, are truly where you belong," Grammer said. "Your talent, discipline, your sheer commitment to excellence, traits that define your work – you have truly inspired generations of performers."

Tellow Tony winner Laura Osnes and singer David Phelps belted out the "Phantom" title track.

Crawford told USA TODAY on the red carpet he learned much about how to connect with audiences from watching "Dolly" director Gene Kelly sing and dance as well as from the comedy routines of silent film performers like Buster Keaton and Harold Lloyd.

"That's a lesson that takes a lifetime, and I'm still learning, still," Crawford said. "Every night is a new night."

After a brief, intermission, country singer Vince Gill recalled sharing a stage with the "king of country music" for the first time more than 40 years ago, when Strait was the "new kid."

Despite decades of success, "with George, what you see is what you get," Gill said. "You're a cowboy's cowboy, and your own authenticity is why we call you the king."

Strait, who accessorized his formal wear with a cowboy hat, reflected in his prerecorded video tribute how he went from performing in honky-tonks to playing to a record-breaking 110,905 fans at Kyle Field in 2024.

Musical duo Brooks & Dunn sung "Amarillo by Morning," and Gill returned to the stage to perform "Troubadour." But it was fellow Texan Miranda Lambert who drew some of the biggest cheers of the night when she performed "Run" in front of a backdrop of rolling hills.

The tempo of the evening picked up considerably when singer Kile King took the stage to perform Gloria Gaynor's iconic disco anthem "I Will Survive."

In her video message, Gaynor recounted the inspiration behind the song: an onstage fall that temporarily left her paralyzed from the waist down.

"I was hoping I would survive this trauma that I was going through, hoping that I survived the fact that my mother had just passed away a few years prior," Gaynor said. "I was living that song, and I was certain this song was going to do for my audience what it was doing for me at the moment."


Gaynor

The crowd enthusiastically clapped and sang as King and singer Deniece Williams performed several of Gaynor's hits surrounded by gilded dancers grooving beneath a giant, glittering disco ball.

As 2020 Kennedy Center honoree Garth Brooks took the stage, he jokingly reassured the audience that he hadn't shown up for the wrong segment. He was there to honor the "badass boys in the booth," rockers Gene Simmons, Paul Stanley and Peter Criss of Kiss.

What unites all musicians is the courage it takes to bare your soul in front of a crowd full of strangers, Brooks said. "Now try that in six-inch platform shoes," he joked.

The band recounted in their video tribute how they learned to connect with audiences through their wild onstage antics and how their iconic makeup unleashed the characters they became. The rest, they said, is "Kiss-tory."

After Brooks performed a rendition of "Shout It Out Loud" that had the band bopping in the president's box, magician Criss Angel stepped on stage in a pair of those aforementioned platform boots worn by Stanley at the band's last show at Madison Square Garden. In one of the most emotional tributes of the night, Angel said Kiss gave him the confidence to be himself and helped his son get through cancer treatment. Angel then led the crowd in a moment of remembrance honoring "Spaceman" Ace Frehley, the original lead guitarist, who died in October. Beside him, a spotlight shone on a guitar that slowly became engulfed in smoke.

As the ceremony came to a close, fellow rockers Cheap Trick got the audience on their feet once again with a rocking performance of "Rock and Roll All Nite" as people in Kiss' signature face paint danced in the aisles.

Contributing: Anna Kaufman and Joey Garrison, USA TODAY

National parks pulling items from gift shops

Eve Chen
USA TODAY

National parks have been ordered to check their gift shops for items that support programs like diversity, equity and inclusion – and remove them.

According to an Interior Department memo obtained by the nonprofit advocacy group National Parks Conservation Association, parks have until Dec. 19 to review all retail items sold at on-site outlets run by partner associations and concessionaires.

"In keeping with Secretary's Order 3416, the National Park Service is conducting a common-sense review of retail items to ensure our gift shops remain neutral spaces that serve all visitors," the Interior Department confirmed to USA TODAY. "We're working closely with our partners to make sure this process is smooth and doesn't disrupt the visitor experience. If any items are found to be inconsistent with the Order, they are being removed from sale."

Alan Spears, senior director for Cultural Resources at NPCA, says it's not that straightforward.

"This is along the lines of the ongoing effort to sanitize, soften or erase history in our national parks," he said.

S.O. 3416 calls for ending "all actions related to 'illegal and immoral discrimination' programs, including DEI ... (collectively, 'equity-related') mandates, policies, preferences, and activities in the (Interior) Department." It was issued in January, on the heels of a larger executive order by President Donald Trump focusing on DEI across the federal government.

In March, Trump issued another order, calling on Interior Secretary Doug Burgum to take action "to ensure that all public monuments, memorials, statues, markers, or similar properties within the Department of the Interior's jurisdiction do not contain descriptions, depictions, or other content that inappropriately disparage Americans past or living (including persons living in colonial times), and instead focus on the greatness of the achievements and progress of the American people."

Burgum followed suit with his own order in May and weeks later, visitors at Cuyahoga Valley National Park in Ohio reported seeing signs asking them to flag anything that could be disparaging toward America or U.S. history.

Spears questioned the need for the orders, saying, "It's all a part of our story."

"If we've got books or interpretive materials, signage or even key chains that point that out, that's a part of our shared national narrative, and I think those things need to remain in place," Spears added.

He said national parks have enough to worry about without the gift shop reviews. Citing staffing shortages, maintenance backlogs and inadequate funding, he said, "Our National Park Service rangers should be managing parks, not censorship campaigns."

The Interior Department asserted its commitment to remaining neutral and not promoting specific viewpoints.

"Our goal is to keep National Parks focused on their core mission: preserving natural and cultural resources for the benefit of all Americans," the department said.

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The DAF is requesting comments on the Draft EA and proposed FONSI/FONPA from interested local, state, and federal elected officials and agencies, as well as interested members of the public. Comments are requested by **January 7, 2026** to allow a sufficient time for their consideration in the Final EA and FONSI/FONPA. Comments can be submitted by mail to the attention of: Ms. Dawn Wallace, 325 CES/CEIEC, 702 Chevaline Way, Bldg. 38234, Tyndall AFB, FL 32403 or via email at edwinwallace@us.af.mil.

PRIVACY ADVISORY NOTICE

The Draft EA and proposed FONSI/FONPA are provided for public comment in accordance with the National Environmental Policy Act (NEPA), as amended by Public Law 91-190, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.). NEPA provides an opportunity for the public to provide comments on the proposed action and alternatives and solicits comments on the analysis of potential environmental effects.

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ad#4997


According to an Interior Department memo, national parks have until Dec. 19 to review all retail items sold at on-site outlets run by partner associations and concessionaires. BRANDON BELL/GETTY IMAGES FILE

A.5 Scoping Letters

A.5.1 Florida Clearinghouse – Florida Department of Environmental Protection

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Mr. Chris Stahl, Coordinator
Office of Intergovernmental Programs
Department of Environmental Protection
3900 Commonwealth Blvd, Mail Station 47
Tallahassee FL 32399

Re: Environmental Assessment for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Mr. Stahl

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. The regional location of Tyndall AFB is shown on Figure 1. The EA is being prepared in compliance with the National Environmental Policy Act (NEPA), as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code [U.S.C.] 4321 et seq.), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] 989).

The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively disturb up to 190,000 SF (4.4 acres) of land. The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility.

The DAF will determine the consistency of the Proposed Action with Florida's federally approved coastal zone management program during the NEPA process.

The DAF respectfully requests your written comments and other input on the Proposed Action within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA and Federal Consistency Determination. The Draft EA and Federal Consistency Determination will be provided to the State Clearinghouse for review and comment when available. If you have any questions or require additional information, please contact the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2025.03.18 10:34:18 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2

Sent via email to: state.clearinghouse@dep.state.fl.us; Chris.Stahl@dep.state.fl.us

3

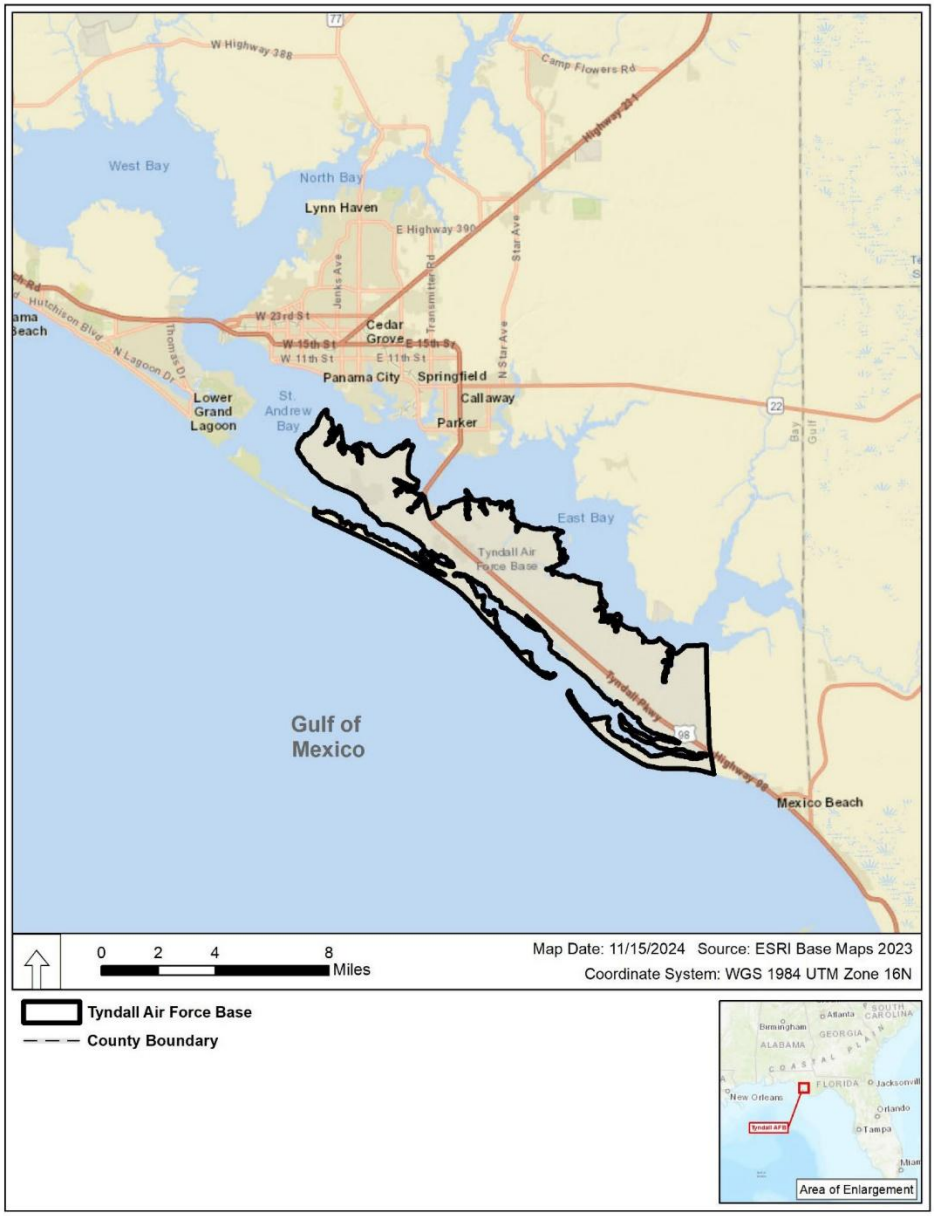


Figure 1. Location of Tyndall Air Force Base

4



Figure 2. Locations of Alternative 1 and Alternative 2

A.5.2 Florida Fish and Wildlife Conservation Commission

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Florida Fish and Wildlife Conservation Commission
Northwest Region
3911 Hwy. 2321
Panama City FL 32409-1658

Re: Environmental Assessment for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Sir or Madam

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. The regional location of Tyndall AFB is shown on Figure 1. The EA is being prepared in compliance with the National Environmental Policy Act (NEPA), as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code [U.S.C.] 4321 et seq.), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] 989).

The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively disturb up to 190,000 SF (4.4 acres) of land. The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility.

The DAF will determine potential effects from the Proposed Action on fish and wildlife resources regulated by the Florida Fish and Wildlife Conservation Commission (FWC) during the NEPA process.

The DAF respectfully requests your written comments and other input on the Proposed Action within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA and Federal Consistency Determination. The Draft EA will be provided to the FWC for review and comment when available. If you have any questions or require additional information, please contact the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

CINTRON.JOSE.J.1182275146
Digitally signed by CINTRON.JOSE.J.1182275146
Date: 2025.03.18 10:33:35 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2

Sent via email to: conservationplanningservices@myfwc.com; jon.creamer@myfwc.com

3

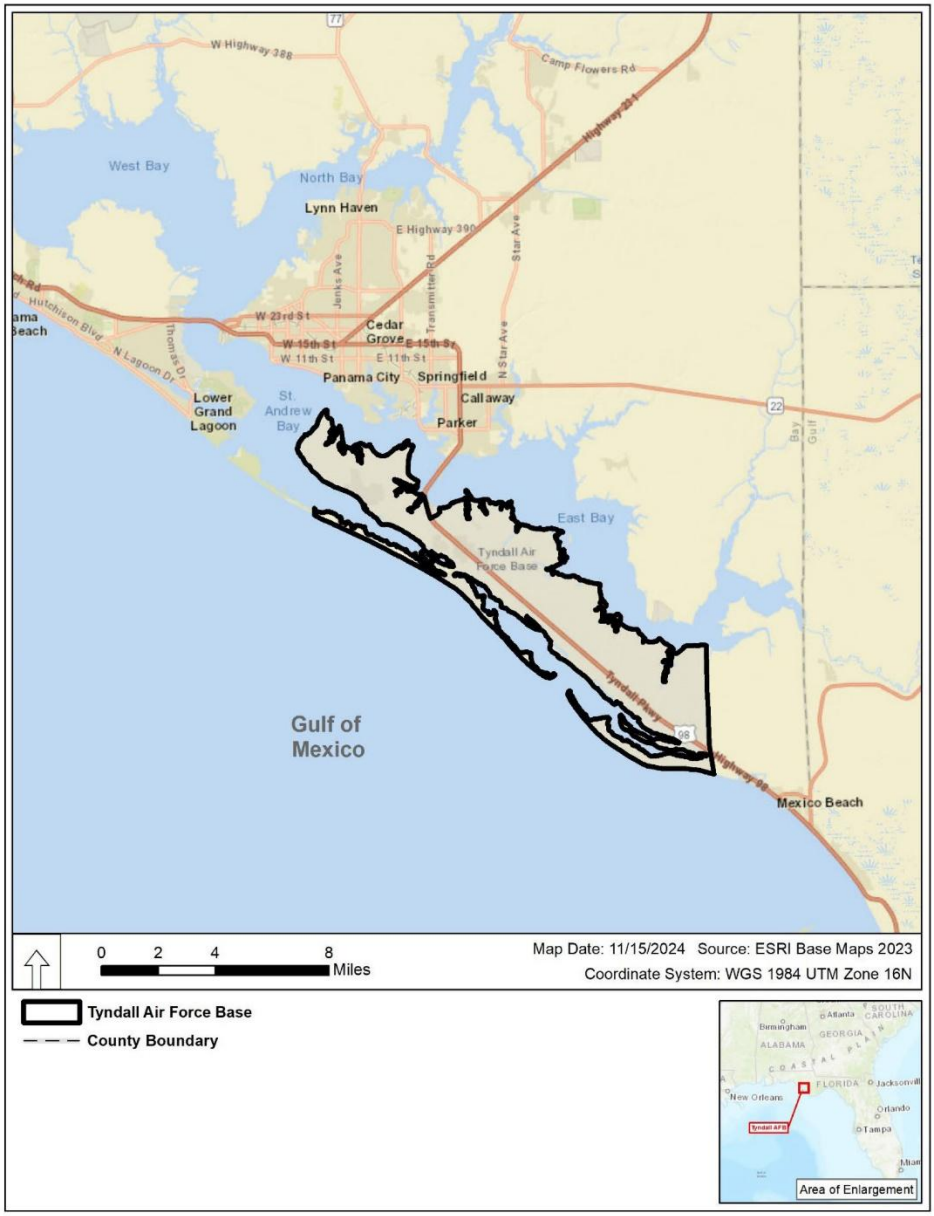


Figure 1. Location of Tyndall Air Force Base

4



Figure 2. Locations of Alternative 1 and Alternative 2

A.5.3 State Historic Preservation Officer

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Ms. Alissa Slade Lotane, Division Director
State Historic Preservation Officer
Florida Division of Historical Resources
R.A. Gray Building, Room 305
500 South Bronough St
Tallahassee FL 32399-0250

Re: Environmental Assessment for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Ms. Lotane

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. The regional location of Tyndall AFB is shown on Figure 1. The EA is being prepared in compliance with the National Environmental Policy Act (NEPA), as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code [U.S.C.] 4321 et seq.), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] 989).

The Proposed Action is considered an undertaking under Section 106. Therefore, the purpose of this letter is to initiate Section 106 consultation with your office regarding the Proposed Action. The DAF also requests concurrence with the Area of Potential Effects (APE) for the Proposed Action, which is further described below and shown on Figure 2.

The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively

disturb up to 190,000 SF (4.4 acres) of land. The APE for the Proposed Action (undertaking) consists of the boundaries of Alternative 1 and Alternative 2 shown on Figure 2.

The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility. The Proposed Action would occur entirely within the existing boundaries of Tyndall AFB and would not involve the alteration or demolition of historic properties, including archaeological sites, that are listed or eligible for listing in the National Register of Historic Places. The DAF is initiating consultation with Native American tribes regarding the Proposed Action in accordance with Section 106 of the National Historic Preservation Act, implementing regulations at 36 CFR Part 800, and Department of Defense (DoD) Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*.

The DAF respectfully requests your concurrence with the proposed APE as well as your written comments and other input on the Proposed Action. Your response is requested within 30 days of receipt of this letter so it can be considered during preparation of the Draft EA and Federal Consistency Determination. The Draft EA will be provided to your office for review and comment, when available. If you have any questions or require additional information, please contact the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2025.03.18 10:31:54 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2 (Proposed Area of Potential Effects)

Sent via email to: alissa.lotane@dos.myflorida.com; compliancepermits@dos.myflorida.com

3

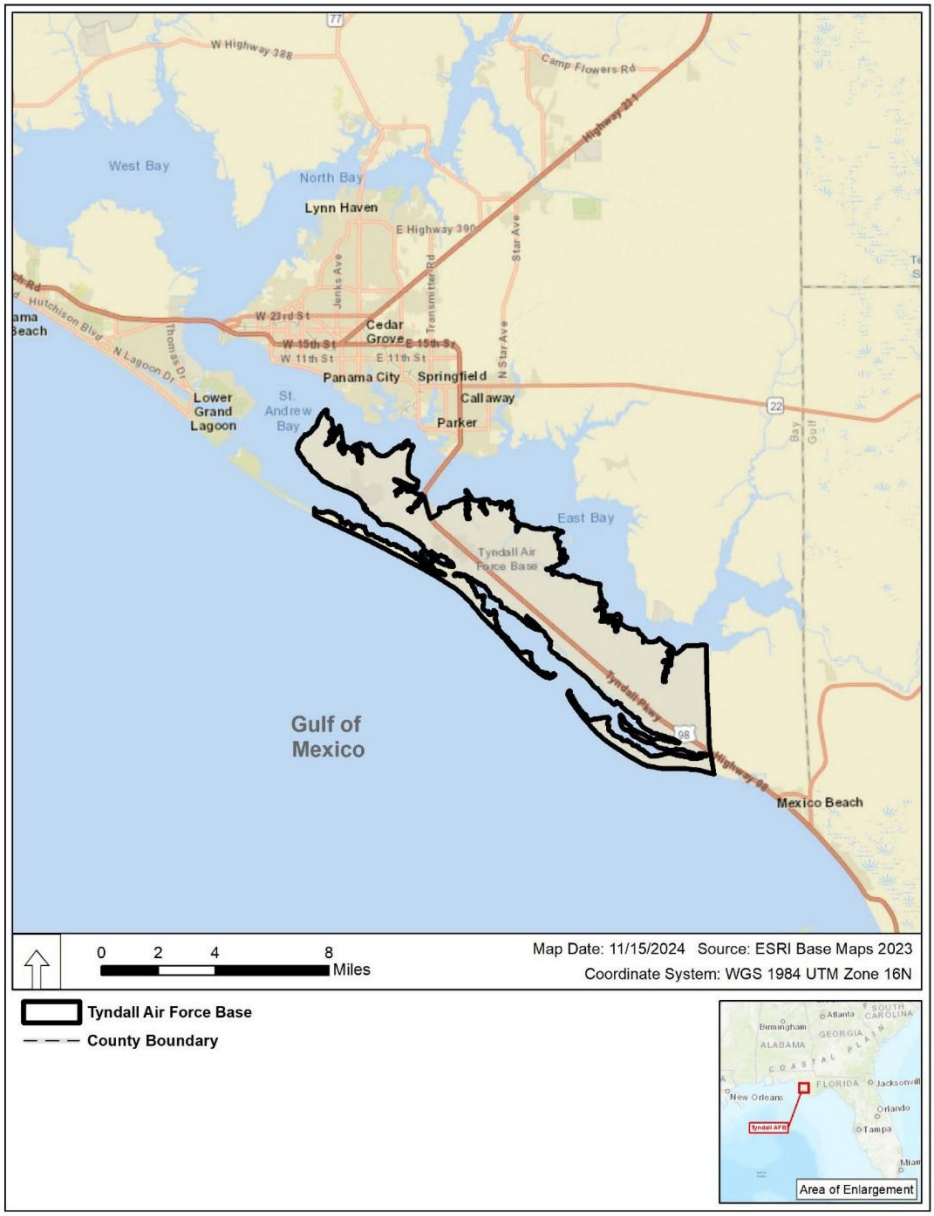


Figure 1. Location of Tyndall Air Force Base

4

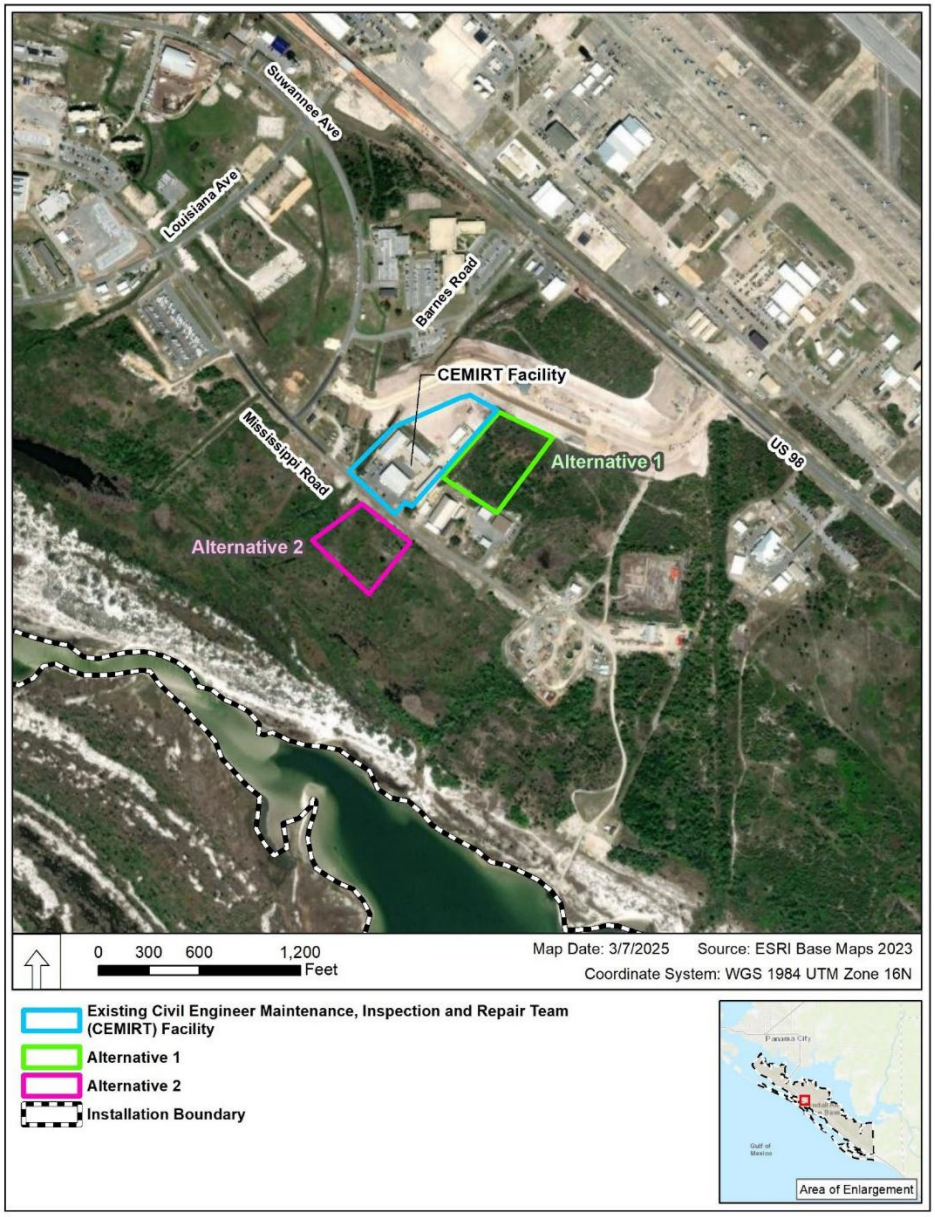


Figure 2. Locations of Alternative 1 and Alternative 2 (Proposed Area of Potential Effects)

A.5.4 U.S. Army Corps of Engineers

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

U.S. Army Corps of Engineers
Jacksonville Regulatory District
Panama City Permits Section
415 N Richard Jackson Blvd, Suite 411
Panama City FL 32407-3887

Re: Environmental Assessment for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Sir or Madam

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The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively disturb up to 190,000 SF (4.4 acres) of land. The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility.

As part of the NEPA process, the DAF will delineate wetlands to determine potential impacts from the Proposed Action on wetland or water resources protected under the Clean Water Act. The DAF will coordinate with the U.S. Army Corps of Engineers with respect to potential impacts on wetland and water resources throughout the NEPA process.

The DAF respectfully requests your written comments and other input on the Proposed Action within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA, Federal Consistency Determination, and Wetland Delineation Report. The Draft EA will be provided to your office for review and comment when available. If you have any questions or require additional information, please contact the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

CINTRON.JOSE.J.1182275146
Digitally signed by CINTRON.JOSE.J.1182275146
Date: 2025.03.18 10:35:07 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2

Sent via email to: saj-rd-n@usace.army.mil

3

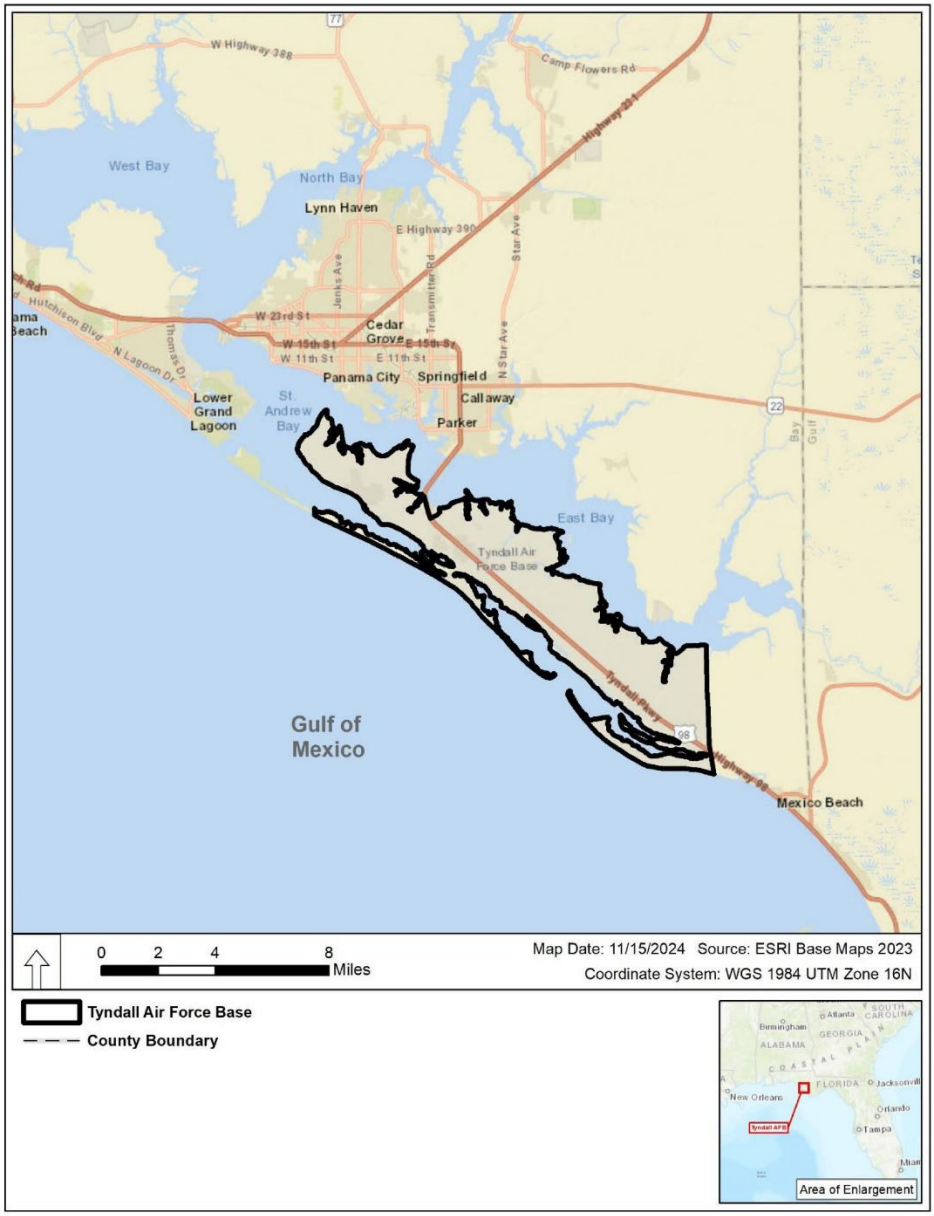


Figure 1. Location of Tyndall Air Force Base

4



Figure 2. Locations of Alternative 1 and Alternative 2

A.5.5 U.S. Fish and Wildlife Service

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Mr. Jose Rivera
Supervisor, Environmental Review
U.S. Fish and Wildlife Service
1601 Balboa Ave
Panama City FL 32405

Re: Environmental Assessment for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Mr. Rivera

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. The regional location of Tyndall AFB is shown on Figure 1. The EA is being prepared in compliance with the National Environmental Policy Act (NEPA), as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code [U.S.C.] 4321 et seq.), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] 989).

The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively disturb up to 190,000 SF (4.4 acres) of land. The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility.

In parallel with the NEPA process and in accordance with Section 7 of the Endangered Species Act, the DAF is preparing a Biological Assessment (BA) to support formal consultation

with the U.S. Fish and Wildlife Service (USFWS). The DAF will obtain an official species list from the USFWS Information for Planning and Consultation website to identify federally listed species and critical habitat known or having potential to occur in the project area at Tyndall AFB. The BA will identify potential effects on those species from the Proposed Action, and incorporate measures to avoid or minimize potential effects, as applicable. The BA will be submitted to USFWS for review and concurrence.

The DAF respectfully requests your written comments and other input on the Proposed Action within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA and Federal Consistency Determination. The Draft EA will also be provided to the USFWS for review and comment when available. If you have any questions or require additional information, please contact the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2023.04.29 08:58:48 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2

Sent via email to: jose_rivera@fws.gov; fw4flesregs@fws.gov

3



Figure 1. Location of Tyndall Air Force Base

4

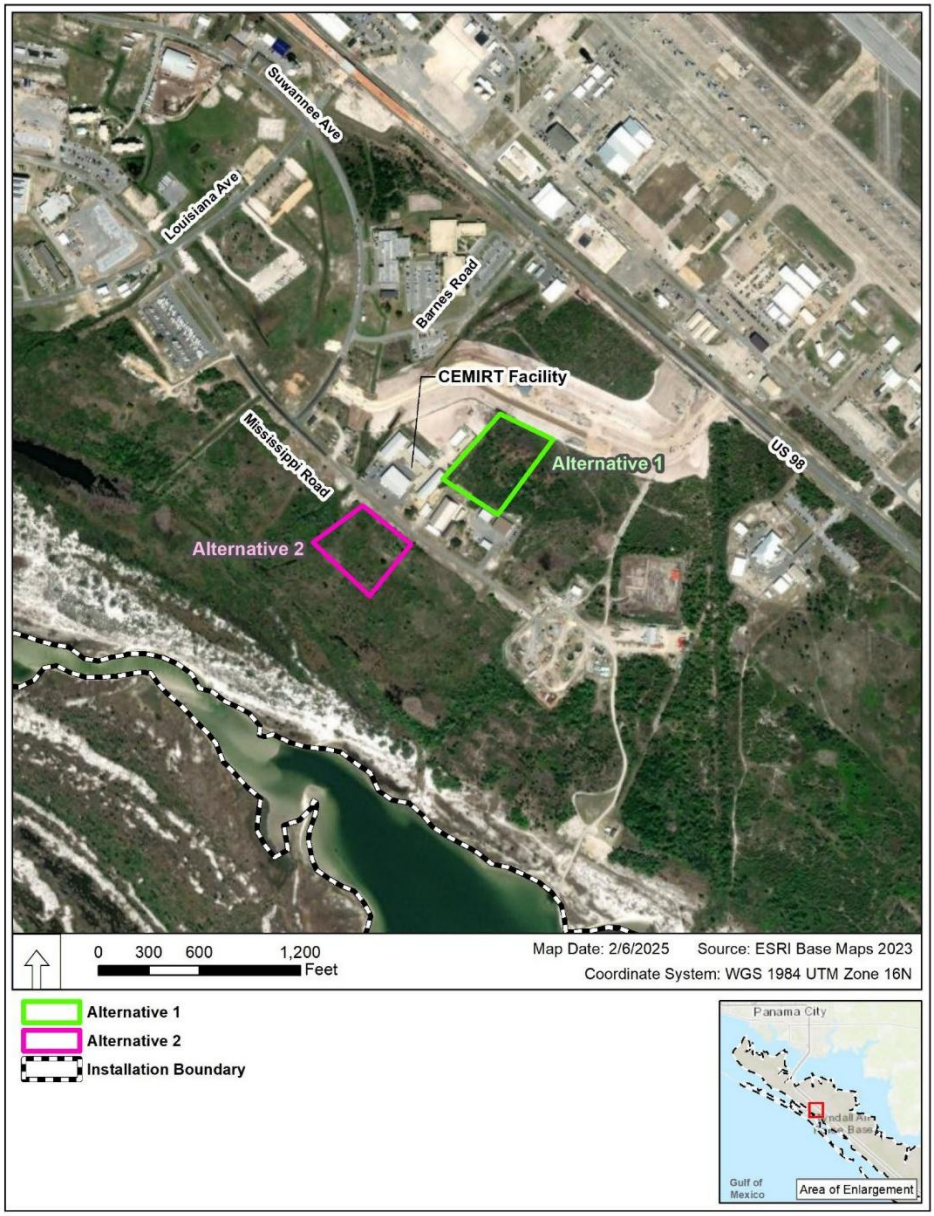


Figure 2. Locations of Alternative 1 and Alternative 2

A.5.6 Government-to-Government Representative Letter

DEPARTMENT OF THE AIR FORCE
325TH FIGHTER WING (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Colonel Christian M. Bergtholdt
Commander
325th Fighter Wing
325 Checkertail Way
Tyndall AFB FL 32403-5549

Marcellus W. Osceola Jr., Chairman
Seminole Tribe of Florida
6300 Stirling Road
Hollywood FL 33024

Dear Chairman Osceola

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. The regional location of Tyndall AFB is shown on Figure 1. The EA is being prepared in compliance with the National Environmental Policy Act (NEPA), as amended by Public Law 118-5, Fiscal Responsibility Act of 2023 (42 United States Code [U.S.C.] 4321 et seq.), and the DAF's Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] 989).

The Proposed Action would construct a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements including security fencing, utilities, lighting, a permanent access road, and stormwater management features. The DAF is considering two alternatives for implementing the Proposed Action: Alternative 1, an approximately 4.4-acre site adjacent to the existing CEMIRT facility; and Alternative 2, an approximately 3.6-acre site directly across Mississippi Road from the existing CEMIRT facility (Figure 2). Depending on which alternative is selected for implementation, the Proposed Action would cumulatively disturb up to 190,000 SF (4.4 acres) of land. The Proposed Action would provide sufficient operational and storage space to support current and future operational requirements at the CEMIRT facility.

The Proposed Action is considered an undertaking under Section 106 of the National Historic Preservation Act. During the NEPA process, the DAF will determine whether the proposed undertaking would have adverse impacts on archaeological resources, architectural resources, traditional cultural properties, or other cultural resources. The DAF is not aware of any traditional cultural properties or other historic properties of religious or tribal significance located within either of the alternative sites.

In accordance with Section 106, implementing regulations at 36 CFR Part 800, and Department of Defense (DoD) Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, the DAF is inviting you to participate in government-to-government consultation regarding the proposed undertaking. The DAF is also consulting with the Florida State Historic Preservation Officer with respect to the proposed undertaking.

Please let us know if you are aware of any properties of cultural, historical, or religious significance that could potentially be affected by the proposed undertaking. Additionally, as a stakeholder in the NEPA process, the DAF requests your input in identifying any issues or areas of concern you feel should be addressed in the EA.

The DAF respectfully requests your written comments and other input on the proposed undertaking within 30 days of receipt of this letter so they can be considered during preparation of the Draft EA and Section 106 consultation materials. Responses provided after 30 days will also be considered. The Draft EA will be provided to you for review and comment, when available. Please send your comments or requests for additional information to the Tyndall AFB point of contact, Mr. Edwin Wallace, via email at edwin.wallace.1@us.af.mil, or via telephone at (850) 283-2714.

Sincerely

BERGTHOLDT.CHRISTIAN.M.1116429736 Digitally signed by BERGTHOLDT.CHRISTIAN.M.1116429736 Date: 2025.03.14 16:25:29 -05'00'

CHRISTIAN M. BERGTHOLDT, Colonel, USAF
Commander

2 Attachments:
1. Figure 1. Location of Tyndall Air Force Base
2. Figure 2. Locations of Alternative 1 and Alternative 2

Sent via email to: chairman@semtribe.com; THPOCompliance@semtribe.com
tinaosceola@semtribe.com

3

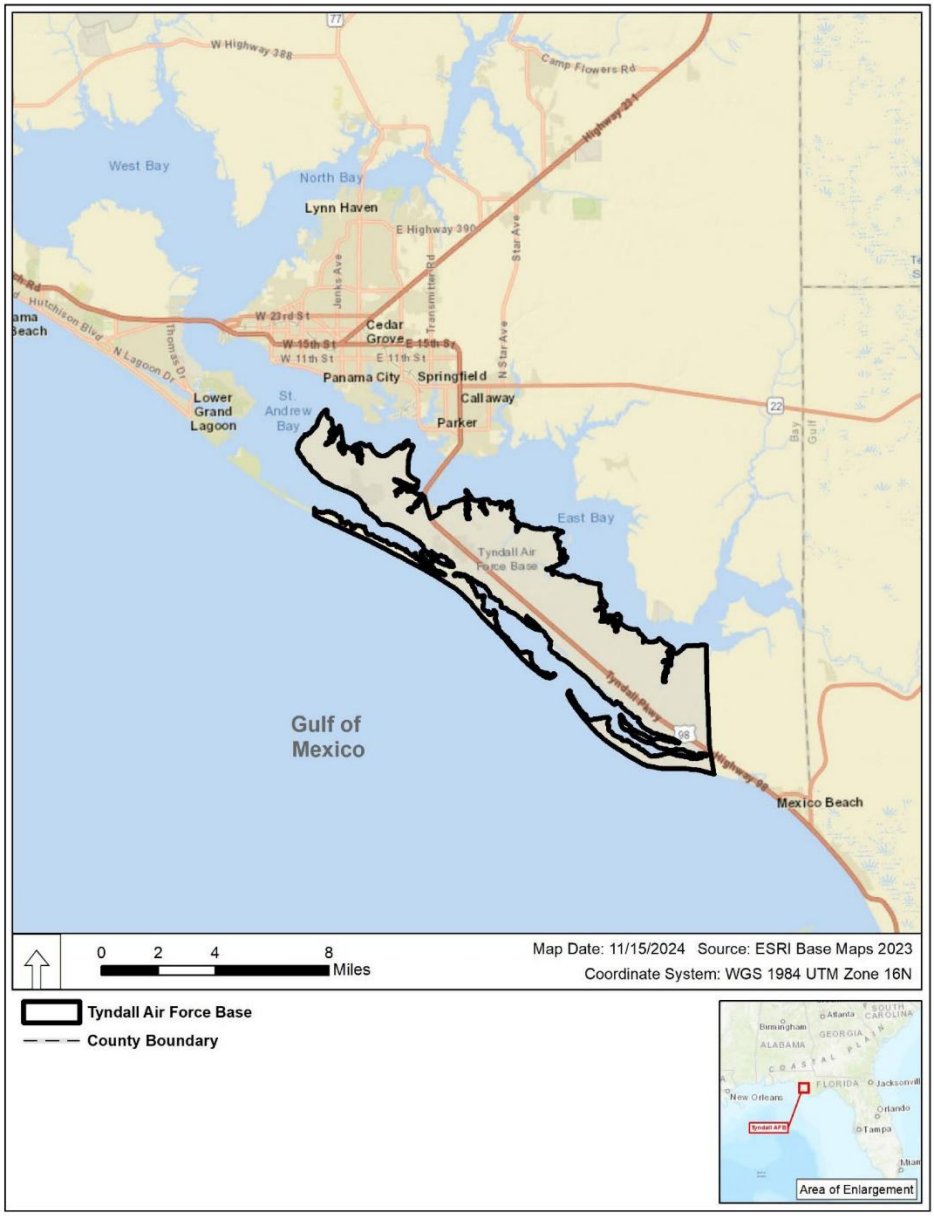


Figure 1. Location of Tyndall Air Force Base

4



Figure 2. Locations of Alternative 1 and Alternative 2

A.6 Draft Environmental Assessment Notification and Consultation Letters

A.6.1 Florida Clearinghouse – Florida Department of Environmental Protection

DEPARTMENT OF THE AIR FORCE
325TH FIGHTER WING (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Ms. Lindsay Weaver, Clearinghouse Coordinator
Office of Intergovernmental Programs
Department of Environmental Protection
3900 Commonwealth Blvd, Mail Station 47
Tallahassee FL 32399

Dear Ms. Weaver

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. Tyndall AFB is in northwestern Florida along the Gulf of America, approximately 80 miles southwest of Tallahassee. The Draft EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.).

In May 2025, the DAF sent a letter to your office describing the Proposed Action and requesting comments to support development of the EA. Comments provided in your response dated June 16, 2025, were incorporated into the Draft EA, as applicable. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The Proposed Action would be implemented within the existing boundaries of Tyndall AFB.

No significant environmental impacts from the Proposed Action are identified in the Draft EA and proposed FONSI/FONPA, including potential impacts on resources regulated by the Florida Department of Environmental Protection. In accordance with Section 307(c)(1) of the Coastal Zone Management Act and 15 Code of Federal Regulations (CFR) Part 930, the DAF has determined that the Proposed Action would be consistent with the applicable Florida statutes of the Florida Coastal Management Program (FCMP). The DAF's Federal Coastal Consistency Determination is included as **Appendix F** to the Draft EA. The DAF notes that your

determination of the Proposed Action's consistency with the FCMP was previously provided in your response dated June 16, 2025.

The DAF respectfully requests your written comments and other input on the Draft EA and proposed FONSI/FONPA (included as attachments) within 30 days of receipt of this letter. The state's concurrence with or objection to the DAF's Consistency Determination, or request for an extension, is requested within 60 days of receipt of this letter pursuant to 15 CFR § 930.41.

Comments on the Draft EA and response to the Consistency Determination should be sent to Tyndall AFB's point of contact, Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Bldg. 36234, Tyndall AFB, FL 32403 or via email at edwin.wallace.1@us.af.mil. In accordance with 15 CFR § 930.41(a), the state's concurrence with the Consistency Determination will be presumed if not received by the DAF on the 60th day from receipt of this letter.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2025.11.06 10:26:35 -06'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Draft EA Civil Engineer Maintenance, Inspection and Repair Team Facility Improvement (electronic)
2. Draft FONSI/FONPA for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements (electronic)

Sent via email to: state.clearinghouse@FloridaDEP.gov; Lindsay.Weaver@FloridaDEP.gov

A.6.2 U.S. Army Corps of Engineers

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

U.S. Army Corps of Engineers
Jacksonville Regulatory District
Panama City Permits Section
415 N Richard Jackson Blvd, Suite 411
Panama City FL 32407-3887

Re: Notification of Draft Environmental Assessment and Finding of No Significant Impact / Finding of No Practicable Alternative for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Sir or Madam

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. Tyndall AFB is in northwestern Florida along the Gulf of America, approximately 80 miles southwest of Tallahassee. The Draft EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.).

In May 2025, the DAF sent a letter to your office describing the Proposed Action and requesting comments to support development of the EA. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The Proposed Action would be implemented within the existing boundaries of Tyndall AFB.

To support development of the Draft EA, the DAF prepared a Wetland Delineation Report to identify potential impacts on wetlands and surface waters subject to federal and state regulatory jurisdiction. Based on the analysis in the Draft EA and Wetland Delineation Report, implementation of the Proposed Action would have the potential to directly impact up to 1.4 acres of wetlands and surface waters subject to federal and/or state regulatory jurisdiction at

Tyndall AFB. The DAF will coordinate with USACE and the Florida Department of Environmental Protection to obtain all necessary permits and satisfy applicable avoidance, minimization, and mitigation measures prior to implementing the Proposed Action that would have the potential to impact federal and state-regulated wetlands. Through adherence to these requirements, the DAF has determined that impacts on federally and state-regulated wetlands and surface waters at Tyndall AFB would not be significant.

The DAF respectfully requests your written comments and other input on the Draft EA and proposed FONSI/FONPA (included as attachments) within 30 days of receipt of this letter.

Comments should be sent to Tyndall AFB's point of contact, Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Bldg. 36234, Tyndall AFB, FL 32403-5014 or via email at edwin.wallace.1@us.af.mil.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2025.09.24 10:17:23 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Draft EA for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements (electronic)
2. Draft FONSI/FONPA for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements (electronic)

Sent via email to: saj-rd-n@usace.army.mil

A.6.3 U.S. Fish and Wildlife Service

DEPARTMENT OF THE AIR FORCE
325TH CIVIL ENGINEER SQUADRON (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Mr. José J. Cintron
Chief, Environmental Element
325th Civil Engineer Squadron
102 Checkertail Way, Bldg. 36234
Tyndall AFB FL 32403-5014

Mr. Jose Rivera
Supervisor, Environmental Review and Consultation
U.S. Fish and Wildlife Service
1601 Balboa Ave
Panama City FL 32405

Re: Notification of Draft Environmental Assessment and Finding of No Significant Impact / Finding of No Practicable Alternative for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements, Tyndall Air Force Base, Florida

Dear Mr. Rivera

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida (USFWS Project Code 2025-0048600). Tyndall AFB is in northwestern Florida along the Gulf of America, approximately 80 miles southwest of Tallahassee. The Draft EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.).

In May 2025, the DAF sent a letter to your office describing the Proposed Action and requesting comments to support development of the EA. Comments provided in your response dated June 16, 2025, were incorporated into the Draft EA, as applicable. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The Proposed Action would be implemented within the existing boundaries of Tyndall AFB.

The Proposed Action would have no potential to alter or otherwise disturb surface water bodies providing suitable or critical habitat for fish and aquatic or marine species. Therefore, the analysis presented in the Draft EA is limited to potential effects on federally protected terrestrial species (including those having potential to occur in wetlands), nesting sea turtles, and associated

critical habitat. In August 2025, the DAF submitted a Biological Assessment (BA) to the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act that evaluated potential effects from the Proposed Action on these species and critical habitat. USFWS concurrence with the determinations of effect presented in the BA is pending (these determinations are also presented in the Draft EA).

In accordance with NEPA, the DAF respectfully request your written comments and other input on the Draft EA and proposed FONSI/FONPA (Attachment 1 and Attachment 2, respectively). Your comments are requested within 30 days of receipt of this letter to allow sufficient time for their consideration during preparation of the Final EA. Comments should be sent to Tyndall AFB's point of contact, Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Bldg. 36234, Tyndall AFB, FL 32404 or via email at edwin.wallace.1@us.af.mil.

Sincerely

CINTRON.JOSE.J.1182275146 Digitally signed by CINTRON.JOSE.J.1182275146 Date: 2025.09.24 14:08:59 -05'00'

JOSÉ CINTRON, GS-13, DAF

Attachments:
1. Draft EA Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements (electronic)
2. Draft FONSI/FONPA for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements (electronic)

Sent via email to: jose_rivera@fws.gov ; fw4flesregs@fws.gov

A.6.4 Government-to-Government Representative Letter

DEPARTMENT OF THE AIR FORCE
325TH FIGHTER WING (ACC)
TYNDALL AIR FORCE BASE FLORIDA

Colonel Christian M. Bergtholdt
Commander
325th Fighter Wing
325 Checkertail Way
Building 1400M, Suite 220
Tyndall AFB FL 32403-5549

Marcellus W. Osceola Jr., Chairman
Seminole Tribe of Florida
6300 Stirling Road
Hollywood FL 33024

Dear Chairman Osceola

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. Tyndall AFB is in northwestern Florida along the Gulf of America, approximately 80 miles southwest of Tallahassee. The Draft EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.).

The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The Proposed Action would be implemented within the existing boundaries of Tyndall AFB.

The Proposed Action is considered an undertaking under Section 106 of the National Historic Preservation Act (NHPA). In May 2025, the DAF sent you a letter inviting you to participate in government-to-government consultation. Information on any properties of cultural, historical, or religious significance that could potentially be affected by the proposed undertaking, or input in identifying any issues or areas of concern that should be addressed in the EA, was also requested.

In accordance with the Section 106 of the NHPA and its implementing regulations (36 CFR Part 800), Department of Defense (DoD) Instruction 4710.02, DoD Interactions with Federally-Recognized Tribes, DAF Instruction 90-2002, Interactions with Federally Recognized Tribes, and Department of the Air Force Manual 32-7003, Environmental Conservation, the DAF is inviting you to continue government-to-government consultation regarding the proposed

undertaking. The DAF is also consulting with the Florida State Historic Preservation Office with respect to the proposed undertaking. The Draft EA and proposed FONSI/FONPA are available for review on Tyndall AFB's website at https://www.tyndall.af.mil/About/. An electronic copy of the Draft EA and proposed FONSI/FONPA will also be available for download via the DoD's website, DoD SAFE. Based on the detailed analysis presented in the Draft EA, the DAF determined that the Proposed Action would have no significant adverse effect on historic properties.

The DAF respectfully requests your written comments and other input on the Draft EA and proposed FONSI/FONPA within 30 days of receipt of this letter. Comments provided after 30 days will also be considered, and requests for further consultation welcomed. Please send your comments to Tyndall AFB's point of contact, Mr. Edwin Wallace, 325 CES/CEIEC, 102 Checkertail Way, Bldg. 36234, Tyndall AFB, FL 32403 or via email at edwin.wallace.1@us.af.mil.

Sincerely

BERGTHOLDT.CHRISTIAN.M.1116429736 Digitally signed by BERGTHOLDT.CHRISTIAN.M.1116429736 Date: 2025.11.05 15:12:25 -06'00'

CHRISTIAN M. BERGTHOLDT, Colonel, USAF
Commander

2 Attachments:
1. Draft EA For CEMIRT Improvements at Tyndall AFB
2. Draft FONSI/FONPA For CEMIRT Improvement at Tyndall AFB

Sent via email to: chairman@semtribe.com; tinaosceola@semtribe.com

A.7 Agency and Tribal Comment Letters

From: State Clearinghouse
To: Erwin, Kenneth [USA - EMP]; State Clearinghouse
Cc: WALLACE, EDWIN B CIV USAF ACC 325 CES/CEIEC; [redacted]
Subject: RE: Tyndall Air Force Base Florida - Draft Environmental Assessment Available for Public Review
Date: Thursday, December 11, 2025 11:18:30 AM
Attachments: image001.png
06-16-25_State Clearance Letter for FL202505010445C.pdf

Good afternoon,

As noted, this project was reviewed by the Florida State Clearinghouse in May of this year under SAI # FL202505010445C and received the attached Clearance Letter with concurrence of consistency with Florida's Coastal Management Program. Please follow any guidance provided by state agencies in the June 16, 2025, letter. The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes, if applicable.

If you have any questions or require additional assistance, please do not hesitate to contact me at [redacted].

Respectfully,

Lindsay Weaver

Lindsay Weaver
Florida State Clearinghouse
Office of Intergovernmental Programs
Florida Department of Environmental Protection
State.Clearinghouse@FloridaDEP.gov
[redacted]

From: Erwin, Kenneth [USA - EMP]
Sent: Friday, December 5, 2025 7:54 AM
To: 'state.clearinghouse@FloridaDEP.gov' <[redacted]>;
'lindsay.weaver@FloridaDEP.gov' <[redacted]>
Cc: [redacted];
<[redacted]>; Erwin, Kenneth [USA - EMP] [redacted]
Subject: Tyndall Air Force Base Florida - Draft Environmental Assessment Available for Public Review

Dear Ms. Weaver,

On behalf of the Department of the Air Force (DAF), this message is to notify you that Tyndall Air Force Base (AFB) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental effects from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall AFB in Bay County, Florida. The Draft EA was prepared in accordance with the National Environmental Policy Act of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023.

The Draft EA and FONSI/FONPA are attached to this e-mail and are also available for review and download on Tyndall AFB's website at https://www.tyndall.af.mil/about. Additional information on the DAF's Proposed Action and how to submit comments on the Draft EA and proposed FONSI/FONPA is provided in the attached letter.

Your comments on the Draft EA and FONSI/FONPA are respectfully requested within 30 days of receipt of this notice. The state's concurrence with or objection to the DAF's Consistency Determination, or request for an extension, is requested within 60 days of receipt of this notice. Please contact Tyndall AFB's point of contact, Mr. Edwin Wallace, at [redacted] if you have any questions or experience any issues with accessing the documents.

Thank you,

VERSAR GLOBAL SOLUTIONS
YOUR NEEDS OUR MISSION

Kenneth Erwin, CWB®
Wildlife Biologist and Project Manager
Direct (Teams): [redacted]
Mobile: [redacted]
[redacted]
Versar.com

From: Victoria Menchaca <[redacted]
Sent: Friday, December 19, 2025 9:50 AM
To: WALLACE, EDWIN B CIV USAF ACC 325 CES/CEIEC [redacted]>
Cc: THPO Compliance [redacted]>; Danielle Simon [redacted]
Subject: [Non-DoD Source] RE: Draft Environmental Assessment to Implement Facility and Infrastructure Improvements at the CEMIRT Facility

SEMINOLE TRIBE OF FLORIDA
TRIBAL HISTORIC PRESERVATION OFFICE

SEMINOLE TRIBE OF FLORIDA
TRIBAL HISTORIC PRESERVATION OFFICE
THPO PHONE: (863) 983-6549
THPO TRIBAL CONSULTATION EMAIL: THPOCOMPLIANCE@SEMTRIBE.COM
THPO WEBSITE: WWW.STOFTHPO.COM

TRIBAL OFFICERS
MARCELLUS W. OSCEOLA JR.
CHAIRMAN
HOLLY TIGER
VICE CHAIRWOMAN
NAOMI R. WILSON
SECRETARY
PETER A. HAHN
TREASURER

December 19, 2025

Edwin Wallace, GS-12, DAF
Program Manager NEPA
325 CES/CEIEC
[redacted]
Tyndall Air Force Base, FL 32403
DSN 523-2714
Phone: [redacted]
Email: [redacted]

Subject: Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) Facility Infrastructure Improvements, Tyndall Air Force Base (AFB), Bay County, Florida
THPO Compliance Tracking Number: 0034762

In order to expedite the THPO review process:
1. Please correspond via email and provide documents as attachments,
2. Please send all emails to [redacted]
3. Please reference the THPO Compliance Tracking Number if one has been assigned.

Dear Edwin Wallace:

Thank you for contacting the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF THPO) Compliance Section regarding the *Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) Facility Infrastructure Improvements, Tyndall Air Force Base (AFB), Bay County, Florida*.

The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the documents that you have provided and completed our assessment pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) as amended and its implementing regulations (36 CFR 800). We have no objections or other comments at this time. Please notify our office if any archaeological, historical, and/or burial resources are inadvertently discovered during project implementation and feel free to contact us with any questions or concerns.

Sincerely,
Victoria L. Menchaca, M.A.,RPA
Compliance Analyst II
Seminole Tribe of Florida
Tribal Historic Preservation Office
Phone: [redacted]
Email: [redacted]

From: WALLACE, EDWIN B CIV USAF ACC 325 CES/CEIEC <[redacted]>
Sent: Friday, December 5, 2025 7:27 AM
To: Chairman [redacted]>; THPO Compliance <[redacted]>; Tina Osceola [redacted]>
Cc: Erwin, Kenneth [USA - EMP] [redacted]>; WALLACE, EDWIN B CIV USAF ACC 325 CES/CEIEC <[redacted]>
Subject: Draft Environmental Assessment to Implement Facility and Infrastructure Improvements at the CEMIRT Facility

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chairman Osceola,

The Department of the Air Force (DAF) has prepared a Draft Environmental Assessment (EA) and proposed Finding of No Significant Impact (FONSI) / Finding of No Practicable Alternative (FONPA) to evaluate the potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Bay County, Florida. Tyndall AFB is in northwestern Florida along the Gulf of America, approximately 80 miles southwest of Tallahassee. The Draft EA was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, as amended by Public Law 30 118-5, Fiscal Responsibility Act of 2023 (42 United States Code 4321 et seq.).

The Proposed Action is considered an undertaking under Section 106 of the National Historic Preservation Act (NHPA). In May 2025, the DAF sent you a letter inviting you to participate in government-to-government consultation. Information on any properties of cultural, historical, or religious significance that could potentially be affected by the proposed undertaking, or input in identifying any issues or areas of concern that should be addressed in the EA, was also requested.

Attached is the scoping letter and invitation to participate in consultation for the proposed undertaking. Due to the size of the Draft EA I will send that document to you through the DoD SAFE website.

The DAF respectfully requests your written comments and other input on the Draft EA within 30 days of receipt of this letter. Comments provided after 30 days will also be considered, and requests for further consultation welcomed. Please send your comments to Tyndall AFB's point of contact, Mr. Edwin Wallace, 325 CES/CEIEC, [redacted], Tyndall AFB, FL 32403 or via email at [redacted]

Respectfully,

Edwin Wallace, GS-12, DAF
Program Manager NEPA
325 CES/CEIEC
[redacted]
Tyndall Air Force Base, FL 32403
[redacted]

FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

CORD BYRD
Secretary of State

Florida State Clearinghouse
Florida Department of Environmental Protection
3800 Commonwealth Blvd., M.S. 47
Tallahassee, FL 32399-2400

January 20, 2026

DHR Project File No.: 2025-8532, Received by DHR: December 11, 2025
Application No.: FL202505010445C
Project: *Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB)*

To Whom It May Concern:

The Florida State Historic Preservation Officer reviewed the referenced project for possible effects on historic properties listed, or eligible for listing, on the *National Register of Historic Places (NRHP).* The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended, and its implementing regulations in *36 CFR Part 800: Protection of Historic Properties.* This project is subject to compliance with the Department of the Air Force (DAF).

The DAF proposes to construct, operate, and maintain a 60,000-square foot (SF) reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. No historic properties have been identified during previous cultural resource surveys conducted within the Alternative 1 APE, and no NRHP-listed, NRHP-eligible, or unevaluated historic properties are within 1,000 feet of the APE. Therefore, in accordance with 36 Code of Federal Regulations (CFR) § 800.5, the DAF has determined that Alternative 1 would have no adverse effect on historic properties if selected for implementation.

Our office concurs with the DAF's determination of no adverse effect for the above referenced project's Alternative 1. However, our office requests to continue consultation with the DAF if Alternative 2 is selected or should the project plans change.

If you have any questions, please contact Michael DuBose, Historic Preservationist, by email at Michael.DuBose@dos.fl.gov or by telephone at 850.245.6342.

Sincerely,

Kelly L Chase
For

Alyssa Lotane
Director, Division of Historical Resources
& State Historic Preservation Officer

Division of Historical Resources
R.A. Gray Building • 500 South Bronough Street• Tallahassee, Florida 32399
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APPENDIX B
RESOURCES DISMISSED

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Table B-1 summarizes the resources that were dismissed from detailed analysis in the Environmental Assessment (EA) because the Proposed Action would have no potential to affect them.

Table B-1 Summary of Resources Dismissed

Resource	Rationale for Dismissal of Resource Areas
Airspace and Airfield Safety Zones	The Proposed Action does not involve aircraft operations in or modifications to military or civilian airspace above the Earth's surface and would have no potential to affect any such airspace. All project elements would be designed, sited, and constructed in a manner that does not interfere with aircraft navigation and ensures consistency and compatibility with applicable airfield safety and operational requirements, including those associated with airspace imaginary surfaces, clear zones, and accident potential zones established in Unified Facilities Criteria 3-260-01, *Airfield and Heliport Planning and Design*. Therefore, this resource was dismissed from detailed analysis in the EA.
Land Use	The Proposed Action would be consistent with, and would not impede or prevent, the continued operation of adjacent and nearby land uses on or outside Tyndall Air Force Base (AFB). The Proposed Action would have no potential to affect land use planning or policies of local jurisdictions outside the installation. Therefore, land use was dismissed from detailed analysis in the EA.
Geology and Topography	Ground disturbance associated with the Proposed Action would be relatively shallow and would have no potential to penetrate geologic strata underlying Tyndall AFB or affect unique or noteworthy geologic features, if present. Although sinkholes are common in Florida, Tyndall AFB and its surrounding region are not identified by the U.S. Geological Survey (USGS) as having a high potential for sinkhole formation (USGS, 2020). Topography on Tyndall AFB is generally flat, and construction of the Proposed Action would not substantially alter topographic conditions on the project sites; topography would generally be similar to conditions that existed prior to construction, and project sites would be graded to achieve positive drainage toward receiving stormwater management infrastructure. The Proposed Action would not alter or otherwise affect any particularly unique or noteworthy topographic features. Therefore, geology and topography were dismissed from detailed analysis in the EA.
Visual Resources	The visual character of the Proposed Action would be consistent with the visual character of similar, existing facilities at Tyndall AFB and the installation's overall visual character as an active military airfield. As applicable, the Proposed Action would be designed in accordance with Tyndall AFB's current design guidelines to ensure cohesion with other visual elements on the base. Therefore, this resource was dismissed from detailed analysis in the EA.

USGS. 2020. U.S. Geological Survey. Karst Map of the Conterminous United States – 2020. https://www.usgs.gov/media/images/karst-map-conterminous-united-states-2020. Accessed June 9, 2025.

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APPENDIX C
REASONABLY FORESEEABLE FUTURE ACTIONS

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Potential effects from the reasonably foreseeable future actions listed in **Table C-1** were considered in determining the potential for effects from the Proposed Action to contribute to significant adverse cumulative effects on environmental resources on and around Tyndall Air Force Base (AFB). In all cases, it is assumed that the projects listed in **Table C-1** would adhere to applicable regulatory permitting requirements, best management practices, and other avoidance or minimization measures to ensure that potential impacts from those projects are not significant. Therefore, when considered with potential environmental effects from the Proposed Action evaluated in the Environmental Assessment, cumulative effects from projects listed in **Table C-1** would not be significant.

Table C-1 Reasonably Foreseeable Future Actions

Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action
Florida Department of Transportation (FDOT) – Dupont Bridge Replacement	FDOT bridge replacement that allows Panama City traffic to access Tyndall AFB. Project also includes reconstructing Fam Camp Road at the US-98 intersection at Tyndall AFB. Construction began summer of 2025.	Current – Fall 2030	Project occurs immediately north of Tyndall AFB.
Tyndall AFB Infrastructure Improvements	This project includes construction of an airfield fence, drone runway culvert crossings, drone tow-way fence, and 7000 Area improvements.	2024 – 2026	Projects are or will be occurring at Tyndall AFB.
Tyndall AFB/Multiple Locations	Hurricane Michael recovery projects: 28 construction projects, plus 3 projects spanning multiple planning areas, including demolition of 268 buildings.	Current, future	Some of the actions will occur within the same timeframe and within the vicinity of the Proposed Action.
Military Construction Area 7000 – Air Support Section	Projects include equipment maintenance; three above ground magazines; and administrative holding areas for munitions.	Current	Projects are or will be occurring at Tyndall AFB.
Military Construction F-35	Constructing new buildings and modifying existing buildings to support establishment of three F-35A squadrons at Tyndall AFB.	Current	Projects are or will be occurring at Tyndall AFB.
Facility Sustainment, Restoration and Maintenance B7052 Expansion	(not available)	Current	Projects are or will be occurring at Tyndall AFB.
Facility Sustainment, Restoration and Maintenance Ammo Phase 3	Project includes building a wall in B7042 and finishing renovation of B7028	Current	Projects are or will be occurring at Tyndall AFB.

Table C-1 Reasonably Foreseeable Future Actions

Scheduled Project	Project Summary	Implementation Date	Relevance to Proposed Action
Ammunitions District Plan	Seventeen different construction projects will provide a complete 325th Munitions Squadron campus, including increased parking for private and government-owned vehicles, flood protection, parking structures, sustainable elements, buildings, and weapons storage	Current, near term	Projects are or will be occurring at Tyndall AFB.
Construct Hot Pit Refueling Apron Tyndall AFB Flight Line	(not available)	Future, unknown	Projects are or will be occurring at Tyndall AFB.
Construct Information Transfer Nodes, 6000 and 7000 Areas Tyndall AFB Flight Line	(not available)	Future, unknown	Projects are or will be occurring at Tyndall AFB.
Tyndall AFB/Multiple Locations	Establish new base missions for beddown of F-35A wing (72 aircraft and 6 backup aircraft). Includes construction of facilities, mission headquarters buildings, and operation of aircraft.	Current, future	Projects are or will be occurring at Tyndall AFB.

APPENDIX D
FURTHER DEFINITIONS OF RESOURCE AREAS ANALYZED, METHODOLOGIES, AND MODELING

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D.1 Air Quality

This appendix presents an overview of the Clean Air Act (CAA) and the relevant State of Florida air quality regulations or standards. It also presents emissions calculations and key assumptions used for the air quality analyses presented in the Air Quality sections of this Environmental Assessment (EA).

D.1.1 Definition of Resource

Air quality is an indicator of the suitability of the atmosphere to support human life and the environment, generally described in terms of the types and levels of air pollutants present in outdoor air. Ambient air quality in a specified area or region is measured by the concentration of various pollutants in the atmosphere. Pollutant concentrations are affected by both the quantity of pollutants in the atmosphere and the extent to which these pollutants can be transported and diluted in the air.

Air Quality and National Ambient Air Quality Standards. Under the CAA, the U.S. Environmental Protection Agency (USEPA) established the General Conformity rule (40 Code of Federal Regulations [CFR] Part 93), which applies to federal actions occurring in nonattainment or maintenance areas. Proposed federal actions are evaluated to determine if the total indirect and direct net emissions from those actions would be below *de minimis* levels (that is, too trivial or minor to merit consideration) for each of the pollutants as specified in 40 CFR § 93.153. If none of the pollutants exceed *de minimis* levels, no further evaluation is required. Additional analysis would be required if net emissions from the proposed project exceed the *de minimis* thresholds for one or more of the specified pollutants. Tyndall AFB, located in Bay County, is within the Mobile (Alabama)-Pensacola-Panama City (Florida)-Southern Mississippi Interstate Air Quality Control Region (AQCR) (40 CFR § 81.68). Bay County is in attainment (or is unclassifiable) for each of the criteria pollutants regulated under the National Ambient Air Quality Standards (NAAQS) (40 CFR § 81.335). The Region of Influence (ROI) for air quality includes Tyndall AFB and its surroundings, and the Bay County region.

Clean Air Act Conformity and Permitting. Under the CAA, Title V operating permits are required for large (major) stationary sources of air emissions. Stationary sources include boilers, generators, fuel storage tanks and fuel dispensing equipment, chemical usage, and surface coating. If a facility (plant, base, or activity) has the potential to emit more than the specified quantity of regulated pollutants (for example, more than 100 tons per year [tpy] of any criteria air pollutant), it would be considered a major stationary source. Major stationary sources would be required to obtain a Title V operating permit that would include federally enforceable emission limits and operational requirements.

The CAA provides special protections for air quality in pristine areas of the country known as Class 1 areas. Class 1 areas include National Parks greater than 6,000 acres or National Wilderness Areas greater than 5,000 acres. Any deterioration of air quality, based on Prevention of Significant Deterioration (PSD) criteria established by USEPA, is considered significant in Class 1 areas. The USEPA has also established regional haze regulations that require states to make initial improvements in visibility within Class 1 areas.

D.1.2 Criteria Pollutants and National Ambient Air Quality Standards

The CAA directed the USEPA to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, the USEPA developed numerical concentration-based standards, NAAQS, for select pollutants, referred to as "criteria pollutants," that have been determined to impact human health and the environment and established both primary and secondary NAAQS under the provisions of the CAA (40 CFR Part 50. NAAQS are currently established for six criteria air pollutants: ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (including particulates equal to or less than 10 microns in diameter [PM_{10}] and particulates equal to or less than 2.5 microns in diameter [$PM_{2.5}$]), and lead.

The USEPA has established AQCRs throughout the United States to evaluate compliance with the NAAQS. Regulatory areas within each AQCR that exceed the NAAQS for a pollutant are classified non-attainment for that pollutant. Regulatory areas where air pollutant concentrations are within an applicable NAAQS are designated attainment/unclassifiable for that NAAQS.[1] Areas that have transitioned from nonattainment to attainment are designated as maintenance, and as such are required to follow requirements in the state's maintenance plans to ensure continued compliance with NAAQS.

In accordance with CAA requirements, the air quality in each region or area is measured by the concentration of various pollutants in the atmosphere. Measurements of these "criteria pollutants" in ambient air are expressed in units of parts per million or in units of micrograms per cubic meter. Regional air quality is a result of the types and quantities of atmospheric pollutants and pollutant sources in an area as well as surface topography, the size of the "air basin," and prevailing meteorological conditions.

The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources in addition to maintaining visibility standards. The primary and secondary NAAQS are presented in **Table D-1**. The Florida Division of Air Resources Management oversees the state's air pollution control program under the authority of the federal CAA and amendments, federal regulations, and state laws. Florida has adopted the federal NAAQS (Florida Administrative Code 62-204.800).

The criteria pollutant O_3 is not usually emitted directly into the air but is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants, or "O_3 precursors." These O_3 precursors consist primarily of nitrogen oxides (NO_x) and volatile organic compounds (VOCs) that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies limit atmospheric O_3 concentrations by controlling VOC pollutants (also identified as reactive organic gases) and NO_x.

[1] A designation of "unclassifiable" applies to areas where not enough information is available to appropriately classify the attainment or non-attainment status of those areas.

Table D-1 National Ambient Air Quality Standards

Pollutant	Standard Value [6]		Standard Type
Carbon Monoxide (CO)			
8-hour average	9 ppm	(10 mg/m^3)	Primary
1-hour average	35 ppm	(40 mg/m^3)	Primary
Nitrogen Dioxide (NO_2)			
Annual arithmetic mean	0.053 ppm	(100 µg/m^3)	Primary and Secondary
1-hour average [1]	0.100 ppm	(188 µg/m^3)	Primary
Ozone (O_3)			
8-hour average [2]	0.070 ppm	(137 µg/m^3)	Primary and Secondary
Lead (Pb)			
3-month average [3]		0.15 µg/m^3	Primary and Secondary
Particulate <10 Micrometers (PM_{10})			
24-hour average [4]		150 µg/m^3	Primary and Secondary
Particulate <2.5 Micrometers ($PM_{2.5}$)			
Annual arithmetic mean [4]		9 µg/m^3	Primary
Annual arithmetic mean [4]		15 µg/m^3	Secondary
24-hour average [4]		35 µg/m^3	Primary and Secondary
Sulfur Dioxide (SO_2)			
1-hour average [5]	0.075 ppm	(196 µg/m^3)	Primary
3-hour average [5]	0.5 ppm	(1,300 µg/m^3)	Secondary

Notes:

[1] In February 2010, the USEPA established a new 1-hour standard for NO_2 at a level of 0.100 ppm, based on the 3-year average of the 98th percentile of the yearly distribution concentration, to supplement the then-existing annual standard.

[2] In October 2015, the USEPA revised the level of the 8-hour standard to 0.070 ppm, based on the annual 4th highest daily maximum concentration, averaged over 3 years; the regulation became effective on 28 December 2015. The previous (2008) standard of 0.075 ppm remains in effect for some areas. A 1-hour standard no longer exists.

[3] In November 2008, USEPA revised the primary Pb standard to 0.15 µg/m^3. USEPA revised the averaging time to a rolling 3-month average.

[4] In March 2024, USEPA revised the primary annual $PM_{2.5}$ standard from 12.0 mg/m^3 to 9.0 mg/m^3. The Agency is retaining the current primary 24-hour $PM_{2.5}$ standard and the primary 24-hour PM_{10} standard. In October 2006, USEPA revised the level of the 24-hour $PM_{2.5}$ standard to 35 µg/m^3 and retained the level of the annual $PM_{2.5}$ standard at 15 µg/m^3. In 2012, USEPA split standards for primary and secondary annual $PM_{2.5}$. All are averaged over 3 years, with the 24-hour average determined at the 98th percentile for the 24-hour standard. USEPA retained the 24-hour primary standard and revoked the annual primary standard for PM_{10}.

[5] In 2012, the USEPA retained a secondary 3-hour standard, which is not to be exceeded more than once per year. In June 2010, USEPA established a new 1-hour SO_2 standard at a level of 75 parts per billion, based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations.

[6] Parenthetical value is an approximately equivalent concentration for NO_2, O_3, and SO_2.

Source: USEPA, 2024a

µg/m^3 = microgram(s) per cubic meter; mg/m^3 = milligram(s) per cubic meter; ppm = part(s) per million

The USEPA has recognized that particulate matter emissions can have different health affects depending on particle size and, therefore, developed separate NAAQS for coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$). The pollutant $PM_{2.5}$ can be emitted from emission sources directly as very fine dust or liquid mist, or formed secondarily in the atmosphere as condensable particulate matter, typically forming nitrate and sulfate compounds. Ammonia, for example, is evaluated as a precursor of $PM_{2.5}$. Secondary (indirect) emissions vary by region depending on the predominant emission sources located within the region. The precursors

identified for ultimate control by the regulatory agencies will be based on their potential for PM2.5 formation.

The CAA and USEPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. As such, each state must develop air pollutant control programs and promulgate regulations and rules that focus on meeting NAAQS and maintaining healthy ambient air quality levels.

Areas designated as "attainment" have demonstrated compliance with NAAQS. An area is designated as unclassified if there is insufficient information for a compliance determination. Maintenance areas are those that were previously designated nonattainment but are now in compliance with the NAAQS. When a region or area fails to meet a NAAQS for a pollutant, that region is classified as "non-attainment" for that pollutant. In such cases, the affected state must develop a State Implementation Plan (SIP) that is subject to USEPA review and approval. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any changes to the compliance schedule or plan (such as new regulations, emissions budgets, or controls) must be incorporated into the SIP and approved by USEPA.

State Implementation Program. Each state is required to develop a SIP that sets forth how CAA provisions will be imposed within the state. The SIP is the primary means for implementation, maintenance, and enforcement of the measures needed to attain and maintain the NAAQS within each state and includes control measures, emissions limitations, and other provisions required to attain and maintain the ambient air quality standards. The purpose of the SIP is twofold. First, it must provide a control strategy that will result in attainment and maintenance of the NAAQS. Second, it must demonstrate that progress is being made in attaining the standards in each nonattainment area. Maintenance areas are subject to a maintenance plan to ensure that compliance is maintained. To demonstrate progress toward attainment or maintenance status, the Air Quality Monitoring Program monitors ambient air throughout the state. The purpose is to monitor, assess, and provide information on statewide ambient air quality conditions and trends. Air monitoring stations collect representative data that indicate how much of a pollutant is in the air. Currently, the network is composed of more than 180 monitors at 90 sites strategically positioned across the state for measuring levels of regulated pollutants in ambient air (FDEP, 2025).

Conformity Rules. The CAA required the USEPA draft general conformity regulations that are applicable in nonattainment areas or in designated maintenance areas. These regulations are designed to ensure that federal actions do not impede local efforts to achieve or maintain attainment with the NAAQS. The General Conformity Rule and the promulgated regulations found in 40 CFR Part 93 exempt certain federal actions from conformity determinations (such as contaminated site cleanup and natural disaster response activities).

Federal actions are evaluated to determine if the total indirect and direct net emissions from the project are below *de minimis* levels for each of the pollutants as specified in 40 CFR § 93.153. The *de minimis* threshold levels (in tons of pollutant per year) depend on the nonattainment status that USEPA has assigned to a region. If *de minimis* levels are not exceeded for any of the pollutants, no further evaluation is required. However, if net emissions from the project exceed the *de minimis*

thresholds for one or more of the specified pollutants, a demonstration of conformity, as prescribed in the General Conformity Rule, is required.

The General Conformity Rule would not apply to the Proposed Action because Bay County, where Tyndall AFB is located, is designated attainment for all criteria NAAQS.

New Source Performance Standards and Permitting. Title I of the CAA Amendments of 1990 requires the federal government to reduce emissions from cars, trucks, and buses; from consumer products such as hair spray and window-washing compounds; and from ships and barges during loading and unloading of petroleum products to address urban air pollution problems of O_3, CO, and PM_{10}. Under Title I, the federal government develops the technical guidance that states need to control stationary sources of pollutants. For stationary sources, the CAA establishes New Source Performance Standards for specific source categories. Standards and compliance requirements are listed in Title 40 CFR Parts 60 - 61. Title V of the CAA Amendments of 1990 requires state and local agencies to implement permitting programs for major stationary sources.

Under the CAA, Title V operating permits are required for large ("major") stationary sources of air emissions. Stationary sources include boilers, generators, fuel storage tanks and fuel dispensing, chemical usage, and surface coating. A major stationary source is a facility (plant, base, or activity) that has the potential to emit more than 100 tons per year (tpy) of any criteria air pollutant or has the potential to emit 10 or 25 tpy or more of any single or combination of hazardous air pollutants (HAPs). HAPs are toxic substances that are known or suspected to cause serious health effects in small concentrations. However, unlike the NAAQS for criteria pollutants, federal ambient air quality standards do not exist for non-criteria pollutants (HAPs) and are not considered here further.

Tyndall AFB is a synthetic minor source[2] of criteria pollutants and is required to limit its emissions from specified sources so that it does not exceed major source permitting thresholds. Titles I and V of the CAA Amendments of 1990 apply mainly to permanent stationary sources, and compliance requirements under the relevant regulations would not apply to the transient construction emissions for the Proposed Action.

Prevention of Significant Deterioration. PSD applies to new major sources or major modifications to existing pollutant sources in areas that are in attainment or unclassifiable with the NAAQS (USEPA, 2023a). The rule is to ensure that these sources are constructed or modified without causing significant adverse deterioration of the clean air in the area. Sources subject to PSD review are required to obtain a permit before they begin construction. The permit process requires an extensive air quality review of all other major sources within a 50-mile radius and all Class I areas within a 62-mile radius of the facility. Emissions from any new or modified source must be controlled using the maximum degree of control that can be achieved. The air quality, in combination with other PSD sources in the area, must not exceed the maximum allowable incremental increase as specified in the regulations.

[2] A "synthetic minor source" is a source that otherwise has the potential to emit regulated New Source Review pollutants in amounts that are at or above the thresholds for major sources in 40 CFR § 49.167, 40 CFR § 52.21 or 40 CFR § 71.2, as applicable, but has taken a restriction so that its Potential to Emit is less than such amounts for major sources. Such restrictions must be enforceable as a practical matter (as defined in 40 CFR § 49.152) (USEPA, 2023b).

The rule also provides special protections for specific national parks or wilderness areas, known as Mandatory Federal Class I Areas (40 CFR Part 81), where any appreciable deterioration in air quality is considered significant. Class 1 areas are given special air quality and visibility protection under the CAA. PSD regulations also define air pollutant emissions from proposed major stationary sources or modifications to be "significant" if a proposed project's net emission increase meets or exceeds the rate of emissions listed in 40 CFR § 52.21(b)(23)(i); or a proposed project is within 10 miles of any Class I area (wilderness area greater than 5,000 acres or national park greater than 6,000 acres). The goals of the PSD program are to (1) ensure economic growth while preserving existing air quality; (2) protect public health and welfare from adverse effects that might occur even at pollutant levels better than the NAAQS; and (3) preserve, protect, and enhance the air quality in areas of special natural recreational, scenic, or historic value, such as national parks and wilderness areas. The nearest Mandatory Federal Class I Area in Florida is the St. Marks Wilderness Area, located more than 50 miles east of Tyndall AFB. Emissions from the Proposed Action would not have the potential to impact visibility in these Class 1 areas. Thus, they are not considered for this EA.

D.1.3 Air Conformity Applicability Analysis

Section 176(c) (1) of the CAA contains legislation that ensures federal activities conform to relevant SIPs and thus do not hamper local efforts to control air pollution. Conformity to a SIP is defined as conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. As such, a general conformity analysis is required for areas of nonattainment or maintenance where a federal action is proposed.

An action can be shown to conform by demonstrating that the total direct and indirect emissions are below the *de minimis* levels **(Table D-2)** or showing that the Proposed Action emissions are within the state- or Tribe-approved budget of the facility as part of the SIP or Tribal Implementation Plan (USEPA, 2010). Direct emissions are those that occur as a direct result of the action. For example, emissions from new equipment that are a permanent component of the completed action (for example, boilers, heaters, generators, or paint booths) are considered direct emissions. Indirect emissions are those that occur at a later time or at a distance from the Proposed Action. For example, increased vehicular/commuter traffic because of the action is considered an indirect emission. Construction emissions must also be considered. For example, the emissions from vehicles and equipment used to clear and grade building sites, build new buildings, and construct new roads must be evaluated. These types of emissions are considered direct emissions.

Table D-2 General Conformity Rule *De Minimis* Emission Thresholds

Pollutant	Attainment Classification	Tons per year
Ozone (VOC or NO_x)	Serious nonattainment	50
	Severe nonattainment	25
	Extreme nonattainment	10
	Other areas outside an ozone transport region	100
Ozone (NO_x)	Marginal and moderate nonattainment inside an ozone transport region	100

Table D-2 General Conformity Rule *De Minimis* Emission Thresholds

Pollutant	Attainment Classification	Tons per year
	Maintenance	100
Ozone (VOC)	Marginal and moderate nonattainment inside an ozone transport region	50
	Maintenance within an ozone transport region	50
	Maintenance outside an ozone transport region	100
Carbon Monoxide, SO_2 and NO_2	All nonattainment and maintenance	100
PM_{10}	Serious nonattainment	70
	Moderate nonattainment and maintenance	100
$PM_{2.5}$ Direct emissions, SO_2, NO_x (unless determined not to be a significant precursor), VOC, and ammonia (if determined to be significant precursors)	All nonattainment and maintenance	100
Lead	All nonattainment and maintenance	25

Notes:
Source: USEPA, 2024b

NO_2 = nitrogen dioxide; NO_x = nitrogen oxides; $PM_{2.5}$ = particulates equal to or less than 2.5 microns in diameter; PM_{10} = particulates equal to or less than 10 microns in diameter; SO_2 = sulfur dioxide; VOC = volatile organic compound

D.1.4 Greenhouse Gases

Greenhouse gases (GHGs) are gases, occurring from natural processes and human activities, that trap heat in the atmosphere. Natural sources of GHGs include land use, such as through deforestation, land clearing for agriculture, and degradation of soils. The largest source of GHGs from human activities in the United States is from burning fossil fuels for electricity, heat, and transportation. Combustion of fossil fuels (coal, oil, and natural gas) primarily generate three main GHGs: carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). These three GHGs alone represent more than 97 percent of the United States' total GHG emissions (USEPA, 2024c).

Emissions from GHG are expressed in terms of the carbon dioxide equivalent emissions (CO_2e), which is a measure used to compare the emissions from various GHGs based on their Global Warming Potential (GWP). The GWP is a measure of how much energy the emissions of 1 ton of a gas will absorb over a given period of time, relative to the emissions of 1 ton of CO_2. The larger the GWP, the more that a given gas warms the Earth compared with CO_2 over the same time period. Analysts cumulatively compare emission estimates of different gases using standardized GWPs.

D.1.5 Significance Indicators and Evaluation Criteria

Based on guidance in Chapter 4 of the *Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide*, *Volume II – Advanced Assessments* (Air Force, 2020*)*, for air quality impact analysis, project criteria pollutant emissions were compared against the insignificance indicator of 250 tpy for PSD major source permitting threshold for actions occurring in areas that are in attainment for all criteria pollutants (25 tpy for lead). These "insignificance indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based

on current ambient air quality relative to the NAAQS. The insignificance indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for each criteria pollutant is considered so insignificant that the action would not cause or contribute to an emission that exceeds on one or more NAAQSs.

The net-change emissions estimated for the relevant criteria pollutant or pollutants are compared against General Conformity *de minimis* values to perform a General Conformity evaluation for a proposed action that would occur in nonattainment/maintenance areas. If the estimated annual net emissions for each relevant pollutant from the Proposed Action are below the corresponding *de minimis* threshold values, General Conformity Rule requirements would not be applicable. Emissions from the Proposed Action at Tyndall AFB, and its vicinity, are assessed in the EA and compared with applicable insignificance indicators.

Greenhouse Gases. The Air Conformity Applicability Model (ACAM) Version 5.0.24a (ACAM, 2024) was used to evaluate GHG emissions. A GHG Emissions Evaluation establishes the quantity of speciated GHGs and CO_2e, determines if an action's emissions are insignificant and provides a relative significance comparison. For the analysis, the PSD threshold for GHG of 75,000 tpy of CO_2e (or 68,039 metric tpy) was used as an indicator or "threshold of insignificance" for National Environmental Policy Act (NEPA) air quality impacts in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant (*de minimis*, too trivial or minor to merit consideration). Actions with a net change in GHG (CO_2e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO_2e) emissions above the insignificance indicator (threshold) are considered only potentially significant and require further assessment to determine if the action poses a significant impact. The action related GHGs have no significant impact to local air quality. However, from a global perspective, individual actions with GHG emissions each make a relatively small addition to global atmospheric GHG concentrations. If activities have *de minimis* (insignificant) GHG emissions, then on a global scale they are effectively zero and irrelevant (AFCEC, 2023).

An overview of ACAM inputs and the methodologies used to estimate emissions is summarized in the following sections.

D.1.6 Emissions Calculations and Assumptions

The following assumptions were used in the air quality analysis for the Proposed Action:

(1) For air quality analysis, the proposed construction projects are assumed to occur within a single calendar year to provide a conservative estimate of emissions. The duration of the construction project is assumed to be 12 months from the assumed start date of January 2026. For operational emissions, the start date is assumed to be the beginning of the year after construction is complete (January 2027) and would occur indefinitely.

(2) The calculations assumed there were no controls used to reduce fugitive emissions or other regulated pollutants. It is assumed that reasonable mitigation measures (BMPs) would be

used during construction to reduce particulate matter emissions and other pollutant emissions.

(3) Construction phase emissions for Alternative 1 (Preferred Alternative) and Alternative 2 are included for grading, trenching, construction, and paving.

(4) Operational emissions are estimated for a potential reduction in vehicle miles traveled for transport of mobile aircraft arresting system (MAAS) equipment. The current temporary storage location for MAAS equipment is nearly 3 miles from the existing Civil Engineering Maintenance, Infrastructure and Repair Team (CEMIRT) facility. The Proposed Action will eliminate current CEMIRT-related traffic, which will reduce vehicular emissions. CEMIRT conducts an average of more than 300 planned events, and between 30 and 40 emergency responses, and up to 150 unplanned team member deployments annually, a total of 490 events (AFCEC, 2024). Commute emissions were estimated in ACAM, assuming six personnel traveling a round-trip distance of 6 miles each day, for 5 days a week.

(5) If the square footage for construction, renovation, or land disturbance was available, then it was used in ACAM. In the absence of square footage data for construction, an estimate of the area proposed for construction was derived based on engineering judgement.

(6) Duration of construction phase activities was estimated based on the area proposed for construction, including grading and trenching.

(7) For grading, if data on the amount of material hauled in and hauled out (in cubic yards) were provided by the facility, then they were used in ACAM. In the absence of these data, it has been estimated using the assumed depth and graded area. Fill depth for gravel and grading depth is assumed based on the type of project.

(8) In the absence of trenching data, trenching in linear feet for utility was derived based on the size of the project. An estimated trench depth and trench width is assumed based on the nature of the project.

D.1.7 References

ACAM. 2024. Air Conformity Applicability Model. Air Impact Modeling Software by Solutio Environmental, Inc. for U.S. Air Force Civil Engineering Center (AFCEC/CZTQ), Version 5.0.24a, 2024.

Air Force. 2020. Air Force Air Quality EIAP Guide, Volume II - Advanced Assessments. July.

AFCEC. 2023. Air Force Civil Engineer Center. Compliance Technical Support Branch (CZTQ). DAF Greenhouse Gas (GHG) & Climate Change Assessment Guide. December. https://www.aqhelp.com/AQdocs.html. Accessed January 2024.

AFCEC. 2024. CEMIRT continues to power Air Force and prevent mission disruption. https://www.afcec.af.mil/News/Article-Display/Article /3776132/cemirt-continues-to-power-air-force-and-prevent-mission-disruption/. Accessed May 2025.

FDEP. 2025. Florida Department of Environmental Protection. 2025 Annual Ambient Air Monitoring Network Plan. FDEP-Division of Air Resource Management. May. https://floridadep.gov/sites/default/files/Annual%20Network%20Plan_Draft_2025_0.pdf. Accessed May 2025.

USEPA. 2010. U.S. Environmental Protection Agency. 40 CFR Parts 51 and 93, Revisions to the General Conformity Regulations. 75 Federal Register 14283, EPA-HQ-OAR-2006-0669; FRL-9131-7. March.

USEPA. 2023a. Prevention of Significant Deterioration (PSD) Basic Information. https://www.epa.gov/nsr/prevention-significant-deterioration-basic-information January.

USEPA. 2023b. True Minor Source and Synthetic Minor Source Permits. https://www.epa.gov/tribal-air/true-minor-source-and-synthetic-minor-source-permits#. Accessed April 23, 2024.

USEPA. 2024a. NAAQS Table. https://www.epa.gov/criteria-air-pollutants/naaqs-table. Last updated on December 16, 2024.

USEPA. 2024b. General Conformity: De Minimis Tables. https://www.epa.gov/general-conformity/de-minimis-tables. Last updated on June 10, 2024.

USEPA. 2024c. Overview of Greenhouse Gases. https://www.epa.gov/ghgemissions/overview-greenhouse-gases. Accessed December 12, 2024.

D.1.8 ACAM Record of Air Analysis (ROAA) and ACAM Report Greenhouse Gas (GHG) Emissions, and Detail ACAM Report (Example)

D.1.8.1 Record of Air Analysis

Alternative 1

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.24a

a. Action Location:
Base: TYNDALL AFB
State: Florida
County(s): Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements – Alternative 1

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Two alternatives are being proposed.

f. Point of Contact:

Name:	Rahul Chettri
Title:	Environmental Scientist
Organization:	Versar Global Solutions
Email:	rchettri@versar.com
Phone Number:	(757) 557-0810

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

____ applicable
_X_ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action's potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.190	250	No
NOx	1.517	250	No
CO	2.049	250	No
SOx	0.003	250	No
PM 10	6.714	250	No
PM 2.5	0.052	250	No
Pb	0.000	25	No
NH3	0.004	250	No

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.003	250	No
NOx	-0.001	250	No
CO	-0.044	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.003	250	No
NOx	-0.001	250	No
CO	-0.044	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Rahul Chettri, Environmental Scientist — Sep 11 2025
Name, Title — **Date**

Alternative 2

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to assess the potential air quality impact/s associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *General Conformity Rule* (GCR, 40 CFR 93 Subpart B); and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the ACAM analysis.

Report generated with ACAM version: 5.0.24a

a. Action Location:
Base: TYNDALL AFB
State: Florida
County(s): Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements – Alternative 2

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire

hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Two alternatives are being proposed.

f. Point of Contact:

Name: Rahul Chettri
Title: Environmental Scientist
Organization: Versar Global Solutions
Email: rchettri@versar.com
Phone Number: (757) 557-0810

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the GCR are:

____ applicable
__X__ not applicable

Total reasonably foreseeable net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving “steady state” (no net gain/loss in emission stabilized and the action is fully implemented) emissions. The ACAM analysis uses the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the *USAF Air Emissions Guide for Air Force Stationary Sources*, the *USAF Air Emissions Guide for Air Force Mobile Sources*, and the *USAF Air Emissions Guide for Air Force Transitory Sources*.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of the proposed Action’s potential impacts to local air quality. The insignificance indicators are trivial (de minimis) rate thresholds that have been demonstrated to have little to no impact to air quality. These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold and 25 ton/yr for lead for actions occurring in areas that are "Attainment" (not exceeding any National Ambient Air Quality Standard (NAAQS)). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutants is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQS. For further detail on insignificance indicators, refer to *Level II, Air Quality Quantitative Assessment, Insignificance Indicators*.

The action’s net emissions for every year through achieving steady state were compared against the Insignificance Indicators and are summarized below.

Analysis Summary:

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.197	250	No
NOx	1.565	250	No
CO	2.125	250	No
SOx	0.004	250	No
PM 10	6.123	250	No
PM 2.5	0.054	250	No
Pb	0.000	25	No
NH3	0.004	250	No

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.003	250	No
NOx	-0.001	250	No
CO	-0.044	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	-0.003	250	No
NOx	-0.001	250	No
CO	-0.044	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

None of the estimated annual net emissions associated with this action are above the insignificance indicators; therefore, the action will not cause or contribute to an exceedance of one or more NAAQSs and will have an insignificant impact on air quality. No further air assessment is needed.

Rahul Chettri, Environmental Scientist — Sep 11 2025

Name, Title — **Date**

D.1.8.2 ACAM Greenhouse Gas Report

Alternative 1

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to estimate GHG emissions associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the GHG emissions analysis.

Report generated with ACAM version: 5.0.24a

a. Action Location:

Base: TYNDALL AFB
State: Florida
County(s): Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements – Alternative 1

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Two alternatives are being proposed.

f. Point of Contact:

Name: Rahul Chettri
Title: Environmental Scientist
Organization: Versar Global Solutions
Email: rchettri@versar.com
Phone Number: (757) 557-0810

2. Analysis: Total combined direct and indirect GHG emissions associated with the action were estimated through ACAM on a calendar-year basis from the action's start through the action's "steady state" (SS, net gain/loss in emission stabilized and the action is fully implemented) of emissions.

GHG Emissions Analysis Summary:

GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). These three GHGs represent more than 97 percent of all U.S. GHG emissions. Emissions of GHGs are typically quantified and regulated in units of CO2 equivalents (CO2e). The CO2e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases. All GHG emissions estimates were derived from various emission sources using the methods, algorithms, emission factors, and GWPs from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources.

The Air Force has adopted the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 ton per year (ton/yr) of CO2e (or 68,039 metric ton per year, mton/yr) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant (de minimis, too trivial or minor to merit consideration). Actions with a net change in GHG (CO2e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO2e) emissions above the insignificance indicator (threshold) are only considered potentially significant and require further assessment to determine if the action poses a significant impact. For further detail on insignificance indicators see Level II, Air Quality Quantitative Assessment, Insignificance Indicators (April 2023).

The following table summarizes the action-related GHG emissions on a calendar-year basis through the projected steady state of the action.

Action-Related Annual GHG Emissions (mton/yr)						
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**	**Threshold**	**Exceedance**
2026	313	0.01238506	0.0041282	314	68,039	No
2027	-4	-0.0001544	-0.00005853	-4	68,039	No
2028 [SS Year]	-4	-0.0001544	-0.00005853	-4	68,039	No

The following U.S. and State's GHG emissions estimates (next two tables) are based on a five-year average (2016 through 2020) of individual state-reported GHG emissions (Reference: State Climate Summaries 2022, NOAA National Centers for Environmental Information, National Oceanic and Atmospheric Administration. https://statesummaries.ncics.org/downloads/).

State's Annual GHG Emissions (mton/yr)				
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**
2026	227,404,647	552,428	58,049	258,255,572
2027	227,404,647	552,428	58,049	258,255,572
2028 [SS Year]	227,404,647	552,428	58,049	258,255,572

U.S. Annual GHG Emissions (mton/yr)				
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**
2026	5,136,454,179	25,626,912	1,500,708	6,251,695,230
2027	5,136,454,179	25,626,912	1,500,708	6,251,695,230
2028 [SS Year]	5,136,454,179	25,626,912	1,500,708	6,251,695,230

GHG Relative Significance Assessment:

A Relative Significance Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (global, national, and regional) and the degree (intensity) of the proposed action's effects. The Relative Significance Assessment provides real-world context and allows for a reasoned choice against alternatives through a relative comparison analysis. The analysis weighs each alternative's annual net change in GHG emissions proportionally against (or relative to) global, national, and regional emissions.

The action's surroundings, circumstances, environment, and background (context associated with an action) provide the setting for evaluating the GHG intensity (impact significance). From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action-related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

However, the affected area (context) of GHG is global. Therefore, the intensity or degree of the proposed action's GHG effects are gauged through the quantity of GHG associated with the action as compared to a baseline of the state, U.S., and global GHG inventories. Each action (or alternative) has significance, based on their annual net change in GHG emissions, in relation to or proportionally to the global, national, and regional annual GHG emissions.

To provide real-world context to the GHG effects on a global scale, an action's net change in GHG emissions is compared relative to the state (where the action will occur) and U.S. annual emissions. The following table provides a relative comparison of an action's net change in GHG emissions vs. state and U.S. projected GHG emissions for the same time period.

Total GHG Relative Significance (mton)					
		CO2	CH4	N2O	CO2e
2026-2028	State Total	682,213,941	1,657,283	174,147	774,766,717
2026-2028	U.S. Total	15,409,362,537	76,880,735	4,502,123	18,755,085,689
2026-2028	Action	305	0.012076	0.004011	307
Percent of State Totals		0.00004475%	0.00000073%	0.00000230%	0.00003959%
Percent of U.S. Totals		0.00000198%	0.00000002%	0.00000009%	0.00000164%

From a global context, the action's total GHG percentage of total global GHG for the same time period is: 0.00000022%.*

* Global value based on the U.S. emitting 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, https://www.c2es.org/content/international-emissions).

Alternative 2

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform a net change in emissions analysis to estimate GHG emissions associated with the action. The analysis was performed in accordance with the Air Force Manual 32-7002, *Environmental Compliance and Pollution Prevention*; and the *USAF Air Quality Environmental Impact Analysis Process (EIAP) Guide*. This report provides a summary of the GHG emissions analysis.

Report generated with ACAM version: 5.0.24a

a. Action Location:
Base: TYNDALL AFB
State: Florida
County(s): Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements – Alternative 2

c. Project Number/s (if applicable): N/A

d. Projected Action Start Date: 1 / 2026

e. Action Description:

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Two alternatives are being proposed.

f. Point of Contact:
Name: Rahul Chettri
Title: Environmental Scientist

Organization: Versar Global Solutions
Email: rchettri@versar.com
Phone Number: (757) 557-0810

2. Analysis: Total combined direct and indirect GHG emissions associated with the action were estimated through ACAM on a calendar-year basis from the action's start through the action's "steady state" (SS, net gain/loss in emission stabilized and the action is fully implemented) of emissions.

GHG Emissions Analysis Summary:

GHGs produced by fossil-fuel combustion are primarily carbon dioxide (CO2), methane (CH4), and nitrous oxide (N2O). These three GHGs represent more than 97 percent of all U.S. GHG emissions. Emissions of GHGs are typically quantified and regulated in units of CO2 equivalents (CO2e). The CO2e takes into account the global warming potential (GWP) of each GHG. The GWP is the measure of a particular GHG's ability to absorb solar radiation as well as its residence time within the atmosphere. The GWP allows comparison of global warming impacts between different gases. All GHG emissions estimates were derived from various emission sources using the methods, algorithms, emission factors, and GWPs from the most current Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and/or Air Emissions Guide for Air Force Transitory Sources.

The Air Force has adopted the Prevention of Significant Deterioration (PSD) threshold for GHG of 75,000 ton per year (ton/yr) of CO2e (or 68,039 metric ton per year, mton/yr) as an indicator or "threshold of insignificance" for NEPA air quality impacts in all areas. This indicator does not define a significant impact; however, it provides a threshold to identify actions that are insignificant (de minimis, too trivial or minor to merit consideration). Actions with a net change in GHG (CO2e) emissions below the insignificance indicator (threshold) are considered too insignificant on a global scale to warrant any further analysis. Note that actions with a net change in GHG (CO2e) emissions above the insignificance indicator (threshold) are only considered potentially significant and require further assessment to determine if the action poses a significant impact. For further detail on insignificance indicators see Level II, Air Quality Quantitative Assessment, Insignificance Indicators (April 2023).

The following table summarizes the action-related GHG emissions on a calendar-year basis through the projected steady state of the action.

Action-Related Annual GHG Emissions (mton/yr)						
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**	**Threshold**	**Exceedance**
2026	322	0.01277822	0.00426808	324	68,039	No
2027	-4	-0.0001544	-0.00005853	-4	68,039	No
2028 [SS Year]	-4	-0.0001544	-0.00005853	-4	68,039	No

The following U.S. and State's GHG emissions estimates (next two tables) are based on a five-year average (2016 through 2020) of individual state-reported GHG emissions (Reference: State Climate Summaries 2022, NOAA National Centers for Environmental Information, National Oceanic and Atmospheric Administration. https://statesummaries.ncics.org/downloads/).

State's Annual GHG Emissions (mton/yr)				
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**
2026	227,404,647	552,428	58,049	258,255,572
2027	227,404,647	552,428	58,049	258,255,572
2028 [SS Year]	227,404,647	552,428	58,049	258,255,572

U.S. Annual GHG Emissions (mton/yr)				
YEAR	**CO2**	**CH4**	**N2O**	**CO2e**
2026	5,136,454,179	25,626,912	1,500,708	6,251,695,230
2027	5,136,454,179	25,626,912	1,500,708	6,251,695,230
2028 [SS Year]	5,136,454,179	25,626,912	1,500,708	6,251,695,230

GHG Relative Significance Assessment:

A Relative Significance Assessment uses the rule of reason and the concept of proportionality along with the consideration of the affected area (global, national, and regional) and the degree (intensity) of the proposed action's effects. The Relative Significance Assessment provides real-world context and allows for a reasoned choice against alternatives through a relative comparison analysis. The analysis weighs each alternative's annual net change in GHG emissions proportionally against (or relative to) global, national, and regional emissions.

The action's surroundings, circumstances, environment, and background (context associated with an action) provide the setting for evaluating the GHG intensity (impact significance). From an air quality perspective, context of an action is the local area's ambient air quality relative to meeting the NAAQSs, expressed as attainment, nonattainment, or maintenance areas (this designation is considered the attainment status). GHGs are non-hazardous to health at normal ambient concentrations and, at a cumulative global scale, action-related GHG emissions can only potentially cause warming of the climatic system. Therefore, the action-related GHGs generally have an insignificant impact to local air quality.

However, the affected area (context) of GHG is global. Therefore, the intensity or degree of the proposed action's GHG effects are gauged through the quantity of GHG associated with the action as compared to a baseline of the state, U.S., and global GHG inventories. Each action (or alternative) has significance, based on their annual net change in GHG emissions, in relation to or proportionally to the global, national, and regional annual GHG emissions.

To provide real-world context to the GHG effects on a global scale, an action's net change in GHG emissions is compared relative to the state (where the action will occur) and U.S. annual emissions. The following table provides a relative comparison of an action's net change in GHG emissions vs. state and U.S. projected GHG emissions for the same time period.

Total GHG Relative Significance (mton)					
		CO2	**CH4**	**N2O**	**CO2e**
2026-2028	State Total	682,213,941	1,657,283	174,147	774,766,717
2026-2028	U.S. Total	15,409,362,537	76,880,735	4,502,123	18,755,085,689
2026-2028	Action	315	0.012469	0.004151	317
Percent of State Totals		0.00004621%	0.00000075%	0.00000238%	0.00004088%
Percent of U.S. Totals		0.00000205%	0.00000002%	0.00000009%	0.00000169%

From a global context, the action's total GHG percentage of total global GHG for the same time period is: 0.00000023%.*

* Global value based on the U.S. emitting 13.4% of all global GHG annual emissions (2018 Emissions Data, Center for Climate and Energy Solutions, accessed 7-6-2023, https://www.c2es.org/content/international-emissions).

D.1.8.3 Detail Air Conformity Applicability Model Report (Alternative 1)

1. General Information

- Action Location
Base: TYNDALL AFB
State: Florida
County(s): Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Proposed Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements

- Project Number/s (if applicable): N/A

- Projected Action Start Date: 1 / 2026

- Action Purpose and Need:
The purpose of the Proposed Action is to provide facility and infrastructure improvements that support current and future CEMIRT operations at Tyndall AFB. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The proposed improvements are also needed to meet applicable DoD and DAF requirements and those of the Florida Fish and Wildlife Commission and Chapter 62B-55 of the Florida Administrative Code.

- Action Description:
Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

Two alternatives are being proposed.

- Point of Contact
Name: Rahul Chettri
Title: Environmental Scientist
Organization: Versar Global Solutions
Email: rchettri@versar.com
Phone Number: (757) 557-0810

Report generated with ACAM version: 5.0.24a

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Concrete Slab/Edge, Access Road, Fencing, Stormwater Basin, Utilities Relocation - Alternative 1
3.	Personnel	Transport of equipment to/from CEMIRT compound via vehicles (reduced mileage) - Alternative 1

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

- Activity Location
County: Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Concrete Slab/Edge, Access Road, Fencing, Stormwater Basin, Utilities Relocation - Alternative 1

- Activity Description:
1. 60, 000 sq. ft. concrete slab (assumed 200 ft * 300 ft rectangular slab) + 2 ft width of reinforced slab edge
2. Permanent Access Road: Assumes maximum length of roadway from Mississippi Road for each alternative is 1,000 ft; assumes road width = 20 ft
3. Construction of 1,807 ft of Fencing Footer Concrete Strip, based on proposed length of fencing
4. Grading area is estimated from stormwater basin for similarly sized concrete slab recently constructed at CEMIRT
5. Overhead lights & electrical panel posts assumes 2ft * 2ft pit area for each post

- Activity Start Date
Start Month: 1
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 11
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.190159
SO_x	0.003417
NO_x	1.517312
CO	2.048659

Pollutant	Total Emissions (TONs)
PM 10	6.714071
PM 2.5	0.052090
Pb	0.000000
NH_3	0.003621

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Total Emissions (TONs)
CH_4	0.013652
N_2O	0.004551

Pollutant	Total Emissions (TONs)
CO_2	344.517095
CO_2e	346.105243

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026
- Phase Duration
Number of Month: 2
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 317140
Amount of Material to be Hauled On-Site (yd^3): 2588
Amount of Material to be Hauled Off-Site (yd^3): 2588

- 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
Excavators Composite	1	8
Graders Composite	1	8
Other Construction Equipment Composite	1	8
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	2	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 Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.39317	0.00542	3.40690	4.22083	0.09860	0.09071
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.31292	0.00490	2.52757	3.39734	0.14041	0.12918
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.28160	0.00487	2.73375	3.50416	0.15811	0.14546
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.35280	0.00491	3.22260	2.72624	0.14205	0.13069
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18406	0.00489	1.88476	3.48102	0.06347	0.05839

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02381	0.00476	587.02896	589.04350
Graders Composite [HP: 148] [LF: 0.41]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02153	0.00431	530.81500	532.63663
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02140	0.00428	527.54121	529.35159
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02160	0.00432	532.54993	534.37751
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.70686	531.52468

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.30919	0.00284	0.11347	4.53889	0.02452	0.00746	0.05155
LDGT	0.26441	0.00357	0.16673	4.15025	0.02544	0.00839	0.04331
HDGV	0.86518	0.00768	0.60380	10.32821	0.05358	0.02478	0.09044
LDDV	0.10849	0.00133	0.16923	6.81953	0.02585	0.00833	0.01688
LDDT	0.18226	0.00135	0.30624	4.58701	0.02597	0.00982	0.01664
HDDV	0.11915	0.00430	2.58738	1.69518	0.18154	0.08779	0.06616
MC	2.91656	0.00331	0.53768	11.64899	0.03308	0.02177	0.05214

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01488	0.00507	338.87521	340.63551
LDGT	0.01603	0.00741	426.31862	428.73081
HDGV	0.05162	0.02582	915.95668	924.24503
LDDV	0.04375	0.00074	395.37005	396.79020
LDDT	0.02250	0.00109	401.49415	402.41201
HDDV	0.02061	0.16317	1278.58677	1322.40331
MC	0.10643	0.00322	390.86633	394.69952

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

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
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

2.2.1 Trenching / Excavating Phase Timeline Assumptions

- Phase Start Date
Start Month: 3
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 1
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information
Area of Site to be Trenched/Excavated (ft^2): 34757
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 2073

- 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 Criteria Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.39317	0.00542	3.40690	4.22083	0.09860	0.09071
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.45335	0.00542	3.58824	4.59368	0.11309	0.10404
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18406	0.00489	1.88476	3.48102	0.06347	0.05839

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02381	0.00476	587.02896	589.04350

Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02385	0.00477	587.87714	589.89459
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.70686	531.52468

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.30919	0.00284	0.11347	4.53889	0.02452	0.00746	0.05155
LDGT	0.26441	0.00357	0.16673	4.15025	0.02544	0.00839	0.04331
HDGV	0.86518	0.00768	0.60380	10.32821	0.05358	0.02478	0.09044
LDDV	0.10849	0.00133	0.16923	6.81953	0.02585	0.00833	0.01688
LDDT	0.18226	0.00135	0.30624	4.58701	0.02597	0.00982	0.01664
HDDV	0.11915	0.00430	2.58738	1.69518	0.18154	0.08779	0.06616
MC	2.91656	0.00331	0.53768	11.64899	0.03308	0.02177	0.05214

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01488	0.00507	338.87521	340.63551
LDGT	0.01603	0.00741	426.31862	428.73081
HDGV	0.05162	0.02582	915.95668	924.24503
LDDV	0.04375	0.00074	395.37005	396.79020
LDDT	0.02250	0.00109	401.49415	402.41201
HDDV	0.02061	0.16317	1278.58677	1322.40331
MC	0.10643	0.00322	390.86633	394.69952

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

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
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

2.3 Building Construction Phase

2.3.1 Building Construction Phase Timeline Assumptions

- Phase Start Date
Start Month: 1
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 11
Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information
Building Category: Office or Industrial
Area of Building (ft^2): 62904
Height of Building (ft): 2
Number of Units: N/A

- Building Construction 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
Cranes Composite	1	6
Forklifts Composite	2	6
Generator Sets Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8
Welders Composite	3	8

- Vehicle Exhaust
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

- Vendor Trips
Average Vendor Round Trip Commute (mile): 40 (default)

- Vendor Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

2.3.3 Building Construction Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.19758	0.00487	1.83652	1.63713	0.07527	0.06925
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.24594	0.00487	2.34179	3.57902	0.11182	0.10287
Generator Sets Composite [HP: 14] [LF: 0.74]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.53947	0.00793	4.32399	2.85973	0.17412	0.16019
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.18406	0.00489	1.88476	3.48102	0.06347	0.05839
Welders Composite [HP: 46] [LF: 0.45]						
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**
Emission Factors	0.46472	0.00735	3.57020	4.49314	0.09550	0.08786

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02140	0.00428	527.46069	529.27080
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02138	0.00428	527.09717	528.90603
Generator Sets Composite [HP: 14] [LF: 0.74]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02305	0.00461	568.32694	570.27730
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02149	0.00430	529.70686	531.52468
Welders Composite [HP: 46] [LF: 0.45]				
	CH_4	**N_2O**	**CO_2**	**CO_2e**
Emission Factors	0.02305	0.00461	568.29068	570.24091

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**NH_3**
LDGV	0.30919	0.00284	0.11347	4.53889	0.02452	0.00746	0.05155
LDGT	0.26441	0.00357	0.16673	4.15025	0.02544	0.00839	0.04331
HDGV	0.86518	0.00768	0.60380	10.32821	0.05358	0.02478	0.09044
LDDV	0.10849	0.00133	0.16923	6.81953	0.02585	0.00833	0.01688
LDDT	0.18226	0.00135	0.30624	4.58701	0.02597	0.00982	0.01664
HDDV	0.11915	0.00430	2.58738	1.69518	0.18154	0.08779	0.06616
MC	2.91656	0.00331	0.53768	11.64899	0.03308	0.02177	0.05214

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	**N_2O**	**CO_2**	**CO_2e**
LDGV	0.01488	0.00507	338.87521	340.63551
LDGT	0.01603	0.00741	426.31862	428.73081
HDGV	0.05162	0.02582	915.95668	924.24503
LDDV	0.04375	0.00074	395.37005	396.79020
LDDT	0.02250	0.00109	401.49415	402.41201
HDDV	0.02061	0.16317	1278.58677	1322.40331
MC	0.10643	0.00322	390.86633	394.69952

2.3.4 Building Construction Phase Formula(s)

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * HP * LF * EF_{POL} * 0.002205) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
HP: Equipment Horsepower
LF: Equipment Load Factor
EF_{POL}: Emission Factor for Pollutant (g/hp-hour)
0.002205: Conversion Factor grams to pounds
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (0.42 / 1000) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.42 / 1000): Conversion Factor ft^3 to trips (0.42 trip / 1000 ft^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: Worker Trips 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

- Vender Trips Emissions per Phase
$VMT_{VT} = BA * BH * (0.38 / 1000) * HT$

VMT_{VT}: Vender Trips Vehicle Miles Travel (miles)
BA: Area of Building (ft^2)
BH: Height of Building (ft)
(0.38 / 1000): Conversion Factor ft^3 to trips (0.38 trip / 1000 ft^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VT}: Vender 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

3. Personnel

3.1 General Information & Timeline Assumptions

- Add or Remove Activity from Baseline? Remove

- Activity Location
County: Bay
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Transport of equipment to/from CEMIRT compound via vehicles (reduced mileage) - Alternative 1

- Activity Description:
The construction of the equipment storage area adjacent to the CEMIRT compound will eliminate the movement of vehicles from the temporary location, which is 3 miles away.

CEMIRT conducts an average of more than 300 planned events, and between 30 and 40 emergency responses and up to 150 unplanned team member deployments annually. (https://www.eglin.af.mil/News/Article-Display/Article/3776031/cemirt-continues-to-power-air-force-and-prevent-mission-disruption/) - about 490 events.

- Activity Start Date
Start Month: 1
Start Year: 2027

- Activity End Date
Indefinite: Yes
End Month: N/A
End Year: N/A

- Activity Emissions of Criteria Pollutants:

Pollutant	Emissions Per Year (TONs)
VOC	-0.003337
SO_x	-0.000033
NO_x	-0.001445
CO	-0.043986

Pollutant	Emissions Per Year (TONs)
PM 10	-0.000254
PM 2.5	-0.000085
Pb	0.000000
NH_3	-0.000463

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Emissions Per Year (TONs)
CH_4	-0.000170
N_2O	-0.000065

Pollutant	Emissions Per Year (TONs)
CO_2	-3.981704
CO_2e	-4.003563

3.2 Personnel Assumptions

- Number of Personnel
Active Duty Personnel: 3
Civilian Personnel: 3
Support Contractor Personnel: 0
Air National Guard (ANG) Personnel: 0
Reserve Personnel: 0

- Default Settings Used: No

- Average Personnel Round Trip Commute (mile): 6

- Personnel Work Schedule

Active Duty Personnel:	5 Days Per Week
Civilian Personnel:	5 Days Per Week
Support Contractor Personnel:	5 Days Per Week
Air National Guard (ANG) Personnel:	4 Days Per Week
Reserve Personnel:	4 Days Per Month

3.3 Personnel On Road Vehicle Mixture

- On Road Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	37.55	60.32	0	0.03	0.2	0	1.9
GOVs	54.49	37.73	4.67	0	0	3.11	0

3.4 Personnel Emission Factor(s)

- On Road Vehicle Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	NH_3
LDGV	0.30250	0.00278	0.10216	4.37740	0.02381	0.00738	0.04984
LDGT	0.25584	0.00352	0.15087	3.96319	0.02489	0.00829	0.04170
HDGV	0.80268	0.00758	0.53554	9.42531	0.05206	0.02398	0.08830
LDDV	0.11600	0.00133	0.17757	7.08987	0.02608	0.00873	0.01694
LDDT	0.11871	0.00132	0.20883	3.52458	0.02453	0.00897	0.01663
HDDV	0.10536	0.00421	2.35450	1.64049	0.17368	0.08066	0.06684
MC	2.90332	0.00331	0.53638	11.52717	0.03290	0.02177	0.05245

- On Road Vehicle Greenhouse Gasses Emission Factors (grams/mile)

	CH_4	N_2O	CO_2	CO_2e
LDGV	0.01413	0.00493	331.23691	332.93781
LDGT	0.01514	0.00719	419.65142	421.98105
HDGV	0.04771	0.02469	904.41092	912.28839
LDDV	0.04390	0.00074	393.54551	394.96998
LDDT	0.02222	0.00109	393.93490	394.84539
HDDV	0.02015	0.16469	1252.74971	1296.95643
MC	0.10508	0.00322	390.91110	394.70550

3.5 Personnel Formula(s)

- Personnel Vehicle Miles Travel for Work Days per Year

$VMT_P = NP * WD * AC$

VMT_P: Personnel Vehicle Miles Travel (miles/year)
NP: Number of Personnel
WD: Work Days per Year
AC: Average Commute (miles)

- Total Vehicle Miles Travel per Year

$VMT_{Total} = VMT_{AD} + VMT_C + VMT_{SC} + VMT_{ANG} + VMT_{AFRC}$

VMT_{Total}: Total Vehicle Miles Travel (miles)
VMT_{AD}: Active Duty Personnel Vehicle Miles Travel (miles)
VMT_C: Civilian Personnel Vehicle Miles Travel (miles)

VMT_{SC}: Support Contractor Personnel Vehicle Miles Travel (miles)
VMT_{ANG}: Air National Guard Personnel Vehicle Miles Travel (miles)
VMT_{AFRC}: Reserve Personnel Vehicle Miles Travel (miles)

- Vehicle Emissions per Year

$V_{POL} = (VMT_{Total} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{Total}: Total Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Personnel On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

D.2 Cultural Resources

D.2.1 Definition of Resource

The primary federal law protecting cultural resources is the National Historic Preservation Act (NHPA) of 1966. Under Section 106 of the NHPA, federal agencies must consider the effects of their proposed actions (or undertakings) on any historic properties, defined as any district, site, building, structure, or object that is listed or eligible for listing in the National Register of Historic Places (NRHP). To the extent possible, adverse effects on historic properties must be avoided, minimized, or mitigated in consultation with the State Historic Preservation Officer (SHPO) and other consulting parties, as appropriate. The Florida Division of Historical Resources is the SHPO for Florida.

Generally, if under Section 106 an action would have an adverse effect on a historic property listed in or eligible for the NRHP, the action would also have an adverse impact under NEPA. An adverse effect that is mitigated in consultation with the SHPO and other parties, as appropriate, can generally be considered a non-significant impact under NEPA.

The Proposed Action is considered an undertaking for the purposes of Section 106. The Area of Potential Effect (APE) for this undertaking consists of the limits of disturbance for the proposed equipment area and associated infrastructure as described in **Chapter 2** under Alternatives 1 and 2 **(Figure 2.3-1** and **Table 2.3-2)**. In May 2025, the DAF initiated consultation for the proposed undertaking with the Florida SHPO in accordance with Section 106 and requested concurrence with the APE. Section 106 correspondence is provided in **Appendix A**.

Properties of traditional religious and cultural importance, also referred to as traditional cultural places (formerly traditional cultural properties) are places eligible for inclusion in the NRHP because of their association with cultural practices or beliefs of a living community that, (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community (NPS, 2024a). E.O. 13007, Indian Sacred Sites, defines Indian sacred sites as "specific, discrete, narrowly delineated locations on Federal land that are identified by an Indian tribe…as sacred by virtue of their established religious significance to, or ceremonial use by, an Indian religion." Indian sacred sites are strictly religious places and can be recent in age, in contrast with traditional cultural places, which can be secular and must meet stricter NRHP eligibility criteria (ACHP, 2018). An Indian sacred site can be a traditional cultural place, but not all traditional cultural places are sacred sites. Indian sacred sites are considered under the NEPA process as part of the human environment.

Under the Native American Graves Protection and Repatriation Act, federal agencies are required to plan for and protect Native American human remains or cultural items that may be removed from federal lands and return such remains or items to lineal descendants or tribes (NPS, 2024b). DoD Instruction 4710.2, *DoD Interactions with Federally Recognized Tribes* (September 24, 2018), establishes policy, assigns responsibilities, and provides procedures for DoD interactions with federally recognized Native American tribes. The *2021 DoD Plan of Action on Tribal Consultation* (May 2021) outlines the DoD's commitment to improving implementation of E.O. 13175, Consultation and Coordination With Indian Tribal Governments.

D.2.2 References

ACHP. 2018. Advisory Council on Historic Preservation. The Relationship Between Executive Order 13007 Regarding Indian Sacred Sites and Section 106. https://www.achp.gov/digital-library-section-106-landing/relationship-between-executive-order-13007-regarding-indian. Accessed April 2025.

NPS. 2024a. National Park Service. Identifying, Evaluating, and Documenting Traditional Cultural Places. https://irma.nps.gov/DataStore/DownloadFile/713282. Accessed April 2025.

NPS. 2024b. Native American Graves Protection and Repatriation Act. https://www.nps.gov/subjects/nagpra/index.htm. Accessed April 2025.

D.3 Biological Resources

D.3.1 Definition of Resource

Biological resources include native, nonnative, and invasive plants and animals; sensitive and protected plant and animal species; and the habitats, such as wetlands, forests, and grasslands, where plants and wildlife occur. Habitat consists of the resources and conditions in an area that support nesting, breeding, and foraging by wildlife and growth and propagation of plants.

Sensitive and protected biological resources include species listed as threatened or endangered by the federal or state government. Animal and plant species that are federally listed as threatened, endangered, candidate, and proposed species under the Endangered Species Act (ESA) fall under the regulatory jurisdiction of the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration Fisheries, as applicable. Migratory birds are protected under the Migratory Bird Treaty Act. Sensitive habitats include designated critical habitat protected by the ESA and sensitive ecological areas designated by state or other federal rulings. Bald (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act. Sensitive habitats also include wetlands, plant communities that are unusual or limited in distribution, and important seasonal use areas for wildlife (such as migration routes, breeding areas, and crucial summer and winter habitats).

The Florida Fish and Wildlife Conservation Commission (FWC) is responsible for managing and conserving Florida's fish and wildlife resources. The FWC regulates activities related to hunting, fishing, boating, and wildlife conservation. The Florida Department of Agriculture and Consumer Services regulates endangered, threatened, and commercially exploited plants of Florida. State-listed threatened, endangered, and protected plant and animal species are managed by the State of Florida in accordance with Chapter 5B-40 FAC (plants) and Chapter 68A-27 FAC (wildlife).

D.4 Water Resources

D.4.1 Definition of Resource

Water quality refers to the presence of pollutants in water resources and applicable restrictions on human uses of water resources based on the levels and types of pollutants. The use of and potential

effects on water resources, particularly with respect to water quality, are primarily regulated at the federal level under the Clean Water Act (CWA) and the Rivers and Harbors Act of 1899.

D.4.1.1 Groundwater

Groundwater is water that fills the pores and fractures in underground materials such as sand, gravel, and other rock. Aquifers are rock materials where groundwater flows naturally or can be pumped in useful quantities (USGS, 2025).

D.4.1.2 Water Quality

Water quality refers to the ability of a water source to meet the chemical, biological, and physical requirements of a specific water use (Federal Judicial Center, 2022). Water quality in surface water bodies is influenced by a number of factors including concentrations of sediments and pollutants in stormwater flows discharged to receiving waterbodies.

D.4.1.3 Wetlands and Surface Waters

Wetlands are jointly defined and regulated by the USEPA and U.S. Army Corps of Engineers (USACE) and include swamps, marshes, bogs, sloughs, and similar areas (33 CFR Part 328). USACE defines wetlands as "those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions" (USACE, 1987).

Naturally occurring surface waters include wetlands, swamps, streams, rivers, ponds, lakes, marshes, bayous, and oceans. Man-made surface waters include impoundments, canals, drainage ditches, and storm water basins. Water quality and the use of water in aquifers is regulated under the Safe Drinking Water Act of 1974 (42 U.S.C. § 300f et seq.).

D.4.1.4 Floodplains

Floodplains are areas of low, level ground along rivers, stream channels, and coastal waters that are subject to periodic inundation by floodwaters. The risk of flooding in these areas is associated with topographic conditions, frequency of precipitation events, size of the watershed upgradient of the floodplain, storm surge intensity, and other factors. Functions of the floodplain ecosystem include natural moderation of floods, flood storage and conveyance, groundwater recharge, nutrient cycling, water quality maintenance, and provision of habitat for a diversity of plants and animals.

The Federal Emergency Management Agency (FEMA) categorizes floodplains as Special Flood Hazard Areas (SFHAs) based on their chance of flooding in any given year. The 100-year floodplain is an area that has a 1 percent chance of inundation by a flood event in any given year, or a flood event in the area once every 100 years. These floodplains are divided into SFHA Zone AE (100-year floodplain with a modeled base flood elevation) and SFHA Zone A (100-year floodplain without a modeled base flood elevation). The 500-year floodplain is an area upgradient of the 100-year floodplain extent that has a 0.2 percent chance of inundation by a flood event in a

given year, or a flood event in the area once every 500 years. These 500-year floodplains are typically designated as either SFHA Zone B or SFHA Zone X on FEMA maps. The likelihood of a 100-year or 500-year flood event is based on historical hydrologic records. Actual future flood flows may be more or less frequent. E.O. 11988 requires federal agencies to avoid to the extent possible the long-term and short-term adverse impacts associated with occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development unless it is the only practicable alternative.

D.4.1.5 Coastal Zone Management

The Coastal Zone Management Act of 1972 (16 U.S.C. Part 1451, et seq., as amended) provides assistance to the states, in cooperation with federal and local agencies, for developing land and water use programs in coastal zones. Section 307(c)(1) of the Coastal Zone Management Act Reauthorization Amendment stipulates that federal projects that affect land uses, water uses, or coastal resources of a state's coastal zone must be consistent, to the maximum extent practicable, with the enforceable policies of that state's federally approved coastal zone management plan.

D.4.2 References

Federal Judicial Center. 2022. Water and the Law: What is Water Quality? https://www.fjc.gov/content/376657/water-and-law-what-water-quality. Accessed June 6, 2025.

USACE. 1987. U.S. Army Corps of Engineers. Wetland Delineation Manual. Technical Report Y-87-1. U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, Mississippi https://apps.dtic.mil/sti/tr/pdf/ADA353742.pdf.

USGS. 2025. U.S. Geological Survey. What is groundwater? https://www.usgs.gov/faqs/what-groundwater. Accessed June 5, 2025.

D.5 Hazardous Materials and Waste

D.5.1 Definition of Resource

Hazardous materials and hazardous waste are those substances defined as hazardous by the:

- Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act (42 U.S.C. §§ 6901-6992)
- Toxic Substances Control Act (15 U.S.C. §§ 2601-2671)
- Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. § 136 et seq.)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. §§ 9601 9675)
- Emergency Planning and Community Right-to-Know Act (42 U.S.C. §§ 11001-11050); and
- Occupational Safety and Health Act (29 U.S.C. § 651 et seq.).

Waste is considered hazardous if it exhibits one or more of the hazardous characteristics of toxicity, corrosivity, reactivity, or ignitability or is specifically listed as a hazardous waste under 40 CFR 261; which because of its quantity, concentration, or physical, chemical, or infectious characteristics may (a) cause, or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed" (42 U.S.C. § 6903(5), as amended). DoD and DAF requirements for the use, handling, transport, reporting, documentation, storage, and disposal of hazardous materials and hazardous waste are established by the following:

- DAF Instruction (DAFI) 32-7020, *Environmental Restoration Program*
- Air Force Manual 32-1053, Integrated Pest Management
- Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention
- DAF Manual (DAFMAN) 91-201, *Explosives Safety Standards*
- Defense Environmental Restoration Program, 10 U.S.C. §§ 2700-2711

Hazardous materials are used, handled, stored, and managed in accordance with the procedures set forth in DAFI 32-7020 and the Tyndall AFB *Hazardous Waste Management Plan (HWMP)* (Tyndall AFB, 2023). Accidental spills or releases of hazardous materials are also addressed in accordance with the Tyndall AFB *Spill Prevention, Control, and Countermeasures Plan* (Tyndall AFB, 2022a). Nonhazardous solid waste generated is managed in compliance with the Tyndall AFB *Integrated Solid Waste Management Plan* (Tyndall AFB, 2022b).

The Installation Restoration Program (IRP) was established by the DoD in 1975 to address contamination from historical releases of hazardous materials and hazardous waste on DoD installations and properties in accordance with CERCLA. The Military Munitions Response Program (MMRP) was established in 2001 to address sites known or suspected to contain unexploded ordnance, discarded military munitions, or munitions constituents. The DoD currently manages and administers IRP and MMRP activities under the Defense Environmental Restoration Program (DoD, 2016).

The Proposed Action would have no potential to disturb or affect buildings, structures, or equipment containing asbestos-containing materials, lead-based paint, or polychlorinated biphenyls. Therefore, these substances are not addressed in this EA.

D.5.2 References

DoD. 2016. Department of Defense. Environment, Safety & Occupational Health Network and Information Exchange (DENIX). About the Defense Environmental Restoration Program. https://www.denix.osd.mil/derp/about/. Accessed April 11, 2025.

Tyndall AFB. 2022a. Spill Prevention, Control, and Countermeasure Plan. 325th Fighter Wing, Tyndall AFB, Florida. February.

Tyndall AFB. 2022b. Integrated Solid Waste Management Plan. 325th Fighter Wing, Tyndall AFB, Florida. November.

Tyndall AFB. 2023. Hazardous Waste Management Plan. 325th Fighter Wing, Tyndall AFB, Florida. October.

D.6 Infrastructure / Utilities

D.6.1 Definition of Resource

Infrastructure and utilities are the services and systems that support the efficient and comfortable operation of a facility or location. Utilities typically considered include water, wastewater, irrigation systems, steam, electricity, natural gas, and telecommunications. The ROI for the analysis of infrastructure and utilities consists of the Alternative 1 and Alternative 2 sites where the Proposed Action could be implemented and utility and infrastructure systems on Tyndall AFB that could be affected by the Proposed Action.

D.7 Soils

D.7.1 Definition of Resource

Soils can be characterized by their level of previous disturbance; suitability to support agriculture or construction of buildings, roads, and infrastructure; susceptibility to erosion; potential to occur in wetlands; and other properties.

Hydric soils are those that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA NRCS, 2024a); they are typically considered as one indicator of wetland conditions. Soils designated as prime farmland or farmland of statewide importance are those that have the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and are available for these uses (USDA NRCS, 2024b). K factor is an indicator of soil erodibility that represents both susceptibility of soil to erosion and the rate of runoff; a K factor of .05 or less indicates soils that have a low susceptibility to erosion, while a K factor of 0.4 or greater indicates a high susceptibility to erosion (MSU IWR, 2002).

Building site development interpretations are intended to be used as tools for evaluating soil suitability and identifying soil limitations for various construction purposes. Three rating class terms are used to characterize building site development: not limited, somewhat limited, and very limited. Not limited indicates that the soil has features that are favorable for a specified use. Somewhat limited indicates that the soil has features that are moderately favorable for a specified use; limitations can be overcome or minimized by special planning, design, or installation. Very limited indicates that the soil has one or more features that are unfavorable for a specified use; limitations cannot be overcome without major soil reclamation, special design, or expensive installation procedures (USDA NRCS, 2025).

D.7.2 References

MSU IWR. 2002. Michigan State University Institute of Water Research. K Factor. http://www.iwr.msu.edu/rusle/kfactor.htm. Accessed April 4, 2024.

USDA NRCS. 2024a. Hydric Soils. https://www.nrcs.usda.gov/conservation-basics/natural-resource-concerns/soil/hydric-soils. Accessed April 9, 2025.

USDA NRCS. 2024b. Soil Data Access (SDA) Prime and other Important Farmlands. https://www.nrcs.usda.gov/publications/Legend%20and%20Prime%20Farmland%20-%20Query%20by%20Soil%20Survey%20Area.html. Accessed April 9, 2025.

USDA NRCS 2025. Custom Soil Resource Report for Bay County, Florida. https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm?TARGET_APP=Web_Soil_Survey_application_jbhskqweat4btjybkr1cphoe. Accessed April 9, 2025.

D.8 Safety

D.8.1 Definition of Resource

A safe environment is one where there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. DAF safety regulations are established in documents including AFI 91-301 and DAFMAN 91-201, *Explosives Safety Standards*. Generally, DAF activities are required to comply with Air Force Occupational Safety and Health guidelines and with Occupational Safety and Health Administration (29 CFR § 1910 et seq.) regulations.

D.9 Socioeconomics

D.9.1 Definition of Resource

This section evaluates the social and economic characteristics of populations or communities in or near the area where the Proposed Action would occur, and the Proposed Action's potential effects on those characteristics. Socioeconomic characteristics evaluated in this EA include population; sales, revenue, and expenditures; and employment, payroll and income, and poverty. The socioeconomics ROI includes Tyndall AFB, Panama City, and Bay County. Corresponding characteristics for the state of Florida are provided for reference and comparison, as applicable.

D.10 Noise

D.10.1 Definition of Resource

Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or otherwise causes annoyance. Types of noise may be intermittent or continuous, steady or impulsive, and can involve any number of sources and frequencies. Sources of noise may be readily identifiable or generally nondescript. Human response to noise varies according to the source type, characteristics of the sound source, distance between the source and receptor, receptor sensitivity, and time of day. Noise sensitive receptors include both specific and broad types of facilities or areas where occasional or persistent sensitivity

to noise above ambient levels may be expierenced. Such receptors typically include residential areas, schools, places of worship, hospitals, cemeteries, nature preserves, or other designated areas or districts.

The A-weighted decibel (dBA) is the unit used to characterize sound levels that can be sensed by the human ear. "A-weighted" denotes the adjustment of the frequency range to what the average human ear can sense when experiencing an audible event. The threshold of audibility is generally within the range of 10 to 25 dBA for normal hearing. The threshold of pain occurs at the upper boundary of audibility, typically around 135 dBA (USEPA, 1981). Noise levels associated with common sources and their perception by or potential effect on humans is summarized in **Table D-3**. Noise levels can become annoying at 80 dBA and very annoying at 90 dBA. To the human ear, each 10-dBA increase is perceived as twice as loud (USEPA, 1981). Hearing loss can occur from long or repeated exposure to noise levels at or above 85 dBA (NIDCD, 2025). However, the DoD uses a screening threshold of 80 dBA to ensure a conservative approach to assessing the potential for hearing loss (DNWG, 2013).

Table D-3 Noise Levels and Typical Human Response

Noise Level (decibel)	Common Sound	Effect
10	Just audible	Negligible
30	Soft whisper (15 feet)	Very quiet
50	Light auto traffic (100 feet)	Quiet
60	Air conditioning unit (20 feet)	Intrusive
70	Noisy restaurant or freeway traffic	Telephone use difficult
80	Alarm clock (2 feet)	Annoying
90	Heavy truck (50 feet) or city traffic	Very annoying; potential hearing damage after 8 hours of exposure
100	Garbage truck	Very annoying
110	Pile driver	Strained vocal effort
120	Jet takeoff (200 feet) or auto horn (3 feet)	Maximum vocal effort
140	Jet operations on aircraft carrier deck	Painfully loud

Source: USEPA, 1981

The average day/night sound level (DNL) is a metric used to assess the overall noise environment within a community. DNL represents the average A-weighted sound level over a 24-hour period, with a 10-dBA adjustment applied to nighttime levels (between 10:00 p.m. and 7:00 a.m.). This adjustment accounts for the heightened sensitivity of humans to noise events during nighttime. Land use compatibility and incompatibility are assessed by comparing the projected DNL at a particular site with the recommended land uses. Nighttime noise levels tend to cause more annoyance than equivalent levels during the day. It is widely accepted that people perceive nighttime noise as being 10 dBA more intrusive than daytime noise, in terms of its potential to generate community annoyance.

In June 1980, the Federal Interagency Committee on Urban Noise (FICUN) published guidelines relating DNL to compatible land uses (FICUN, 1980). This committee was composed of

representatives of DoD, the U.S. Department of Transportation, Housing and Urban Development, USEPA, and Veterans Affairs. Since these guidelines were issued, federal agencies have generally incorporated the discussion of compatibility into their comprehensive planning in analysis of noise effects. The land use compatibility guidelines that the DAF uses are consistent with FICUN recommendations. Residential land uses are generally incompatible with an outdoor DNL above 65 dBA (FICUN, 1980).

D.10.2 References

DNWG. 2013. Department of Defense Noise Working Group. Technical Bulletin, Noise-Induced Hearing Impairment, Defense Noise Working Group. December. Accessed August 7, 2025.

FICUN. 1980. Federal Interagency Committee on Urban Noise. Guidelines for Considering Noise in Land Use Planning. https://nwtteis.com/portals/nwtteis/files/references/FICUN_1980_Guidelines_for_Considering_Noise.pdf. Accessed April 8, 2025.

NIDCD. 2025. National Institute on Deafness and Other Communication Disorders. Noise-Induced Hearing Loss. https://www.nidcd.nih.gov/health/noise-induced-hearing-loss. Accessed August 6, 2025.

USEPA. 1981. U.S. Environmental Protection Agency. Noise Effects Handbook: A Desk Reference to Health and Welfare Effects of Noise. Office of Noise Abatement and Control. October 1979. Revised July 1981. https://nonoise.org/epa/Roll7/roll7doc27.pdf. Accessed April 9, 2025.

D.11 Transportation

D.11.1 Definition of Resource

Transportation resources include elements of the transportation network in a community or area, including road networks, vehicular traffic, and associated infrastructure. The transportation ROI consists of segments of US-98 adjacent to Tyndall AFB, and on-base roads and transportation infrastructure south of US-98. This analysis assumes that workers constructing the proposed facilities would travel to and from the project sites using privately owned vehicles; therefore, public transportation and pedestrian and bicycle facilities are not addressed in this section.

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APPENDIX E
USFWS OFFICIAL SPECIES LIST

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Florida Ecological Services Field Office
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
Phone: (352) 448-9151 Fax: (772) 562-4288
Email Address: fw4flesregs@fws.gov
https://www.fws.gov/office/florida-ecological-services

In Reply Refer To: 02/24/2026 14:58:23 UTC
Project Code: 2025-0048600
Project Name: Tyndall AFB CEMIRT Facility Environmental Assessment

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. **Please include your Project Code, listed at the top of this letter, in all subsequent correspondence regarding this project.** Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Florida bonneted bat: If the Florida bonneted bat or Florida bonneted bat Critical Habitat is on your Official Species List, please make sure you are using the 2024 Florida Bonneted Bat Guidelines and Key and submitting acoustic survey data to NABat if acoustic surveys are conducted.

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permits/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of

Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Marine Mammals
- Coastal Barriers
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Florida Ecological Services Field Office
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
(352) 448-9151

PROJECT SUMMARY

Project Code: 2025-0048600
Project Name: Tyndall AFB CEMIRT Facility Environmental Assessment
Project Type: Military Development
Project Description: Tyndall AFB proposed to construct, operate, and maintain a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.0585759,-85.58551357843767,14z



Counties: Bay County, Florida

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469 General project design guidelines: https://ipac.ecosphere.fws.gov/project/IA2UMYPL4ZDPDNJQOVL2273WTE/documents/generated/7281.pdf	Threatened

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened
Eastern Indigo Snake *Drymarchon couperi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened

FISHES

NAME	STATUS
Gulf Sturgeon *Acipenser oxyrinchus (=oxyrhynchus) desotoi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/651	

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Godfrey's Butterwort *Pinguicula ionantha* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6805	Threatened
Telephus Spurge *Euphorbia telephioides* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5499	Threatened
White Birds-in-a-nest *Macbridea alba* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6291	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

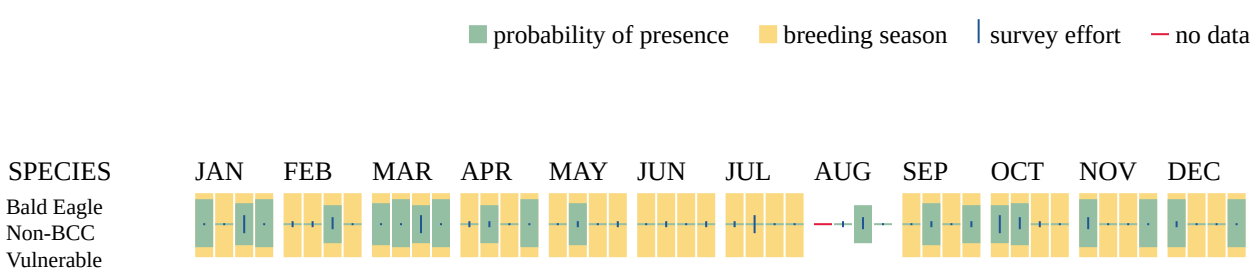
Probability of Presence (▪)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Kestrel *Falco sparverius paulus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9587	Breeds Apr 1 to Aug 31
American Oystercatcher *Haematopus palliatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8935	Breeds Apr 15 to Aug 31
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Jul 31
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15

NAME	BREEDING SEASON
Brown-headed Nuthatch *Sitta pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9427	Breeds Mar 1 to Jul 15
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Chuck-will's-widow *Antrostomus carolinensis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9604	Breeds May 10 to Jul 10
Gull-billed Tern *Gelochelidon nilotica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9501	Breeds May 1 to Jul 31
Least Tern *Sternula antillarum antillarum* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/11919	Breeds Apr 25 to Sep 5
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Pectoral Sandpiper *Calidris melanotos* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9561	Breeds elsewhere
Prairie Warbler *Setophaga discolor* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9513	Breeds May 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31

NAME	BREEDING SEASON
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Ruddy Turnstone *Arenaria interpres morinella* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/10633	Breeds elsewhere
Semipalmated Sandpiper *Calidris pusilla* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9603	Breeds elsewhere
Short-billed Dowitcher *Limnodromus griseus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Whimbrel *Numenius phaeopus hudsonicus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11991	Breeds elsewhere
Willet *Tringa semipalmata* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10669	Breeds Apr 20 to Aug 5
Wilson's Plover *Charadrius wilsonia* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9722	Breeds Apr 1 to Aug 20
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

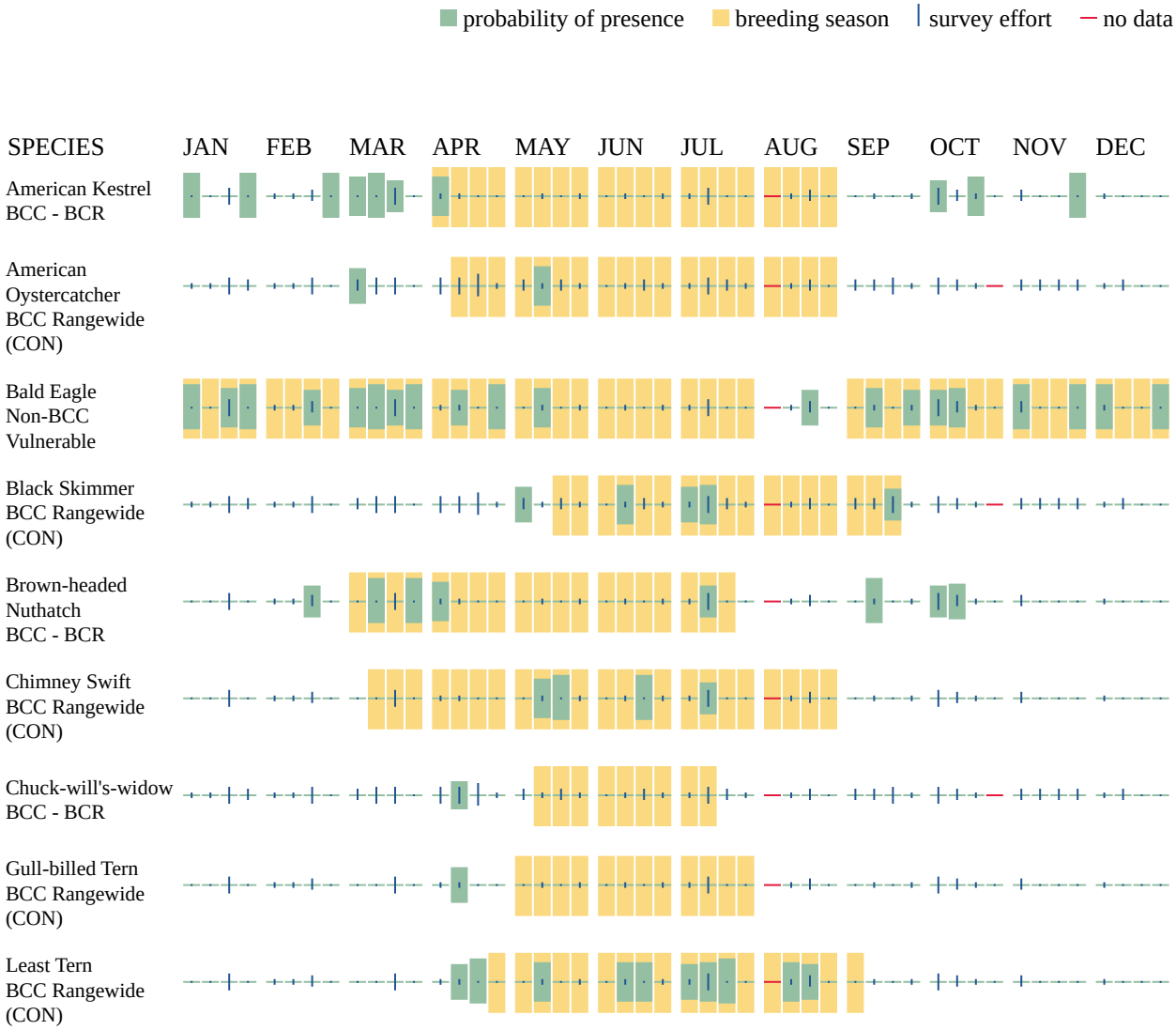
Probability of Presence (■)

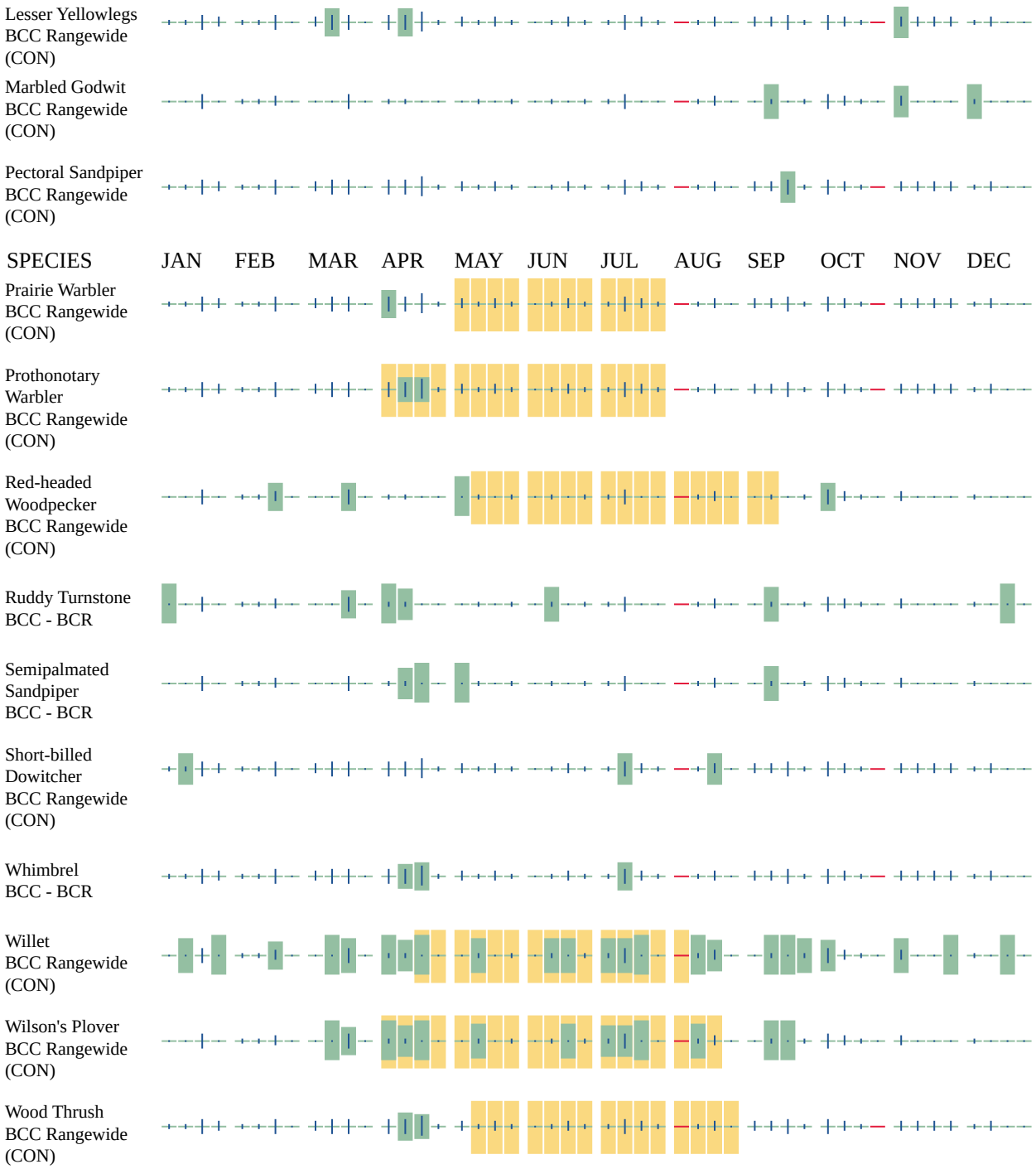
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.





Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds

- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

COASTAL BARRIERS

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

SYSTEM UNIT (SU)

Most new Federal expenditures and financial assistance, including Federal flood insurance, are prohibited within System Units. ***Federally-funded projects within System Units require consultation with the Service.*** *Consultation is not required for projects using private, state, or local funds.*

UNIT	NAME	TYPE	SYSTEM UNIT ESTABLISHMENT DATE	FLOOD INSURANCE PROHIBITION DATE
P31	St. Andrew Complex	SU	12/21/2018	12/21/2018

MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

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1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.

3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*
Species profile: https://ecos.fws.gov/ecp/species/4469

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER FORESTED/SHRUB WETLAND

- PFO4C

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kenneth Erwin
Address: 1025 Vermont Ave. NW
Address Line 2: Suite 500
City: Washington
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Zip: 20005
Email kerwin@versar.com
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LEAD AGENCY CONTACT INFORMATION

Lead Agency: Air Force

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APPENDIX F
FEDERAL COASTAL CONSISTENCY DETERMINATION

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Pursuant to Section 307 of the Coastal Zone Management Act of 1972, as amended, and 15 Code of Federal Regulations (CFR) Subpart C, the Department of the Air Force (DAF) has prepared this Federal Coastal Consistency Determination for the Proposed Action to provide facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Florida. Tyndall AFB is located in northwestern Florida, along the coast of the Gulf of America, immediately south of Panama City and approximately 80 miles southwest of Tallahassee **(Figure F-1)**.

The Proposed Action would enable the DAF, Tyndall AFB, and the CEMIRT facility to provide facility and infrastructure that meet applicable DoD and DAF facility requirements. The Proposed Action would be implemented entirely within the boundaries of Tyndall AFB. Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal year (FY) 2026 and FY28.

The analysis presented in this consistency determination reflects the more detailed analyses of potential environmental impacts that are provided in the Environmental Assessment (EA) that the DAF has prepared in compliance with the National Environmental Policy Act (NEPA) of 1969. The Draft EA analyzes two alternatives for implementing the Proposed Action. Under Alternative 1, the Proposed Action would be implemented adjacent to and immediately northeast of the existing CEMIRT facility **(Figure F-2)**. Alternative 1 would result in an estimated 190,000 SF (4.4 acres) of cumulative land disturbance, corresponding to approximately 19,233 cubic yards of soil disturbance. Under Alternative 2, the Proposed Action would be implemented on a site south of and across Mississippi Road from the existing CEMIRT facility **(Figure F-2)**. Alternative 2 would result in an estimate 155,542 SF (3.6 acres) of cumulative land disturbance, corresponding to approximately 16,839 cubic yards of soil disturbance.

The EA also analyzes potential impacts from the No Action Alternative, which provides a baseline for evaluating potential impacts from the Proposed Action and also represents a potential and viable decision to not implement the Proposed Action.



Figure F-1 Location of Tyndall AFB



Figure F-2 Locations of Alternative 1 and Alternative 2

The Proposed Action would be implemented in accordance with all applicable federal, state, and local laws and regulatory requirements, including the Endangered Species Act, National Historic Preservation Act (NHPA), Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, and Migratory Bird Treaty Act. The DAF, Tyndall AFB, and construction contractors would incorporate and adhere to best management practices (BMPs) and other applicable measures to avoid or minimize adverse environmental impacts throughout implementation of the Proposed Action. These BMPs and other measures are discussed in the resource analysis in the EA, as applicable.

Based on the analyses presented in the EA, the DAF has determined that the Proposed Action would have no significant adverse impacts on the environment and would be consistent with the applicable statutes of the Florida Coastal Management Program (FCMP). A summary of the Proposed Action's consistency with or applicability to each of the enforceable policies is presented in **Table F-1**.

In a response dated June 16, 2025, the State of Florida indicated that it has no objections to allocation of federal funds for the subject project and, therefore, the funding award is consistent with the FCMP. The state's final concurrence of the project's consistency with the FCMP will be determined during any environmental permitting processes, in accordance with Section 373.428, Florida Statutes.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 161, Florida Statute (F.S.), *Beach and Shore Preservation*	Coastal areas are among the state's most valuable natural, aesthetic and economic resources. The state is required to protect coastal areas from imprudent activities that could: • Jeopardize the stability of the beach-dune system • Accelerate erosion • Provide inadequate protection to upland structures • Endanger adjacent properties • Interfere with public beach access Coastal areas used, or likely to be used, by sea turtles are designated for nesting, and removal of vegetative cover that binds sand is prohibited. 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.	**No effect**. The Proposed Action would not be implemented on or seaward of any beach on Tyndall AFB or within the legal jurisdiction of the State of Florida. As such, the Proposed Action would have no potential to jeopardize the stability of the beach-dune system, alter conditions that would adversely affect protection to upland structures, endanger adjacent properties, interfere with public beach access, or adversely affect nesting sea turtles or other wildlife, vegetation, or habitat in beach environments.
Chapter 163, Part II, F.S., *Intergovernmental Programs: Growth Policy, County and Municipal Planning: Land Development Regulation*	The purpose of this statute is to provide for implementation of comprehensive planning programs to guide and control future development in the state. The comprehensive planning process encourages units of local government to: • Preserve, promote, protect, and improve the public health, safety, comfort, good order, appearance, convenience, law enforcement, and fire prevention and general welfare • Prevent the overcrowding of land and avoid undue concentration of population • Facilitate the adequate and efficient provision of public facilities and services • Conserve, develop, utilize, and protect natural resources within their jurisdictions	**No effect.** The Proposed Action would occur entirely within the boundaries of Tyndall AFB and would have no potential to affect the planning policies, goals, or objectives expressed in local government comprehensive plans.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 186, F.S., *State and Regional Planning*	The state comprehensive plan provides basic policy direction to all levels of government regarding the orderly social, economic and physical growth of the state. The goals, objectives, and policies of the state comprehensive plan are statewide in scope and are consistent and compatible with each other. The statute provides direction for the delivery of governmental services, a means for defining and achieving the specific goals of the state and a method for evaluating the accomplishment of those goals.	**Consistent**. The DAF has coordinated with state agencies during the NEPA process for the Proposed Action evaluated in this Environmental Assessment and federal consistency determination. The Proposed Action would not affect state plans for water use, land development, or transportation.
Chapter 252, F.S., *Emergency Management*	Florida is vulnerable to a wide range of emergencies, including natural, technological, and manmade disasters. This vulnerability is exacerbated by the tremendous growth in the state's population. This statute directs the state to: • Reduce the vulnerability of its people and property to natural and manmade disasters • Prepare for, respond to and reduce the impacts of disasters • Decrease the time and resources needed to recover from disasters. Disaster mitigation is necessary to ensure the common defense of Floridians' lives and to protect the public peace, health and safety. The policies provide the means to assist in the prevention or mitigation of emergencies that may be caused or aggravated by inadequate planning or regulation. State agencies are directed to keep land uses and facility construction under continuing study and identify areas that are particularly susceptible to natural or manmade catastrophic occurrences.	**No effect**. The Proposed Action would have no potential to increase the vulnerability of the state's population or property to natural, technological, and manmade disasters. As such, the Proposed Action would have no potential to adversely affect the state's planning and preparation for, mitigation of, or recovery from emergencies and disasters.
Chapter 253, F.S., *State Lands*	The Board of Trustees of the Internal Improvement Trust Fund (Trustees) is charged with the acquisition, administration, management, control, supervision, conservation, protection, and disposition of all lands owned by the State. Lands acquired for preservation, conservation and recreation serve the public interest by contributing to public health, welfare and economy. In carrying out the requirements of this statute, the Trustees are directed to take necessary action to fully: • Conserve and protect state lands • Maintain natural conditions • Protect and enhance natural areas and ecosystems	**No effect**. The Proposed Action would occur entirely within the boundaries of Tyndall AFB, a federally owned military installation, and would have no potential to affect state lands, including submerged lands.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 253, F.S., *State Lands (cont'd)*	• Prevent damage and depredation • Preserve archaeological and historical resources. All submerged lands are considered single-use lands to be maintained in natural condition for the propagation of fish and wildlife and for public recreation. Where multiple uses are permitted, ecosystem integrity, recreational benefits, and wildlife values are conserved and protected.	
Chapter 258, F.S., *State Parks and Preserves*	The statute addresses the State's administration of parks, aquatic preserves, and recreation areas, which are acquired to emblemize the state's natural values and to ensure that these values are conserved for all time. Parks and preserves are managed for the non-depleting use, enjoyment, and benefit of Floridians and visitors, and to contribute to the state's tourist appeal. Aquatic preserves are recognized as having exceptional biological, aesthetic, and scientific value and are set aside for the benefit of future generations. Disruptive physical activities and polluting discharges are highly restricted in aquatic preserves. State-managed wild and scenic rivers possess remarkable and unique ecological, fish and wildlife, and recreational values. These rivers are also designated for permanent preservation and enhancement for both the present and future.	**No effect**. The Proposed Action would not involve, or have the potential to affect state parks, aquatic preserves, and recreation areas.
Chapter 259, F.S., *Land Acquisition for Conservation or Recreation*	The statute addresses public ownership of natural areas for purposes of: • Maintaining the state's unique natural resources • Protecting air, land and water quality • Promoting water resource development to meet the needs of natural systems and residents of this state • Promoting restoration activities on public lands • Providing lands for natural resource-based recreation Lands are managed to protect or restore their natural resource values, and provide the greatest benefit, including public access, to Floridians	**No effect**. The Proposed Action would not involve or have no potential to affect state initiatives to acquire land for conservation and recreation purposes, or the public's access to such lands.
Chapter 260, F.S., *Florida Greenways and Trails Act*	*Not applicable; as of August 29, 2016, Chapter 260, F.S., does not contain any enforceable policies for federal consistency purposes.*	

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 267, F.S., *Historical Resources*	The management and preservation of the state's archaeological and historical resources are addressed by this statute. This statute recognizes the state's rich and unique heritage of historic resources and directs the state to locate, acquire, protect, preserve, operate, and interpret historic and archeological resources for the benefit of current and future generations of Floridians. Objects or artifacts with intrinsic historic or archeological value located on, or abandoned on, state-owned lands belong to the residents of the state. The state historic preservation program operates in conjunction with the NHPA of 1966 to require state and federal agencies to consider the effect of their direct or indirect actions on historic and archeological resources. These resources cannot be destroyed or altered unless no prudent alternative exists. Unavoidable impacts must be mitigated.	**Consistent.** The Proposed Action would be implemented entirely within the boundaries of Tyndall AFB, a federally owned military installation. Therefore, the Proposed Action would have no potential to affect archaeological and historical resources on State-owned lands. The DAF conducted NHPA Section 106 consultation for the Proposed Action in parallel with the NEPA process. The DAF has determined that the Proposed Action would have no adverse effects on historic properties on or outside Tyndall AFB under Alternative 1. The SHPO concurred with this determination in a letter dated January 20, 2026. If Alternative 2 had been selected for implementation, the DAF would have reinitiated Section 106 consultation and sought SHPO concurrence with its determination of effects on historic properties. Should inadvertent discovery of archaeological deposits or human remains be made during construction or other ground-disturbing activities, all ground-disturbing work would cease, and the DAF would follow standard operating procedures for Discoveries of Archaeological Resources and Native American Graves Protection and Repatriation Act Cultural Items, as detailed in the Tyndall AFB Integrated Cultural Resources Management Plan.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 288, F.S., *Commercial Development and Capital Improvements*	The framework to promote and develop general business, trade and tourism components of the state economy are established in this statute. The statute includes requirements to: • Protect and promote the natural, coastal, historical, and cultural tourism assets of the state • Foster the development of nature-based tourism and recreation • Upgrade the image of Florida as a quality destination. Natural resource-based tourism and recreational activities are critical sectors of Florida's economy. The needs of the environment must be balanced with the need for growth and economic development.	**No effect.** The Proposed Action would have no potential to affect the state's natural, coastal, historical, and cultural tourism assets, including associated business, trade, and economic activity.
Chapter 334, F.S., *Transportation Administration*	*Not applicable; as of October 9, 2017, Chapter 334, F.S., does not contain any enforceable policies for federal consistency purposes*.	
Chapter 339, F.S., *Transportation Finance and Planning*	The statute addresses the finance and planning needs of the state's transportation system.	**No effect.** The Proposed Action does not involve and would have no potential to affect the finance and planning needs of the state's transportation system.
Chapter 373, F.S., *Water Resources*	Waters in Florida are managed and protected to conserve and preserve water resources, water quality, and environmental quality. This statute addresses: • Sustainable water management • The conservation of surface and ground waters for full beneficial use • The preservation of natural resources, fish and wildlife, and protecting public land • Promoting the health and general welfare of Floridians. The state manages and conserves water and related natural resources by determining whether activities will unreasonably consume water; degrade water quality; or adversely affect environmental values, such as protected species habitat, recreational pursuits, and marine productivity. Specifically, under Part IV of Chapter 373, Florida Department of Environmental Protection (FDEP), water management districts, and delegated local governments review and take agency action on wetland resource, environmental resource, and stormwater permit applications.	**Consistent.** Potential impacts on water resources from the Proposed Action would not be significant. Construction and operation of the Proposed Action would disturb up to 1.410 acres of wetlands and up to 2.77 acres of floodplains. Potential wetland impacts would be avoided, mitigated, or compensated through the Section 401/404 permitting process. Tyndall AFB would obtain an Environmental Resource Permit for impacts to wetlands, as applicable. Tyndall AFB would obtain and adhere to the requirements of an Individual Environmental Resource Permit for stormwater (Chapter 62-330.020, FAC)

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 373, F.S., *Water Resources (cont'd)*	These permits address construction, alteration, operation, maintenance, abandonment, and removal of any stormwater management system, dam, impoundment, reservoir, or appurtenant works, including dredging, filling, and other construction activities in, on, and over wetlands and other surface waters.	generated by projects that would add more than 4,000 square feet of impervious surface subject to vehicular activity or 9,000 square feet of total impervious surface. The Proposed Action would incorporate permanent on-site stormwater management BMPs to minimize or avoid adverse impacts on water resources to the extent practicable. Increased volumes of stormwater resulting from new or additional impervious surface associated with the Proposed Action would be managed in accordance with the requirements of Tyndall AFB's National Pollutant Discharge Elimination System permit and would not contribute to the increased turbidity, sedimentation, or pollution of receiving water bodies. None of the activities or operations associated with construction or operation of the Proposed Action would have the potential to contribute to discharges that exceed or violations of applicable water quality standards or regulations.
Chapter 375, F.S., *Outdoor Recreation and Conservation Lands*	The statute addresses development of a comprehensive outdoor recreation plan. The purpose of the plan is to: • Document recreational supply and demand • Describe current recreational opportunities • Estimate the need for additional recreational opportunities • Propose the means to meet the needs identified.	**No effect.** The Proposed Action would have no potential to affect state planning for outdoor recreation and conservation lands.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 376, F.S., *Pollutant Discharge Prevention and Removal*	Regulating the transfer, storage and transportation of pollutants, and the cleanup of pollutant discharges is essential for maintaining coastal resources, specifically the coastal waters, estuaries, tidal flats, beaches, and public lands adjoining the seacoast, in as close to a pristine condition as possible. The preservation of the seacoast as a source of public and private recreation, along with the preservation of water and certain lands are matters of the highest urgency and priority. This statute provides a framework for the protection of the state's coastline from spills, discharges, and releases of pollutants. The discharge of pollutants into or on any coastal waters, estuaries, tidal flats, beaches and lands adjoining the seacoast of the state is prohibited. The statute: • Provides for hazards and threats of danger and damages resulting from any pollutant discharge to be evaluated • Requires the prompt containment and removal of pollution; provides penalties for violations • Ensures the prompt payment of reasonable damages from a discharge. Portions of Chapter 376, F.S., serve as a complement to the national contingency plan portions of the federal Water Pollution Control Act.	**Consistent.** Any accidental discharges of pollutants during construction or operation of the Proposed Action would be contained, controlled, and cleaned up in accordance with the requirements of Tyndall AFB's *Spill Prevention, Control, and Countermeasures* (SPCC) Plan and any site- or project-specific SPCC plans, as applicable. Hazardous materials associated with construction and operation of the Proposed Action would be used, handled, stored, transported, and disposed of in accordance with all applicable federal and state requirements, including those set forth in Tyndall AFB's *Hazard Waste Management Plan*. The Proposed Action is not anticipated to increase the quantities or volumes of hazardous materials used or stored at Tyndall AFB, or hazardous waste generated at the installation.
Chapter 377, F.S., *Energy Resources*	The statute addresses the regulation, planning and development of the energy resources of the state. The statute provides policy to conserve and control the oil and gas resources in the state, including products made therefrom and to safeguard the health, property and welfare of Floridians. FDEP is authorized to regulate all phases of exploration, drilling and production of oil, gas, natural gas, and other petroleum products in the state. The statute describes the permitting requirements and criteria necessary to drill and develop for oil, gas, and natural gas. DEP rules ensure that all precautions are taken to prevent the spillage of oil or any other pollutant in all phases of extraction and transportation. The state explicitly prohibits pollution resulting from drilling and production	**No effect.** The Proposed Action would not involve drilling, development, production, or transportation of oil, gas, natural gas, or other petroleum resources within the state, and would have no potential to result in associated pollution from such activities or resources.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 377, F.S., *Energy Resource (cont'd)*	activities. No person drilling for or producing oil, gas, natural gas, or other petroleum products may: • Pollute land or water • Damage aquatic or marine life, wildlife, birds, or public or private property • Allow any extraneous matter to enter or damage any mineral or freshwater-bearing formation. Penalties for violations of any provisions of this chapter are detailed.	
Chapter 379, F.S., *Fish and Wildlife Conservation*	The framework for management and protection of Florida's wide diversity of fish and wildlife resources is established in this statute. It is the policy of the state to conserve and wisely manage these resources. Particular attention is given to those species defined as being endangered or threatened. This policy includes the acquisition or management of lands important to the conservation of fish and wildlife. This statute contains specific provisions for conservation and management of marine fisheries resources. These conservation and management measures permit reasonable means and quantities of annual harvest, consistent with maximum practicable sustainable stock abundance, as well as ensure the proper quality control of marine resources that enter commerce. Additionally, this statute supports and promotes hunting, fishing, and the taking of game opportunities in the state. Hunting, fishing, and the taking of game are considered an important part of the state's economy and in the conservation, preservation, and management of the state's natural areas and resources.	**Consistent.** The Proposed Action would be implemented in a manner that minimizes adverse impacts on fish and wildlife to the extent possible. A Biological Assessment was prepared to evaluate potential impacts from the Proposed Action on federally listed species and support consultation with the U.S. Fish and Wildlife Service (USFWS) in accordance with Section 7 of the Endangered Species Act. The DAF conducted Section 7 consultation for the Proposed Action in parallel with the NEPA process. The DAF has determined that the Proposed Action may affect, but is not likely to adversely affect federally listed species and is not likely to jeopardize the continued existence of federally proposed species. USFWS concurred with this determination on December 2, 2025.

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 380, F.S., *Land and Water Management*	Land and water management policies are established to protect natural resources and the environment; and to guide and coordinate local decisions relating to growth and development. The statute provides that state land and water management policies be implemented by local governments through existing processes for the guidance of growth and development. The statute also provides that all the existing rights of private property be preserved in accord with constitutions of this state and of the United States. The chapter establishes the Areas of Critical State Concern designation, the Florida Communities Trust, and the Florida Coastal Management Act. The Florida Coastal Management Act provides the basis for the Florida Coastal Management Program, which seeks to protect the natural, commercial, recreational, ecological, industrial and aesthetic resources of Florida's coast.	**No effect**. The Proposed Action would be implemented entirely within the boundaries of Tyndall AFB, a federally owned military installation, and would have no potential to affect local implementation of state land and water management policies or private property rights.
Chapter 381, F.S., *Public Health: General Provisions*	The statute establishes public policy concerning the State's public health system, which is designated to promote, protect, and improve the health of all people in the state.	**No effect**. The Proposed Action would have no potential to affect the state's public health system.
Chapter 388, F.S., *Mosquito Control*	Mosquito control efforts of the State are designed to: • achieve and maintain such levels of arthropod control as will protect human health and safety • promote the economic development of the state • facilitate the enjoyment of its natural attractions by reducing the number of pestiferous and disease-carrying arthropods. It is the State's policy to conduct arthropod control in a manner consistent with protection of the environmental and ecological integrity of all lands and waters throughout the state.	**No effect.** The Proposed Action would not affect local mosquito control efforts or contribute to increased propagation of mosquitos.
Chapter 403, F.S., *Environmental Control*	Environmental control policies help to conserve state waters; protect and improve water quality; and maintain air quality. This statute provides wide-ranging authority to address various environmental control concerns, including: • Air and water pollution • Electrical power plant and transmission line siting	**Consistent**. The Proposed Action would be implemented in accordance with the state's environmental control policies, as applicable, to prevent or minimize adverse effects on environmental resources regulated by the state. Construction and operation of the Proposed Action would

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 403, F.S., *Environmental Control (cont'd)*	• The Interstate Environmental Control Compact • Resource recovery and management • Solid and hazardous waste management • Drinking water protection; pollution prevention • Ecosystem management • Natural gas transmission pipeline siting	include BMPs and pollution prevention measures. The Proposed Action would not result in exceedances of applicable state water quality standards or have substantial and longer-term water quality impacts. Air pollutant emissions associated with construction of the Proposed Action would not exceed DAF significance thresholds or exceed air quality standards. Long-term increases of air pollutants would not be significant. Construction wastes and operational wastes would be collected, transported, recycled, and disposed of in compliance with applicable state and local regulations. The DAF would obtain and comply with all applicable permits as required by law.
Chapter 553, F.S., *Building and Construction Standards*	The statute addresses building construction standards and provides for a unified Florida Building Code.	**Consistent**. The Proposed Action would be built, operated, and maintained in accordance with all applicable DoD, DAF, and other federal, state, and local facility and construction requirements, including the Florida Building Code. The DAF would obtain and adhere to construction permits for the Proposed Action.
Chapter 582, F.S., *Soil and Water Conservation*	It is the State's policy to preserve natural resources; control and prevent soil erosion; prevent floodwater and sediment damages; and to further the conservation, development, and use of soil and water resources. Farm, forest, and grazing lands are among the basic assets of the state; and the preservation of these lands is necessary to protect and promote the health, safety, and general welfare of its people. These measures help to:	**Consistent**. Construction contractors would develop and adhere to project-specific Stormwater Pollution Prevention Plans and applicable BMPs to prevent or minimize the erosion of exposed soils and the sedimentation of receiving water bodies (also see response regarding

Table F-1 Summary of the Proposed Action's Consistency with or Applicability to the Enforceable Policies of the Florida Coastal Management Program

Statute	Scope	Consistency or Applicability
Chapter 582, F.S., *Soil and Water Conservation (cont'd)*	• Preserve state and private lands • Control floods • Maintain water quality • Prevent impairment of dams and reservoirs • Assist in maintaining the navigability of rivers and harbors • Preserve wildlife and protect wildlife habitat • Protect the tax base • Protect public lands • Protect and promote the health, safety, and general welfare of the people of this state.	consistency with Ch. 373, *Water Resources*). All areas within the project site not paved or otherwise developed by the Proposed Action would be revegetated with native species to prevent ongoing soil erosion. The Proposed Action would not affect soils or farmland within a Soil and Water Conservation District and would not convert prime farmland.
Chapter 597, F.S., *Aquaculture*	The statute establishes public policy concerning cultivation of aquatic organisms in the state. The intent is to enhance the growth of aquaculture, while protecting Florida's environment. This intent includes a requirement for a state aquaculture plan that provides for: • The coordination and prioritization of state aquaculture efforts • The conservation and enhancement of aquatic resources • Mechanisms for increasing aquaculture production.	**No effect**. The Proposed Action would have no potential to affect aquaculture initiatives in the state.

Source: Florida Costal Management Program, 2024

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APPENDIX G
UNIFORM MITIGATION ASSESSMENT METHOD (UMAM) ASSESSMENT

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G.1 Methodology

Uniform Mitigation Assessment Method (UMAM)

The UMAM (62-345, Florida Administrative Code) was developed by the Florida Department of Environmental Protection and Florida's Water Management Districts to determine the amount of mitigation needed to offset adverse impacts on wetlands. The methodology was designed to assess functions provided by wetlands, the loss of functions provided by wetlands, and the amount of mitigation necessary to offset the proposed functional losses. This method is also used to determine the degree of improvement in ecological value that would be created by mitigation activities.

The UMAM Assessment includes a Qualitative Characterization (Part I) as well as a Quantitative Assessment and Scoring (Part II). The Qualitative Assessment is a basic descriptor of the site being evaluated and includes the following:

- significant nearby features
- water classifications
- assessment area size
- hydrology and relationship to contiguous off-site wetlands
- uniqueness of the assessment area
- functions of the assessment area
- wildlife utilization

The Quantitative Assessment provides a score of the assessment area in both the current condition and "with impact" condition. The assessment scoring evaluates the following parameters:

- location and landscape support
- water environment
- vegetative community

G.2 Mitigation Assessment

G.2.1 Anticipated Wetlands Mitigation Requirements

Wetlands potentially impacted by the Proposed Action are highly disturbed and altered due to hurricane damage and timber harvest/salvage operations. A formal Jurisdictional Determination of the wetlands would be conducted during the state and federal permitting process. During design and permitting, efforts would be made to minimize impacts to wetlands to the greatest extent practicable. A UMAM Assessment was conducted for wetlands that are considered state and/or federally jurisdictional and therefore requiring mitigation. Four wetlands comprising approximately 2.37 acres were evaluated using the UMAM Assessment **(Table G-1)**.

Table G-1 Potentially Jurisdictional Wetlands Identified within the Alternative Sites

Alternative Site	Wetland Number	Potential Jurisdiction	Area (Acres)
1	1	WOTUS	1.410
		Alternative 1 Subtotal	1.410
2	2	WOTUS	0.940
	3	Waters of the State	0.001
	4	Waters of the State	0.020
		Alternative 2 Subtotal	0.961
		Total	2.371

Source: DAF, 2025

All wetlands were evaluated in two assessment areas. Wetland 1 was evaluated alone in Alternative site 1, and Wetlands 2, 3, and 4 were evaluated together in Alternative site 2. UMAM scores were developed for each alternative site that would have the potential to be affected by the Proposed Action **(Table G-2)**. Functional loss units were calculated by using the difference between the existing condition (i.e., current) scores and the proposed condition scores for individual wetland features and multiplying them by the acreage of potential impact to establish the estimated lost value of wetland functions to fish and wildlife resulting from the Proposed Action. The estimated functional loss value to fish and wildlife as a result of the Proposed Action would be up to 0.85 units, depending on the alternative selected. The completed UMAM data sheets are provided at the end of this appendix. The UMAM scores and values presented in **Table G-2** are approximate and will be further refined during the permitting process and formal jurisdiction approval.

Table G-2 UMAM Assessment

Alternative Site	Score (Delta)	Acres of Impact	Functional Loss (Units)
1	0.60	1.410	0.85
2	0.77	0.961	0.74

Source: DAF, 2025

G.3 References

DAF. 2025.Final Stream and Wetland Delineation Report for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements. Tyndall AFB, Florida. August.

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall AFB - CEMIRT Facility (Alt Sites 1 and 2)		

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
320, 322, 411, 625	USFWS NWI - PFO4C FLCCS - 1312, 2221, 22211 FNAI - scrubby flatwoods; wet flatwoods	Impact	4.4 ac / 3.6 ac

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
12-031401010705	N/A	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Generally-continuous wetland connection to downstream surface waters (Saint Andrew Bay), but with impacts from Mississippi Road crossing

Assessment area description

These two scrub-shrub wetland areas were significantly impacted by 2018 Hurricane Michael (with >80% mature trees felled). Prior to Hurricane Michael, USFWS NWI classified these areas as PFO4C (palustrine, forested, needle-leaved evergreeen, seasonally-flooded). However, aerial photographs suggest mixed mature conifers and deciduous trees were present. Hurricane-felled trees were removed from both sites between 2019 and 2022. Heavy equipment used in this effort left 2-3' deep track ruts in both sites (naturalized now).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
St Andrew Bay is located approximately 1,015 ft southwest of Alt Site 2, and 1,860 feet southwest of Alt Site 1.	This wetland type is common in the surrounding landscape

Functions	Mitigation for previous permit/other historic use
Wildlife cover, refuge, foraging area, nesting/denning area, food web support, stormwater runoff storage, flood attentuation, water quality improvement	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Feeding, breeding, resting/loafing, and nesting/denning habitat is present. April 2025 federally protected species survey did not document any listed species. Site likely dominated by generalist species which live in close proximity to human land uses/development.	No federally protected species observed during April 2025 survey. Godfrey's goldenaster, a Florida endangered species, may be present on both sites.

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

birds: Northern mockingbird, northern cardinal, catbird, blue jay, downy woodpecker, cedar waxwing, cowbird, eastern towhee, house sparrow, carolina wren, house finch, European starling, goldfinch
mammals: eastern cottontail (scat), whitetail deer (bedding/scat), coyote, other canid scat
insects: damselfly, bumblebees
reptiles: cottonmouth, coachwhip, unknown colubrid (snake; black), broadhead skink, green anole

Additional relevant factors:

Sites are located on a large military base, adjacent to developed portions of the base. Hurricane Michael (2018) severely impacted mature woody vegetation on both sites (downed trees removed between 2019 and 2022).

Assessment conducted by:	Assessment date(s):
B. Leatherland	21-23 April 2025

Form 62-345.900(1), F.A.C. [effective date 02-04-2004]

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall CEMIRT Project		Alternative Site 1
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	B. Leatherland	27-May-25

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with:	Existing adjacent development/military land uses to the north, west, and south limit Alternative Site 1 habitat value and function (and wildlife access/connectivity). Hurricane Michael also severely impacted mature vegetation in 2018. Downed trees were subsequently removed from the site in 2019-2022. Natural succession has been allowed to progress since then. Site is predominately scrub-shrub habitat now, with some recovery of remnant standing hurricane-damaged canopy trees. Heavy equipment that was used to clear downed trees left 2-3 foot deep track ruts in some areas, though these have become re-vegetated/naturalized, and provide greater habitat diversity now. This site has connectivity to a downgradient wetland area to southeast, though this connectivity is bisected by Mississippi Road. Assessment Factors: wildlife support, invasive/exotic species, wildlife access and barriers, downstream fish and wildlife benefits/barriers, external land use effects on fish and wildlife, benefits to hydrologically-connected areas, downstream benefits from discharges, and protection of wetland function by upland mitigation.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with:	No persistent aquatic habitat or inundation is present, though a 1.41-acre potentially-jurisdictional PSS wetland occupies the central 32% of the site. Based on field observations of soils and hydrology, this wetland area likely experiences periodic inundation followed by dessication (drying), due in part to underlying sandy soil. Estimated depth to groundwater is approximately 4 to 6 feet, based on observations of nearby off-site stormwater basin and excavated stream/ditch. No evidence of fire. No observed morphological plant adaptations. Assessment factors: water levels and flows, water level indicators, soil moisture, soil erosion or deposition, evidence of fire history, vegetation-community zonation, vegetation-hydrologic stress, wildlife use by species with specific hydrologic requirements, plant community composition (tolerance of water quality degradation or altered flow), standing water observation, existing water quality data, water depth/ wave energy / currents / llight penetration
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with:	Scrub-shrub vegetation on-site is healthy and dense/abundant, with multiple native species (most growing from root mass remaining after 2018 hurricane effects). Minimal invasive species present. No benthic community (or aquatic habitat) is present. Existing CEMIRT facility and stormwater basin are located to the west, new commercial vehicle inspection area recently constructed to the north, and existing canine training facility to the south. Assessment factors: plant species (canopy, shrub, and/or ground-level strata), invasive species, regeneration/recruitment, age/size distribution, coarse woody debris density and quality, plant condition, land management practices, topographic features/diversity/refugia, siltation or algal growth on SAV, and upland mitigation area level of habitat and support.

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.60	with:

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

For impact assessment areas
FL = delta x acres = 0.85

Delta = [with-current]

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

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

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall CEMIRT Project		Alternative Site 2
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	B. Leatherland	27-May-25

Scoring Guidance	Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed	Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with:	Existing roadway to north, though good habitat connectivity exists to west, south, and east. Hurricane Michael also severely impacted mature vegetation in 2018. Downed trees were subsequently removed from the site in 2019-2022. Natural succession has been allowed to progress since then. Site is predominately scrub-shrub habitat now, with some recovery of remnant standing hurricane-damaged canopy trees. Heavy equipment that was used to clear downed trees left 2-3 foot deep track ruts in some areas, though these have become re-vegetated/naturalized, and provide greater habitat diversity now. Site has good connectivity to a wetland area (to the south) and Saint Andrew Bay (to the south). Assessment Factors: wildlife support, invasive/exotic species, wildlife access and barriers, downstream fish and wildlife benefits/barriers, external land use effects on fish and wildlife, benefits to hydrologically-connected areas, downstream benefits from discharges, and protection of wetland function by upland mitigation.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with:	No persistent aquatic habitat or inundation is present, though a 0.94-acre potentially-jurisdictional PSS wetland occupies the southern 27% of the site. Based on field observations of soils and hydrology, this wetland area likely experiences periodic inundation followed by dessication (drying), due in part to underlying sandy soil. Estimated depth to groundwater is approximately 4 to 6 feet. Some evidence fire (intentional, for vegetation management). No observed morphological plant adaptations. Assessment factors: water levels and flows, water level indicators, soil moisture, soil erosion or deposition, evidence of fire history, vegetation-community zonation, vegetation-hydrologic stress, wildlife use by species with specific hydrologic requirements, plant community composition (tolerance of water quality degradation or altered flow), standing water observation, existing water quality data, water depth/ wave energy / currents / llight penetration
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with:	Scrub-shrub vegetation on-site is healthy and dense/abundant, with multiple native species (most growing from root mass remaining after 2018 hurricane effects). Minimal invasive species present. No benthic community (or aquatic habitat) is present. Good connectivity to adjacent upland habitat. Assessment factors: plant species (canopy, shrub, and/or ground-level strata), invasive species, regeneration/recruitment, age/size distribution, coarse woody debris density and quality, plant condition, land management practices, topographic features/diversity/refugia, siltation or algal growth on SAV, and upland mitigation area level of habitat and support.

Score = sum of above scores/30 (if uplands, divide by 20)		
current or w/o pres: 0.77	with:	

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

For impact assessment areas
FL = delta x acres = 0.72

Delta = [with-current]

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

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

Form 62-345.900(2), F.A.C. [effective date 02-04-2004]

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APPENDIX H
LIST OF PREPARERS AND CONTRIBUTORS

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The following individuals assisted in the preparation of this Environmental Assessment:

Table H-1 List of Preparers and Contributors

Name*	Education	EA Role	Years of Experience
Tonya Arthur	BS, Geography and Computer Science, GIS Certificate	Geographic Information Systems	15
Jessica Botte	MAS, Environmental Policy and Management	Hazardous Materials and Waste	14
Christopher Bowen	MA, Archaeology and Heritage	Cultural Resources	32
Craig Carver	Master of Urban and Regional Planning	Senior Technical Review	15
Rahul Chettri	MS, Environmental Studies	Air Quality and Greenhouse Gases	41
Kenneth Erwin	MS, Natural Resources	Project Management; Biological Assessment; Soils; Socioeconomics; Transportation; Federal Consistency Determination	11
Butch Fries	MA, Mass Communications	Technical Editing	45
Benjamin Leatherland	MA, Geography/ Environmental Planning	Wetland Delineation; Biological Resources; Water Resources	29
Radhika Narayanan	MS, Environmental Science	Air Quality and Greenhouse Gases	28
Alex Noble	BS, Environmental Science; BA, Biological Sciences	Noise; Safety; Infrastructure / Utilities	3
Angela Northrop	BS, Marketing	Technical Editing	27
Maria Shepherd	BA, Zoology	Senior Biologist	35
Christa Stumpf	MS, Forest Resource and Land Use Planning	Program Management	29

*Swift River – Versar Small Business Joint Venture consultants

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APPENDIX I
BIOLOGICAL ASSESSMENT FOR CEMIRT IMPROVEMENTS

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Biological Assessment
for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements
Tyndall Air Force Base, Florida

August 2025

United States Air Force
325th Fighter Wing

Tyndall Air Force Base, Florida



U.S. Air Force photo by Tech. Sgt. Betty R. Chevalier

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Outlook

[EXTERNAL] ESA Section 7 Consultation Request - CEMIRT Facility Tyndall AFB, Project Code 2025-0048600

From Erwin, Kenneth [USA - EMP] <KErwin@versar.com>
Date Thu 8/21/2025 1:48 PM
To Rivera, Jose J <jose_rivera@fws.gov>; FLESRegs, FW4 <FW4FLESRegs@fws.gov>
Cc edwin.wallace.1@us.af.mil <edwin.wallace.1@us.af.mil>; Carver, Craig [USA - EMP] <CCarver@versar.com>

2 attachments (12 MB)
Tyndall CEMIRT EA_BA and USFWS Sec. 7 Consultation Request Letter.pdf; Tyndall CEMIRT_BA (Aug 2025).pdf;

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

On behalf of the Department of the Air Force and Tyndall Air Force Base (AFB), please find attached a letter requesting consultation with USFWS in accordance with Section 7 of the Endangered Species Act. Also attached is a Biological Assessment of potential effects on federally listed species from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team facility at Tyndall AFB. Your written acknowledgment of this consultation request and any requests for additional information is requested within 30 working days of receipt of this letter and attached BA.

Sincerely,

VERSAR GLOBAL SOLUTIONS
YOUR NEEDS OUR MISSION

Kenneth Erwin, CWB®
Wildlife Biologist and Project Manager
Direct (Teams): (703) 642-6915
Mobile: [redacted]
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Versar.com

Florida Ecological Services Field Office
Service Project Code No. 2025-0048600
The U.S. Fish and Wildlife Service has reviewed the information provided and finds that the proposed action is not likely to adversely affect any federally listed species or designated critical habitat protected by the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et. seq.). A record of this consultation is on file at the Florida Ecological Services Field Office.
This fulfills the requirements of section 7 of the Act and further action is not required. If modifications are made to the project, if additional information involving potential effects to listed species becomes available, or if a new species is listed, reinitiation of consultation may be necessary.
ROBERT ALDREDGE
Digitally signed by ROBERT ALDREDGE
Date: 2025.12.02 16:53:42 -05'00'
Supervisor

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LIST OF ACRONYMS AND ABBREVIATIONS

AFB.....Air Force Base
BA.....Biological Assessment
BGEPA.....Bald and Golden Eagle Protection Act
CEMIRT .....Civil Engineer Maintenance, Inspection and Repair Team
DAF.....Department of the Air Force
ESA.....Endangered Species Act
ESRI .....Environmental Systems Research Institute
FNAI.....Florida Natural Areas Inventory
FWC.....Florida Fish and Wildlife Conservation Commission
INRMP .....Integrated Natural Resources Management Plan
IPaC.....Information for Planning and Consultation
MAAS .....mobile aircraft arresting systems
MBTA.....Migratory Bird Treaty Act
NMFS.....National Marine Fisheries Service
NPS .....National Park Service
SF .....square feet
U.S.C. .....United States Code
UFC .....Unified Facilities Criteria
US-98.....U.S. Highway 98
USFWS.....U.S. Fish and Wildlife Service

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CHAPTER 1 INTRODUCTION

1.1 OVERVIEW

The Department of the Air Force (DAF) has prepared this Biological Assessment (BA) to evaluate potential effects on federally listed threatened and endangered species from the Proposed Action to implement facility and infrastructure improvements for the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Florida. Tyndall AFB is in northwestern Florida, along the coast of the Gulf of America, immediately south of Panama City and approximately 80 miles southwest of Tallahassee.

This BA has been prepared pursuant to Section 7 of the Endangered Species Act (ESA) of 1973 (16 United States Code [U.S.C.] 1536). Section 7 of the ESA requires consultation with the U.S. Fish and Wildlife Service (USFWS) to determine if federal actions will affect federally listed threatened or endangered species and to ensure that any action taken will not jeopardize the continued existence of any federally listed threatened or endangered species. The National Defense Authorization Act of 2004 amended Section 4 of the ESA to preclude the USFWS and the National Marine Fisheries Service from designating critical habitat on any lands or other geographical areas owned or controlled by the DoD, or designated for its use, that are subject to an approved DoD Integrated Natural Resources Management Plan (INRMP), provided that USFWS and/or National Marine Fisheries Service certify in writing that the INRMP benefits the federally-listed species for which critical habitat has been designated. The critical habitat addressed in this BA was designated by the USFWS prior to the approval of the Tyndall AFB INRMP.

The Proposed Action consists of construction, operation, and maintenance of a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements at Tyndall AFB. The Proposed Action is further described in **Section 1.3**.

The Action Area consists of the individual sites and buffers associated with Alternatives 1 and 2, further described in **Section 2.1**. Federally listed species and critical habitats under USFWS jurisdiction that may occur in the Action Area are summarized in **Table 1-1**. These species and critical habitats were identified using the USFWS Information for Planning and Consultation (IPaC) tool and the Tyndall AFB INRMP (Tyndall AFB, 2020a).

Table 1-1 Federally Listed Species and Critical Habitats with the Potential to Occur in the Action Area

Common Name	Scientific Name	Federal Status	Critical Habitat
Birds			
eastern black rail	*Laterallus jamaicensis jamaicensis*	Threatened	No
piping plover	*Charadrius melodus*	Threatened	Yes
rufa red knot	*Calidris canutus rufa*	Threatened	No
Fish			
Gulf sturgeon	*Acipenser oxyrinchus*	Threatened	Yes
Mammals			
Choctawhatchee beach mouse	*Peromyscus polionotus allophrys*	Endangered	Yes
St. Andrew beach mouse	*Peromyscus polionotus peninsularis*	Endangered	No
tricolored bat	*Perimyotis subflavus*	Proposed Endangered	No
West Indian manatee	*Trichechus manatus*	Threatened	No

Table 1-1 Federally Listed Species and Critical Habitats with the Potential to Occur in the Action Area

Common Name	Scientific Name	Federal Status	Critical Habitat
Plants			
Godfrey's butterwort	*Pinguicula ionantha*	Threatened	No
telephus spurge	*Euphorbia telephioides*	Threatened	No
white birds-in-a-nest	*Macbridea alba*	Threatened	No
Reptiles			
eastern indigo snake	*Drymarchon couperi*	Threatened	No
green sea turtle	*Chelonia mydas*	Threatened	No
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	No
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	No
leatherback sea turtle	*Dermochelys coriacea*	Endangered	No
loggerhead sea turtle	*Caretta caretta*	Threatened	No

Based on a lack of suitable habitat within the Action Area, as further described in **Chapter 2**, five of the species and two of the critical habitats listed above were eliminated from consideration in this BA:

- Eastern black rail
- Gulf sturgeon and critical habitat
- Piping plover and critical habitat
- Rufa red knot
- West Indian manatee

Additionally, this BA analyzes effects on the monarch butterfly (*Danaus plexippus*), currently proposed for federal listing as threatened under the ESA, and the tricolored bat (*Perimyotis subflavus*), currently proposed for federal listing as endangered under the ESA. The alligator snapping turtle (*Macrochelys temminckii*), currently proposed for federal listing as threatened under the ESA, is included on the USFWS Official Species list obtained from IPaC, but on-site evaluation did not identify suitable habitat for this species. While the monarch butterfly is not currently listed under the ESA, nor is it known to occur on Tyndall AFB, it warrants inclusion because of the species' proposed status and the presence of suitable habitat within the Action Area. The tricolored bat warrants inclusion because of the species' proposed status and the presence of suitable habitat within the Action Area. Although the bald eagle (*Haliaeetus leucocephalus*) is no longer federally listed, it is protected under the Bald and Golden Eagle Protection Act (BGEPA) in accordance with 16 U.S.C. 668 and the Migratory Bird Treaty Act (MBTA) in accordance with 16 U.S.C. 703 and is present on Tyndall AFB. Therefore, the bald eagle is assessed in this BA.

Based on the information and analysis presented in this BA, the DAF has determined that the Proposed Action would not be likely to adversely affect federally listed or proposed species, or species protected under the MBTA, BGEPA, or other applicable federal statutes that are evaluated in this BA. Information supporting this determination is presented in **Chapters 2** through **4** of this BA. USFWS concurrence with the determinations presented in this BA will be requested in the final version.

1.2 LOCATION

Tyndall AFB covers 29,276 acres in Bay County, Florida, immediately south of Panama City **(Figure 1-1)**. More than 30 units and organizations operate at the base, including the 325th Fighter Wing, the First Air Force, the 53rd Weapons Evaluation Group, and the Air Force Civil Engineer Center. U.S. Highway 98 (US-98) bisects Tyndall AFB into northern and southern sections. The base's main aircraft runways, taxiways, aircraft hangars and maintenance facilities, drone runway, and other infrastructure associated with the

airfield are primarily north of US-98, while its administrative facilities, residential areas, and other support facilities and infrastructure are primarily south and west of US-98. Tyndall AFB is bounded by waterbodies on three sides: East Bay to the north, the Gulf of America to the south, and St. Andrew Bay to the west.

The existing CEMIRT facility occupies approximately 323,170 SF (7.4 acres) along Mississippi Road on the southern side of Tyndall AFB **(Figure 1-2)**. This facility is one of four locations in the world that stores and maintains mobile aircraft arresting systems (MAAS). CEMIRT operates and maintains 30 MAAS and anticipates adding 20 MAAS in the future, although the timeframe for receiving these additional MAAS is not currently known.

CEMIRT also operates and maintains airfield resources generators, emergency power system generators, testing platforms, cargo trailers of various sizes to haul equipment, and large machinery and trailers to load and unload equipment. CEMIRT provides DAF-wide specialized maintenance, installation, and repair support on electrical and mechanical systems; aircraft arresting systems; and heating, ventilation, and air conditioning systems during peacetime, war, and emergency response operations. In support of its operations, CEMIRT conducts an average of more than 300 planned events, 30 to 40 emergency events, and up to 150 unplanned deployments of its team members annually (AFCEC, 2024).

1.3 DESCRIPTION OF THE PROPOSED ACTION

1.3.1 Purpose and Need

The purpose of the Proposed Action is to provide facility and infrastructure improvements that support current and future CEMIRT operations at Tyndall AFB. The Proposed Action is needed because existing CEMIRT facilities and infrastructure at Tyndall AFB are not sufficient to meet mission requirements. The proposed improvements are also needed to meet applicable DoD and DAF requirements specified in the most current versions of Unified Facilities Criteria (UFC) 3-250-01, *Pavement Design for Roads and Parking Areas*, UFC 3-530-01, *Interior and Exterior Lighting Systems*, UFC 4-010-01, *DoD Minimum Antiterrorism Standards for Buildings*, UFC 4-022-03, *Security Fences and Gates*, and Air Force Manual 32-1040, *Civil Engineer Airfield Infrastructure Systems*.

1.3.2 Proposed Action and Alternatives

Under the Proposed Action, the DAF would construct, operate, and maintain a 60,000-SF reinforced concrete slab and associated infrastructure improvements as described below at Tyndall AFB to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (approximately 4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features. The Proposed Action is proposed for implementation between fiscal years 2026 and 2028.

Site preparation would include clearing and grubbing vegetation, excavating soil or adding fill soils up to 24 inches, grading and leveling to achieve positive drainage of stormwater runoff, and installing new or relocating existing buried utilities. The proposed concrete slab would likely require a minimum of 12 inches of base course, up to 12 inches of concrete, and reinforced slab edges that include up to 24 inches of concrete. Existing subsurface utilities would be relocated using either directional boring or open trenching; trenching would not exceed 4 feet wide by 8 feet deep and 1,028 feet in length. Stormwater management would include open or underground drainages, swales, and retention ponds in accordance with the requirements of the installation's existing National Pollutant Discharge Elimination System Permit or a new permit issued by Florida Department of Environmental Protection.

Perimeter fencing would consist of an 8-foot-tall welded-wire fence, including lightning rods, grounding cables, fence posts installed every 10 feet, and security/access gates as needed. Fencing would be topped

by barbed wire supported on angled outriggers and may include either a 6-inch-wide by 1-foot-deep concrete footer strip or a 4-foot-wide skirt of fencing material buried at a 45-degree angle along its entire length to prevent or deter animals from burrowing under the fence. A cleared buffer area 20 feet wide (10 feet on each side of the fence) would be maintained along the entire length of the fence in accordance with applicable DoD antiterrorism/force protection requirements to provide a firebreak, clear sight lines, and access for security and maintenance.

As needed, overhead lighting would be provided on aluminum or steel poles with foundations of up to 6 feet deep. Based on the cumulative disturbance area (approximately 4.4 acres), up to 30 overhead lights could be needed. Lighting would comply with guidelines set forth in Chapter 5, Article V of Bay County, Florida Code of Ordinances and specifications in Chapter 62B-55 of the Florida Administrative Code to minimize impacts on nesting and hatchling sea turtles and beach mice. Overhead lighting requirements for new construction as outlined in Chapter 62B-55 that are applicable to perimeter fencing include:

- ensuring lights are not directly, indirectly, or cumulatively visible from any portion of the beach
- mounting at the minimum height required to meet the minimum light level requirement
- using downward-directed lights onto non-reflective surfaces

The Florida Fish and Wildlife Conservation Commission (FWC) requires that all pole-mounted outdoor lighting must be:

- shielded and downward-directed
- long-wavelength (560 nanometer or greater)
- low-pressure sodium red, orange, or amber LEDs (18 to 35 watts)
- mounted at the lowest height possible with a maximum mounting height of 12 feet (FWC, n.d.a.)

Construction of the proposed slab and improvements, including relocation of existing subsurface utilities and installation of light poles and fencing, would require an estimated 19,233 cubic yards of total excavation and soil disturbance.

Two alternative sites are being considered for implementing the Proposed Action:

- The Alternative 1 site is adjacent to and immediately northeast of the existing CEMIRT facility **(Figure 1-2)**. Available space for development near the CEMIRT facility is limited, and the location of the Alternative 1 site was identified to maximize adjacency to and efficiency with the existing facility and to minimize potential impacts on existing wetlands, floodplains, and other environmental resources. The Alternative 1 site would result in an estimated 190,000 SF (approximately 4.4 acres) of cumulative land disturbance.
- The Alternative 2 site is south of and across Mississippi Road from the existing CEMIRT facility **(Figure 1-2)**. Although not adjacent to the existing CEMIRT facility, its location directly across Mississippi Road would nonetheless maximize mission adjacency and efficiency with the existing facility while minimizing potential impacts on existing wetlands, floodplains, and other environmental resources. The Alternative 2 site would result in an estimated 155,542 SF (approximately 3.6 acres) of cumulative land disturbance.



Figure 1-1 Location of Tyndall AFB



Figure 1-2 Location of CEMIRT Facility and the Alternatives 1 and 2 Sites on Tyndall AFB

CHAPTER 2 AFFECTED ENVIRONMENT

2.1 ACTION AREA

The Action Area, as defined by the ESA, includes all areas directly or indirectly affected by the Proposed Action (USFWS and NMFS, 1998). The Action Area for the Proposed Action includes the Alternative 1 and 2 sites for locating the equipment area and associated infrastructure. For the assessment presented in this BA, corresponding 50-foot buffers around the sites were established and surveyed to encompass areas where any associated ground disturbance adjacent to the project area could occur, and to consider the potential for indirect effects (such as noise). The Action Area also includes barrier islands located south of the CEMIRT facility where potential effects from lighting on nesting and hatchling sea turtles and the Choctawhatchee beach mouse and St. Andrew beach mouse could potentially occur.

Prior to Hurricane Michael in 2018, both alternative sites were densely forested. Hurricane Michael removed nearly the entire canopy of both sites. Aerial imagery indicates that extensive cleanup efforts removed nearly all of the downed vegetation between December 2018 and November 2022. Communication with Tyndall AFB also indicates that each of the sites has been managed with prescribed burning at least once since Hurricane Michael. Coastal sand dunes and beach habitat along the shoreline of Crooked Island in the St. Andrew Sound are also present within the Action Area.

2.2 DESCRIPTION OF VEGETATION TYPES

This section describes vegetation types within the Action Area where listed species may be present. The following descriptions of habitats and vegetative cover are based on field observations and data collected during field surveys at Tyndall AFB in April 2025 to support development of this BA. Additional information about the field surveys is provided in **Chapter 3**. Representative photos showing conditions on each alternative site within the Action Area are provided in **Appendix A**.

2.2.1 Alternative 1 Site

The Alternative 1 site is a 4.4-acre site adjacent to and immediately northeast of the existing CEMIRT facility **(Figure 1-2)**. Historically, this site consisted of a mixed slash pine (*Pinus elliottii*) and hardwood forest. With Hurricane Michael cleanup efforts completed, this site has characteristics of young, forested habitat, containing dense patches of brambles and young trees, with few overstory trees present. Alternative 1 consists of approximately 1.58 acres of wetland/upland transition habitat, representing approximately 36 percent of the site, 1.41 acres of wetlands (identified during a wetland delineation conducted concurrently with fieldwork for this BA), representing approximately 32 percent of the site, and 1.08 acres of upland habitat, representing 24.6 percent of the total site. The remaining 0.33 acres (7.5 percent) of the site are mowed and maintained habitats along the CEMIRT fence line and behind buildings adjacent to the site. Previous CEMIRT facility site plans indicate that approximately 0.27 acres of the mowed and maintained habitats may comprise an overflow area for a retention basin at the northern end of the CEMIRT facility. The Alternative 1 site is located approximately 0.4 miles from barrier islands that provide suitable habitat for beach mice and nesting sea turtles and 0.23 miles from landward suitable habitat for the beach mice.

Vegetation within the wetland/upland transition zone is considerably dense throughout and consists primarily of *Vaccinium* spp., inkberry (*Ilex glabra*), sweetbay magnolia (*Magnolia virginiana*), slash pine, black titi (*Cliftonia monophyla*), persimmon (*Diospyros virginiana*), sand blackberry (*Rubus cuneifolius*), saw palmetto (*Serenoa repens*), yaupon holly (*Ilex vomitoria*), coastal pepperbush (*Clethra alnifolia*), gallberry (*Ilex coriaceae*), muscadine (*Vitus rotundifolia*) and earleaf greenbrier (*Smilax auriculata*). Throughout this zone, there are patches of slash pine, Virginia chainfern (*Woodwardia virginica*), and St. John's wort (*Hypericum* spp.). Vegetation within this zone is consistent with that of coastal scrub habitat as described in the Florida Land Cover Classification System (FWC, 2018) and scrubby flatwoods in the Florida Natural Areas Inventory (FNAI) Guide to the Natural Communities of Florida (2010) (FNAI, 2010a).

Vegetation within the wetlands includes sweetbay magnolia, slash pine, black titi, persimmon, Virginia chainfern, purple bluestem (*Andropogon glomeratus*), sand blackberry, coastal pepperbush, muscadine, earleaf greenbrier, and poison ivy (*Toxicodendron radicans*). Vegetation within wetlands is consistent with that of hydric pine flatwoods/wet flatwoods (FWC, 2018) and wet flatwoods (FNAI, 2010b).

Vegetation within the upland habitat is relatively dense throughout, with some interspersed open and bare areas and consists of slash pine, sweetbay magnolia, inkberry, persimmon, black titi, willow oak (*Quercus phellos*), Chapman's oak (*Quercus chapmanii*), dwarf live oak (*Quercus minima*), turkey oak (laevis), sand live oak (*Quercus geminata*), myrtle oak (*Quercus myrtifolia*), saw palmetto, muscadine, false rosemary (*Conradina canescens*), Florida rosemary (*Ceratiola ericoides*), *Andropogon* spp., four petal St. John's wort (*Hypericum tetrapetalum*), winged sumac (*Rhus copallinum*), and beaksedge (*Rhynchospora* sp.). Vegetation within the uplands is consistent with that of scrubby flatwoods (FWC, 2018; FNAI, 2010a).

The remaining 0.33 acres of mowed and maintained habitats is a mix of native and non-native species. Vegetation identified within these areas includes persimmon, common ragweed (*Ambrosia artemisiifolia*), turf grass, camphorweed (*Heterotheca subaxillaris*), dogfennel (*Eupatorium capillifolium*), clover, seabeach evening primrose (*Oenothera humifusa*), red buffalo bur (*Solanum sisymbriifolium*), Canadian meadow garlic (*Allium canadense*), and *Rubus* sp.

Listed species potentially present within the Alternative 1 site include Godfrey's butterwort, eastern indigo snake, telephus spurge, and white birds-in-a-nest.

2.2.2 Alternative 2 Site

The Alternative 2 site is a 3.6-acre site located south of the existing CEMIRT facility, across Mississippi Road **(Figure 1-2)**. Historically, this site consisted of a slash pine swamp forest and pine flatwoods. With Hurricane Michael cleanup efforts completed, this site has characteristics of scrub shrub habitat and contains dense patches of vegetation with very few overstory trees remaining. Alternative 2 consists of approximately 2.64 acres of upland habitat, representing approximately 73 percent of the site, and 0.96 acres of wetlands (identified during a wetland delineation conducted concurrently with fieldwork for this BA), representing the remaining 27 percent of the site. The border between the northern edge of the Alternative 2 site and Mississippi Road is also assessed, as access drives from Mississippi Road to the Alternative 2 site would be needed. The Alternative 2 site is located approximately 0.25 miles from barrier islands that provide suitable habitat for beach mice and nesting sea turtles and 0.08 miles from landward suitable habitat for the beach mice.

Vegetation within the uplands is considerably dense throughout the site and consists primarily of yaupon holly, fetterbush (*Lyonia lucida*), black titi, sand live oak, sweetbay magnolia, saw palmetto, coastal pepperbush, inkberry, water oak (*Quercus nigra*), Chinese tallow (*Triadica sebifera*), persimmon, poison ivy, earleaf greenbrier, sawbrier (*Smilax glauca*), American beautyberry (*Callicarpa americana*), winged sumac, southern brackenfern (*Pteridium caudatum*), and common bogbuttons (*Lachnocaulon anceps*). Vegetation within the uplands is consistent with that of scrubby flatwoods (FWC, 2018; FNAI, 2010a).

Vegetation within wetland habitat is dense and includes black titi, wax myrtle (*Morella cerifera*), sweetbay magnolia, gallberry, wiregrass (*Aristida stricta*), needlegrass rush (*Juncus roemerianus*), poison ivy, muscadine, sand blackberry, *Hypericum* sp., American beautyberry, common bogbuttons, American Royal Fern (*Osmunda spectabilis*), and ten-angled pipewort (*Eriocaulon decangulare*). Vegetation within wetlands is consistent with that of hydric pine flatwoods/wet flatwoods (FWC, 2018) and wet flatwoods (FNAI, 2010b).

The border between the northern edge of the Alternative 2 site and Mississippi Road consists of upland habitat that is mowed and maintained and contains grasses and some forbs. This buffer area contains subsurface utilities that run parallel to Mississippi Road.

Listed species potentially present within the Alternative 2 site include Godfrey's butterwort, eastern indigo snake, telephus spurge, and white birds-in-a-nest.

2.3 THREATENED AND ENDANGERED SPECIES CONSIDERED

2.3.1 Species Preliminarily Considered

A preliminary list of species for consideration was identified using the USFWS IPaC tool and the Tyndall INRMP. Federally listed species with the potential to occur in or near the Action Area were evaluated to determine if the Proposed Action would have the potential to affect the species, their habitat, or designated critical habitat. **Table 2-1** presents the list of species considered.

Table 2-1 Federally Listed Species Known or Having Potential to Occur in the Action Area

Common Name	Scientific Name	Federal Status	Known to Occur at Tyndall AFB	Suitable Habitat within the Action Area	Critical Habitat within the Action Area
Birds					
bald eagle	*Haliaeetus leucocephalus*	BGEPA	Yes	Yes	No
eastern black rail	*Laterallus jamaicensis jamaicensis*	Threatened	Yes	No	No
piping plover	*Charadrius melodus*	Threatened	Yes	No	Yes
rufa red knot	*Calidris canutus rufa*	Threatened	Yes	No	No
Fish					
Gulf sturgeon	*Acipenser oxyrinchus*	Threatened	Yes	No	Yes
Invertebrates					
monarch butterfly	*Danaus plexippus*	Proposed Threatened	No	Yes	No
Mammals					
Choctawhatchee beach mouse	*Peromyscus polionotus allophrys*	Endangered	Yes	Yes	Yes
St. Andrew beach mouse	*Peromyscus polionotus peninsularis*	Endangered	Yes	Yes	No
tricolored bat	*Perimyotis subflavus*	Proposed Endangered	No	Yes	No
West Indian manatee	*Trichechus manatus*	Threatened	Yes	No	No
Plants					
Godfrey's butterwort	*Pinguicula ionantha*	Threatened	Yes	Yes	No
telephus spurge	*Euphorbia telephioides*	Threatened	Yes	Yes	No
white birds-in-a-nest	*Macbridea alba*	Threatened	No	Yes	No
Reptiles					
alligator snapping turtle	*Macrochelys temminckii*	Proposed Threatened	Yes	No	No
eastern indigo snake	*Drymarchon couperi*	Threatened	No	Yes	No
green sea turtle	*Chelonia mydas*	Threatened	Yes	Yes	No

Table 2-1 Federally Listed Species Known or Having Potential to Occur in the Action Area

Common Name	Scientific Name	Federal Status	Known to Occur at Tyndall AFB	Suitable Habitat within the Action Area	Critical Habitat within the Action Area
Reptiles *(cont'd)*					
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	Yes	Yes	No
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	Yes	Yes	No
leatherback sea turtle	*Dermochelys coriacea*	Endangered	Yes	Yes	No
loggerhead sea turtle	*Caretta caretta*	Threatened	Yes	Yes	No

Notes:
Source: Tyndall AFB, 2020a; USFWS, 2025

Of the species shown in **Table 2-1**, five are listed as threatened and known to occur on Tyndall AFB, but do not have the potential to occur nor is suitable habitat or designated critical habitat present within the Action Area. Additionally, one species is proposed threatened and known to occur on Tyndall AFB, but does not have the potential to occur based on a lack of suitable habitat present within the Action Area. Therefore, they are not considered further in this document. These species and their critical habitat, and the reasons why they are not considered further in this BA, are briefly described as follows:

- **Alligator snapping turtle:** The alligator snapping turtle occurs in deep waters of streams, rivers, lakes, and swamps. Although not documented as occuring on Tyndall AFB in the 2020 INRMP, more recent species records from the DoD Partners in Amphibian and Reptile Conservation have identified this species on the base. The Action Area does not include habitat that the alligator snapping turtle could utilize. Therefore, this species was eliminated from further consideration.
- **Eastern black rail:** The eastern black rail has been documented as occuring on Tyndall AFB, but suitable habitat does not occur within the Action Area. Therefore, this species was eliminated from further consideration.
- **Gulf sturgeon and critical habitat**: The gulf sturgeon has been detected overwintering in marine nearshore waters adjacent to Tyndall AFB, and federally designated critical habitat for this species occurs along the entire Gulf of America shoreline occupied by Tyndall AFB. The Action Area does not include habitat that the gulf sturgeon could utilize. Therefore, this species and its designated critical habitat were eliminated from further consideration.
- **Piping plover and critical habitat:** The piping plover consistently winters along Tyndall AFB shorelines during the non-breeding season. Crooked Island East, Crooked Island West, and Shell Island are federally designated critical habitat for this species. The Action Area does not include suitable overwintering areas that the piping plover could utilize nor has the potential to affect its designated critical habitat. Therefore, this species and its critical habitat were eliminated from further consideration.
- **Rufa red knot**: The rufa red knot is known to winter on Tyndall AFB shorelines during migration and is monitored annually on Crooked Island East, Crooked Island West, and Shell Island. The Action Area does not include suitable overwintering areas that the rufa red knot would utilize. Therefore, this species was eliminated from further consideration.
- **West Indian manatee:** The West Indian manatee is occasionally observed within coastal waters of the Gulf of America in the vicinity of Tyndall AFB. However, the Action Area does not include habitat that the manatee could utilize. Therefore, this species was eliminated from further consideration.

Of the remaining 14 species listed in **Table 2-1**, five are listed as endangered, six are listed as threatened, one is proposed for listing as endangered, one is proposed for listing as threatened, and one is federally protected. Designated critical habitat for one species, the Choctawhatchee beach mouse, is present within the Action Area. These species and critical habitat are further discussed in **Section 2.3.2** through **Section 2.3.5**.

Although not federally listed, the monarch butterfly and tricolored bat are addressed in this BA because suitable habitat exists within the Action Area and they are currently under review for federal listing under the ESA. Including them in this analysis allows the DAF to satisfy requirements for further consultation with the USFWS if either should become listed before the Proposed Action is implemented.

2.3.2 Federally Endangered Species

2.3.2.1 Choctawhatchee Beach Mouse

The Choctawhatchee beach mouse was listed as endangered by the USFWS in 1985. The Choctawhatchee beach mouse is a small burrow-dwelling mammal with a haired tail and large ears, and reaches approximately 6 inches in total length (FNAI, 2023a). Beach mice exclusively inhabit coastal dune ecosystems, utilizing primary and secondary dunes vegetated by sea oats, beach grasses, and other coastal vegetation (Bird et. al., 2024). The Choctawhatchee beach mouse may also be found utilizing swales and scrub dunes for foraging or to move between primary and secondary habitats. Beach mice generally prefer to construct burrows in mature, sparely vegetated dunes near the high tide line or in more densely vegetated dunes farther from shore (Bird et. al., 2024).

Occurrence and Habitat within Action Area

Suitable habitat for the Choctawhatchee beach mouse occurs on the shorelines (including barrier islands) of St. Andrew Bay and St. Andrew Sound on Tyndall AFB. Suitable landward habitat for this species is located approximately 0.23 miles and 0.08 miles from the Alternative 1 and 2 sites, respectively. Suitable habitat on the barrier islands is located 0.4 miles and 0.25 miles from the Alternative 1 and 2 sites, respectively.

2.3.2.2 Choctawhatchee Beach Mouse Critical Habitat

Critical habitat for the Choctawhatchee beach mouse was designated in 2006. Characteristics of Choctawhatchee beach mouse critical habitat include the presence of coastal dune systems that include primary and secondary dunes characterized by dense growths of sea oats, blue stem, beach grass, and beach goldenrod (Bird et. al., 2024). Beach mice may also utilize scrub habitat consisting of relatively high-elevation dunes with large patches of scrub live oak with gopher apple and green briar ground covers. The maritime forest is typically the landward extent of beach mouse habitat (USFWS, 2006).

Occurrence within Action Area

Critical habitat is located approximately 0.08 miles south of the Alternative 1 site, and approximately 0.23 miles south of the Alternative 2 site. Overhead lighting associated with the Proposed Action has the potential to affect Primary Constituent Element 5 of the Choctawhatchee beach mouse critical habitat, described as "a natural light regime within the coastal dune ecosystem, compatible with the nocturnal activity of beach mice, necessary for normal behavior, growth, and viability of all life stages" (USFWS, 2006).

2.3.2.3 Hawksbill Sea Turtle

The hawksbill sea turtle was listed as endangered by the USFWS in 1970. One of the smaller species of sea turtles, the hawksbill turtle grows up to approximately 36 inches long and up to 200 pounds (USFWS and NMFS, 1993). Hawksbill sea turtles are found in tropical and subtropical environments, typically in shallow coastal areas that include reefs and outcrops. Coral reefs and other hard-bottom communities are important foraging grounds due to the hawksbill's diet, which primarily consists of sponges and benthic invertebrates (USFWS and NMFS, 1993). This species is also known to inhabit mangrove-fringed bays and

estuaries in the absence of coral reefs or other hard-bottom communities. Hawksbill sea turtles nest on both low- and high-energy beaches in tropical oceans around the Caribbean and Gulf of America, including Florida. Nests may occur on a variety of substrates and are typically placed under vegetation (USFWS and NMFS, 1993).

Occurrence and Habitat within Action Area

The hawksbill sea turtle is not known to occur on Tyndall AFB (Tyndall AFB, 2020a). However, this species was identified using the USFWS IPaC tool as having the potential to occur on Tyndall AFB. The hawksbill sea turtle has the potential to nest on bay or barrier island beaches located south of the CEMIRT facility.

2.3.2.4 Kemp's Ridley Sea Turtle

The Kemp's ridley sea turtle was listed as endangered by the USFWS in 1970. The smallest of the sea turtles, the Kemp's ridley turtle reaches approximately 2 feet in length and up to 100 pounds (USFWS and NMFS, 2011). Suitable habitat and foraging grounds for the Kemp's ridley sea turtle primarily include nearshore waters of the northern Gulf of America and the eastern coast of the U.S. from Florida to New England. Their diet primarily consists of crustaceans and occasional clams, fish, and vegetation (USFWS and NMFS, 2011). This species typically nests on high-energy ocean beaches, preferring fine-grained sand and a mature dune system. Nesting primarily occurs from April into July during daylight hours, although night nesting is occasionally observed (USFWS and NMFS, 2011).

Occurrence and Habitat within Action Area

Suitable habitat for the Kemp's ridley sea turtle is present on the beaches of Tyndall AFB and the waters of the Gulf of America to the south of the base. Nesting is occasionally observed on Tyndall AFB's beaches, including on the barrier islands south of the CEMIRT facility (Tyndall AFB, 2020a).

2.3.2.5 Leatherback Sea Turtle

The leatherback sea turtle was listed as endangered by the USFWS in 1970. The leatherback is the largest of the sea turtles, reaching up to 8 feet in length and weighing up to 2000 pounds. The species' shell is covered by firm, rubbery skin with longitudinal keels. Hatchlings are predominantly black and covered with tiny scales (USFWS and NMFS, 1992). The leatherback sea turtle has the widest global range of all sea turtles. Adult leatherbacks are known to inhabit most of the world's oceans and routinely engage in migrations between boreal, temperate, and tropical waters for both foraging and nesting. Though this species primarily lives in deeper waters, leatherbacks may occasionally be found foraging in coastal waters (NOAA, 2025). The leatherback sea turtle's diet primarily consists of jellyfish, siphonophores, and salps. High-energy beaches with deep, unobstructed access are preferred for nesting. The majority of leatherback nesting occurs during the day, although night nesting is occasionally observed. Most female leatherback turtles return to the same nesting beach multiple times during a given nesting season (March through July), though some migrate to new sites (USFWS and NMFS, 1992).

Occurrence and Habitat within Action Area

Suitable habitat for the leatherback sea turtle is present on the beaches of Tyndall AFB and the waters of the Gulf of America to the south of the base. Leatherback turtle nesting is occasionally observed on Tyndall AFB's beaches including on the barrier islands south of the CEMIRT facility (Tyndall AFB, 2020a).

2.3.2.6 St. Andrew Beach Mouse

The St. Andrew beach mouse was listed as endangered by the USFWS in 1998. The St. Andrew beach mouse is a small burrow-dwelling mammal with white feet and large ears. Beach mice exclusively inhabit coastal dune ecosystems, utilizing primary and secondary dunes vegetated by sea oats, beach grasses, and other coastal vegetation. The St. Andrew beach mouse may also be found utilizing swales and scrub dunes for foraging or to move between primary and secondary habitats. Beach mice generally prefer to

construct burrows in mature, sparely vegetated dunes near the high tide line or in more densely vegetated dunes farther from shore (Bird et. al., 2024).

Occurrence and Habitat within Action Area

Suitable habitat for the St. Andrew beach mouse occurs on Tyndall AFB. As beach mice are exclusively associated with the presence of coastal sand dunes, most of the suitable habitat for this species near Tyndall AFB occurs south of the installation on beaches around the St. Andrew Sound, St. Andrew Bay, and nearby barrier islands. Suitable landward habitat for this beach mouse is located approximately 4.76 miles and 4.81 miles from the Alternative 1 and 2 sites, respectively. Suitable habitat on the barrier islands is located 5.88 miles and 5.91 miles from the Alternative 1 and 2 sites, respectively.

2.3.3 Federally Threatened Species

2.3.3.1 Eastern Indigo Snake

The eastern indigo snake was listed as threatened by the USFWS in 1978. The eastern indigo snake is the longest native snake in the United States, reaching lengths of up to 9 feet. The indigo snake exhibits a preference for upland habitat, often associated with the presence of gopher tortoises, as they utilize tortoise burrows for shelter and thermoregulation. The indigo snake moves between habitats seasonally, including xeric pinelands, scrub, mesic flatwoods, dry prairies, wet prairies, and swamps. In the summer, indigo snakes often use riparian areas, with upland use occurring during the winter (NPS, 2021).

Occurrence and Habitat within Action Area

Suitable habitat for the indigo snake occurs on Tyndall AFB; however, there have been no documented sightings of this species. As indigo snakes are often associated with the presence of gopher tortoise and are known to use their burrows, most of the suitable habitat for this species is in the northwestern and southeastern areas of the installation, where small gopher tortoise populations persist. These locations are outside of the Action Area. Surveys in October 2023 documented active gopher tortoise burrows approximately 1.93 miles southeast of the Action Area. While unlikely, it is possible that an indigo snake could occur within the Action Area.

2.3.3.2 Godfrey's Butterwort

Godfrey's butterwort was listed as threatened by the USFWS in 1993. Godfrey's butterwort is a small, herbaceous, carnivorous plant endemic to the Florida panhandle, documented in only six counties. This species is found in open, acidic soils of seepage bogs on gentle slopes, deep quagmire bogs, ditches, and depressions in grassy pine flatwoods and grassy savannas, often occurring in shallow standing water (FNAI, 2000). Threats to this species include successional changes to habitat from inadequate prescribed fire management, development, and timber harvesting (USFWS, 2023).

Occurrence and Habitat within Action Area

As of 2023, Godfrey's butterwort is known to occur at 10 locations on Tyndall AFB. The nearest known population of the butterwort is located approximately 1.39 miles northeast of the Alternative 1 site. Suitable habitat exists within the Action Area at both alternative sites.

2.3.3.3 Green Sea Turtle

The green sea turtle was listed as threatened by the USFWS in 2016. Green sea turtles reach up to approximately 3.2 feet long and weigh up to 330 pounds. In U.S. Atlantic waters, green sea turtles are found around the U.S. Virgin Islands, Puerto Rico, and from Texas to Massachusetts. The coastal waters of Florida are important foraging grounds for the Atlantic population of green sea turtles, where their diet primarily consists of seagrass and algae (USFWS and NMFS, 1991).

Occurrence and Habitat within Action Area

Suitable habitat for the green sea turtle is present on the beaches of Tyndall AFB and the waters of the Gulf of America to the south of the base. Green sea turtle nests are occasionally observed on Tyndall's beaches including on the barrier islands south of the CEMIRT facility (Tyndall AFB, 2020a).

2.3.3.4 Loggerhead Sea Turtle

The loggerhead sea turtle was listed as threatened by the USFWS in 1978. On average, loggerhead sea turtles are approximately 36 inches long, weigh approximately 255 pounds, and have a reddish-brown carapace. The loggerhead turtle occurs throughout the temperate and tropical regions of the Pacific, Indian, and Atlantic Oceans, including the Gulf of America. Adult loggerheads are known to make long-distance migrations between foraging grounds and nesting areas. Female loggerhead sea turtles nest from Texas to Virginia and exhibit strong nest site fidelity. Generally, the number of nests occurring annually on Florida Panhandle beaches ranges between 101 and 1,000 (USFWS and NMFS, 2008).

Occurrence and Habitat within Action Area

Suitable habitat for the loggerhead sea turtle is preset on the beaches of Tyndall AFB and the waters of the Gulf of America to the south of the base. The loggerhead sea turtle is the most common of the four species known to occur near Tyndall, nesting annually on Tyndall AFB's beaches, including Shell Island, Crooked Island, and Buck Beach (Tyndall AFB, 2020a).

2.3.3.5 Telephus Spurge

The telephus spurge was listed as threatened by the USFWS in 1992. The USFWS has conducted 5-Year Status Reviews in 2008, 2015, and 2021, with the most recent review recommending that no change in status is needed; the telephus spurge remains listed as threatened under the ESA. The telephus spurge is a perennial, herbaceous plant known to occur in Bay, Franklin, and Gulf Counties in the Florida panhandle (USFWS, 2021a). This species can be found in a variety of habitats and moisture regimes, including xeric or mesic sites, pine flatwoods, upland pine communities, and disturbed sandy roads, and less commonly in wetlands with seepage slope species, as well as habitats that have been historically burned with a 2- to 3-year fire return interval (Tyndall AFB, 2020b). Primary threats to the telephus spurge include habitat degradation and destruction from timber harvest, inadequate prescribed fire management, and urban development (USFWS, 2021a).

Occurrence and Habitat within Action Area

In August 2015, the first known population of telephus spurge on Tyndall AFB was located along an open sandy road adjacent to the explosive ordnance disposal range, following January prescribed burns and repeated ground disturbance in the spring of 2015. A second population of telephus spurge is located near PQM Lake on Tyndall AFB.

As part of Hurricane Michael recovery efforts to construct a new Commercial Vehicle Entry Control Facility, threatened and endangered species surveys identified 295 telephus spurge plants approximately 0.08 miles east of the Alternative 1 site. The area where those plants were found was a slash pine plantation prior to Hurricane Michael. This population of telephus spurge was removed under an incidental take statement by the USFWS. Currently, the closest known population of telephus spurge is located approximately 1.9 miles southeast of the Action Area.

Suitable habitat for telephus spurge exists within the Action Area in portions of both alternative sites.

2.3.3.6 White Birds-in-a-Nest

White birds-in-a-nest was listed as threatened by the USFWS in 1992. White birds-in-a-nest is a rare wildflower endemic to Bay, Gulf, Franklin, and Liberty Counties in the Florida panhandle. Ideal habitat for the white birds-in-a-nest includes wet to mesic pine flatwoods and associated roadsides. Threats to this species include habitat loss and fire suppression (FNAI, 2024).

Occurrence and Habitat within Action Area

This species is not known to occur on Tyndall AFB. However, suitable habitat exists within the Action Area.

2.3.4 Federally Protected Species

2.3.4.1 Bald Eagle

In 1963, an estimated 417 breeding pairs of bald eagles remained in the lower 48 states, and the species was subsequently listed as endangered in 1967 (USFWS, 2021b). After successful recovery of the species with an estimated breeding population of 11,040 pairs, the USFWS delisted the bald eagle from the ESA in 2007 (Center for Biological Diversity, 2007; 72 Federal Register 37346). However, the bald eagle remains protected under the BGEPA and the MBTA.

Bald eagle habitat includes areas with suitable trees for nesting and waterbodies for foraging. Eagles primarily prey on fish but will also scavenge. Eagles construct large nests (7 to 8 feet across and up to 12 feet in depth) in tree canopies adjacent to foraging areas (Tyndall AFB, 2020b). Breeding pairs are monogamous and show strong nest site fidelity once a nest has been established. Nesting season in Florida begins October 1 and extends through May 15. As of 2022, nine active nests and three inactive nests have been documented on Tyndall AFB and are monitored on an annual basis.

Occurrence and Habitat within Action Area

The entirety of Tyndall AFB is considered suitable habitat for the bald eagle. Of the 12 known nest locations on Tyndall AFB, none are present within the Action Area. The closest bald eagle nest to the Action Area is approximately 1.1 miles from the Action Area. Although few possible roost trees remain in the alternative sites, it is possible that an eagle would roost within the Action Area.

2.3.5 Federally Proposed Species

2.3.5.1 Tricolored Bat

The USFWS proposed to list the tricolored bat as endangered under the ESA in 2022 based on the potential for extinction from the effects of white-nose syndrome. White-nose syndrome is a disease that affects bats by increasing their metabolic activity during hibernation, resulting in a premature expenditure of fat stores causing the bats to prematurely awaken from hibernation (USFWS, n.d.). White-nose syndrome has caused estimated declines of more than 90 percent in affected tricolored bat colonies throughout its range (USFWS, 2021c).

The tricolored bat is one of the smallest bats in eastern North America, measuring around 3.5 inches and weighing between 4 and 8 grams (FNAI, 2023b; FWC, n.d.b). When not in hibernation, the tricolored bat roosts in live or dead leaf clusters of live or recently dead hardwood trees, among dead pine needles in live trees, and in Spanish moss (*Tillandsia usneoides*). During hibernation, the bats can be found in road-associated culverts, tree cavities, and abandoned wells. These bats consume a variety of insects including moths, beetles, and wasps, among others, foraging primarily along forest edges and over waterways. Breeding occurs prior to hibernation. Females select maternity roosts in the spring and give birth to pups in early summer. Female tricolored bats exhibit high site fidelity to maternity roosts (USFWS, 2021c).

Occurrence and Habitat within Action Area

While the range of the tricolored bat encompasses Tyndall AFB, the species is not known to occur there. Suitable habitat, such as forest edges and waterways suitable for foraging and potential roosting trees, occur within the Action Area.

2.3.5.2 Monarch Butterfly

The monarch butterfly was petitioned for listing under the ESA in 2013. In December 2020, USFWS announced that listing was warranted but precluded by higher priority listing actions. In December of 2024,

USFWS proposed to list the monarch butterfly as threatened under the ESA and proposed to designate critical habitat for the butterfly. The proposed critical habitat does not include the Action Area. Monarchs have experienced dramatic declines across North America, driven by an overall decline in milkweed availability associated with agricultural practices (USFWS, 2020).

Monarch butterflies are unique in that they are the only insects that embark on a multi-generational migration to and from breeding and overwintering areas that span thousands of miles. In early spring, the eastern population of monarchs travels from overwintering sites in central Mexico to breeding sites along the way north to Canada over two to three generations (Flockhart et al., 2013). Monarchs utilize milkweed plants (*Asclepias* spp.) as the primary host plant for caterpillars. In the fall, the newest generations of monarchs migrate back to overwintering sites. Adult monarchs are generalists and feed on a variety of flowering plants. Spring and summer monarch generations typically have an adult lifespan of 2 to 5 weeks, while overwintering adults live 6 to 9 months (Herman et al., 2001). The eastern population of monarchs travels the farthest of all monarch populations, up to 3,000 miles. There are numerous documentations of the monarch butterfly along the Gulf Coast within the immediate area of Tyndall AFB, including along US-98 (Buddhaben, 2017).

Occurrence and Habitat within Action Area

Monarchs have higher energy demands during migration and breeding, thus requiring a diversity of flowering plants for nectar resources, including obligate milkweed species (*Asclepias* spp.) (USFWS, 2020). Although milkweeds are not known to be present in or near the Action Area, there may be suitable foraging habitat for the monarch butterfly within the Action Area.

CHAPTER 3 SURVEY METHODS AND RESULTS

3.1 FIELD SURVEYS

Field surveys to support this BA were conducted from April 21 to 23, 2025. Before the surveys began, field biologists visited known locations of the telephus spurge to gain an understanding of site-specific habitat and conditions where this species is found on Tyndall AFB. Results of the surveys for those species are described in detail below.

Surveys were conducted for species having the potential to occur within the Alternative 1 or 2 sites and their corresponding buffers. Surveys were not conducted for beach mice or sea turtles as these species are monitored annually on the barrier islands and landward habitats where they are known to occur. As such, the presence of the beach mice and sea turtles is assumed and potential effects on these species are analyzed in Chapter 4.

3.1.1 Methods

Biologists used the ArcGIS Field Maps application connected to a Juniper Systems Inc. Geode GNS2 Single Frequency GNSS Receiver to ensure complete coverage of the Action Area (ESRI, 2023; Juniper Systems 2021). Biologists surveyed the Action Area by walking linear transects while adjusting spacing to site conditions and visual acuity. Habitat characteristics were recorded, and photos were taken periodically to document conditions **(Appendix A)**. Biologists also recorded locations of observed potential state-listed species within the Action Area.

3.1.2 Results

3.1.2.1 Federally Threatened Species

Eastern indigo snake

Although suitable habitat for the eastern indigo snake was observed within portions of the Action Area at both alternative sites, this species was not observed.

Godfrey's butterwort

Although suitable habitat for Godfrey's butterwort was observed within portions of the Action Area at both alternative sites, this species was not observed.

Telephus spurge

Telephus spurge undergoes two periods of dormancy associated with certain environmental conditions. The field surveys were conducted outside of the regular seasonal dormancy cycles (October to January; July and August) (Negrón-Ortiz, 2020).

Although suitable habitat for telephus spurge was observed within portions of the Action Area at both alternative sites, this species was not observed.

White birds-in-a-nest

Although suitable habitat for white birds-in-a-nest was observed within a portion of the Action Area at both alternative sites, this species was not observed.

3.1.2.2 Federally Protected Species

Bald eagle

The entirety of Tyndall AFB provides suitable habitat for the bald eagle. Although suitable habitat for the bald eagle was observed within portions of the Action Area at both alternative sites, no nests or eagles were observed.

3.1.2.3 Federally Proposed Species

Tricolored bat

Although suitable foraging habitat and roosting habitat for the tricolored bat was observed within portions of the Action Area at both alternative sites, the tricolored bat was not observed.

Monarch butterfly

Although suitable habitat for the monarch butterfly was observed within portions of the Action Area at both alternative sites, and southern milkweed is known to be present at Tyndall AFB, neither southern milkweed nor the monarch butterfly was observed.

3.1.2.4 State-Listed Species

Although state-listed species were not surveyed for this BA, field biologists recorded the following observations of potential state-listed species:

- **Alternative 1 Site:** Godfrey's goldenaster (*Chrysopsis godfreyi*), Florida endangered, may have been present in the southwestern corner of this site. In this location, cottony goldenaster (*Chrysopsis gossypina* ssp. *gossypina*) was also present. Further investigation would be needed to positively distinguish between these two species.
- **Alternative 2 Site:** Godfrey's goldenaster, Florida endangered, may have been present in the northeastern corner of this site; cottony goldenaster was also present. Further investigation would be needed to positively distinguish between these two species.

CHAPTER 4 ANALYSIS OF POTENTIAL EFFECTS

This section includes a determination for each listed, proposed, or protected species identified as having the potential to occur within the Action Area. Determinations are defined as follows:

- **No effect:** There will be no impacts, positive or negative, to listed or proposed resources. Generally, no listed resources will be exposed to the action and its environmental consequences.
- **May affect, not likely to adversely affect:** All effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or that cannot be evaluated. Discountable effects are those extremely unlikely to occur.
- **May affect, likely to adversely affect:** Listed resources are likely to be exposed to the action or its environmental consequences and will respond in a negative manner to the exposure.

Based on information gathered through the desktop review of previously prepared studies and documentation, field surveys conducted at Tyndall AFB in April 2025, and the analysis presented in this BA, the DAF has determined that the Proposed Action would have no effect on the bald eagle; may affect, not likely to adversely affect the Choctawhatchee beach mouse and its critical habitat, eastern indigo snake, Godfrey's butterwort, green sea turtle, hawksbill sea turtle, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, St. Andrew beach mouse, telephus spurge, and white birds-in-a-nest, and is not likely to jeopardize the continued existence of the monarch butterfly and tricolored bat. The Proposed Action may affect, but is not likely to adversely affect, the monarch butterfly or the tricolored bat if they were to become listed under the ESA. These determinations are summarized in **Table 4-1** and further discussed below.

Table 4-1 Summary of ESA Determinations

Common Name	Scientific Name	Federal Status	Determination
Birds			
bald eagle	*Haliaeetus leucocephalus*	BGEPA	No effect
Invertebrates			
monarch butterfly	*Danaus plexippus*	Proposed Threatened	Not likely to jeopardize the continued existence; if it becomes listed, the determination would be "may affect, not likely to adversely affect"
Mammals			
Choctawhatchee beach mouse	*Peromyscus polionotus allophrys*	Endangered	May affect, not likely to adversely affect
Choctawhatchee beach mouse critical habitat	*not applicable*	Designated in 2006	May affect, not likely to adversely affect
St. Andrew beach mouse	*Peromyscus polionotus peninsularis*	Endangered	May affect, not likely to adversely affect
tricolored bat	*Perimyotis subflavus*	Proposed Endangered	Not likely to jeopardize the continued existence; if it becomes listed, the determination would be "may affect, not likely to adversely affect"

Table 4-1 Summary of ESA Determinations

Common Name	Scientific Name	Federal Status	Determination
Plants			
Godfrey's butterwort	*Pinguicula ionantha*	Threatened	May affect, not likely to adversely affect
telephus spurge	*Euphorbia telephioides*	Threatened	May affect, not likely to adversely affect
white birds-in-a-nest	*Macbridea alba*	Threatened	May affect, not likely to adversely affect
Reptiles			
eastern indigo snake	*Drymarchon couperi*	Threatened	May affect, not likely to adversely affect
green sea turtle	*Chelonia mydas*	Threatened	May affect, not likely to adversely affect
hawksbill sea turtle	*Eretmochelys imbricata*	Endangered	May affect, not likely to adversely affect
Kemp's ridley sea turtle	*Lepidochelys kempii*	Endangered	May affect, not likely to adversely affect
leatherback sea turtle	*Dermochelys coriacea*	Endangered	May affect, not likely to adversely affect
loggerhead sea turtle	*Caretta caretta*	Threatened	May affect, not likely to adversely affect

4.1 EFFECTS ON FEDERALLY ENDANGERED SPECIES

4.1.1 Choctawhatchee Beach Mouse

The Choctawhatchee beach mouse is present near both alternative sites along the landward side of St. Andrew Sound and the barrier islands (Tyndall AFB, 2020a). Artificial lighting associated with the Proposed Action has the potential to affect beach mice that may be present near the Action Area. Impacts to beach mice from artificial lighting may include decreased exploration of foraging areas and lower foraging yields. Beach mice may also experience greater predator exposure when foraging in artificially illuminated areas (Bird et. al., 2004). However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to beach mice**.** Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the Choctawhatchee beach mouse because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.1.2 Choctawhatchee Beach Mouse Critical Habitat

Although critical habitat is located approximately 0.08 miles south of the Alternative 1 site and approximately 0.23 miles south of the Alternative 2 site, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to beach mice and their critical habitat. Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect the Choctawhatchee beach mouse critical habitat.

4.1.3 Hawksbill Sea Turtle

Although suitable habitat for the hawksbill sea turtle is present near both alternative sites, this species is not known to utilize the beaches on Tyndall AFB (Tyndall AFB, 2020a. Artificial lighting associated with the Proposed Action has the potential to affect nesting or hatchling sea turtles that may be present near the Action Area. Hatchling turtles instinctively move toward the brightest direction upon emerging from their

nest. The brightness and glare associated with artificial lighting near beaches can disorient hawksbill turtle hatchlings, leading them away from the ocean and causing mortality (Witherington et. al., 2014). Artificial lighting may also deter adult turtles from nesting, increasing the frequency of false crawls. The amount of lighting needed to disorient hatchlings is less than the amount necessary to deter nesting. However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to sea turtles.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the hawksbill sea turtle because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.1.4 Kemp's Ridley Sea Turtle

The Kemp's ridley sea turtle is present near both alternative sites and the species is known to nest on Tyndall AFB's beaches (Tyndall AFB, 2020a). Artificial lighting associated with the Proposed Action has the potential to affect nesting or hatchling sea turtles that may be present near the Action Area. Hatchling turtles instinctively move toward the brightest direction upon emerging from their nest. The brightness and glare associated with artificial lighting near beaches can disorient hatchlings, leading them away from the ocean and cause mortality (Witherington et. al., 2014). Artificial lighting may also deter adult turtles from nesting, increasing the frequency of false crawls. The amount of lighting needed to disorient hatchlings is below the amount necessary to deter nesting. However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to sea turtles.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the Kemp's ridley sea turtle because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.1.5 Leatherback Sea Turtle

Artificial lighting associated with the Proposed Action has the potential to affect nesting or hatchling sea turtles that may be present near the Action Area. Hatchling turtles instinctively move toward the brightest direction upon emerging from their nest. The brightness and glare associated with artificial lighting near beaches can disorient leatherback hatchlings, leading them away from the ocean and causing mortality (Witherington et. al., 2014). Artificial lighting may also deter adult turtles from nesting, increasing the frequency of false crawls. The amount of lighting needed to disorient hatchlings is below the amount necessary to deter nesting. However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to sea turtles.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the leatherback sea turtle because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.1.6 St. Andrew Beach Mouse

The St. Andrew beach mouse is present near both alternative sites along the landward side of St. Andrew Sound and the barrier islands (Tyndall AFB, 2020a). Artificial lighting associated with the Proposed Action has the potential to affect beach mice that may be present near the Action Area. Impacts to beach mice from artificial lighting may include decreased exploration of foraging areas and lower foraging yields. Beach mice may also experience greater predator exposure when foraging in artificially illuminated areas (Bird et. al., 2004). However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to beach mice**.** Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the St. Andrew beach mouse because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2 EFFECTS ON FEDERALLY THREATENED SPECIES

4.2.1 Eastern Indigo Snake

Although suitable habitat for the eastern indigo snake is present within portions of both alternative sites, this species is not known to occur on Tyndall AFB and was not observed within the Action Area. Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the eastern indigo snake because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2.2 Godfrey's Butterwort

Although suitable habitat for Godfrey's butterwort is present in the Action Area, this species was not observed. Known locations of this species on Tyndall AFB are found in open, wet, savannah-like habitat. Habitats similar to these were observed within portions of the Alternative 1 and Alternative 2 sites within the delineated wetlands. The Alternative 1 site would permanently remove up to 1.41 acres of marginally suitable habitat, and the Alternative 2 site would permanently remove up to 0.89 acres of marginally suitable habitat, by mechanically removing vegetation for construction of the equipment area at either of the selected alternatives.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, Godfrey's butterwort because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2.3 Green Sea Turtle

The green sea turtle is present near both alternative sites and is known to nest on Tyndall AFB's beaches (Tyndall AFB, 2020a). Artificial lighting associated with the Proposed Action has the potential to affect nesting or hatchling sea turtles that may be present near the Action Area. Hatchling turtles instinctively move toward the brightest direction upon emerging from their nest. The brightness and glare associated with artificial lighting near beaches can disorient hatchlings, leading them away from the ocean and causing mortality (Witherington et. al., 2014). Artificial lighting may also deter adult turtles from nesting, increasing the frequency of false crawls. The amount of lighting needed to disorient hatchlings is below the amount necessary to deter nesting. However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to sea turtles.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the green sea turtle because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2.4 Loggerhead Sea Turtle

The loggerhead sea turtle is present near both alternative sites and the species is known to regularly nest on Tyndall AFB's beaches (Tyndall AFB, 2020a). Artificial lighting associated with the Proposed Action has the potential to affect nesting or hatchling sea turtles that may be present near the Action Area. Hatchling turtles instinctively move toward the brightest direction upon emerging from their nest. The brightness and glare associated with artificial lighting near beaches can disorient hatchlings, leading them away from the ocean and cause mortality (Witherington et. al., 2014). Artificial lighting may also deter adult turtles from nesting, increasing the frequency of false crawls. The amount of lighting needed to disorient hatchlings is below the amount necessary to deter nesting. However, all lighting would be installed in compliance with the applicable requirements as described in **Section 1.3.2** to minimize and prevent impacts to sea turtles.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the loggerhead sea turtle because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2.5 Telephus Spurge

Although suitable habitat for telephus spurge is present in the Action Area, this species was not observed. Known locations for telephus spurge on Tyndall AFB include sandy, upland habitats dominated by saw palmetto, little bluestem (*Schizachyrium scoparium*), inkberry, wax myrtle, and St. John's wort. Similar habitats were observed in the northeastern corner and southern end of the Alternative 1 site, and in the northeastern area and small portions of the southwestern and central portions of the Alternative 2 site. The Alternative 1 site would permanently remove up to 1.08 acres of marginally suitable habitat, and the Alternative 2 site would permanently remove approximately 0.68 acres of marginally suitable habitat for the telephus spurge by mechanically removing vegetation for construction of the equipment area at either of the selected alternatives.

Therefore, based on the lack of observed individuals and the small amount of potential habitat affected, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, telephus spurge because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.2.6 White Birds-in-a-Nest

Although suitable habitat for white birds-in-a-nest is present in the Action Area, this species was not observed. Marginally suitable habitat was observed within portions of both alternative sites within the delineated wetlands. The Alternative 1 site would permanently remove up to 1.41 acres of marginally suitable habitat, and the Alternative 2 site would permanently remove up to 0.89 acres of marginally suitable habitat by mechanically removing vegetation for construction of the equipment area at either of the selected alternatives. White birds-in-a-nest is not known to occur on Tyndall AFB; the closest known occurrence is located approximately 6.3 miles away at Lathrop Bayou.

Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, white birds-in-a-nest because the chance of adverse impacts from the Proposed Action is so small as to be discountable.

4.3 Effects on Federally Protected Species

4.3.1 Bald Eagle

Although the entirety of Tyndall AFB provides suitable habitat for the bald eagle, no nests or individuals were observed. The closest known nest location is approximately 1.1 miles from the Action Area. Noise generated from construction could disturb eagles; however, construction has been occurring at Tyndall AFB on a nearly continuous basis since Hurricane Michael in 2018, and eagles are continuing to nest and build new nests on the installation. Implementation of the Proposed Action at either alternative site would remove potential nest trees for the eagle; however, few suitable trees are present within the Action Area, and other locations nearby provide suitable nesting habitat for eagles. Therefore, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the bald eagle.

4.4 Effects on Federally Proposed Species

4.4.1 Tricolored Bat

Suitable foraging and roosting habitat for the tricolored bat is present throughout both alternative sites. The Alternative 1 site would permanently remove up to 1.41 acres of suitable foraging habitat within wetlands. The Alternative 2 site would permanently remove up to 0.96 acres of suitable foraging habitat within wetlands. Removal of all vegetation at either site would remove marginally suitable foraging habitat and suitable roosting habitat in 4.4 acres of the Alternative 1 site and 3.6 acres of the Alternative 2 site.

Currently, the tricolored bat is not known to occur on Tyndall AFB. Therefore, the DAF has determined that the Proposed Action is not likely to jeopardize the continued existence of the tricolored bat. If the tricolored

bat becomes listed before the Proposed Action is complete, a provisional effects determination is provided in **Table 4-1**.

4.4.2 Monarch Butterfly

While suitable habitat for the monarch butterfly is present throughout Tyndall AFB, this species is not known to occur on Tyndall AFB and no overwintering habitat is present; any impacts on individuals would not be sufficient to preclude both the survival and recovery of the population as a whole. Both alternative sites encompass areas that could provide flowering plants for the monarch butterfly. However, the dense shrub layer at both sites is unsuitable for the monarch butterfly, and the surrounding area of the Alternative 1 site is largely developed. The surrounding area of the Alternative 2 site is undeveloped, with large amounts of undisturbed, wetter areas that potentially provide more suitable habitat for the southern milkweed. Therefore, the DAF has determined that the Proposed Action is not likely to jeopardize the continued existence of the monarch butterfly. If the monarch butterfly becomes listed before the Proposed Action is complete, a provisional effects determination is provided in **Table 4-1**.

CHAPTER 5 REFERENCES

AFCEC. 2024. Air Force Civil Engineer Center. CEMIRT continues to power Air Force and prevent mission disruption. https://www.afcec.af.mil/News/Article-Display/Article /3776132/cemirt-continues-to-power-air-force-and-prevent-mission-disruption/. Accessed May 19, 2025.

Bird, B.L., Branch, L.C., & Miller, D.L. 2004. Effects of Coastal Lighting on Foraging Behavior of Beach Mice. University of Florida. https://www.um.es/eubacteria/CL_RATONES.pdf. Accessed July 1, 2025.

Bird, B.L., Miller, D.L., Stoddard, M.A., Branch, L.C., & Hostetler, M.E. 2024. Beach mice. University of Florida IFAS Extension. https://edis.ifas.ufl.edu/publication/UW173. Accessed June 30, 2025.

Buddhaben. 2017. iNaturalist observation: Monarch (Danaus Plexippus). https://www.inaturalist.org/observations/5473709. % Accessed May 19, 2025.

Center for Biological Diversity. 2007. Press Release: Bald Eagle Population Exceeds 11,000 Pairs in 2007. https://www.biologicaldiversity.org/news/press_releases/bald-eagle-06-22-2007.html Accessed May 19, 2025.

ESRI. 2023. Environmental Systems Research Institute. ArcGIS Field Maps. https://www.esri.com/en-us/arcgis/products/arcgis-field-maps/overview. Accessed May 19, 2025.

Flockhart, D.T., L.I. Wassenaar, T.G. Martin, K.A. Hobson, M.B. Wunder, and D.R. Norris. 2013. Tracking multi-generational colonization of the breeding grounds by monarch butterflies in eastern North America. Proceedings of the Royal Society B 280:1-8. https://royalsocietypublishing.org/doi/epdf/10.1098/rspb.2013.1087. Accessed May 19, 2025.

FWC. n.d.a. Florida Fish and Wildlife Conservation Commission. Wildlife Lighting Criteria. https://myfwc.com/media/18511/seaturtle-lightingguidelines.pdf. Accessed June 16, 2025.

FWC. n.d.b. Tricolored bat (Perimyotis subflavus). https://myfwc.com/conservation/you-conserve/wildlife/bats/field-guide/tricolored-bat/. Accessed May 19, 2025.

FWC. 2018. Florida Land Cover Classification System. September 2018. https://myfwc.com/media/20455/land-cover-classification-revision-2018.pdf. Accessed May 19, 2025.

FNAI. 2000. Florida Natural Areas Inventory. Godfrey's Butterwort. https://www.fnai.org/PDFs/FieldGuides/Pinguicula_ionantha.pdf. Accessed May 19, 2025.

FNAI. 2010a. Guide to the Natural Communities of Florida (Scrubby Flatwoods, pp.65-67). 2010 Edition. https://www.fnai.org/species-communities/natcom-guide. Accessed May 19, 2025.

FNAI. 2010b. Guide to the Natural Communities of Florida (Wet Flatwoods, pp.55-60). 2010 Edition. https://www.fnai.org/species-communities/natcom-guide. Accessed May 19, 2025.

FNAI. 2023a. Choctawhatchee Beach Mouse. https://www.fnai.org/PDFs/FieldGuides/Peromyscus_polionotus_allophrys.pdf. Accessed July 10, 2025.

FNAI. 2023b. Tricolored Bat. https://www.fnai.org/PDFs/FieldGuides/Perimyotis_subflavus.pdf. Accessed May 19, 2025.

FNAI. 2024. White birds-in-a-nest. https://www.fnai.org/PDFs/FieldGuides/Macbridea_alba.pdf. Accessed May 19, 2025.

Herman, W.S. and M. Tatar. 2001. Juvenile hormone regulation of longevity in the migratory monarch butterfly. The Royal Society 268:2509-2514. https://royalsocietypublishing.org/doi/epdf/10.1098/rspb.2001.1765. Accessed May 19, 2025.

Juniper Systems. 2021. Geode Owner's Manual. https://junipersys.com/data/support/geode/geode-manual-english.pdf. Accessed May 19, 2025.

NOAA. 2025. National Oceanic and Atmospheric Administration. Leatherback Turtle. https://www.fisheries.noaa.gov/species/leatherback-turtle. Accessed July 2, 2025.

NPS. 2021. National Park Service. Eastern Indigo Snake Species Profile. https://www.nps.gov/ever/learn/nature/easternindigosnake.htm#. Accessed May 19, 2025.

Negrón-Ortiz, V. and M. Kaeser. 2020. Timing and Patterns of Size, Reproduction, and Seed Germination in Florida Endemic *Euphorbia telephioides* (Euphorbiaceae): Management and Conservation Implications. Natural Areas Journal 40(3):262-272.

Tyndall AFB. 2020a. U.S. Air Force Integrated Natural Resources Management Plan, Tyndall Air Force Base.

Tyndall AFB. 2020b. Threatened and Endangered Species Component Plan.

USFWS and NMFS. 1991. U.S. Fish and Wildlife Service and National Marine Fisheries Service. Recovery Plan for U.S. Population of Atlantic Green Turtle. https://ecos.fws.gov/docs/recovery_plan/911126c.pdf. Accessed July 1, 2025.

USFWS and NMFS. 1992.. Recovery Plan for Leatherback Turtles in the U.S. Caribbean, Atlantic, and Gulf of Mexico. https://ecos.fws.gov/docs/recovery_plan/920406.pdf. Accessed July 1, 2025.

USFWS and NMFS. 1993. Recovery Plan for Hawksbill Turtles in the U.S. Caribbean Sea, Atlantic Ocean, and Gulf of Mexico. https://ecos.fws.gov/docs/recovery_plan/931110.pdf. Accessed June 30, 2025.

USFWS and NMFS. 1998. Endangered Species Consultation Handbook. Procedures for Conducting Consultation and Conference Activities under Section 7 of the Endangered Species Act. March.

USFWS and NMFS. 2008. Recovery Plan for the Northwest Atlantic Population of the Loggerhead Sea Turtle (*Caretta caretta*), Second Revision. https://ecos.fws.gov/docs/recovery_plan/090116.pdf. Accessed July 2, 2025.

USFWS and NMFS. 2011. Bi-National Recovery Plan for the Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Second Revision. https://ecos.fws.gov/docs/recovery_plan/kempsridley_revision2_with%20signature.pdf. Accessed June 30, 2025.

USFWS. n.d. What is White-nose Syndrome? https://www.whitenosesyndrome.org/static-page/what-is-white-nose-syndrome. Accessed May 19, 2025.

USFWS. 2006. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Perdido Key Beach Mouse, Choctawhatchee Beach Mouse, and St. Andrew Beach Mouse. Federal Register 71(197):60238-60370.

https://www.federalregister.gov/documents/2006/10/12/06-8481/endangered-and-threatened-wildlife-and-plants-designation-of-critical-habitat-for-the-perdido-key. Accessed July 10, 2025.

USFWS. 2020. Assessing the status of the monarch butterfly. https://www.fws.gov/savethemonarch/ssa.html. Accessed May 19, 2025.

USFWS. 2021a. *Euphorbia telephioides* (Telephus spurge) 5-year review: Summary and Evaluation. Panama City Field Office Panama City, Florida. https://ecos.fws.gov/docs/five_year_review/doc4483.pdf. Accessed May 19, 2025.

USFWS. 2021b. Bald Eagle Fact Sheet. https://www.fws.gov/sites/default/files/documents/bald-eagle-fact-sheet.pdf. Accessed May 19, 2025.

USFWS. 2021c. Species Status Assessment Report for the Tricolored Bat (Perimyotis subflavus) Version 1.1. https://www.fws.gov/sites/default/files/documents/Tricolored_Bat_SSA.pdf. Accessed May 19, 2025.

USFWS. 2023. *Pinguicula ionantha* (Godfrey's Butterwort) 5-year review: Summary and Evaluation. Panama City Field Office Panama City, Florida. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/4112.pdf. Accessed July 10, 2025.

USFWS. 2025. Information for Planning and Consultation. https://ipac.ecosphere.fws.gov/. Accessed May 15, 2025.

Witherington, B.E., Martin, R.E. and Trindell, R.N. 2014. Understanding, assessing, and resolving light-pollution problems on sea turtle nesting beaches, revised. Florida Fish and Wildlife Research Institute Technical Report TR-2. https://f50006a.eos-intl.net/ELIBSQL12_F50006A_Documents/TR-2Rev2.pdf. Accessed July 3, 2025.

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CHAPTER 6 LIST OF PREPARERS

Table 6-1 List of Preparers and Contributors

Consultants – Versar Global Solutions

Name	Education	Role	Years of Experience
Craig Carver	Master of Urban and Regional Planning	Quality Control	15
Kenneth Erwin	MS, Natural Resources	Biological Assessment	11
Butch Fries	MA, Mass Communications	Technical Editing	45
Benjamin Leatherland	MA, Geography/Environmental Planning	Wetland Scientist	29
Alexander Noble	BS, Environmental Science BA, Biology	Biological Assessment	3
Angela Northrop	BS, Marketing	Technical Editing	27
Travis Smith	BA, Geography	GIS/Cartography	29

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APPENDIX A
REPRESENTATIVE PHOTOGRAPHS

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APPENDIX A REPRESENTATIVE PHOTOGRAPHS

Figure A-1 shows the locations of where each photograph was taken during the biological survey. Photo location numbers on figures correspond to the photo numbers in the photographic log.

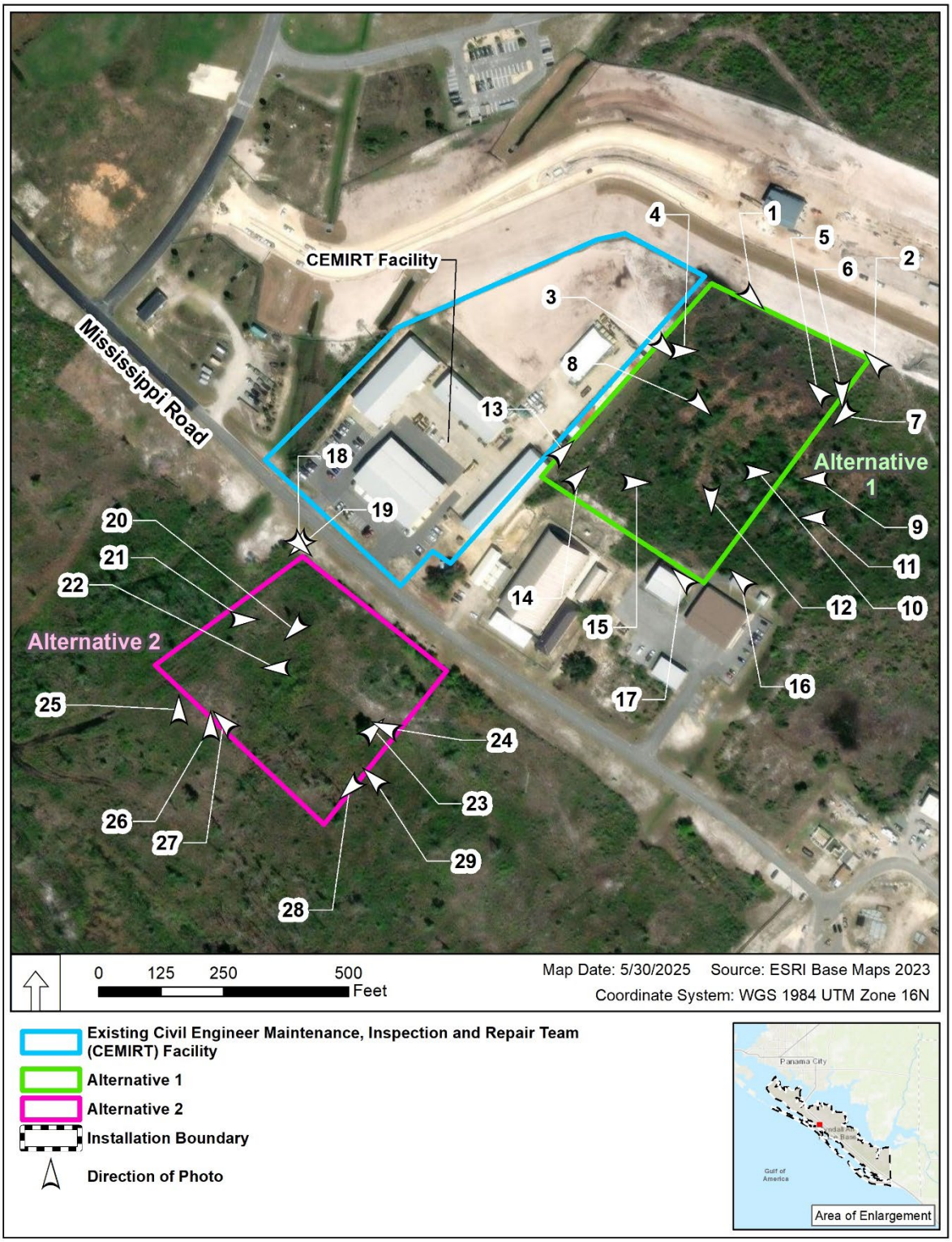


Figure A-1 Photo Locations

FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 1	**Date:** 4/22/2025

Description:

Alternative 1 Action Area 50-foot buffer at the northwest corner, facing southeast.



Photo No. 2	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the northeast corner, facing northwest.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 3	**Date:** 4/22/2025

Description:

Alternative 1 Action Area within the northwest corner, facing southeast.



Photo No. 4	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the northwest section, facing east.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 5	Date: 4/21/2025

Description:

Alternative 1 Action Area in the northeast section, facing northwest.

The corresponding location on the map is approximate.



Photo No. 6	Date: 4/22/2025

Description:

Alternative 1 Action Area in the northwest portion of the site, facing south.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 7	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the northeast section, facing south southwest.



Photo No. 8	**Date:** 4/21/2025

Description:

Alternative 1 Action Area in the central portion, facing southeast.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 9	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the eastern buffer area central portion, facing west.



Photo No. 10	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the eastern central portion, facing east.

The corresponding location on the map is approximate.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 11	**Date:** 4/22/2025

Description:

Alternative 1 Action Area in the eastern buffer area central portion, facing west.



Photo No. 12	**Date:** 4/22/2025

Description:

Alternative 1 Action Area central, facing south.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 13	**Date:** 4/22/2025

Description:

Alternative 1 Action Area along the western border, facing northeast.



Photo No. 14	**Date:** 4/21/2025

Description:

Alternative 1 Action Area at the southwest corner, facing northeast.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 15	**Date:** 4/21/2025

Description:

Alternative 1 Action Area; transition between wetland and upland habitats, facing east.



Photo No. 16	**Date:** 4/21/2025

Description:

Alternative 1 Action Area southeast, facing northwest.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 17	**Date:** 4/21/2025

Description:

Alternative 1 Action Area near the southeast corner, facing northwest.



Photo No. 18	**Date:** 4/23/2025

Description:

Alternative 2 Action Area at the northwestern corner facing southeast along the 50-foot buffer area.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 19	**Date:** 4/23/2025

Description:

Alternative 2 Action Area at the northwestern corner, facing southwest into the site.



Photo No. 20	**Date:** 4/23/2025

Description:

Alternative 2 Action Area in the northwestern corner, facing southwest.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 21	**Date:** 4/23/2025

Description:

Alternative 2 Action Area along the northwestern border, facing east.



Photo No. 22	**Date:** 4/23/2025

Description:

Alternative 2 Action Area in the central portion, facing west.

The corresponding location on the map is approximate.



Photo No. 23	**Date:** 4/23/2025

Description:

Alternative 2 Action Area midway along the eastern border, facing northeast.



Photo No. 24	**Date:** 4/23/2025

Description:

Alternative 2 Action Area midway along the eastern border, facing west northwest.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 25	**Date:** 4/23/2025

Description:

Alternative 2 Action Area located in the southern buffer area, facing north.



Photo No. 26	**Date:** 4/23/2025

Description:

Alternative 2 Action Area located in the southcentral portion of the site, facing north.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No. 27	**Date:** 4/23/2025

Description:

Alternative 2 Action Area along the southern border, facing northwest.

The corresponding location on the map is approximate.



Photo No. 28	**Date:** 4/23/2025

Description:

Alternative 2 Action Area along the southeastern border, facing southwest.

The corresponding location on the map is approximate.



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Biological Assessment**

Photo No.	**Date:**
29	4/23/2025

Description:

Alternative 2 Action Area along the eastern border, facing northwest.



APPENDIX B
USFWS OFFICIAL SPECIES LIST

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Florida Ecological Services Field Office
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
Phone: (352) 448-9151 Fax: (772) 562-4288
Email Address: fw4flesregs@fws.gov
https://www.fws.gov/office/florida-ecological-services

In Reply Refer To: 08/15/2025 20:38:06 UTC
Project Code: 2025-0048600
Project Name: Tyndall AFB CEMIRT Facility Environmental Assessment

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. **Please include your Project Code, listed at the top of this letter, in all subsequent correspondence regarding this project.** Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered

species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- Marine Mammals
- Coastal Barriers

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Florida Ecological Services Field Office
777 37th St
Suite D-101
Vero Beach, FL 32960-3559
(352) 448-9151

PROJECT SUMMARY

Project Code: 2025-0048600
Project Name: Tyndall AFB CEMIRT Facility Environmental Assessment
Project Type: Military Development
Project Description: Tyndall AFB proposed to construct, operate, and maintain a 60,000-square-foot (SF) reinforced concrete slab and associated infrastructure improvements to provide sufficient operational and storage space (equipment area) for CEMIRT and meet applicable DoD and DAF facility requirements. Construction of the proposed slab and associated improvements would cumulatively disturb up to 190,000 SF (4.4 acres) and would include site preparation, construction of a permanent access road from the existing CEMIRT facility to the equipment area, appropriate lighting, perimeter security fencing, pavement markings and signing, fire hydrants, and stormwater management features.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@30.06006825,-85.58293256505453,14z



Counties: Bay County, Florida

ENDANGERED SPECIES ACT SPECIES

There is a total of 12 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered
West Indian Manatee *Trichechus manatus* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. ***This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.*** Species profile: https://ecos.fws.gov/ecp/species/4469 General project design guidelines: https://ipac.ecosphere.fws.gov/project/IA2UMYPL4ZDPDNJQOVL2273WTE/documents/generated/7281.pdf	Threatened

BIRDS

NAME	STATUS
Eastern Black Rail *Laterallus jamaicensis ssp. jamaicensis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened
Eastern Indigo Snake *Drymarchon couperi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened

FISHES

NAME	STATUS
Gulf Sturgeon *Acipenser oxyrinchus (=oxyrhynchus) desotoi* There is **final** critical habitat for this species. Your location does not overlap the critical habitat.	Threatened

NAME	STATUS
Species profile: https://ecos.fws.gov/ecp/species/651	

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Godfrey's Butterwort *Pinguicula ionantha* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6805	Threatened
Telephus Spurge *Euphorbia telephioides* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5499	Threatened
White Birds-in-a-nest *Macbridea alba* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6291	Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

COASTAL BARRIERS

Projects within the John H. Chafee Coastal Barrier Resources System (CBRS) may be subject to the restrictions on Federal expenditures and financial assistance and the consultation requirements of the Coastal Barrier Resources Act (CBRA) (16 U.S.C. 3501 et seq.). For more information, please contact the local Ecological Services Field Office or visit the CBRA Consultations website. The CBRA website provides tools such as a flow chart to help determine whether consultation is required and a template to facilitate the consultation process.

SYSTEM UNIT (SU)

Most new Federal expenditures and financial assistance, including Federal flood insurance, are prohibited within System Units. ***Federally-funded projects within System Units require consultation with the Service.*** *Consultation is not required for projects using private, state, or local funds.*

UNIT	NAME	TYPE	SYSTEM UNIT ESTABLISHMENT DATE	FLOOD INSURANCE PROHIBITION DATE
P31	St. Andrew Complex	SU	12/21/2018	12/21/2018

MARINE MAMMALS

Marine mammals are protected under the Marine Mammal Protection Act. Some are also protected under the Endangered Species Act[1] and the Convention on International Trade in Endangered Species of Wild Fauna and Flora[2].

The responsibilities for the protection, conservation, and management of marine mammals are shared by the U.S. Fish and Wildlife Service [responsible for otters, walruses, polar bears, manatees, and dugongs] and NOAA Fisheries[3] [responsible for seals, sea lions, whales, dolphins, and porpoises]. Marine mammals under the responsibility of NOAA Fisheries are **not** shown on this list; for additional information on those species please visit the Marine Mammals page of the NOAA Fisheries website.

The Marine Mammal Protection Act prohibits the take of marine mammals and further coordination may be necessary for project evaluation. Please contact the U.S. Fish and Wildlife Service Field Office shown.

---

1. The Endangered Species Act (ESA) of 1973.
2. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is a treaty to ensure that international trade in plants and animals does not threaten their survival in the wild.
3. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

NAME

West Indian Manatee *Trichechus manatus*
Species profile: https://ecos.fws.gov/ecp/species/4469

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Kenneth Erwin
Address: 1025 Vermont Ave. NW
Address Line 2: Suite 500
City: Washington
State: DC
Zip: 20005
Email kerwin@versar.com
Phone: 7036426915

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Air Force

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APPENDIX J
STREAM AND WETLAND DELINEATION FOR CEMIRT IMPROVEMENTS

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Final
Stream and Wetland Delineation Report for Civil Engineer Maintenance, Inspection and Repair Team Facility Improvements Tyndall Air Force Base, Florida

August 2025

United States Air Force
325th Fighter Wing

Tyndall Air Force Base, Florida



U.S. Air Force photo by Tech. Sgt. Betty R. Chevalier

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LIST OF ACRONYMS AND ABBREVIATIONS

AFB	Air Force Base
AMSL	above mean sea level
APT	Antecedent Precipitation Tool
CBRS	Coastal Barrier Resource System
CEMIRT	Civil Engineer Maintenance, Inspection and Repair Team
CWA	Clean Water Act
DAF	Department of the Air Force
EA	Environmental Assessment
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEMA	Federal Emergency Management Agency
FWC	Florida Fish and Wildlife Conservation Commission
FLCCS	Florida Land Cover Classification System
GIS	geographic information system
GPS	global positioning system
LiDAR	Light Detection and Ranging
LRR	Land Resource Region
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OSW	other surface waters
SF	square feet
SFHA	special flood hazard area
SWM	stormwater management
UMAM	Uniform Mitigation Assessment Method
US-98	U.S. Highway 98
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WOTUS	waters of the United States

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CHAPTER 1 INTRODUCTION

1.1 OVERVIEW

A jurisdictional stream and wetland delineation was conducted at two alternative sites adjacent to the Civil Engineer Maintenance, Inspection and Repair Team (CEMIRT) facility at Tyndall Air Force Base (AFB), Florida, from April 21 to 23, 2025. Tyndall AFB covers 29,276 acres in Bay County, Florida, southeast of Panama City **(Figure 1-1)**. This delineation effort was conducted to support the Environmental Assessment (EA) being prepared by the Department of the Air Force (DAF) to evaluate potential environmental impacts from the Proposed Action to implement facility and infrastructure improvements for the CEMIRT facility. The delineation was conducted in accordance with the Corps of Engineers Wetlands Delineation Manual (U.S. Army Corps of Engineers [USACE], 1987), Florida Unified Wetland Delineation Methodology (Chapter 62-340, Florida Administrative Code [F.A.C.]), and the Clean Water Act (CWA).

The Proposed Action consists of construction, operation, and maintenance of a 60,000-square-foot (SF) concrete slab and associated infrastructure improvements, including lighting, utilities, stormwater management measures, and perimeter fencing, to provide sufficient operational and storage space (equipment area) for CEMIRT. The existing CEMIRT facility is located in the southeastern portion of the base and occupies approximately 323,170 SF (7.4 acres / 3.0 hectares) along Mississippi Road. The wetland delineation described in this report was conducted on two alternative sites (Alternative 1 and Alternative 2) being considered by the DAF for implementation of the Proposed Action **(Figure 1-2)**.

Potential federal and state-regulated wetlands were delineated to define the current extent of jurisdictional wetlands that may be subject to environmental permits within the proposed project area. This process included field surveys of the investigation areas by qualified ecologists, supported by literature and database reviews. This Wetland Delineation Report describes the methodology and results of field investigations to identify and delineate aquatic resources that may be subject to regulation under federal and/or state jurisdictional authority.



Figure 1-1 Location of Tyndall Air Force Base



Figure 1-2 Locations of the Existing CEMRIT Facility and the Alternative 1 and 2 Sites

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CHAPTER 2 WETLAND DELINEATION AREA OVERVIEW

Tyndall AFB is located in northwestern Florida, along the coast of the Gulf of America, southeast of Panama City and approximately 80 miles southwest of Tallahassee. U.S. Highway 98 (US-98) bisects Tyndall AFB into northern and southern sections. The base's main aircraft runways, taxiways, aircraft hangars and maintenance facilities, drone runway, and other infrastructure associated with the airfield are primarily north of US-98, while its administrative facilities, residential areas, and other support facilities and infrastructure are primarily south and west of US-98. Tyndall AFB is bounded by waterbodies on three sides: East Bay to the north, the Gulf of America to the south, and St. Andrew Bay to the west.

The existing CEMIRT facility and alternative sites are located south of US-98. Wetlands subject to state and federal regulatory jurisdiction were delineated within the alternative sites to support future permitting requirements and analysis of potential impacts in the EA. Alternative 1 is 4.4-acre site adjacent to and immediately northeast of the existing CEMIRT facility. Alternative 2 is a 3.6-acre site south of and across Mississippi Road from the existing CEMIRT facility **(Figure 1-2)**.

2.1 SOILS

The Atlantic and Gulf Coast Lowland Forest and Crop Region (Land Resource Region [LRR] T) extends from southern Texas to New Jersey and is typically characterized by soils with aquic moisture regimes, shallow groundwater, 50 to 68 inches of annual precipitation (compared with average continental U.S. annual rainfall of 30 inches), long growing seasons, low snowfall, and frequent hurricanes (U.S. Department of Agriculture [USDA], 2024). Within this LRR, Major Land Resource Area 152A (Eastern Gulf Coast Flatwoods) includes coastal Florida and is characterized by the following (USDA, 2024):

- Nearly level, low-gradient coastal plain (with many large streams)
- Pine savannah flats (with slight rises and low ridges)
- Historically acidic soils (partially the result of periodic fires)
- Low-nutrient / low organic matter soils
- Abundant streams and rivers
- Plentiful groundwater (but with saltwater intrusion and salt domes in some areas)
- Sandy and clayey soils, including: Alfisols (humid hardwood forest soils), Ultisols (typically red, acidic, clayey soils), Entisols (A horizon soils), Spodosols (acidic, infertile soils), and Histosols (soils with high organic content but restricted drainage)

USDA records indicate that the alternative sites are generally underlain by poorly drained sandy soils (typical for this landscape position). Five soil series are present within the alternative sites, although three soils (Pamlico-Dorovan complex, Leon sand, 0-2% slopes, and Rutledge sand, 0-2% slopes) represent more than 80 percent of the soils across the two sites **(Figure 2-1; Table 2-1** and **Table 2-2**; **)**.

Available aerial photographs do not indicate significant prior grading or soil disturbance on either site, although downed trees from Hurricane Michael in 2018 were removed with heavy equipment between 2019 and 2022 (leaving some deep track ruts and skidder trails). Approximately 87 percent of the Alternative 1 site soils are classified as hydric (wetland) and approximately 93 percent of the Alternative 2 site is underlain by hydric soils **(Table 2-1** and **Table 2-2)**. Non-hydric soils in each area are generally located near the upgradient site boundaries. None of the soils on either site are classified as either Prime Farmand or Farmland of Statewide Importance (USDA, 2025).

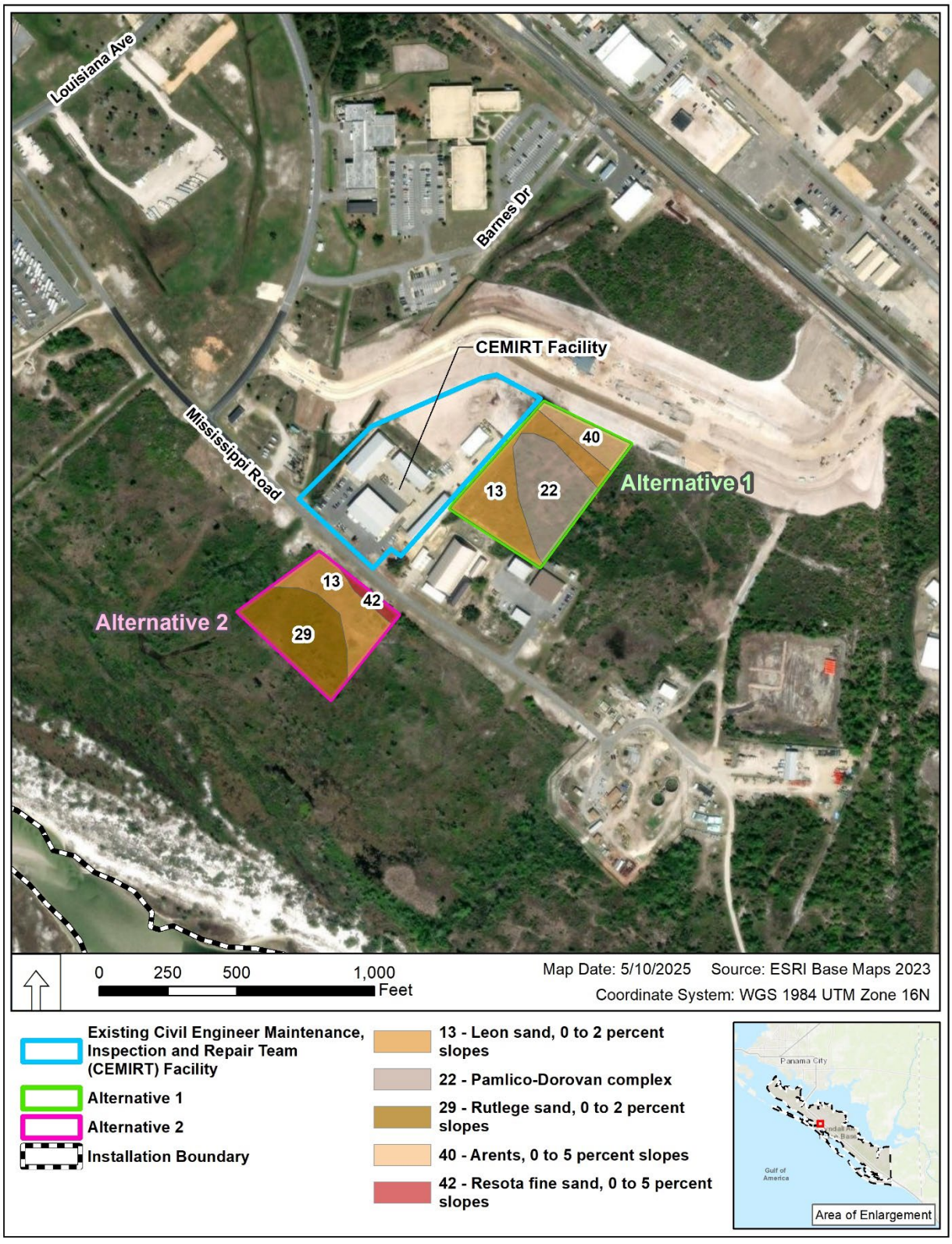


Figure 2-1 Soils on the Alternative 1 and 2 Sites

Table 2-1 Soils Series Underlying the Alternative 1 Site

Map Unit [1]	Map Unit Name	Drainage	Percent of Alternative Site Area	Hydric	Designated (Prime) Farmland
22	Pamlico-Dorovan complex	Very poorly drained	45	Yes (100%)	No
13	Leon sand, 0-2% slopes	Poorly drained	42	Yes (1-32%)	No
40	Arents, 0-5% slopes	Somewhat poorly drained	13	No	No

Notes:
[1]Map Unit numbers correspond to numbers shown on **Figure 2-1**.
Source: USDA, 2025

Table 2-2 Soils Series Underlying the Alternative 2 Site

Map Unit [1]	Map Unit Name	Drainage	Percent of Alternative Site Area	Hydric	Designated (Prime) Farmland
29	Rutledge sand, 0-2% slopes	Very poorly drained	60	Yes (66-99%)	No
13	Leon sand, 0-2% slopes	Poorly drained	33	Yes (1-32%)	No
42	Resota fine sand, 0-5% slopes	Moderately well drained	7	No	No

Notes:
[1]Map Unit numbers correspond to numbers shown on **Figure 2-1**.
Source: USDA, 2025

2.2 LAND USE/VEGETATIVE COVER

Prior to 2018, Alternative Sites 1 and 2 were vegetated with a combination of mixed hardwoods and conifers. In October 2018, Category 5 Hurricane Michael made landfall near Tyndall AFB, and more than 80 percent of mature trees on both sites were felled by wind speeds exceeding 160 miles per hour. (Pre- and post-hurricane satellite imagery of the Alternative 1 site is shown on **Figures 2-2** and **2-3** and the Alternative 2 site is shown on **Figures 2-4** and **2-5** [ESRI, 2025]**.**) Felled trees on the alternative sites were removed with heavy equipment between 2019 and 2022, leaving deep track ruts and skid trails in places. At present, the sites are vegetated with a variety of hydrophytic and mesic herbaceous and scrub-shrub species, but no intact mature canopy stratum. Available aerial photographs indicate both sites were forested from at least 1994 to 2018, and no land use changes were evident between 2018 and 2025 (U.S. Geological Survey [USGS], 2025).



Figure 2-2 2016 Aerial Image of the Alternative 1 Site Before Hurricane Michael



Figure 2-3 2019 Aerial Image of the Alternative 1 Site After Hurricane Michael



Figure 2-4 2016 Aerial Image of the Alternative 2 Site Before Hurricane Michael



Figure 2-5 2019 Aerial Image of the Alternative 2 Site After Hurricane Michael

2.3 WETLANDS

U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data indicate the potential presence of PFO4C (palustrine, forested, needle-leaved evergreen, seasonally flooded) wetlands on both alternative sites **(Figure 2-6)** (USFWS, 2025). These NWI-mapped wetlands extend over approximately 80 percent of each site. No streams or other open waters are mapped by NWI, U.S. Geological Survey, or Bay County on either site. USACE and U.S. Environmental Protection Agency (USEPA) Antecedent Precipitation Tool (APT) data indicate that conditions in the area containing the alternative sites were wetter than normal in the 30 days before the wetland delineation fieldwork conducted between April 21 and April 23, 2025. Overall, however, the region was experiencing mild drought conditions according to data obtained from the Palmer Drought Severity Indicator (USEPA, 2025).

2.4 ELEVATION AND TOPOGRAPHY

Tyndall AFB occupies portions of two physiographic subdivisions:1) Gulf Coastal Lowlands and Flatwoods Forests, and 2) East Gulf Coastal Plain (USDA, 2024). The Gulf Coastal Lowlands and Flatwoods region is characterized by lagoons, barrier islands, coastal swamps, and marshes. The East Gulf Coastal Plain region is located farther inland, exhibits greater topographic variability (and higher elevations), greater diversity of conifers and hardwood forest, and more extensive conversion for agricultural purposes. Both provinces were historically dominated by longleaf pine *(Pinus palustris)*, slash pine *(Pinus elliottii),* saw palmetto *(Serenoa repens),* and gallberry *(Ilex glabra),* though greater hardwood forest abundance and diversity were frequently found in the inland Coastal Plain landscapes. The peninsula surrounding the Tyndall CEMIRT sites has a maximum elevation of approximately 30 feet above mean sea level (AMSL) (USGS, 2025).

The Alternative 1 site is northeast of, and adjacent to the existing CEMIRT facility. This site is bisected by a broad, natural swale landscape feature approximately 260 feet (80 meters) wide and 2 feet (0.5 meters) lower than the surrounding landscape. Elevations range from approximately 22 feet AMSL to 25 feet AMSL (Bay County, 2025) **(Figure 2-7)**. Overall drainage is to the southeast, toward an off-site seasonal pond located approximately 330 feet (100 meters) southeast. Aerial photographs indicate that water levels fluctuate in this pond, expanding its extent from non-existent to approximately 0.20 acres (0.04 hectares).

The Alternative 2 site is south of, and across Mississippi Road from the existing CEMIRT facility. Ground surface elevations here range from approximately from 7 feet AMSL to 18 feet AMSL, with overall drainage to the southwest toward St. Andrew Bay **(Figure 2-7)** (Bay County, 2025). The limits of this site are generally defined by Mississippi Road culverts to the northwest and southeast.

2.5 FLOODPLAINS

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map Panel 12005C0437J (dated June 24, 2024), approximately 50 percent of the Alternative 1 site is in the 100-Year Flood Zone (special flood hazard area [SFHA] Zone A, with a 1 percent annual chance of flooding) (FEMA, 2024). FEMA data indicate that approximately 80 percent of Alternative Site 2 is also in the 100-Year Floodplain, with an additional 10 percent in the 500-Year Floodplain (SFHA Zone X, with a 0.2 percent annual chance of flooding). At Alternative Site 2, the 100-Year Flood Zone is divided between SFHA Zone A and SFHA Zone AE (which has an established Base Flood Elevation of 10 feet AMSL).FEMA SFHAs are shown on **Figure 2-8**.

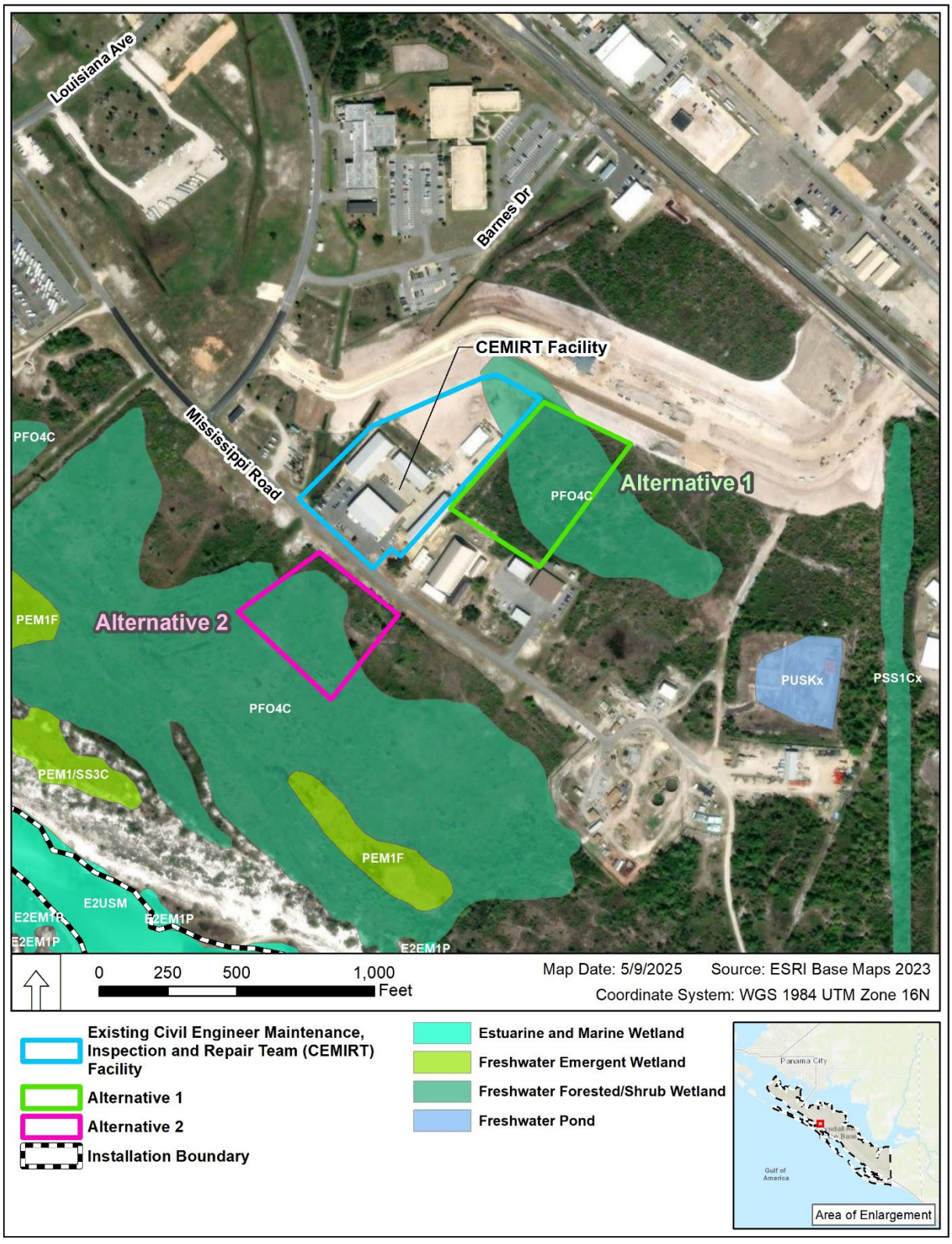


Figure 2-6 USFWS NWI Wetlands On and Near the Alternative 1 and Alternative 2 Sites

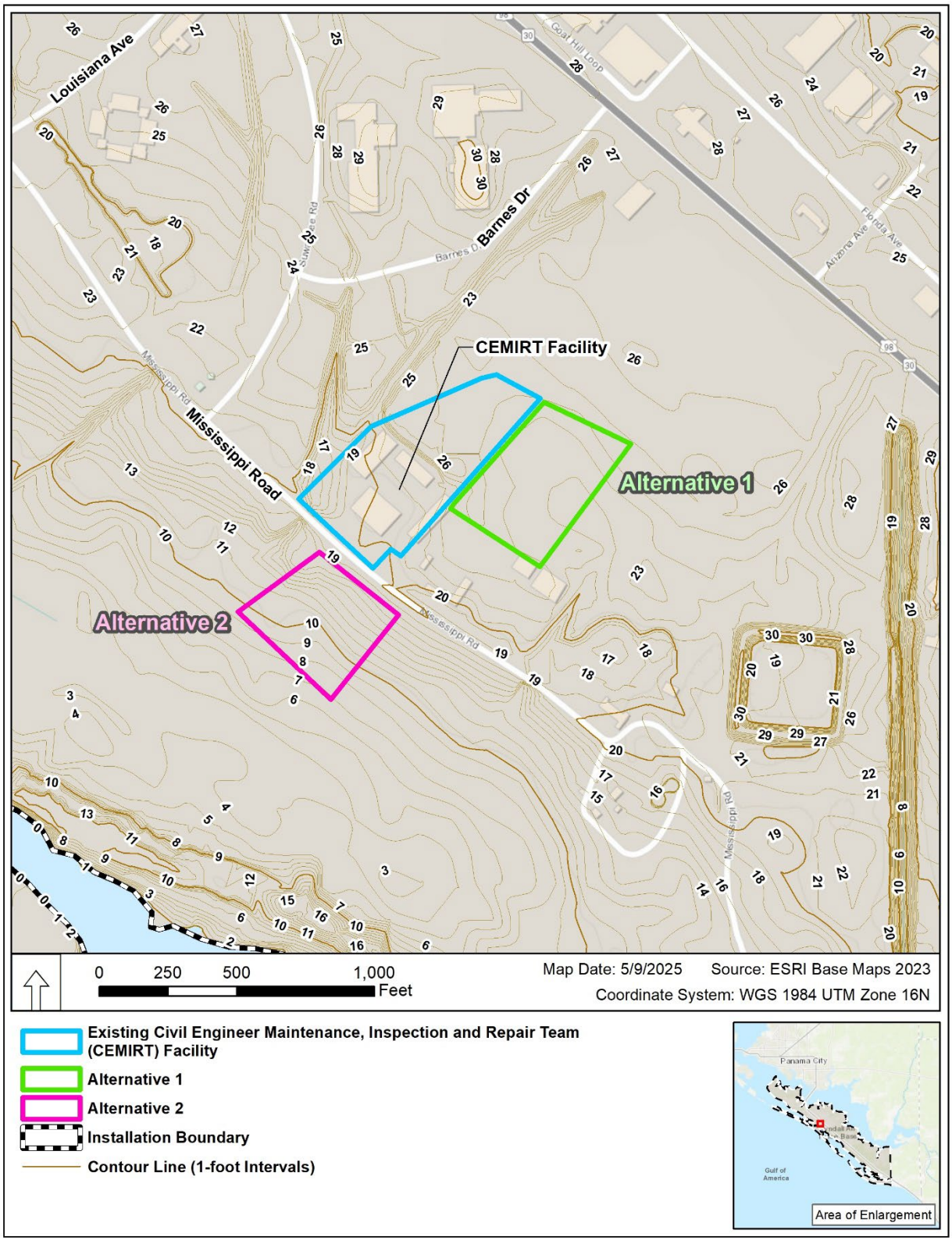


Figure 2-7 Topography On and Near the Alternative 1 and Alternative 2 Sites

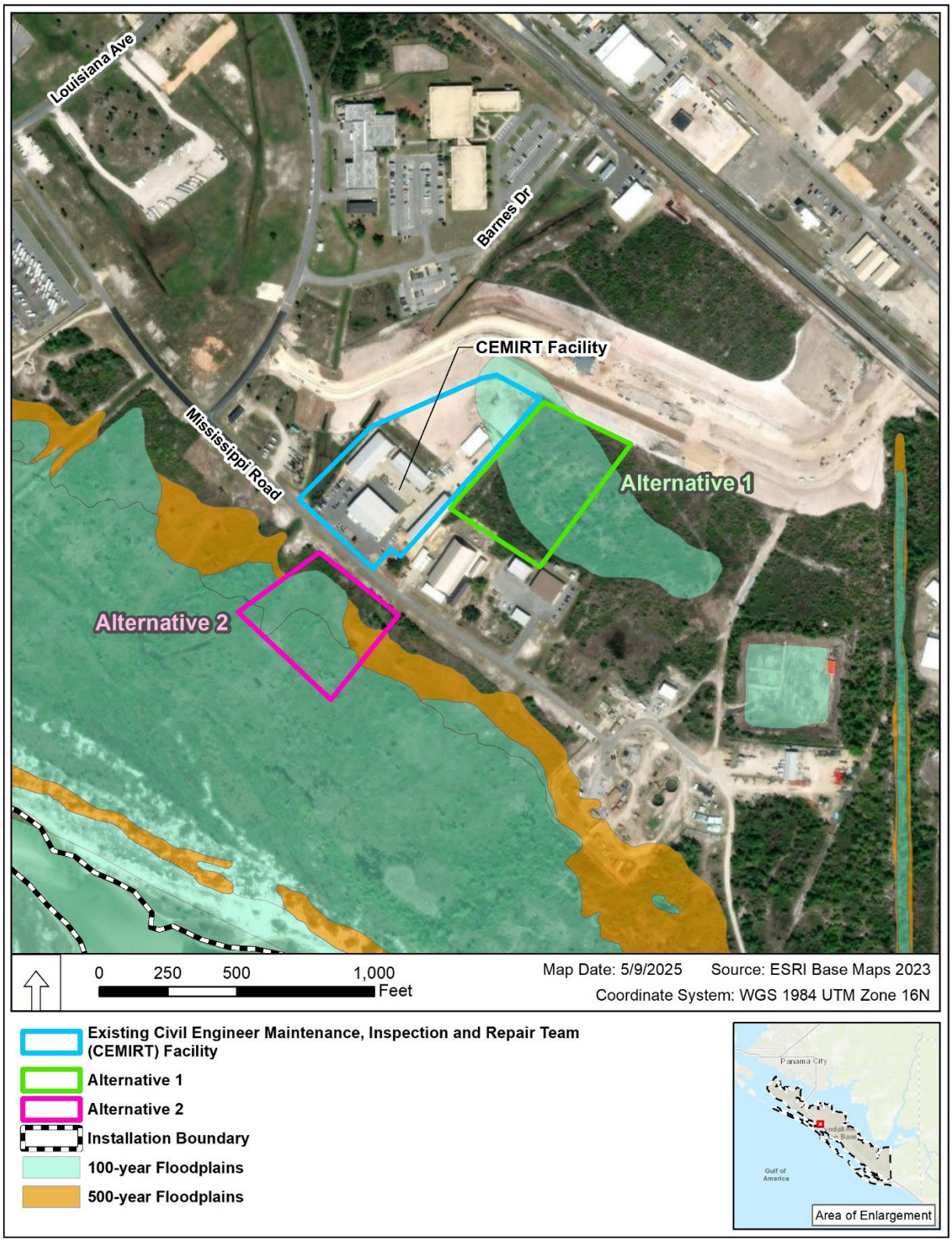


Figure 2-8 FEMA 100-Year and 500-Year Floodplains On and Near the Alternative 1 and Alternative 2 Sites

Approximately 70 percent of the Alternative 2 site is within a FEMA Coastal Barrier Resource System (CBRS) area (Bay County, 2025). Per FEMA, “the CBRS is a system of protected coastal areas that includes ocean-front land, the Great Lakes and Other Protected Areas. Coastal barriers serve as important buffers between coastal storms and inland areas, often protecting properties on land from serious flood damage. Also, coastal barriers provide a protective habitat for aquatic plants and animals. The Coastal Barrier Resources Act of 1982 restricted development on the CBRS, in an effort to protect the barrier system and prevent future flood damage” (FEMA, 2025).

Because of the coastal location (approximately 900 feet from St. Andrew Bay and 4,200 feet from the Gulf of America) and low topographic elevation of both sites, these areas are subject to periodic flooding and hurricane impacts. Available mapping records from the National Hurricane Data Center and Bay County GIS also suggest that the southwestern 25 percent of the Alternative 2 site may periodically be impacted by hurricane storm surges (Bay County, 2025).

CHAPTER 3 METHODOLOGY

3.1 REGULATORY CONTEXT

3.1.1 Federal Regulatory Jurisdiction

Section 404 of the 1972 CWA and Section 10 of the 1899 Rivers and Harbors Act gives the Federal Government regulatory jurisdiction over a portion of surface waters, called waters of the United States. (WOTUS), including some wetlands. WOTUS are divided into four subsets: (1) territorial seas and traditional navigable waters; (2) tributaries to traditional navigable waters; (3) lakes, ponds, and impoundments of traditional navigable waters; and (4) wetlands adjacent to territorial seas and traditional navigable waters. The discharge of dredged or fill material into WOTUS is regulated by Section 404 of the CWA.

The USACE and USEPA are granted regulatory authority under Section 404 of the CWA. USEPA has enforcement authority and provides oversight of the Section 404 permit program. The USACE is responsible for issuing and enforcing permits for activities in jurisdictional WOTUS in conjunction with prior permitting authorities in navigable waters under the Rivers and Harbors Act of 1899. The USEPA has provided Section 404 [b][1] guidelines for permit review and through Section 404[c] of the CWA has the authority to veto permits by designating certain sites as non-fill areas. The USACE has jurisdiction for areas that meet the criteria as WOTUS.

On January 18, 2023, the USACE and USEPA published a new rule redefining WOTUS (2023 WOTUS Rule). The 2023 WOTUS Rule includes three parts: jurisdictional waters (WOTUS), exclusions, and definitions. The rule was finalized in March 2023. On August 29, 2023, USACE and USEPA issued a final rule to amend the 2023 WOTUS Rule. This final rule conforms the definition of WOTUS to the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. Environmental Protection Agency*. Parts of the 2023 WOTUS Rule are invalid under the Supreme Court's interpretation of the CWA in the *Sackett* decision. Therefore, key aspects of the regulatory text were modified to conform the text to the Court's decision. The conforming rule, "Revised Definition of 'Waters of the United States'; Conforming," became effective on September 8, 2023. Legal challenges to the 2023 WOTUS Rule, as amended, have caused pre-2015 WOTUS regulations and the Supreme Court's decision in *Sackett* to be in effect in all but 23 states. Florida is not one of the 23 states currently subject to the 2023 WOTUS Rule, as amended. In Florida, the USACE and USEPA are interpreting WOTUS consistent with the pre-2015 regulatory regime and the *Sackett* decision until further notice; therefore, wetlands are identified as potential WOTUS in this report in accordance with that regulatory guidance.

Approval from the USACE through the individual permit process or through nationwide permits must be obtained for all projects that fall under USACE jurisdiction of Section 404 of the CWA or Section 10 of the Rivers and Harbors Act. Individual permits require a full public interest review including consultation with other federal and state agencies. Nationwide permits have been created for specific activities that meet established criteria and are reviewed and renewed periodically.

3.1.2 State Regulatory Jurisdiction

The State of Florida defines waters of the State as "any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing beneath the surface of the ground, as well as all coastal waters within the jurisdiction of the state." Chapter 62-340, F.A.C., *Delineation of the Landward Extent of Wetlands and Surface Waters*, provides a unified statewide methodology for delineation of the extent of wetlands and surface waters to satisfy the mandate of Section 373.421, Florida Statutes, *Delineation Methods; Formal Determinations*.

Wetlands are defined by the State of Florida "as those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions" (Florida Department of Environmental Protection [FDEP], 2023).

For an area to be delineated as a wetland by the State of Florida, the area in question must meet the criteria for at least one of the four wetland tests outlined in Chapter 62-340.300(2), F.A.C. The area in question must be evaluated for the presence of hydrophytic vegetation, evidence of hydrology, and hydric soils to determine if it satisfies the criteria for each of these four tests:

1. Under Test A, a wetland is present if the area has more than 50 percent obligate vegetation and either hydric soils or hydrologic indicators [62-340.300(2)(a) F.A.C.].
2. Under Test B, a wetland occurs when obligate and facultative wet vegetation together have at least 80 percent areal coverage along with either hydric soils or hydrologic indicators [62-340.300(2)(b) F.A.C.].
3. Test C delineates wetlands based solely on the presence of soil conditions, specifically soils classified as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults by the USDA Keys to Soil Taxonomy – 4th Edition (1990), saline sands, and frequently flooded/ depressional map units [62-340.300(2)(c) F.A.C.].
4. An area is determined to be a wetland under Test D if it has both hydric soils and hydrologic indicators [62-340.300(2)(d) F.A.C.].

For Section 373.421, Florida Statutes, surface waters are waters on the surface of the Earth, contained in bounds created naturally or artificially, including the Atlantic Ocean, the Gulf of America, bays, bayous, sounds, estuaries, lagoons, lakes, ponds, impoundments, rivers, streams, springs, creeks, branches, sloughs, tributaries, and other watercourses.

Other surface waters (OSW), also referred to as non-wetland surface waters, are any areas of the landscape that fail to meet the definition / criteria to be a wetland as set forth in Chapter 62-340 F.A.C. but do meet the definition of a surface water in Section 62-340.600 F.A.C. Examples of OSW include human-built canals and ditches, impoundments (any lake, reservoir, pond, or other containment of surface water occupying a bed or depression in the earth's surface and having a discernible shoreline), any canal, ditch, or other artificial watercourse that usually flows in a defined bed or channel, and streams (any river, creek, slough, or natural watercourse where water usually flows in a defined bed or channel) (FDEP, 2013).

3.1.3 Federal and State Permitting Responsibility

CWA Section 404 permit authorization is required from the USACE for projects that will result in dredging, filling, or draining WOTUS (federally jurisdictional surface waters). The USACE also regulates interstate waters subject to the ebb and flow of the tide through Section 10 of the Rivers and Harbors Act. Depending on project impact extents, USACE CWA Section 404 permit options include General Permits (Nationwide Permits, Regional General Permits, and Programmatic General Permits) or Individual Permits. General Permits are for categories of activities with minimal cumulative impacts, while Individual Permits are for specific projects with more extensive anticipated impacts.

A CWA Section 401 Water Quality Certification authorization from FDEP may also be required for projects that will involve dredging, filling, or draining waters of the State. While federal jurisdiction over isolated wetlands is currently limited legally, FDEP typically exerts jurisdiction over these features as waters of the State. FDEP Water Quality Certifications may either be issued for general categories of projects (USACE Nationwide Permits and General/Regional Permits) or for specific projects (USACE Individual Permits).

Depending on the extent of impact and type of permit, compensatory mitigation may also be required. Compensatory mitigation typically involves stream and wetland restoration, enhancement, and preservation to offset project impacts to such surface waters and may include either permittee-sponsored mitigation or purchase of compensatory mitigation credits.

In 2018, FDEP was granted oversight over federal CWA Section 404 jurisdictional waters. However, USEPA subsequently vacated (removed) this jurisdiction in February 2024. The decision is currently under appeal. As a result, future CWA regulatory requirements may change before the CWA permitting process for the Proposed Action is initiated.

3.2 FIELD SURVEY PERSONNEL

The delineation was conducted by Ben Leatherland, Kenneth Erwin, and Alexander Noble. Mr. Leatherland has 29 years of experience in natural resource management focused on wetlands, streams, water quality, CWA permitting, compensatory mitigation, stream/wetland restoration and enhancement, National Environmental Policy Act (NEPA) compliance, stormwater management, erosion control, protected species, and cultural resources. Mr. Leatherland is a Professional Wetland Scientist, Professional Wetland Delineator, and state-certified combined stormwater/erosion control inspector. Mr. Erwin is a Certified Wildlife Biologist with 11 years of experience in wildlife surveying and monitoring, wetland delineation, habitat restoration/enhancement, and NEPA compliance review. Mr. Noble is a project biologist and environmental scientist with 3 years of field experience throughout the United States.

3.3 FIELD SURVEY

All wetlands and surface waters within the proposed project areas were surveyed and delineated. Surveys were performed in accordance with the guidelines set forth in the USACE 1987 *Wetlands Delineation Manual* (USACE, 1987)*; USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region* (USACE, 2010)*;* the Florida Wetland Delineation Manual (FDEP, 2022); and methodologies prescribed in Chapter 62-340, F.A.C. *Delineation of the Landward Extent of Wetlands and Surface Waters* (FDEP, 2013). This wetland delineation was conducted between April 21 and April 23, 2025. The nine-step process described below was used to guide the surveys.

3.3.1 Step 1 – Identify Areas of Potential Wet Signatures

Each wetland delineation area was assessed for indicators of wetland conditions, geomorphic stream characteristics, and surface waters using recent aerial photographs, historical aerial photographs, Light Detection and Ranging (LiDAR) data, local data provided by Tyndall AFB personnel, and state and federal regulatory data. These areas were field-located using a Juniper Systems Geode sub-meter global positioning system (GPS) unit and assessed in accordance with Steps 2 through 9 below.

3.3.2 Step 2 – Test Hydrology

The delineators determined the potential presence or absence of hydrologic indicators and hydrologic connectivity at each area identified in Step 1 (or Step 9). Hydrologic indicators may include evidence of inundation or saturation that support the presence of water, consistent with the state and federal delineation guidelines for wetlands and surface waters (USACE 1987; USACE 2010; Chapter 62-340, F.A.C.).

3.3.3 Step 3 – Vegetation

Each area interpreted from Step 1 (or Step 9) was examined for indications of hydrophytic vegetation. Hydrophytic vegetation occurs in areas where inundation or soil saturation is either permanent, or of sufficient frequency and duration, to influence the occurrence of hydrophytic plants. Hydrophytic vegetation determinations are based on the assemblage of plants and density of plant species growing in an area,

rather than the presence or absence of particular indicator species. Hydrophytic vegetation is determined to be present when the plant community is dominated by species that require or can tolerate prolonged inundation or soil saturation during the growing season (USACE, 2010).

At least one of three tests must be met for a site to be classified as having hydrophytic vegetation dominance (USACE, 2010). The Rapid Test for hydrophytic vegetation is met if all dominant species across all strata are obligate or facultative wet (or a combination of the two), based on visual assessment. The Dominance Test for hydrophytic vegetation is met if more than 50 percent of the dominant species observed are obligate, facultative wet, or facultative **(Table 3-1)**. If the plant communities fail these two tests but indicators of hydric soil and wetland hydrology are present, then the vegetation should be re-evaluated using the Prevalence Index worksheet. The Prevalence Index ranges from 1 to 5. The Prevalence Index is a weighted-average wetland indicator status of all plant species in the sampling plot, where each indicator status category is assigned a numeric code (obligate = 1, facultative wet = 2, facultative = 3, facultative upland = 4, and upland = 5) and weighting is by abundance (absolute percent cover). An index of 3 or less indicates the presence of hydrophytic vegetation.

Table 3-1 Plant Indicator Status Categories

Indicator Category	Symbol	Definition
Obligate Wetland Plant	OBL	Greater than 99 percent probability of occurring in a wetland
Facultative Wetland Plant	FACW	67 percent to 99 percent probability of occurring in a wetland
Facultative Plants	FAC	33 percent to 67 percent probability of occurring in a wetland
Facultative Upland Plants	FACU	1 percent to 33 percent probability of occurring in a wetland
Upland Plants	UPL	Less than 1 percent probability of occurring in a wetland

Source: USACE, 1987

3.3.4 Step 4 – Test Soils

Each area interpreted from Step 1 (or Step 9) was evaluated for indications of hydric soils. Hydric soils are saturated or flooded long enough during the growing season to develop anaerobic conditions in the upper part of the soil profile (Chapter 62-340, F.A.C.). Following state and federal delineation guidelines, the delineators dug a soil test pit within potential wet areas to a depth of up to 20 inches and described the soil profile. The soil profile observed was assessed for hydric soil indicators (USACE 1987; USACE 2010; Chapter 62-340, F.A.C.) such as a depleted matrix, low matrix chroma, reduction-oxidation (redox) features, and iron or manganese concretions. The delineators identified the colors of the soil profile matrix using Munsell soil color charts (Kollmorgen Instruments Corporation, 2012). Soil samples were moistened as necessary before soil color was determined.

3.3.5 Step 5 – Determine Whether Feature is a Wetland

The findings from Steps 2 through 4 were used to determine whether an area contained one or more wetland features. Evidence of a minimum of one positive wetland indicator from each parameter (hydrology, soil, and vegetation) must be present to make a positive determination of a federally defined wetland, unless disturbance or problematic conditions are present (USACE, 1987). The area in question must meet the criteria for at least one of four wetland tests defined in Chapter 62-340, F.A.C. to make a determination of a state-defined wetland (see **Section 3.1.2**).

3.3.5.1 Step 5a – Collect Wetland Data Form Sample Points

Soils, vegetation, and hydrology were assessed at approximately 20 locations, with wetland data forms completed for 10 representative locations (5 transects, with 2 sample points each). The location of each sampling data point was recorded using a Juniper Systems Geode sub-meter GPS unit (Juniper Systems,

2021). Photographs were collected at each sample point location to aid completion of wetland data forms. These photographs are included in **Appendix A**.

3.3.5.2 Step 5b – Complete Wetland Data Forms

USACE 2010 Atlantic Coastal Plain Regional Supplement Wetland Determination Data Forms were completed at each sample point location. FDEP's Wetland Delineation Data form was also completed for each sampling point consistent with Chapter 62-340, F.A.C. The USACE and FDEP data forms document site conditions including hydrologic indicators, vegetation, and soil profiles to help determine if a study area is a potentially jurisdictional wetland (as defined by the federal and state guidelines). Federal and state wetland data forms are provided in **Appendix B**.

3.3.6 Step 6 – Determine Whether Feature is a Water of the United States or State-Regulated Non-Wetland Surface Water

For each surface water feature not identified as a wetland in Step 5, a determination would typically be made as to whether that feature qualifies as a WOTUS or non-wetland surface water. However, no WOTUS or non-wetland surface waters were observed on the alternative sites.

3.3.7 Step 7 – Delineate Wetlands/Non-Wetland Surface Water Features

The boundaries of wetlands identified during Steps 5 or 6 (or both) were delineated according to federal and state guidelines (USACE, 1987; USACE, 2010; Chapter 62-340, F.A.C.). Each wetland area was classified using the Florida Land Cover Classification System (FLCCS) and the USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979) protocol, based on the data collected at each sampling point.

3.3.8 Step 8 - Document Location and Test Results

The purpose of Step 8 was to collect and catalog wetland data form sample points. As described under Step 5a, a total of 10 sample points were taken. Each point was used to collect photographs and information necessary to fill out USACE/FDEP data forms. Wetland form data points were completed at each sample point.

3.3.9 Step 9 – Canvas Proposed Project Areas to Verify Presence/Absence of Additional Features

Although existing data, including aerial photos and LiDAR, are beneficial to make an initial computer-based attempt at identifying additional wetland/OSW features in each of the wetland delineation areas, they were not used as the only indicators. Therefore, once any signatures implied by existing data in Step 1 were investigated, any remaining areas of each proposed project area **(Figures 2-1, 2-2, 2-5,** and **2-6)** were canvassed to make sure no additional features were located in each area. If any additional features were located, the identification and delineation process was resumed starting with Step 2.

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CHAPTER 4 RESULTS

4.1 OVERVIEW

Based on field data collected, four wetlands were identified in the two proposed project sites, comprising approximately 2.371 acres **(Figure 4-1)**. Wetlands 1 and 2 (totaling 2.350 acres) have continuous surface connections to downgradient relatively permanent waters (specifically St. Andrew Bay) and will likely be considered federally jurisdictional WOTUS. These wetlands also meet Florida Wetland Delineation Manual criteria B, C, and D as waters of the state (FDEP, 2022). Wetlands 3 and 4 (totaling 0.021 acres) appear to be naturalized track ruts/land disturbance from Hurricane Michael 2019-2022 cleanup efforts. Because Wetlands 3 and 4 are isolated, they will likely be considered waters of the state only (according to the Florida Wetlands Delineation Manual [FDEP, 2022]). All four wetland areas could be classified as "hydric pine flatwoods, wet flatwoods, or scrubby flatwoods" using the FLCCS, and "palustrine scrub-shrub broad leaved deciduous" (PSS1) wetlands according to USFWS *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin, 1979). The wetlands are currently mapped as PF04 (forested) systems because USFWS records have not been updated since Hurricane Michael in 2018. Waters identified within the project sites that may be jurisdictional are further described in **Section 4.2** and **4.3**.

No jurisdictional stream channels, open waters, tidal waters, Section 10 waters, or OSW were observed within the two alternative sites. One jurisdictional off-site stream (flowing through an excavated ditch) is located approximately 80 feet northwest of the Alternative 2 site. This stream carries stormwater runoff southwest beneath Mississippi Road and has an adjacent riparian wetland. Additionally, one 0.4-acre constructed stormwater management (SWM) basin is located approximately 70 feet northwest of the Alternative 1 site. The low elevations of the two alternative sites (7 feet to 18 feet AMSL at the Alternative 1 site, and 22 feet to 25 feet AMSL at the Alternative 2 site) (Bay County, 2025), high infiltration of underlying sandy soils, and excavation depths of 4 to 6 feet for both the ditch and SWM basin suggest that water observed in the off-site stream channel and SWM basin may be intercepted or exposed shallow groundwater. The only other surface water observed on the alternative sites was in deep heavy equipment ruts present in Wetland 2 (typically 3 to 4 feet below the ground surface).

4.2 WATERS OF THE UNITED STATES

Table 4-1 provides details regarding delineated wetlands on the alternative sites, based on observed criteria from the USACE Wetlands Delineation Manual (USACE, 1987) and the USACE Atlantic and Gulf Coastal Plan Regional Supplement (USACE, 2010). Wetlands 1 and 2 are scrub-shrub systems with continuous downgradient surface water connections to St. Andrew Bay. Wetlands 3 and 4 are isolated (no connections to other relatively permanent waters), and will therefore not likely be considered federally jurisdictional. No Section 10 waters were observed on either alternative site.

Table 4-1 Waters of the United States Summary

Project Area	Surface Water Feature ID [1]	FWC Classification	USFWS Classification	Area (acres)	Percent of Site
Alternative 1 Site	Wetland 1	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	1.410	32
Alternative 2 Site	Wetland 2	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	0.940	27
	Subtotal - Federally Jurisdictional Wetlands/Waters [2]			2.350	
	TOTAL			**2.350**	

Notes:
[1] No jurisdictional stream channels, open waters, Section 10 waters, or tidal waters were observed.
[2] Subject to USACE approval.
Source: FWC, 2020
FWC = Florida Fish and Wildlife Conservation Commission

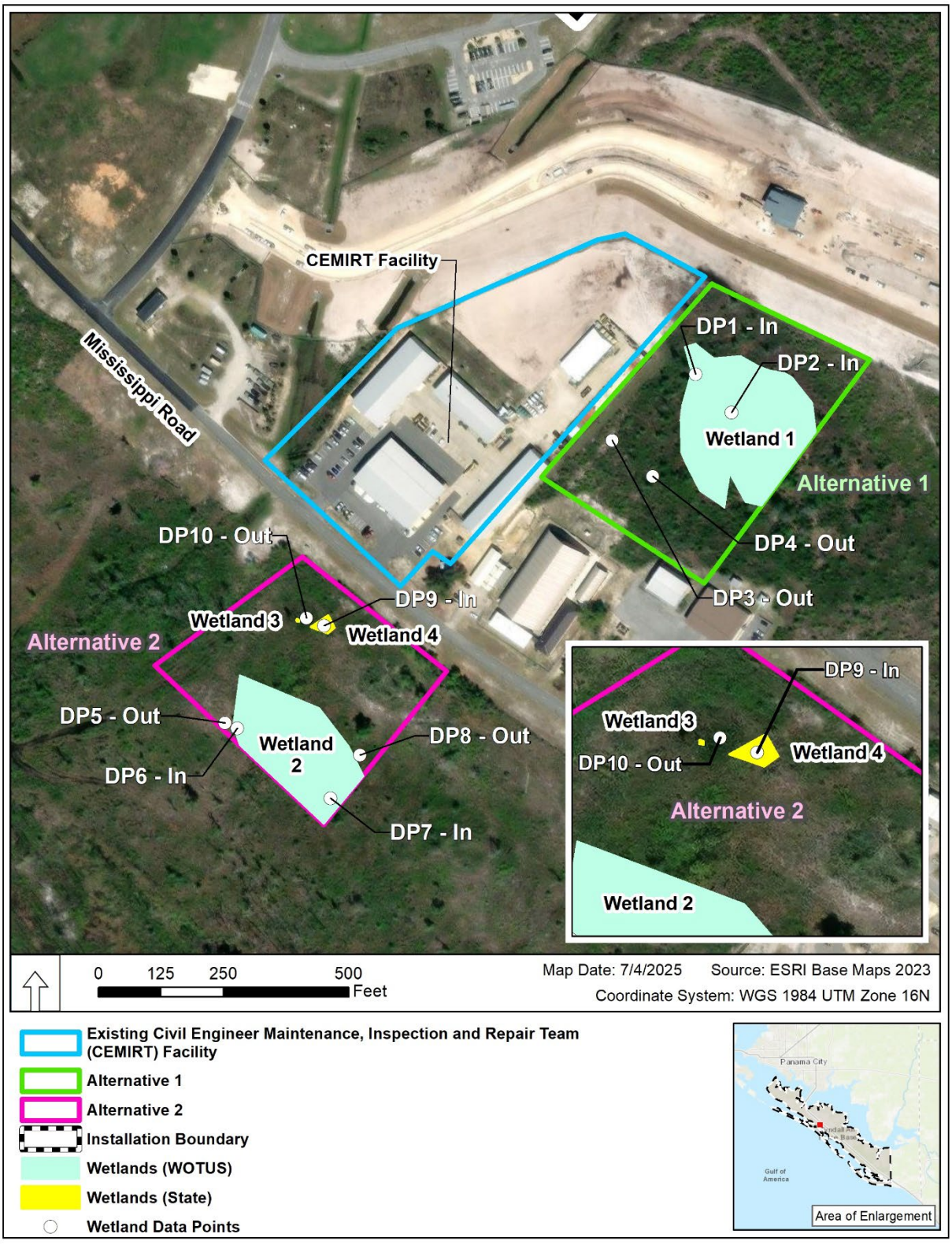


Figure 4-1 Wetlands Potentially Subject to Federal and State Jurisdiction on the Alternative 1 and 2 Sites

4.3 WATERS OF THE STATE

Table 4-2 provides details regarding delineated wetlands on the alternative sites, based on observed criteria from the Florida Wetlands Delineation Manual (FDEP, 2022). Wetlands 1 and 2 meet Florida Wetlands Delineation Manual criteria B, C, and D (as waters of the state), but may be regulated primarily as waters of the U.S. Wetlands 3 and 4 do not meet Florida Wetlands Delineation Manual criteria A or B, but do appear to meet criteria C and D as jurisdictional waters of the state. Wetlands 3 and 4 appear to be isolated (with no apparent continuous surface water connection to other relatively permanent waters), are 2 to 3 feet deep in upland (mesic) soil, and may be inadvertent relic soil disturbance features from 2019-2022 Hurricane Michael cleanup efforts.

Table 4-2 Waters of the State Summary

Project Area	Surface Water Feature ID [1]	FWC Description	USFWS Classification	Area (acres)	Percent of Site
Alternative 1 Site	Wetland 1	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	1.410	32
Alternative 2 Site	Wetland 2	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	0.940	27
	Wetland 3	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	0.001	<1
	Wetland 4	2112 Mixed Scrub-Shrub Wetland	Non-Tidal (Freshwater) Scrub-Shrub Wetland	0.020	<1
	Subtotal – State Jurisdictional Wetlands/Waters [2]			2.371	
	TOTAL			**2.371**	

Notes:
[1] No tidal waters or other surface waters were observed.
[2] Subject to FDEP approval.
Source: FWC, 2020

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CHAPTER 5 POTENTIAL PROJECT IMPACTS

The entirety of either the Alternative 1 site or the Alternative 2 site may need to be cleared, grubbed, and graded to provide sufficient area for the proposed concrete pad, stormwater management, perimeter security fencing, and utilities/infrastructure, with the following impacts:

- Estimated Alternative 1 site potential wetland impact: 1.410 acres
- Estimated Alternative 2 site potential wetland impact: 0.961 acres

If jurisdictional wetland impacts exceed 0.10 acres, Pre-Construction Notification through the USACE Jacksonville District and FDEP would likely be required. Pre-Construction Notification typically occurs through submittal of a Joint Permit Application (for CWA Section 404/401 permitting) and a Preliminary Jurisdictional Determination (for verification of jurisdictional waters and wetland boundaries). Depending on the extent of impact and type of permit application, compensatory mitigation may also be required. Proposed mitigation measures must typically be included as part of the Joint Permit Application package.

The initial Uniform Mitigation Assessment Method (UMAM) score for the Alternative 1 site is 0.60, while the UMAM score for the Alternative 2 site is 0.77, assuming (1) USACE verification of mapped jurisdictional wetland area extents and (2) a DAF need to impact the entirety of one site. UMAM data forms are provided in **Appendix C**. It is anticipated that selection of the Alternative 1 site could require approximately 0.85 wetland mitigation credits/acres, while selection of the Alternative 2 site could require approximately 0.74 wetland mitigation credits/acres. Compensatory mitigation costs would therefore likely be similar between the two sites, with an anticipated cost difference of less than 20 percent.

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CHAPTER 6 REFERENCES

Bay County. 2025. Bay County, Florida geographic information system. https://gis.baycountyfl.gov/bayview/. Accessed April 15, 2025.

Cowardin, L. M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Washington, D.C. FWS/OBS 79-31. Accessed online at https://www.nrc.gov/docs/ML1801/ML18019A904.pdf

ESRI. 2025. Environmental Systems Research Institute - World Imagery Wayback GIS. https://livingatlas.arcgis.com/wayback/#active=13240&mapCenter=-85.58301%2C30.06018%2C19. Accessed on May 19, 2025.

FDEP. 2013. Florida Department of Environmental Protection. Chapter 62-340, F.A.C. (PowerPoint presentation). March 2013. https://floridadep.gov/sites/default/files/E-RulePowerPoint-1.pdf, Accessed on May 19, 2025.

FDEP. 2022. The Florida Wetlands Delineation Manual. Authors K.M. Gilbert, J.D. Tobe, and R.W. Cantrell. https://floridadep.gov/sites/default/files/delineationmanual.pdf. Accessed on May 19, 2025.

FDEP. 2023. Wetland Evaluation and Delineation. https://floridadep.gov/water/submerged-lands-environmental-resources-coordination/content/wetland-evaluation-and. Accessed April 15, 2025.

FDOT. 1999. Florida Department of Transportation. Florida Land Use Cover and Forms Classification. https://www.fdot.gov/docs/default-source/geospatial/documentsandpubs/fluccmanual1999.pdf. Accessed May 17, 2025.

FEMA. 2024. Federal Emergency Management Agency. FIRMette Map Service Center Floodplain Maps. https://hazards-fema.maps.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed April 16, 2025.

FEMA. 2025. Coastal Barrier Resources System. https://www.fema.gov/faq/coastal-barrier-resources-system-cbrs. Accessed April 16, 2025.

FWC. 2020. Florida Fish and Wildlife Conservation Commission. Aquatic Habitat Prioritization Methodology. https://myfwc.com/media/28374/appendix-a-6b-ahcr.pdf. Accessed on Maty 17, 2025.

Juniper Systems. 2021. Geode Owner's Manual. https://junipersys.com/data/support/geode/geode-manual-english.pdf. Accessed April 15, 2025.

Kollmorgen Instruments Corporation. 2012. Munsell Soil Book of Color (2009 Version, 2012 Production). Kollmorgen Instruments Corporation, Baltimore, Maryland.

USACE. 1987. U.S. Corps of Engineers (USACE) Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi. 100 pp. plus appendices.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region. Version 2.0. U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi.

USDA. 2024. U.S. Department of Agriculture. Land Resource Regions and Major Land Resource Areas of the United States, the Caribbean, and the Pacific Basin (USDA Agricultural Handbook 296, 2022). https://www.nrcs.usda.gov/resources/data-and-reports/major-land-resource-area-mlra. Accessed April 16, 2025.

USDA. 2025. USDA Natural Resources Conservation Service, Web Soil Survey. https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx. Accessed April 16, 2025.

USEPA. 2025. U.S. Environmental Protection Agency and U.S. Army Corps of Engineers. Antecedent Precipitation Tool.

USFWS. 2025. U.S. Fish and Wildlife Service. NWI National Wetlands Mapper. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed April 16, 2025.

USGS. 2025. U.S. Geological Survey. EarthExplorer. https://earthexplorer.usgs.gov/. Accessed April 16, 2025.

CHAPTER 7 LIST OF PREPARERS

Table 7-1 List of Preparers and Contributors

Consultants – Versar Global Solutions

Name	Education	Role	Years of Experience
Craig Carver	Master of Urban and Regional Planning	Quality Control	15
Kenneth Erwin	MS, Natural Resources	Biological Assessment / Technical Review	11
Butch Fries	MA, Mass Communications	Technical Editing	45
Benjamin Leatherland	MA, Geography/Environmental Planning	Wetland Scientist	29
Alexander Noble	BS, Environmental Science BA, Biology	Biological Assessment	3
Angela Northrop	BS, Marketing	Technical Editing	27
Travis Smith	BA, Geography	GIS/Cartography	29

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APPENDIX A
REPRESENTATIVE PHOTOGRAPHS

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APPENDIX A REPRESENTATIVE PHOTOGRAPHS

Figure A-1 shows the location and direction where each photograph was taken during the wetland delineation survey. Photo location numbers correspond to the photo numbers in the photographic log.

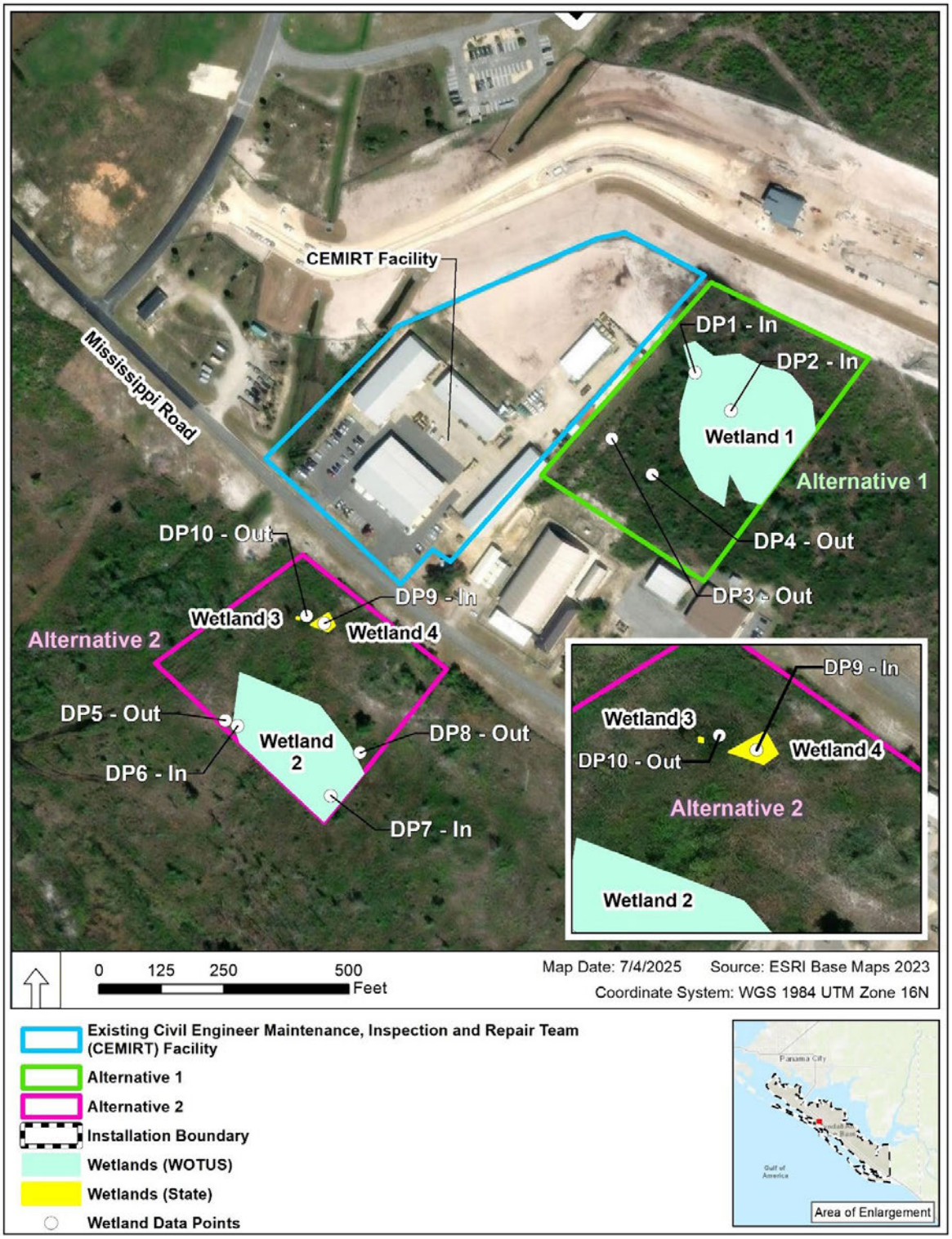


Figure A-1 Photo Locations

FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Wetlands Delineation**

Photo No. 1	**Date:** 4/22/2025

Description:

Wetland: 1

Data Point: DP1 - IN

View: Northwest



Photo No. 2	**Date:** 4/22/2025

Description:

Wetland: 1

Data Point: DP2 – IN

View: Northeast



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Wetlands Delineation**

Photo No. 3	**Date:** 4/22/2025

Description:

Wetland: 1

Data Point: DP3 – OUT

View: West



Photo No. 4	**Date:** 4/22/2025

Description:

Wetland: 1

Data Point: DP4 - OUT

View: North



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Wetlands Delineation**

Photo No. 5	**Date:** 4/22/2025

Description:

Wetland: 2

Data Point: DP5 – OUT

View: N/A



Photo No. 6	**Date:** 4/22/2025

Description:

Wetland: 2

Data Point: DP6 - IN

View: Southwest



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Wetlands Delineation**

Photo No. 7	**Date:** 4/22/2025

Description:

Wetland: 2

Data Point: DP7 – IN

View: N/A



Photo No. 8	**Date:** 4/22/2025

Description:

Wetland: 2

Data Point: DP8 – OUT

View: N/A



FIELD INVESTIGATION PHOTOGRAPHIC LOG

Site Location: Tyndall AFB, Florida | **Wetlands Delineation**

Photo No. 9	**Date:** 4/22/2025

Description:

Wetland: 3 and 4

Data Point: DP9 – IN

View: N/A



Photo No. 10	**Date:** 4/22/2025

Description:

Wetland: 3 and 4

Data Point: DP10 – OUT

View: N/A

(representative photograph)



APPENDIX B
WETLAND DELINEATION FORMS

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WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 1 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP1 (In)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): shallow, wide valley Local relief (concave, convex, none): concave Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.060287 N Long: -85.583037 W Datum: NAD83

Soil Map Unit Name: (22) Pamlico-Dorovan complex, very poorly drained, 100% hydric NWI classification: PSS1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Potentially jurisdictional wetland present. Shallow soil saturation, scattered small depressions (and heavy equipment track ruts) in landscape, mixed pine/hardwood forest prior to 2018 Hurricane Michael landfall nearby, current vegetation community scrub-shrub

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☑ Dry-Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): N/A

Water Table Present? Yes _____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 3-5"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology present, though soil surface topography has been slightly modified by heavy equipment cleanup of downed trees between 2019 and 2022. Available GIS mapping indicates that this area was/is a broad valley draining generally to the southeast, though actual topography is varied and is characterized by 2-3 foot hummocks. Site observations suggest continuous wetland conditions may be present to Saint Andrew Bay.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP1 (In)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Sweetbay (Magnolia virginiana)	25%	Yes	FACW
2. Southern magnolia (Magnolia grandiflora)	20%	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45% = Total Cover		

50% of total cover: 23% 20% of total cover: 9%

Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Big bluestem (Andropogon gerardii)	15%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	15% = Total Cover		

50% of total cover: 8% 20% of total cover: 3%

Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	15%	Yes	-
2. Greenbrier (Smilax spp.)	5%	Yes	-
3. Wild grape (Vitis spp.)	5%	Yes	-
4.			
5.			
	25% = Total Cover		

50% of total cover: 13% 20% of total cover: 5%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	25	x 2 =	50
FAC species	35	x 3 =	105
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	60 (A)		155 (B)

Prevalence Index = B/A = 2.58

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No _____

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is dominant. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP1 (In)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4"	7.5YR2.5/3	100%	-	-	-	-	o. loam	organic matter
4-16"	10YR2/1	100%	-	-	-	-	o. loam	dark, organic matter

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☑ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☑ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☑ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Saturated soils in low areas. Mottled soils elsewhere. Nearby upland soils are brighter and have larger sand fraction.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 1 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP2 (In)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): shallow, wide valley Local relief (concave, convex, none): concave Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.060074 N Long: -85.582815 W Datum: NAD83

Soil Map Unit Name: (22) Pamlico-Dorovan complex, very poorly drained, 100% hydric NWI classification: PSS1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Potentially jurisdictional wetland present. Shallow soil saturation, scattered small depressions (and heavy equipment track ruts) in landscape, mixed pine/hardwood forest prior to 2018 Hurricane Michael landfall nearby, current vegetation community scrub-shrub. Similar conditions and setting to DP1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☑ Dry-Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): N/A

Water Table Present? Yes _____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 3-5"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology present. Similar hydrology to DP1. Soil surface topography slightly modified by heavy equipment cleanup of downed trees between 2019 and 2022. Available GIS mapping indicates that this area was/is a broad valley draining generally to the southeast, though actual topography is varied and is characterized by 2-3 foot hummocks. Site observations suggest continuous wetland conditions may be present to Saint Andrew Bay.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP2 (In)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Sweetbay (Magnolia virginiana)	10%	Yes	FACW
2. Southern magnolia (Magnolia grandiflora)	10%	Yes	FAC
3. Yaupon holly (Ilex vomitoria)	25%	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	45% = Total Cover		
50% of total cover: 23%	20% of total cover: 9%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Big bluestem (Andropogon gerardii)	30%	Yes	FAC
2. Southern wood fern (Dryopteris ludoviciana)	15%	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45% = Total Cover		
50% of total cover: 23%	20% of total cover: 9%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	15%	Yes	-
2. Greenbrier (Smilax spp.)	5%	No	-
3. Wild grape (Vitis spp.)	15%	Yes	-
4.			
5.			
	35% = Total Cover		
50% of total cover: 18%	20% of total cover: 7%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	25	x 2 =	50
FAC species	65	x 3 =	195
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	85 (A)		245 (B)

Prevalence Index = B/A = 2.88

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is dominant. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP2 (In)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	7.5YR2.5/3	100%	-	-	-	-	o. loam	organic matter
2-16"	10YR2/1	100%	-	-	-	-	o. loam	dark, organic matter

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [✓] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [✓] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) **(LRR P, T, U)**
- [ ] 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- [ ] Muck Presence (A8) **(LRR U)**
- [ ] 1 cm Muck (A9) **(LRR P, T)**
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) **(MLRA 150A)**
- [ ] Sandy Mucky Mineral (S1) **(LRR O, S)**
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) **(LRR P, S, T, U)**
- [ ] Polyvalue Below Surface (S8) **(LRR S, T, U)**
- [ ] Thin Dark Surface (S9) **(LRR S, T, U)**
- [ ] Loamy Mucky Mineral (F1) **(LRR O)**
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [✓] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) **(LRR U)**
- [ ] Depleted Ochric (F11) **(MLRA 151)**
- [ ] Iron-Manganese Masses (F12) **(LRR O, P, T)**
- [ ] Umbric Surface (F13) **(LRR P, T, U)**
- [ ] Delta Ochric (F17) **(MLRA 151)**
- [ ] Reduced Vertic (F18) **(MLRA 150A, 150B)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) **(LRR O)**
- [ ] 2 cm Muck (A10) **(LRR S)**
- [ ] Reduced Vertic (F18) **(outside MLRA 150A,B)**
- [ ] Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes X No ____

Remarks:

Saturated soils in lowest depression areas. Some mottling (in loamy soils) and organic matte leaching (in sandy area) near wetland/upland transition areas. Nearby upland soils are brighter and have a larger sand fraction.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 1 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP3 (Out)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): Valley side slope Local relief (concave, convex, none): convex Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.059929 N Long: -85.583571 W Datum: NAD83

Soil Map Unit Name: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric NWI classification: N/A (mesic upland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland conditions not present. Scrub-shrub vegetation like the entirety of Alt Site 1, but underlying sandy soils are drier and brighter than in adjacent wetland area. This data point is on a valley side slope approximately 3-4' higher in elevation than the wetland valley.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A	
Water Table Present?	Yes _____	No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology not present. Some soil surface rutting by heavy equipment cleanup of downed trees between 2019 and 2022.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP3 (Out)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	= Total Cover		

50% of total cover: _____ 20% of total cover: _____

Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Yaupon holly (Ilex vomitoria)	25%	Yes	FAC
2. Live oak (Quercus virginiana)	25%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	50% = Total Cover		

50% of total cover: 25% 20% of total cover: 10%

Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Dog fennel (Eupatorium cappilifolium)	10%	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10% = Total Cover		

50% of total cover: 5% 20% of total cover: 2%

Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	5%	Yes	-
2. Greenbrier (Smilax spp.)	5%	Yes	-
3. Wild grape (Vitis spp.)	5%	Yes	-
4.			
5.			
	15% = Total Cover		

50% of total cover: 8% 20% of total cover: 3%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	25	x 3 =	75
FACU species	35	x 4 =	140
UPL species		x 5 =	
Column Totals:	60 (A)		215 (B)

Prevalence Index = B/A = 3.58

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is not dominant. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP3 (Out)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8"	2.5Y5/1	100%	-	-	-	-	sand	loose
8-18"	2.5Y5/1	70%	2.5Y6/1	30%	-	M	sand	loose

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Loose sand, with poor soil structure (potentially due to equipment disturbance?). Dry soils, with minimal organic matter.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 1 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP4 (Out)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): valley sideslope Local relief (concave, convex, none): convex Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.059729 N Long: -85.583317 W Datum: NAD83

Soil Map Unit Name: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric NWI classification: N/A (mesic upland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland conditions not present. Scrub-shrub vegetation like the entirety of Alt Site 1, but underlying sandy soils are drier and brighter than in adjacent wetland area (to the NE). This data point is on a valley side slope approximately 3-4' higher in elevation than the wetland valley. Similar conditions to DP3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology not present. Some soil surface rutting by heavy equipment cleanup of downed trees between 2019 and 2022.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP4 (Out)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Slash pine (Pinus elliottii)	5%	Yes	FACW
2. Water oak (Quercus nigra)	5%	Yes	FAC
3. Live oak (Quercus virginiana)	5%	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	15%	= Total Cover	

50% of total cover: 8% 20% of total cover: 3%

Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Live oak (Quercus virginiana)	25%	Yes	FACU
2. Yaupon holly (Ilex vomitoria)	20%	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
	45%	= Total Cover	

50% of total cover: 23% 20% of total cover: 9%

Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Dog fennel (Eupatorium cappilifolium)	10%	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10%	= Total Cover	

50% of total cover: 5% 20% of total cover: 2%

Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	5%	Yes	-
2. Greenbrier (Smilax spp.)	5%	Yes	-
3. Wild grape (Vitis spp.)	5%	Yes	-
4.			
5.			
	15%	= Total Cover	

50% of total cover: 8% 20% of total cover: 3%

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	5	x 2 =	10
FAC species	25	x 3 =	75
FACU species	40	x 4 =	160
UPL species		x 5 =	
Column Totals:	70 (A)		245 (B)

Prevalence Index = B/A = 3.50

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is not dominant. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP4 (Out)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3"	7.5YR2.5/3	100%	-	-	-	-	o. loam	O horizon
3-18"	2.5Y3/1	50%	2.5Y5/1	50%	-	M	sand	mixed sand, loose

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Loose sand (mixed below 3" depth), poor soil structure (potentially due to equipment disturbance?), dry, good organic O horizon.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 2 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP5 (Out)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): broad ridge Local relief (concave, convex, none): convex Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.058404 N Long: -85.586037 W Datum: NAD83

Soil Map Unit Name: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric NWI classification: N/A (mesic upland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland conditions not present. Scrub-shrub vegetation. This data point is on a broad ridge approximately 3-5 feet higher than adjacent Wetland 2 to the SE.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A	
Water Table Present?	Yes _____	No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology not present. Some soil surface rutting by heavy equipment cleanup of downed trees between 2019 and 2022.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP5 (Out)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Slash pine (Pinus elliottii)	5%	Yes	FACW
2. Water oak (Quercus nigra)	5%	Yes	FAC
3. Southern magnolia (Magnolia grandiflora)	10%	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	20% = Total Cover		
50% of total cover: 10%	20% of total cover: 4%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Live oak (Quercus virginiana)	5%	Yes	FACU
2. Beautyberry (Callicarpa americana)	10%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	15% = Total Cover		
50% of total cover: 8%	20% of total cover: 3%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Dog fennel (Eupatorium cappilifolium)	20%	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20% = Total Cover		
50% of total cover: 10%	20% of total cover: 4%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	10%	Yes	-
2. Greenbrier (Smilax spp.)	5%	No	-
3. Wild grape (Vitis spp.)	15%	Yes	-
4. Poison Ivy (Toxicodendron radicans)	5%	No	FAC
5.			
	35% = Total Cover		
50% of total cover: 18%	20% of total cover: 7%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species 5	x 2 = 10
FAC species 15	x 3 = 45
FACU species 35	x 4 = 140
UPL species	x 5 =
Column Totals: 55 (A)	195 (B)

Prevalence Index = B/A = 3.55

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (If observed, list morphological adaptations below).

Some facultative hydrophytic vegetation is present, but is not dominant. Approximately 40% of veg assessment area is bare soil. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP5 (Out)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-1"	7.5YR2.5/1	100%	-	-	-	-	o. loam	organic matter/duff, O horizon
1-8"	10YR6/1	100%	-	-	-	-	sand	
8-16"	10YR6/2	100%	-	-	-	-	sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Hydric soil not present.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 2 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP6 (In)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): shallow, wide valley Local relief (concave, convex, none): concave Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.058374 N Long: -85.585960 W Datum: NAD83

Soil Map Unit Name: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric NWI classification: PSS1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Potentially jurisdictional wetland present. Shallow soil saturation, scattered small depressions (and heavy equipment track ruts) in landscape, mixed pine/hardwood forest prior to 2018 Hurricane Michael landfall nearby, current vegetation community scrub-shrub. Similar conditions and setting to DP1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 10"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology present. Similar hydrology to DP7. Soil surface topography slightly modified by heavy equipment cleanup of downed trees between 2019 and 2022. Available GIS mapping indicates drainage to the SSW. Actual topography is varied and is characterized by 2-3 foot hummocks. Site observations suggest continuous wetland conditions may be present to Saint Andrew Bay.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP6 (In)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Southern magnolia (Magnolia grandiflora)	10%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10% = Total Cover		
50% of total cover: 5%	20% of total cover: 2%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Wax myrtle (Myrica cerifera)	25%	Yes	FACW
2. Saw palmetto (Serenoa repens)	15%	Yes	FACU
3. Beautyberry (Callicarpa americana)	15%	Yes	FAC
4. Yaupon holly (Ilex vomitoria)	10%	No	FAC
5.			
6.			
7.			
8.			
	70% = Total Cover		
50% of total cover: 35%	20% of total cover: 14%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Big bluestem (Andropogon gerardii)	30%	Yes	FAC
2. Southern wood fern (Dryopteris ludoviciana)	15%	Yes	FACW
3. Primrose willow (Ludwigia peploides)	25%	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	70% = Total Cover		
50% of total cover: 35%	20% of total cover: 14%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	25%	Yes	-
2. Wild grape (Vitis spp.)	10%	Yes	-
3.			
4.			
5.			
	35% = Total Cover		
50% of total cover: 18%	20% of total cover: 7%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 86% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	40	x 2 =	80
FAC species	65	x 3 =	195
FACU species	15	x 4 =	60
UPL species		x 5 =	
Column Totals:	145 (A)		360 (B)

Prevalence Index = B/A = 2.48

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is dominant. Vegetation assessment area 30-50% bare soil. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP6 (In)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4"	10YR5/1	60%	10YR2/2	40%	-	M	o. loam	organic matter
4-16"	10YR2/2	100%	-	-	-	-	o. loam	dark, organic matter

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☑ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☑ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☑ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes X No ____

Remarks:

Saturated soils in lowest depression areas. Some mottling (in loamy soils) and organic matter leaching (in sandy area) near wetland/upland transition areas. Nearby upland soils are brighter and have a larger sand fraction.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 2 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP7 (In)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): shallow, wide valley Local relief (concave, convex, none): concave Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.057983 N Long: -85.585377 W Datum: NAD83

Soil Map Unit Name: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric NWI classification: PSS1

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Potentially jurisdictional wetland present. Shallow soil saturation, scattered small depressions (and heavy equipment track ruts) in landscape, mixed pine/hardwood forest prior to 2018 Hurricane Michael landfall nearby, current vegetation community scrub-shrub. Similar conditions and setting to DP6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☑ Hydrogen Sulfide Odor (C1)
- ☑ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☑ Sparsely Vegetated Concave Surface (B8)
- ☑ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☑ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☑ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): N/A

Water Table Present? Yes _____ No X Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): 10"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology present. Similar hydrology to DP6. Soil surface topography slightly modified by heavy equipment cleanup of downed trees between 2019 and 2022. Available GIS mapping indicates drainage to the SSW. Actual topography is varied and is characterized by 2-3 foot hummocks. Site observations suggest continuous wetland conditions may be present to Saint Andrew Bay.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP7 (In)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Southern magnolia (Magnolia grandiflora)	10%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10% = Total Cover		
50% of total cover: 5%	20% of total cover: 2%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Beautyberry (Callicarpa americana)	15%	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	10% = Total Cover		
50% of total cover: 5%	20% of total cover: 2%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Big bluestem (Andropogon gerardii)	25%	Yes	FAC
2. Hard fescue (Lolium arundinaceum)	10%	Yes	FACU
3. Nutgrass (Cyperus echinatus)	10%	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	45% = Total Cover		
50% of total cover: 23%	20% of total cover: 9%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	25%	Yes	-
2. Wild grape (Vitis spp.)	20%	Yes	-
3.			
4.			
5.			
	45% = Total Cover		
50% of total cover: 23%	20% of total cover: 9%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species 55	x 3 = 165
FACU species 10	x 4 = 40
UPL species	x 5 =
Column Totals: 65 (A)	205 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation is dominant, though mostly FAC species. Vegetation assessment area 30-50% bare soil. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP7 (In)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR5/1	60%	10YR2/2	40%	-	M	loamy sand	
2-12"	10YR2/1	100%	-	-	-	-	sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- [x] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [x] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Organic Bodies (A6) **(LRR P, T, U)**
- [ ] 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- [ ] Muck Presence (A8) **(LRR U)**
- [ ] 1 cm Muck (A9) **(LRR P, T)**
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Coast Prairie Redox (A16) **(MLRA 150A)**
- [ ] Sandy Mucky Mineral (S1) **(LRR O, S)**
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) **(LRR P, S, T, U)**
- [ ] Polyvalue Below Surface (S8) **(LRR S, T, U)**
- [ ] Thin Dark Surface (S9) **(LRR S, T, U)**
- [ ] Loamy Mucky Mineral (F1) **(LRR O)**
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [ ] Redox Dark Surface (F6)
- [x] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)
- [ ] Marl (F10) **(LRR U)**
- [ ] Depleted Ochric (F11) **(MLRA 151)**
- [ ] Iron-Manganese Masses (F12) **(LRR O, P, T)**
- [ ] Umbric Surface (F13) **(LRR P, T, U)**
- [ ] Delta Ochric (F17) **(MLRA 151)**
- [ ] Reduced Vertic (F18) **(MLRA 150A, 150B)**
- [ ] Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- [ ] 1 cm Muck (A9) **(LRR O)**
- [ ] 2 cm Muck (A10) **(LRR S)**
- [ ] Reduced Vertic (F18) **(outside MLRA 150A,B)**
- [ ] Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- [ ] Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- [ ] Red Parent Material (TF2)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes X No ____

Remarks:

Saturated soils in lowest depression areas. Some mottling (in loamy soils) and organic matter leaching (in sandy area) near wetland/upland transition areas. Nearby upland soils are brighter and have a larger sand fraction.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetland 2 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP8 (Out)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): broad ridge side slope Local relief (concave, convex, none): convex Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.058220 N Long: -85.585186 W Datum: NAD83

Soil Map Unit Name: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric NWI classification: N/A (mesic upland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland conditions not present. Scrub-shrub vegetation. This data point is on the side slope of a broad ridge (approximately 3-5 feet higher than the adjacent Wetland 2 to the S).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A	
Water Table Present?	Yes _____	No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology not present. Some soil surface rutting by heavy equipment cleanup of downed trees between 2019 and 2022.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP8 (Out)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Southern magnolia (Magnolia grandiflora)	20%	Yes	FAC
2. Live oak (Quercus virginiana)	10%	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
	30%	= Total Cover	
50% of total cover: 15%	20% of total cover: 6%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Beautyberry (Callicarpa americana)	20%	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	20%	= Total Cover	
50% of total cover: 10%	20% of total cover: 4%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Sword fern (Nephrolepis exaltata)	5%	No	FAC
2. Woodland sedge (Carex blanda)	30%	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	35%	= Total Cover	
50% of total cover: 18%	20% of total cover: 7%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	10%	Yes	-
2. Wild grape (Vitis spp.)	20%	Yes	-
3. Poison Ivy (Toxicodendron radicans)	10%	No	FAC
4.			
5.			
	40%	= Total Cover	
50% of total cover: 20%	20% of total cover: 8%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	65	x 3 =	195
FACU species	30	x 4 =	120
UPL species		x 5 =	
Column Totals:	95 (A)		315 (B)

Prevalence Index = B/A = 3.32

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ___ No X

Remarks: (If observed, list morphological adaptations below).

Some facultative hydrophytic vegetation is present, but is not dominant. Approximately 25% of veg assessment area is bare soil. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP8 (Out)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5"	10YR5/1	70%	10YR2/2	30%	-	M	loamy sand	
5-18"	10YR2/2	50%	10YR6/1	50%	-	M	loamy sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? **Yes** _____ **No** X

Remarks:

Hydric soil not present. Assessed soils are generally dry, sandy, and loose.



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetlands 3 & 4 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP9 (In)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): depressions in broad ridge Local relief (concave, convex, none): concave Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.058932 N Long: -85.585404 W Datum: NAD83

Soil Map Unit Name: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric NWI classification: PSS

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

Wetland conditions present. Scrub-shrub vegetation. This data point is in a depression on top of a broad ridge. Wetlands 3 and 4 may be the result of equipment ruts and tree-clearing disturbance (2019-2022). While some disturbance may have occurred here, current conditions are naturalized.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☑ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A
Water Table Present?	Yes _____	No X	Depth (inches): N/A
Saturation Present? (includes capillary fringe)	Yes X	No _____	Depth (inches): 0-2"

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology present. Soil rutting may have been from 2019-2022 heavy equipment cleanup of downed trees, and possible 'landing area' where downed trees were loaded onto trucks for removal. Wetlands 3 and 4 are 2-3' deep depressions on top of a broad ridge (atypical landscape position).

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP9 (IN)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3% = Total Cover		
50% of total cover: 0%	20% of total cover: 0%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Beautyberry (Callicarpa americana)	10%	Yes	FACU
2. Southern magnolia (Magnolia grandiflora)	10%	Yes	FAC
3. Yaupon holly (Ilex vomitoria)	10%	Yes	FAC
4.			
5.			
6.			
7.			
8.			
	30% = Total Cover		
50% of total cover: 15%	20% of total cover: 6%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Dog fennel (Eupatorium cappilifolium)	15%	Yes	FACU
2. Big bluestem (Andropogon gerardii)	25%	Yes	FAC
3. Tall fescue (Lolium arundinaceum)	10%	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	50% = Total Cover		
50% of total cover: 25%	20% of total cover: 10%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	5%	Yes	-
2. Wild grape (Vitis spp.)	5%	Yes	-
3.			
4.			
5.			
	10% = Total Cover		
50% of total cover: 5%	20% of total cover: 2%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species 45	x 3 = 135
FACU species 35	x 4 = 140
UPL species	x 5 =
Column Totals: 80 (A)	275 (B)

Prevalence Index = B/A = 3.43

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No ___

Remarks: (If observed, list morphological adaptations below).

Hydrophytic vegetation present, but not strongly dominant. Due to the small size of Wetlands 3 and 4, some adjacent upland sub-canopy species branches extend into (over) these wetland areas. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP9 (IN)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2"	10YR5/1	70%	10YR2/2	30%	-	M	s loam	compacted? excavated?
2-14"	10YR2/1	100%	-	-	-	-		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☑ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☑ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes X No ____

Remarks:

Hydric soil present. Assessed area is 2-3' lower (deeper) than surrounding landscape (potentially from equipment track ruts/inadvertant disturbance during tree cleanup efforts after 2018 hurricane). Some soil compaction noted. Depressions may intersect with shallow groundwater here?



WETLAND DETERMINATION DATA FORM – Atlantic and Gulf Coastal Plain Region

Project/Site: Tyndall AFB CEMIRT Expansion - Wetlands 3 & 4 City/County: Bay County Sampling Date: 4/23/25

Applicant/Owner: Tyndall Air Force Base State: FL Sampling Point: DP10 (Out)

Investigator(s): B. Leatherland, K. Erwin, A. Noble Section, Township, Range: N/A

Landform (hillslope, terrace, etc.): broad ridge Local relief (concave, convex, none): convex Slope (%): <5%

Subregion (LRR or MLRA): 152A Eastern Gulf Coast Flatwoods Lat: 30.058975 N Long: -85.585514 W Datum: NAD83

Soil Map Unit Name: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric NWI classification: N/A (mesic upland)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

Wetland conditions not present. Scrub-shrub vegetation. This data point is on top of a broad ridge. Nearby Wetlands 3 and 4 may be the result of equipment ruts and tree-clearing disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ Marl Deposits (B15) **(LRR U)**
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Drainage Patterns (B10)
- ☐ Moss Trim Lines (B16)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Geomorphic Position (D2)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)
- ☐ Sphagnum moss (D8) **(LRR T, U)**

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches): N/A	
Water Table Present?	Yes _____	No X	Depth (inches): N/A	
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches): N/A	**Wetland Hydrology Present?** Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

N/A

Remarks:

Wetland hydrology not present. Some soil surface rutting by heavy equipment cleanup of downed trees between 2019 and 2022, and possible 'landing area' where downed trees were loaded.

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: DP10 (Out)

Tree Stratum (Plot size: 30 ft / 9.1 m)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	3% = Total Cover		
50% of total cover: 0%	20% of total cover: 0%		
Sapling/Shrub Stratum (Plot size: 30 ft / 9.1 m)			
1. Beautyberry (Callicarpa americana)	10%	Yes	FACU
2. Southern magnolia (Magnolia grandiflora)	5%	No	FAC
3. Live oak (Quercus virginiana)	15%	Yes	FACU
4.			
5.			
6.			
7.			
8.			
	30% = Total Cover		
50% of total cover: 15%	20% of total cover: 6%		
Herb Stratum (Plot size: 30 ft / 9.1 m)			
1. Dog fennel (Eupatorium cappilifolium)	25%	Yes	FACU
2. Big bluestem (Andropogon gerardii)	10%	No	FAC
3. Tall fescue (Lolium arundinaceum)	20%	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	55% = Total Cover		
50% of total cover: 27%	20% of total cover: 11%		
Woody Vine Stratum (Plot size: 30 ft / 9.1 m)			
1. Blackberry (Rubus spp.)	5%	Yes	-
2. Wild grape (Vitis spp.)	5%	Yes	-
3.			
4.			
5.			
	10% = Total Cover		
50% of total cover: 5%	20% of total cover: 2%		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species 15	x 3 = 45
FACU species 70	x 4 = 280
UPL species	x 5 =
Column Totals: 85 (A)	325 (B)

Prevalence Index = B/A = 3.82

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (If observed, list morphological adaptations below).

No dominance of hydrophytic vegetation. Some bare soil. Mature canopy species felled by 2018 Hurricane Michael, and subsequently removed by DAF 2019-2022. Existing conditions scrub-shrub.

SOIL

Sampling Point: DP10 (Out)

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16"	10YR5/1	60%	10YR2/2	40%	-	M	loamy sand	poorly-consolidated (disturbed?)

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16) **(MLRA 150A)**
- ☐ Sandy Mucky Mineral (S1) **(LRR O, S)**
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surface (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) **(LRR O)**
- ☐ 2 cm Muck (A10) **(LRR S)**
- ☐ Reduced Vertic (F18) **(outside MLRA 150A,B)**
- ☐ Piedmont Floodplain Soils (F19) **(LRR P, S, T)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 153B)**
- ☐ Red Parent Material (TF2)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: N/A

Depth (inches): N/A

Hydric Soil Present? Yes _____ No X

Remarks:

Hydric soil not present. Assessed soil is dry, sandy, and loose. Poor soil consolidation may indicate prior disturbance?



Representative photograph

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP1 (IN) - Wetland 1 GPS Coordinates: 30.060287 N, -85.583037 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Magnolia virginiana	FW		25				25	
2.	Magnolia grandiflora	F		20			20		
3.	Andropogon gerardii	F			15				
4.	Rubus spp.				15				
5.	Smilax spp.				5				
6.	Vitis spp.				5				
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	20	25	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 25

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 25

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 100.0%

Point ID/Location: DP1 (IN) - Wetland 1 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***
Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-4	loam	7.5YR2.5/3	70%	RC, LA, 7.5YR2.5/3 (100%), mucky mineral (S), H2S odor at 4", PM (relic equipment track rut?), organic loam
2	4-16	loam	10YR2/1	70%	RC, LA, 10YR2/1 (100%), mucky mineral (S), H2S odor at 4", PM (relic equipment track rut?), organic loam
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
✓ (A1) Histosol*	__ (S4) Sandy Gleyed Matrix*	__ (F2) Loamy Gleyed Matrix*
__ (A2) Histic Epipedon*	__ (S5) Sandy Redox	__ (F3) Depleted Matrix
__ (A3) Black Histic*	__ (S6) Stripped Matrix	__ (F6) Redox Dark Surface
✓ (A4) Hydrogen Sulfide*	✓ (S7) Dark Surface	__ (F7) Depleted Dark Surface
__ (A5) Stratified Layers*	__ (S8) Polyvalue Below Surface	__ (F8) Redox Depression
__ (A6) Organic Bodies	__ (S9) Thin Dark Surface	__ (F10) Marl
__ (A7) 5cm Mucky Mineral*	__ (S12) Barrier Islands 1cm Muck	__ (F12) Iron-Manganese Masses
__ (A8) Muck Presence*		__ (F13) Umbric Surface
__ (A9) 1cm Muck*		__ (F22) Very Shallow Dark Surface
__ (A11) Depleted Below Dark Surface		
__ (A12) Thick Dark Surface		

	Indicator Present	Begin Depth	End Depth
1.	A1	0	4
2.	A4	4	16
3.	S7	4	16
4.			
5.			
6.			

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ◉ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 16 inches Why? Positive hydric soil indicators observed <16" deep
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP1 (IN) - Wetland 1 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*	✓			Dry at time of site visit
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*	✓			NWI data suggests PFO4C wetland present
(9) Morphological plant adaptations*				Mature trees felled by 2018 hurricane
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			
(13) Water marks*	✓			Water-stained leaves

Highest water level indicator height at point: 2 inches ◉ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ○ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ◉ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ◉ Yes ○ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ◉ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP1 (IN) - Wetland 1

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ◉ Yes ○ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (22) Pamlico-Dorovan complex, very poorly drained, 100% hydric ◉ Yes ○ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ◉ Yes ○ No

(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

◉ Yes ○ No *(skip to #27d)* ○ Inconclusive ← Why? _____ *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ◉ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ◉ Yes ○ No

(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point? ○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No

If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?

☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?

☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP1 (IN) - Wetland 1

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ◉ Yes ○ No If yes, which criteria identified or delineated the wetland?
☒ Wetland Definition ☐ A Test ☒ B Test ☒ C Test ☒ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ◉ Connected ○ Isolated ○ N/A (Point is not wetland)

Point ID/Location: DP1 (IN) - Wetland 1

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP2 (IN) - Wetland 1 GPS Coordinates: 30.060074 N -85.582815 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Magnolia virginiana	FW		10				10	
2.	Magnolia grandiflora	F		10			10		
3.	Andropogon gerardii	F			30				
4.	Dryopteris ludoviciana	FW			15				
5.	Smilax spp.				5				
6.	Vitis spp.				15				
7.	Ilex vomitoria	F		25			25		
8.	Rubus spp.				15				
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	35	10	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 10

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 10

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 100.0%

Point ID/Location: DP2 (IN) - Wetland 1 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***
Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-2	loam	7.5YR2.5/3	70%	RC, LA, 7.5YR2.5/3 (100%), mucky mineral (S), H2S odor at 4-16", PM (relic equipment track rut?), organic loam
2	2-16	loam	10YR2/1	70%	RC, LA, 10YR2/1 (100%), mucky mineral (S), H2S odor at 4-16", PM (relic equipment track rut?), organic loam
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
✓ (A1) Histosol*	__ (S4) Sandy Gleyed Matrix*	__ (F2) Loamy Gleyed Matrix*
__ (A2) Histic Epipedon*	__ (S5) Sandy Redox	__ (F3) Depleted Matrix
__ (A3) Black Histic*	__ (S6) Stripped Matrix	__ (F6) Redox Dark Surface
✓ (A4) Hydrogen Sulfide*	✓ (S7) Dark Surface	__ (F7) Depleted Dark Surface
__ (A5) Stratified Layers*	__ (S8) Polyvalue Below Surface	__ (F8) Redox Depression
__ (A6) Organic Bodies	__ (S9) Thin Dark Surface	__ (F10) Marl
__ (A7) 5cm Mucky Mineral*	__ (S12) Barrier Islands 1cm Muck	__ (F12) Iron-Manganese Masses
__ (A8) Muck Presence*		__ (F13) Umbric Surface
__ (A9) 1cm Muck*		__ (F22) Very Shallow Dark Surface
__ (A11) Depleted Below Dark Surface		
__ (A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1. A1	0	2
2. A4	4	16
3. S7	2	16
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ◉ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 16 inches Why? Positive hydric soil indicators observed <16" deep
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP2 (IN) - Wetland 1 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*	✓			Dry at time of site visit
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*	✓			NWI data suggests PFO4C wetland present
(9) Morphological plant adaptations*				Mature trees felled by 2018 hurricane
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			
(13) Water marks*	✓			Water-stained leaves

Highest water level indicator height at point: 2 inches ◉ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ○ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ◉ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ◉ Yes ○ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ◉ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP2 (IN) - Wetland 1

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ◉ Yes ○ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (22) Pamlico-Dorovan complex, very poorly drained, 100% hydric ◉ Yes ○ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ◉ Yes ○ No

(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

◉ Yes ○ No *(skip to #27d)* ○ Inconclusive ← Why? _____ *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ◉ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ◉ Yes ○ No

(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?

○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No

If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?

☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?

☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP2 (IN) - Wetland 1

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ◉ Yes ○ No If yes, which criteria identified or delineated the wetland?
☒ Wetland Definition ☐ A Test ☒ B Test ☒ C Test ☒ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ◉ Connected ○ Isolated ○ N/A (Point is not wetland)

Point ID/Location: DP2 (IN) - Wetland 1

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP3 (OUT) - Wetland 1 GPS Coordinates: 30.059929 N -85.583571 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ○ Wetland ○ Non-Wetland Surface Water ◉ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Quercus virginiana	U		25		25			
2.	Ilex vomitoria	F		25			25		
3.	Eupatorium cappilifolium	F			10				
4.	Rubus spp.				5				
5.	Smilax spp.				5				
6.	Vitis spp.				5				
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						25	25	0	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 25

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 0

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 25

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 0.0%

Point ID/Location: DP3 (OUT) - Wetland 1 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***
Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-8	sand	2.5Y5/1	<25%	2.5Y5/1 (100%), loose (poorly-consolidated) sand
2	8-18	sand	2.5Y5/1	<25%	2.5Y5/1 (70%), 2.5Y6/1 (30%), loose (poorly-consolidated) sand
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture
__(A1) Histosol*
__(A2) Histic Epipedon*
__(A3) Black Histic*
__(A4) Hydrogen Sulfide*
__(A5) Stratified Layers*
__(A6) Organic Bodies
__(A7) 5cm Mucky Mineral*
__(A8) Muck Presence*
__(A9) 1cm Muck*
__(A11) Depleted Below Dark Surface
__(A12) Thick Dark Surface

☑ Sandy Texture
__(S4) Sandy Gleyed Matrix*
__(S5) Sandy Redox
__(S6) Stripped Matrix
__(S7) Dark Surface
__(S8) Polyvalue Below Surface
__(S9) Thin Dark Surface
__(S12) Barrier Islands 1cm Muck

☑ Fine Texture
__(F2) Loamy Gleyed Matrix*
__(F3) Depleted Matrix
__(F6) Redox Dark Surface
__(F7) Depleted Dark Surface
__(F8) Redox Depression
__(F10) Marl
__(F12) Iron-Manganese Masses
__(F13) Umbric Surface
__(F22) Very Shallow Dark Surface

Indicator Present	Begin Depth	End Depth
1.		
2.		
3.		
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ○ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 18 inches Why? No hydric soil indicators present
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP3 (OUT) - Wetland 1 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*				
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ◉ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ○ Yes ◉ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ○ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ○ Yes ◉ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP3 (OUT) - Wetland 1

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ○ Yes ◉ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric ○ Yes ○ No ◉ Inconclusive ← Why? just poorly-drained *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

○ Yes ○ No *(skip to #27d)* ◉ Inconclusive ← Why? Potentially, 1-32% *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ○ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ○ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how?

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) *(**If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? *(**If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP3 (OUT) - Wetland 1

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ○ Yes ◉ No If yes, which criteria identified or delineated the wetland?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ○ Isolated ◉ N/A (Point is not wetland)

Point ID/Location: DP3 (OUT) - Wetland 1

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
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Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP4 (OUT) - Wetland 1 GPS Coordinates: 30.059729 N -85.583317 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ○ Wetland ○ Non-Wetland Surface Water ◉ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

◉ Canopy (Min. 10% areal extent) ○ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Quercus virginiana	U	5	25		5			
2.	Ilex vomitoria	F		20					
3.	Eupatorium cappilifolium	F			10				
4.	Rubus spp.				5				
5.	Smilax spp.				5				
6.	Vitis spp.				5				
7.	Pinus elliottii	FW	5					5	
8.	Quercus nigra	F	5				5		
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						5	5	5	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 5

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 5

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 10

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 50.0%

Point ID/Location: DP4 (OUT) - Wetland 1 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-3	loam	7.5YR2.5/3	<25%	7.5YR2.5/3 (100%), organic loam
2	3-18	sand	2.5Y3/1	<25%	2.5Y3/1 (50%), 2.5Y5/1 (50%), mixed sand (loose / poorly-consolidated)
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
__(A1) Histosol*	__(S4) Sandy Gleyed Matrix*	__(F2) Loamy Gleyed Matrix*
__(A2) Histic Epipedon*	__(S5) Sandy Redox	__(F3) Depleted Matrix
__(A3) Black Histic*	__(S6) Stripped Matrix	__(F6) Redox Dark Surface
__(A4) Hydrogen Sulfide*	__(S7) Dark Surface	__(F7) Depleted Dark Surface
__(A5) Stratified Layers*	__(S8) Polyvalue Below Surface	__(F8) Redox Depression
__(A6) Organic Bodies	__(S9) Thin Dark Surface	__(F10) Marl
__(A7) 5cm Mucky Mineral*	__(S12) Barrier Islands 1cm Muck	__(F12) Iron-Manganese Masses
__(A8) Muck Presence*		__(F13) Umbric Surface
__(A9) 1cm Muck*		__(F22) Very Shallow Dark Surface
__(A11) Depleted Below Dark Surface		
__(A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1.		
2.		
3.		
4.		
5.		
6.		

* = *Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ○ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 18 inches Why? No hydric soil indicators present
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP4 (OUT) - Wetland 1 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*				
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ◉ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ◉ Evaluation Impossible ← Why? Not present (form issue)

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ○ Yes ◉ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ○ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ○ Yes ◉ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP4 (OUT) - Wetland 1

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ○ Yes ◉ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric ○ Yes ○ No ◉ Inconclusive ← Why? just poorly-drained *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

○ Yes ○ No *(skip to #27d)* ◉ Inconclusive ← Why? Potentially, 1-32% *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ○ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ○ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP4 (OUT) - Wetland 1

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ○ Yes ◉ No If yes, which criteria identified or delineated the wetland?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ○ Isolated ◉ N/A (Point is not wetland)

Point ID/Location: DP4 (OUT) - Wetland 1

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
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13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP5 (OUT) - Wetland 2 GPS Coordinates: 30.058404 N -85.586037 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ○ Wetland ○ Non-Wetland Surface Water ◉ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

◉ Canopy (Min. 10% areal extent) ○ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Quercus virginiana	U		5					
2.	Callicarpa americana	F		10					
3.	Eupatorium cappilifolium	F			20				
4.	Rubus spp.				10				
5.	Smilax spp.				5				
6.	Vitis spp.				15				
7.	Pinus elliottii	FW	5					5	
8.	Quercus nigra	F	5				5		
9.	Magnolia grandiflora	F	10				10		
10.	Toxicodendron radicans	F			5				
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	15	5	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 5

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 5

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 100.0%

Point ID/Location: DP5 (OUT) - Wetland 2 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-1	loam	7.5YR2.5/1	<25%	7.5YR2.5/1 (100%), organic loam, organic matter
2	1-8	sand	10YR6/1	<25%	10YR6/1 (100%), mixed sand (loose / poorly-consolidated)
3	8-16	sand	10YR6/2	<25%	10YR6/2 (100%), mixed sand (loose / poorly-consolidated)
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
__(A1) Histosol*	__(S4) Sandy Gleyed Matrix*	__(F2) Loamy Gleyed Matrix*
__(A2) Histic Epipedon*	__(S5) Sandy Redox	__(F3) Depleted Matrix
__(A3) Black Histic*	__(S6) Stripped Matrix	__(F6) Redox Dark Surface
__(A4) Hydrogen Sulfide*	__(S7) Dark Surface	__(F7) Depleted Dark Surface
__(A5) Stratified Layers*	__(S8) Polyvalue Below Surface	__(F8) Redox Depression
__(A6) Organic Bodies	__(S9) Thin Dark Surface	__(F10) Marl
__(A7) 5cm Mucky Mineral*	__(S12) Barrier Islands 1cm Muck	__(F12) Iron-Manganese Masses
__(A8) Muck Presence*		__(F13) Umbric Surface
__(A9) 1cm Muck*		__(F22) Very Shallow Dark Surface
__(A11) Depleted Below Dark Surface		
__(A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1.		
2.		
3.		
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ○ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 16 inches Why? No hydric soil indicators present
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP5 (OUT) - Wetland 2 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*				
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ◉ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ◉ Evaluation Impossible ← Why? Not present (form issue)

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ○ Yes ◉ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ○ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ◉ Yes ○ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19)
○ Yes ◉ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP5 (OUT) - Wetland 2

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ○ Yes ◉ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric ◉ Yes ○ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ◉ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

○ Yes ○ No *(skip to #27d)* ◉ Inconclusive ← Why? Potentially, 1-32% *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ○ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ○ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP5 (OUT) - Wetland 2

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ○ Yes ◉ No If yes, which criteria identified or delineated the wetland?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ○ Isolated ◉ N/A (Point is not wetland)

Point ID/Location: DP5 (OUT) - Wetland 2

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

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Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP6 (IN) - Wetland 2 GPS Coordinates: 30.058374 N -85.585960 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Magnolia virginiana	FW		10				10	
2.	Magnolia grandiflora	F	10						
3.	Andropogon gerardii	F			30				
4.	Dryopteris ludoviciana	FW			15				
5.	Ludwigia peploides	O			25				
6.	Vitis spp.				10				
7.	Ilex vomitoria	F		10			10		
8.	Rubus spp.				25				
9.	Myrica cerifera	FW		25				25	
10.	Serenoa repens	F		15			15		
11.	Callicarpa americana	F		15			15		
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	40	35	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 35

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 35

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 100.0%

Point ID/Location: DP6 (IN) - Wetland 2 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-4	loam	10YR5/1	70%	RC, LA, 10YR5/1 (60%), 10YR2/2 (40%), mucky mineral (S), H2S odor at 4-16", PM (relic equipment track rut?), organic loam
2	4-16	loam	10YR2/2	70%	RC, LA, 10YR2/2 (100%), mucky mineral (S), H2S odor at 4-16", PM (relic equipment track rut?), organic loam
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
✓ (A1) Histosol*	__ (S4) Sandy Gleyed Matrix*	__ (F2) Loamy Gleyed Matrix*
__ (A2) Histic Epipedon*	__ (S5) Sandy Redox	__ (F3) Depleted Matrix
__ (A3) Black Histic*	__ (S6) Stripped Matrix	__ (F6) Redox Dark Surface
✓ (A4) Hydrogen Sulfide*	✓ (S7) Dark Surface	__ (F7) Depleted Dark Surface
__ (A5) Stratified Layers*	__ (S8) Polyvalue Below Surface	__ (F8) Redox Depression
__ (A6) Organic Bodies	__ (S9) Thin Dark Surface	__ (F10) Marl
__ (A7) 5cm Mucky Mineral*	__ (S12) Barrier Islands 1cm Muck	__ (F12) Iron-Manganese Masses
__ (A8) Muck Presence*		__ (F13) Umbric Surface
__ (A9) 1cm Muck*		__ (F22) Very Shallow Dark Surface
__ (A11) Depleted Below Dark Surface		
__ (A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1. A1	0	4
2. A4	4	16
3. S7	4	16
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ◉ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 16 inches Why? Positive hydric soil indicators observed <16" deep
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP6 (IN) - Wetland 2 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*	✓			NWI data suggests PFO4C wetland present
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ◉ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ○ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ◉ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ◉ Yes ○ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ◉ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP6 (IN) - Wetland 2

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ◉ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ◉ Yes ○ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric ◉ Yes ○ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ◉ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

◉ Yes ○ No *(skip to #27d)* ○ Inconclusive ← Why? _____ *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ◉ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP6 (IN) - Wetland 2

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ◉ Yes ○ No If yes, which criteria identified or delineated the wetland?
☒ Wetland Definition ☐ A Test ☒ B Test ☒ C Test ☒ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ◉ Connected ○ Isolated ○ N/A (Point is not wetland)

Point ID/Location: DP6 (IN) - Wetland 2

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP7 (IN) - Wetland 2 GPS Coordinates: 30.057983 N -85.585377 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Lolium arundinaceum	F			10				
2.	Magnolia grandiflora	F	10						
3.	Andropogon gerardii	F			25				
4.	Cyperus echinatus	F			10				
5.	Callicarpa americana	F		15			15		
6.	Vitis spp.				20				
7.	Rubus spp.				25				
8.					25				
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	15	0	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 0

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 0

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 0.0%

Point ID/Location: DP7 (IN) - Wetland 2 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-2	sand	10YR5/1	70%	RC, LA, 10YR5/1 (60%), 10YR2/2 (40%), mucky mineral (S), H2S odor at 2-12", PM (relic equipment track rut?), loamy sand
2	2-12	loam	10YR2/1	70%	RC, LA, 10YR2/1 (100%), mucky mineral (S), H2S odor at 2-12", PM (relic equipment track rut?), sandy loam
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
✓ (A1) Histosol*	__ (S4) Sandy Gleyed Matrix*	__ (F2) Loamy Gleyed Matrix*
__ (A2) Histic Epipedon*	__ (S5) Sandy Redox	__ (F3) Depleted Matrix
__ (A3) Black Histic*	__ (S6) Stripped Matrix	__ (F6) Redox Dark Surface
✓ (A4) Hydrogen Sulfide*	✓ (S7) Dark Surface	__ (F7) Depleted Dark Surface
__ (A5) Stratified Layers*	__ (S8) Polyvalue Below Surface	__ (F8) Redox Depression
__ (A6) Organic Bodies	__ (S9) Thin Dark Surface	__ (F10) Marl
__ (A7) 5cm Mucky Mineral*	__ (S12) Barrier Islands 1cm Muck	__ (F12) Iron-Manganese Masses
__ (A8) Muck Presence*		__ (F13) Umbric Surface
__ (A9) 1cm Muck*		__ (F22) Very Shallow Dark Surface
__ (A11) Depleted Below Dark Surface		
__ (A12) Thick Dark Surface		

	Indicator Present	Begin Depth	End Depth
1.	A1	0	2
2.	A4	2	12
3.	S7	2	12
4.			
5.			
6.			

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ◉ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 12 inches Why? Positive hydric soil indicators observed <12" deep
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP7 (IN) - Wetland 2 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*	✓			NWI data suggests PFO4C wetland present
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ◉ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ○ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ◉ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ◉ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP7 (IN) - Wetland 2

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ○ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ◉ Yes ○ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (29) Rutledge sand, 0-2% slopes, very poorly-drained, 66-99% hydric ◉ Yes ○ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

◉ Yes ○ No *(skip to #27d)* ○ Inconclusive ← Why? _____ *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ◉ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how? _____

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) *(**If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? _____ *(**If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP7 (IN) - Wetland 2

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ◉ Yes ○ No If yes, which criteria identified or delineated the wetland?
☒ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☒ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ◉ Connected ○ Isolated ○ N/A (Point is not wetland)

Point ID/Location: DP7 (IN) - Wetland 2

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP8 (OUT) - Wetland 2 GPS Coordinates: 30.058220 N -85.585186 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ○ Wetland ○ Non-Wetland Surface Water ◉ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

◉ Canopy (Min. 10% areal extent) ○ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Quercus virginiana	U	10			10			
2.	Callicarpa americana	F		20					
3.	Magnolia grandiflora	F	20				20		
4.	Nephrolepis exaltata	F			5				
5.	Carex blanda	F			30				
6.	Vitis spp.				20				
7.	Rubus spp.				10				
8.	Toxicodendron radicans	F			10				
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						10	20	0	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 10

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 0

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 10

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 0.0%

Point ID/Location: DP8 (OUT) - Wetland 2 | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***
Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-5	sand	10YR5/1	<25%	10YR5/1 (70%), 10YR2/2 (30%), loamy sand
2	5-18	sand	10YR2/2	<25%	10YR2/2 (50%), 10YR6/1 (50%), loamy sand
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
__(A1) Histosol*	__(S4) Sandy Gleyed Matrix*	__(F2) Loamy Gleyed Matrix*
__(A2) Histic Epipedon*	__(S5) Sandy Redox	__(F3) Depleted Matrix
__(A3) Black Histic*	__(S6) Stripped Matrix	__(F6) Redox Dark Surface
__(A4) Hydrogen Sulfide*	__(S7) Dark Surface	__(F7) Depleted Dark Surface
__(A5) Stratified Layers*	__(S8) Polyvalue Below Surface	__(F8) Redox Depression
__(A6) Organic Bodies	__(S9) Thin Dark Surface	__(F10) Marl
__(A7) 5cm Mucky Mineral*	__(S12) Barrier Islands 1cm Muck	__(F12) Iron-Manganese Masses
__(A8) Muck Presence*		__(F13) Umbric Surface
__(A9) 1cm Muck*		__(F22) Very Shallow Dark Surface
__(A11) Depleted Below Dark Surface		
__(A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1.		
2.		
3.		
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ○ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 18 inches Why? No hydric soil indicators present, very dry soil
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: DP8 (OUT) - Wetland 2 | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*				
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ◉ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ◉ Evaluation Impossible ← Why? Not present (form issue)

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ○ Yes ◉ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ○ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ○ Yes ◉ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

Point ID/Location: DP8 (OUT) - Wetland 2

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ○ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ○ Yes ◉ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric ○ Yes ○ No ◉ Inconclusive ← Why? poorly-drained only *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

○ Yes ○ No *(skip to #27d)* ◉ Inconclusive ← Why? Potentially, 1-32% *(skip to #28)*

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ○ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ○ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ○ Yes ◉ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ○ Yes ◉ No *(skip to #32)* ○ Evaluation Impossible *(skip to #32)*

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
○ Yes ◉ No If yes, how?

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ○ Yes ◉ No
If yes, how? some soil compaction in relic equipment track ruts (but minimal) ***(If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ○ Yes ○ No If no, why? ***(If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? Relic evidence of equipment impacts (2018-2022 hurricane cleanup effort), site has naturalized now

Point ID/Location: DP8 (OUT) - Wetland 2

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? N/A

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*

*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why?

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ○ Yes ◉ No If yes, which criteria identified or delineated the wetland?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ○ Isolated ◉ N/A (Point is not wetland)

Point ID/Location: DP8 (OUT) - Wetland 2

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Dense scrub-shrub vegetation, with significant re-growth from stumps. Hurricane Michael (2018) knocked down >90% of mature trees here. DAF cleanup efforts occurred in 2019-2022.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code

"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes

"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes

"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code

"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37

Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes

"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP9 (IN) - Wetlands 3 and 4 GPS Coordinates: 30.058932 N -85.585404 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ○ Subcanopy (Min. 10% areal extent) ◉ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Lolium arundinaceum	F			10		10		
2.	Magnolia grandiflora	F		10					
3.	Andropogon gerardii	F			25		25		
4.	Eupatorium cappilifolium	F			15		15		
5.	Callicarpa americana	F		10					
6.	Vitis spp.				5				
7.	Rubus spp.				5				
8.	Ilex vomitoria	F		10					
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						0	50	0	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 0

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 0

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 0

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 0.0%

Point ID/Location: 30.058932 N -85.585404 W | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? N/A *(**If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-2	loam	10YR5/1	70%	RC, LA, 10YR5/1 (70%), 10YR2/2 (30%), mucky mineral (S), H2S odor at 2-14", PM (relic equipment track rut?), organic loam
2	2-14	loam	10YR2/1	70%	RC, LA, 10YR2/1 (100%), mucky mineral (S), H2S odor at 2-14", PM (relic equipment track rut?), sandy loam
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
✓ (A1) Histosol*	__ (S4) Sandy Gleyed Matrix*	__ (F2) Loamy Gleyed Matrix*
__ (A2) Histic Epipedon*	__ (S5) Sandy Redox	__ (F3) Depleted Matrix
__ (A3) Black Histic*	__ (S6) Stripped Matrix	__ (F6) Redox Dark Surface
✓ (A4) Hydrogen Sulfide*	✓ (S7) Dark Surface	__ (F7) Depleted Dark Surface
__ (A5) Stratified Layers*	__ (S8) Polyvalue Below Surface	__ (F8) Redox Depression
__ (A6) Organic Bodies	__ (S9) Thin Dark Surface	__ (F10) Marl
__ (A7) 5cm Mucky Mineral*	__ (S12) Barrier Islands 1cm Muck	__ (F12) Iron-Manganese Masses
__ (A8) Muck Presence*		__ (F13) Umbric Surface
__ (A9) 1cm Muck*		__ (F22) Very Shallow Dark Surface
__ (A11) Depleted Below Dark Surface		
__ (A12) Thick Dark Surface		

	Indicator Present	Begin Depth	End Depth
1.	A1	0	2
2.	A4	2	14
3.	S7	2	14
4.			
5.			
6.			

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ◉ Yes ○ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 14 inches Why? Positive hydric soil indicators observed <14" deep
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: 30.058932 N -85.585404 W | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*	✓			
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				Vegetated up-gradient (limited sediment source area)
(12) Tussocks or hummocks*	✓			Relic heavy equipment track ruts, hummocks 2-3'
(13) Water marks*	✓			Water-stained vegetation

Highest water level indicator height at point: 2 inches ◉ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ◉ Yes ○ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ○ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ◉ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ◉ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

Point ID/Location: 30.058932 N -85.585404 W

26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ○ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ◉ Yes ○ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric ○ Yes ◉ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ○ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

◉ Yes ○ No (*skip to #27d*) ○ Inconclusive ← Why? Wetland area limited to heavy equipment ruts (*skip to #28*)

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ◉ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ◉ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ◉ Yes ○ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ◉ Yes ○ No (*skip to #32*) ○ Evaluation Impossible (*skip to #32*)

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?

◉ Yes ○ No If yes, how? Heavy equipment track ruts and disturbance 3' deep (the limits of wetland area)

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ◉ Yes ○ No

If yes, how? soil compaction in relic equipment track ruts *(**If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?

☐ A Test ☐ B Test ☒ C Test ☒ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ◉ Yes ○ No If no, why? naturalized condition now *(**If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☒ Plants ☒ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?

☐ Wetland Definition ☐ A Test ☐ B Test ☒ C Test ☒ D Test

Why? heavy equipment impacts from 2019-2022 hurricane cleanup effort completed now, site naturalized

Point ID/Location: 30.058932 N -85.585404 W

30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? heavy equipment track ruts/disturbance 3' deep (creating a depressional wetland)

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*
*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why? heavy equipment track ruts have artificially created depressional wetlands in an upland area

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? _____ *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why? _____

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ◉ Yes ○ No If yes, which criteria identified or delineated the wetland?
☒ Wetland Definition ☐ A Test ☐ B Test ☒ C Test ☒ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ◉ Isolated ○ N/A (Point is not wetland)

Point ID/Location: 30.058932 N -85.585404 W

34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Wetlands 3 and 4 appear to be the result of inadvertent soil compaction and 2-3 feet deep excavation/track ruts from Hurricane Michael tree cleanup in 2019-2022. Based on this location (110 feet from Mississippi Road), this may have been part of a 'landing area' for logging truck loading. Surrounding soils are predominately mesic (upland). Wetlands 3 and 4 have no outlets, no hydrophytic vegetation dominance, and distinct slope breaks at their margins. In this portion of the site, shallow groundwater appears to be present at depths of 3-4 feet. Dense scrub-shrub vegetation, with significant re-growth from stumps present here. Hurricane Michael (2018) knocked down >90% of mature trees here.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code
"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes
"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes
"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code
"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37
Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes
"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

Chapter 62-340, F.A.C. Data Form

§ denotes the Rule, subsection, paragraph, or subparagraph referenced from Ch. 62-340, F.A.C.

1. Date: 23 April 2025 2. Staff Present: B. Leatherland, K. Erwin, A. Noble 3. Form recorder(s): BL

4. County: Bay (3) 5. Site Name: Tyndall AFB - CEMIRT Expansion Tracking #:

6. Point ID: DP10 (OUT) - Wetlands 3 and 4 GPS Coordinates: 30.058975 N -85.585514 W

7. Distances and bearings from fixed objects (if no GPS): (Juniper Geode GPS used)

8. Current condition of described point: ◉ Authorized or legal condition ○ Unauthorized or illegal condition

9. Work type: ○ Identification ◉ Delineation

Point status: ◉ Wetland ○ Non-Wetland Surface Water ○ Upland

10. Vegetative Stratum §62-340.400: Using §62-340.400, F.A.C. with reasonable scientific judgment, select the appropriate vegetative stratum. (Do not include FAC species when determining 10% minimum areal extent.)

○ Canopy (Min. 10% areal extent) ◉ Subcanopy (Min. 10% areal extent) ○ Groundcover (No min. areal extent)

○ Vegetation Absent *(skip to #14)* ○ Evaluation Impossible *(skip to #14)* **Why?**

11. Plant List §62-340.200(2),(6),(16), §62-340.400, §62-340.450, F.A.C.:

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

Areal extent estimator: BL

Select and identify plants in an area just large enough to represent and classify the plant community at the described point. Do not extend into different communities or hydrologic conditions.

1. Record the scientific name (binomial) and status of each plant species necessary to identify/delineate and classify the plant community in the selected area.
2. Record the percent areal extent in the canopy, subcanopy, and groundcover columns for each species.
3. For each species present in the **stratum selected in #10**, transfer the numbers from only that stratum's column into the appropriate status columns.

#	Binomial of Observed Species	Status	Canopy	Subcanopy	Groundcover	Upland	Facultative	Fac. Wet	Obligate
1.	Lolium arundinaceum	F			20				
2.	Magnolia grandiflora	F		5			5		
3.	Andropogon gerardii	F			10				
4.	Eupatorium cappilifolium	F			25				
5.	Callicarpa americana	F		10			10		
6.	Vitis spp.				5				
7.	Rubus spp.				5				
8.	Quercus virginiana	U		15		15			
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									
Percent areal extent totals for the stratum selected in question 10						15	15	0	0

12. In the stratum selected in #10: What is the % areal extent of Obligate plants? 0

What is the % areal extent of Upland plants? 15

Is the areal extent of Obligate plants greater than that of Upland plants? ○ Yes ◉ No

13. In the stratum selected in #10: What is the total % areal extent of Obligate & Facultative Wet plants combined? 0

What is the total % areal extent of Obligate, Facultative Wet, & Upland plants combined? 15

What is the percentage of OBL + FACW in relation to all plants, excluding FAC? ($\frac{\text{OBL+FACW}}{\text{OBL+FACW+UPL}}$) 0.0%

Point ID/Location: 30.058975 N -85.585514 W | Soil describer: BL

14. LRR/MLRA 152A(T) | **Textures:** Peat, Mucky Peat, Muck, Mucky Mineral (S or F), Sand, Fine, Marl

15. Is a soil profile evaluation possible? ◉ Yes ○ No If no, why? mixed (relic disturbance?) ***(If No**, skip to #18)*

16. Soil Description: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Soil surface, or 0 inch depth for purposes of Chapter 62-340, F.A.C. is the muck or mineral surface (whether natural or fill)

Horizon	beginning to ending **Depth** (inches)	**Matrix Texture**	moist condition **Matrix Hue Value/ Chroma**	for sandy matrix horizons w/ value ≤ 3: **% Organic Coating**	- **Describe soil features: DA** (areas darker than matrix), **LA** (areas lighter than matrix), **RC** (redox concentrations): Record in moist condition **hue value/chroma; % volume in horizon; boundaries** (sharp/clear/diffuse); **shape** (rounded/linear/angular). - **OB** (organic bodies): Record **texture** (muck or mucky mineral), **% volume in horizon.** - **H_2S** (hydrogen sulfide odor): Indicate shallowest depth where detected - **Note** if horizon is **Physically Mixed (PM), Nonsoil** (any material not listed in "Textures" above), or **Fill** and describe.
1	0-16	sand	10YR5/1	<25%	10YR5/1 (60%), 10YR2/2 (40%), relic equipment track ruts nearby?, mixed loamy sand (loose/poorly-consolidated)
2					
3					
4					
5					
6					

17. Hydric Soil Field Indicators: If present, check all Hydric Soil Field Indicators satisfied and specify their beginning and ending depths

☑ All Texture	☑ Sandy Texture	☑ Fine Texture
__(A1) Histosol*	__(S4) Sandy Gleyed Matrix*	__(F2) Loamy Gleyed Matrix*
__(A2) Histic Epipedon*	__(S5) Sandy Redox	__(F3) Depleted Matrix
__(A3) Black Histic*	__(S6) Stripped Matrix	__(F6) Redox Dark Surface
__(A4) Hydrogen Sulfide*	__(S7) Dark Surface	__(F7) Depleted Dark Surface
__(A5) Stratified Layers*	__(S8) Polyvalue Below Surface	__(F8) Redox Depression
__(A6) Organic Bodies	__(S9) Thin Dark Surface	__(F10) Marl
__(A7) 5cm Mucky Mineral*	__(S12) Barrier Islands 1cm Muck	__(F12) Iron-Manganese Masses
__(A8) Muck Presence*		__(F13) Umbric Surface
__(A9) 1cm Muck*		__(F22) Very Shallow Dark Surface
__(A11) Depleted Below Dark Surface		
__(A12) Thick Dark Surface		

Indicator Present	Begin Depth	End Depth
1.		
2.		
3.		
4.		
5.		
6.		

** = Stand-alone D Test - both hydric soil and hydrologic indicator*

To combine layers/indicators to meet thickness requirements, see NRCS Hydric Soils Technical Note 4.

18. Excluding organic horizons, is any nonsoil horizon present at or within the uppermost 12 inches of the ground surface?
○ Yes *(e.g. bedrock, rock outcrop, limestone fill, gravel, etc)* ◉ No ○ Soil profile or site inaccessible

19. Is one or more hydric soil field indicators present? ○ Yes ◉ No ○ Inconclusive *(e.g., evaluation to 12+ inches impeded by disturbance, water, nonsoil, no site access, etc.)*
If no or inconclusive, is the soil hydric as determined by other NRCS methods?
○ Yes ← Which method(s)? _____ ○ No ○ Inconclusive ← Why? _____
(e.g., hydric soil definition, HSTS[2], indicator present at drier elevation, indicator would be present but for disturbance)

20. Is the depth of the soil profile 20 inches or greater from the soil surface? ○ Yes ◉ No
If no, depth of soil profile is: 16 inches Why? Soil is dry, sandy, and appears to be mixed/disturbed
(e.g., root refusal, nonsoil, water table, loose sand, heavy texture, compaction, weather conditions, inspection interrupted)

21. **Observed** height or depth of standing water from **soil** surface: _____ inches ○ Above ○ Below ◉ Not Observed

Point ID/Location: 30.058975 N -85.585514 W | Indicator evaluator: BL

22. Hydrologic Indicators: ***As is under current conditions, without considering RSJ[1] or the legality of any alterations***

Hydrologic Indicators per §62-340.500, F.A.C. (and as applied to §62-340.600, F.A.C.)	Present at or near point	Predicted during normal high water or wet season◆	Within 100 ft waterward of point (not for upland points)	1. Describe the type of all checked indicators. 2. Approximate the distance and compass direction of indicators within 100 ft of the point. 3. For water level indicators (potential indicators denoted by *) **note the height from ground surface** at the point as well as waterward (with distance from point). ◆Only for indicators not present due to dry season/drought
(1) Algal mats*				
(2) Aquatic mosses or liverworts*				
(3) Aquatic plants*				
(4) Aufwuchs*				
(5) Drift lines and rafted debris*				
(6) Elevated lichen lines*				
(7) Evidence of aquatic fauna				
(8) Hydrologic data*				
(9) Morphological plant adaptations*				
(10) Secondary flow channels				
(11) Sediment deposition*				
(12) Tussocks or hummocks*				
(13) Water marks*				

Highest water level indicator height at point: _____ inches ○ Above Ground Surface ○ No Water Level Indicators ○ Above Soil Surface ○ N/A (described point is Upland)

23. Is one or more hydrologic indicator(s) listed in §62-340.500, F.A.C. present or predicted with normal high water or wet season conditions at the described point? ○ Yes ◉ No ○ Evaluation Impossible ← Why? _____

24. Delineation by Wetland Definition §62-340.300(1), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Has a wetland boundary been delineated at the described point? ◉ Yes ◉ No *(**If No**, skip to #25)*

b) If yes to 24a, can the boundary be easily delineated using the definition of wetlands? ○ Yes ○ No

25. A & B Test Wetland Criteria §62-340.300(2)(a),(b), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the areal extent of Obligate plants in the stratum selected in #10 greater than the areal extent of all Upland plants in that stratum? (See #12) ○ Yes ◉ No ○ Vegetation Absent *(skip to #25f)* ○ Evaluation Impossible *(skip to #26a)*

b) Is the areal extent of Obligate and/or Facultative Wet plants in the stratum selected in #10 equal to or greater than 80% of all the plants in that stratum, excluding Facultative plants? (See #13) ○ Yes ◉ No

c) Is the soil hydric as identified using standard NRCS definitions and practices? (see #19) ○ Yes ○ No ○ Indeterminable with current conditions ← Why? _____

d) Is the substrate composed of riverwash, nonsoil (see #18), rock outcrop-soil complex, or is the substrate located within an artificially created wetland area? ○ Yes ◉ No If yes, which condition is present? _____

e) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ◉ No

f) Are the A Test criteria met per §62-340.300(2)(a), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25a and yes to either 25c, 25d, or 25e, A Test criteria are met)

g) Are the B Test criteria met per §62-340.300(2)(b), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 25b and yes to either 25c, 25d, or 25e, B Test criteria are met)

h) Are there any **alterations or conditions** affecting reliable application of the A or B Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

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26. C Test Wetland Criteria §62-340.300(2)(c), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Per §62-340.300(2)(c), F.A.C. is the described point Pine Flatwoods or Improved Pasture, or does it have drained soils? ○ Yes ○ No ***If yes**, select which of the following are met, then skip to #26d*

☐ Pine Flatwoods ☐ Improved Pasture ☐ Drained Soils

***Pine Flatwoods** must have flat terrain, a monotypic or mixed canopy of long leaf pine or slash pine, and a ground cover dominated by saw palmetto with other species that are NOT obligate or facultative wet. **Improved Pasture** means areas where the dominant native plant community has been replaced with planted or natural recruitment of herbaceous species which are NOT obligate or facultative wet species and which have been actively maintained for livestock through mechanical means or grazing. **Drained Soils** are those in which permanent alterations, excluding mechanical pumping, preclude the formation of hydric soils.*

b) Are the soils at the described point saline sands (salt flats-tidal flats), **or** have they been **field verified** by NRCS's Keys to Soil Taxonomy (4th ed. 1990) as Umbraqualfs, Sulfaquents, Hydraquents, Humaquepts, Histosols (except Folists), Argiaquolls, or Umbraquults? ○ Yes ◉ No

c) Do the soils at the described point have a NRCS hydric soil field indicator (see #17), **and** is the point located within a map unit named or designated by the NRCS as frequently flooded, depressional, or water?

Map Unit: (13) Leon sand, 0-2% slopes, poorly-drained, 1-32% hydric ○ Yes ◉ No ○ Inconclusive ← Why? _____ *(skip to #27a)*

d) Are the C Test criteria met per §62-340.300(2)(c), F.A.C. at the described point? ○ Yes ◉ No
(Note: If no to 26a and yes to either 26b or 26c, C Test criteria are met)

e) Are there any **alterations or conditions** affecting reliable application of the C Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

27. D Test Wetland Criteria §62-340.300(2)(d), F.A.C.

As is under current conditions, without considering RSJ[1] or the legality of any alterations:

a) Is the soil hydric as verified by a NRCS hydric soil field indicator? (See #17)

○ Yes ◉ No (*skip to #27d*) ○ Inconclusive ← Why? Wetland area limited to heavy equipment ruts (*skip to #28*)

b) Does any NRCS hydric soil field indicator begin **at the soil surface or** are any of the following indicators present: A1, A2, A3, A4, A5, A7, A8, A9, S4, F2? ○ Yes ○ No *(If yes, then hydrologic indicator §62-340.500(8) or (11) is met)*

c) Is one or more of the hydrologic indicators in §62-340.500, F.A.C. present at the described point? (See #23) ○ Yes ○ No

d) Are the D Test criteria met per §62-340.300(2)(d), F.A.C. at the described point? ○ Yes ◉ No
(Note: If yes to 27a and yes to either 27b or 27c, D Test criteria may be met)

e) Are there any **alterations or conditions** affecting reliable application of the D Test such that the Altered Sites Test is more appropriate? ◉ Yes ○ No

28. Altered Sites Tests §62-340.300(3), F.A.C. (Legal/Authorized or Illegal/Unauthorized)

*For purposes of Chapter 62-340, F.A.C. **altered** refers to any natural or man-induced condition(s) which **masks or eliminates reliable expression** of wetland indicators (i.e. hydrophytic vegetation, hydric soils, and hydrologic indicators). **Unaltered or normal does not require a natural condition**, only an expression of wetland indicators that is sufficient to **reliably** identify or delineate the wetland using the criteria in §62-340.300, F.A.C.*

Are alterations affecting normal wetland condition? ◉ Yes ○ No (*skip to #32*) ○ Evaluation Impossible (*skip to #32*)

29. Authorized or Legally Altered Vegetation and Soils Test Criteria §62-340.300(3)(a), F.A.C.

a) Are there **authorized** or **legal** alterations affecting reliable expression of vegetation at the described point?
◉ Yes ○ No If yes, how? Heavy equipment track ruts and disturbance 3' deep (the limits of wetland area)

b) Are there **authorized** or **legal** alterations affecting reliable soil evaluation at the described point? ◉ Yes ○ No
If yes, how? soil compaction in relic equipment track ruts *(**If no to both** 29a and 29b, skip to #30)*

c) If yes to 29a or 29b, which criteria tests are affected by the legal alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

d) Using the most reliable available information and reasonable scientific judgment, would the types of evidence and characteristics contemplated in §62-340.300, F.A.C. identify or delineate the described point as a wetland with cessation of the legal altering activities? ◉ Yes ○ No If no, why? naturalized condition now *(**If no**, skip to #30)*

e) If yes to 29d, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of legal altering activities? ☐ Plants ☐ Soils ☐ Hydrologic indicators

f) If yes to 29d, which tests would be passed with cessation of legal altering activities?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test

Why? heavy equipment impacts from 2019-2022 hurricane cleanup effort completed now, site naturalized

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30. Authorized or Legally Altered Hydrology Test Criteria §62-340.300(3)(b), F.A.C.

a) Has wetland hydrology of the area been **legally** drained or lowered? ○ Yes ◉ No *(**If no**, skip to #31)*
If yes, how? heavy equipment track ruts/disturbance 3' deep (creating a depressional wetland)

b) Has wetland hydrology been **legally** eliminated at the described point? ○ Yes ○ No *(**If no**, skip to #31)*

c) If yes to 30b, using reasonable scientific judgment or §62-340.550, F.A.C., have dredging or filling activities authorized by **Part IV** of Chapter 373, F.S. **permanently eliminated** wetland hydrology at the described point such that the wetland definition cannot be met? ○ Yes (point is upland) ○ No *(**If yes**, skip to #31)*
*Chapter 373, F.S. Part II activities (e.g., water use permits) or other temporary hydrologic alterations (e.g., surface water pumps, drought) do **not** apply to this or any other Ch. 62-340, F.A.C. determinations.*

d) If no to 30c, what §62-340.300, F.A.C. evidence is present now and/or will be present in the future with cessation of temporary hydrologic drainage? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If no to 30c, Which tests would be passed with cessation of temporary hydrologic alterations?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why? heavy equipment track ruts have artificially created nearby depressional wetlands in an upland area

31. Unauthorized or Illegally Altered Sites Test Criteria §62-340.300(3)(c), F.A.C.

*If the altering activity is a violation of regulatory requirements, then application of §62-340.300(3)(c), F.A.C. and all provisions of Chapter 62-340, F.A.C. are utilized to identify or delineate the wetland in a forensic manner. **This identification or delineation reflects the condition immediately prior to the unauthorized alteration**.*

a) Have any **unauthorized** alterations affected the normal wetland condition at the described point? ○ Yes ◉ No
If yes, how? N/A *(**If no**, skip to #32)*

b) If yes to 31a, which criteria tests are affected by the unauthorized alterations?
☐ A Test ☐ B Test ☐ C Test ☐ D Test

c) With reasonable scientific judgment is the described point a wetland, or would it have been a wetland immediately prior to the unauthorized alteration? ○ Yes ○ No If no, why? _____ *(**If no**, skip to #32)*

d) If yes to 31c, what §62-340.300, F.A.C. evidence is present now and/or was present immediately prior to the unauthorized alteration? ☐ Plants ☐ Soils ☐ Hydrologic indicators

e) If yes to 31c, which tests would be passed immediately prior to the unauthorized alteration?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
Why? _____

32. Wetland and Other Surface Water Summary §62-340.600(2)(a-e), F.A.C.:

Given **normal** expression, **cessation** of **authorized** alterations, or **immediately prior** to any **unauthorized** alterations:

a) With **reasonable scientific judgment** is the described point a wetland as defined in §62-340.200(19), F.A.C. and located by Ch. 62-340, F.A.C.? ○ Yes ◉ No If yes, which criteria identified or delineated the wetland?
☐ Wetland Definition ☐ A Test ☐ B Test ☐ C Test ☐ D Test
If summary answers differ from answers in 25f, 25g, 26d, or 27d, why? N/A

b) Is the described point located at or within the Mean High Water Line of a tidal water body?
○ Yes ◉ No ○ MHWL Unknown

c) Is the described point located at or within the Ordinary High Water Line of a non-tidal natural water body or natural watercourse? ○ Yes ◉ No

d) Is the described point located at or within the top of the bank of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes of 1 foot vertical to 4 feet horizontal or steeper, excluding spoil banks when the canals and ditches have resulted from excavation into the ground? ○ Yes ◉ No

e) Is the described point located at or within the Seasonal High Water Line of an artificial lake, borrow pit, canal, ditch, or other type of artificial water body or watercourse with side slopes flatter than 1 foot vertical to 4 feet horizontal or an artificial water body created by diking or impoundment above the ground? ○ Yes ◉ No

33. Connection or Isolation of Wetland per Applicant's Handbook Vol.1 Section 2.0

If the described point is a wetland, does it have a connection via wetlands or other surface waters, or is it wholly surrounded by uplands and therefore isolated? ○ Connected ○ Isolated ◉ N/A (Point is not wetland)

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34. Photographs and/or videos: Soil profile with Data Form, Soil profile close-up, Cross section(s) at 6" depth for sandy textures and/or critical depths for fine textures, Hydric soil indicators, Water table or inundation depth, Four cardinal directions of plant strata present, Hydrologic indicators (with scale as necessary), Critical plant ID (optional)

#	Memory Card # / Metadata	Description, compass direction (if applicable)	Taken By
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

Notes: Upland area. Nearby relic depressions (Wetland 3 and 4) likely the result of inadvertent soil compaction and 2-3 feet deep excavation/track ruts from Hurricane Michael tree cleanup in 2019-2022. No hydrophytic vegetation dominance present. Dense scrub-shrub vegetation, with significant re-growth from stumps present here. Hurricane Michael (2018) knocked down >90% of mature trees here.

Helpful Definitions for Applying Ch 62-340, F.A.C.

[1]**RSJ** stands for Reasonable Scientific Judgment where used throughout this Data Form (See *The Florida Wetlands Delineation Manual* pg. 2 & 12)

[2]**HSTS** stands for Hydric Soils Technical Standard (See NRCS Hydric Soils Technical Note 11)

Definition from §62.340.200(19) Florida Administrative Code
"**Wetlands**," as defined in subsection 373.019(17), F.S., means those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.

Definition from §373.019(19) Florida Statutes
"**Surface water**" means water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Definition from §373.019(14) Florida Statutes
"**Other watercourse**" means any canal, ditch, or other artificial watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted.

Definition from §62.340.200(15) Florida Administrative Code
"**Seasonal High Water**" means the elevation to which the ground and surface water can be expected to rise due to a normal wet season.

From The Florida Wetlands Delineation Manual pg. 37
Ordinary high water is that point on the slope or bank where the surface water from the water body ceases to exert a dominant influence on the character of the surrounding vegetation and soils. The OHWL frequently encompasses areas dominated by non-listed vegetation and non-hydric soils. When the OHWL is not at a wetland edge, the general view of the area may present an "upland" appearance.

Definition from §403.803(14) Florida Statutes
"Swale" means a manmade trench which:
(a) Has a top width-to-depth ratio of the cross-section equal to or greater than 6:1, or side slopes equal to or greater than 3 feet horizontal to 1 foot vertical;
(b) Contains contiguous areas of standing or flowing water only following a rainfall event;
(c) Is planted with or has stablized vegetation suitable for soil stabilization, stormwater treatment, and nutrient uptake; and
(d) Is designed to take into acount the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

APPENDIX C
UMAM DATA FORMS

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall AFB - CEMIRT Facility (Alt Sites 1 and 2)		

FLUCCs code	Further classification (optional)	Impact or Mitigation Site?	Assessment Area Size
320, 322, 411, 625	USFWS NWI - PFO4C FLCCS - 1312, 2221, 22211 FNAI - scrubby flatwoods; wet flatwoods	Impact	4.4 ac / 3.6 ac

Basin/Watershed Name/Number	Affected Waterbody (Class)	Special Classification (i.e.OFW, AP, other local/state/federal designation of importance)
12-031401010705	N/A	N/A

Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands

Generally-continuous wetland connection to downstream surface waters (Saint Andrew Bay), but with impacts from Mississippi Road crossing

Assessment area description

These two scrub-shrub wetland areas were significantly impacted by 2018 Hurricane Michael (with >80% mature trees felled). Prior to Hurricane Michael, USFWS NWI classified these areas as PFO4C (palustrine, forested, needle-leaved evergreeen, seasonally-flooded). However, aerial photographs suggest mixed mature conifers and deciduous trees were present. Hurricane-felled trees were removed from both sites between 2019 and 2022. Heavy equipment used in this effort left 2-3' deep track ruts in both sites (naturalized now).

Significant nearby features	Uniqueness (considering the relative rarity in relation to the regional landscape.)
St Andrew Bay is located approximately 1,015 ft southwest of Alt Site 2, and 1,860 feet southwest of Alt Site 1.	This wetland type is common in the surrounding landscape

Functions	Mitigation for previous permit/other historic use
Wildlife cover, refuge, foraging area, nesting/denning area, food web support, stormwater runoff storage, flood attentuation, water quality improvement	N/A

Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found)	Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)
Feeding, breeding, resting/loafing, and nesting/denning habitat is present. April 2025 federally protected species survey did not document any listed species. Site likely dominated by generalist species which live in close proximity to human land uses/development.	No federally protected species observed during April 2025 survey. Godfrey's goldenaster, a Florida endangered species, may be present on both sites.

Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):

birds: Northern mockingbird, northern cardinal, catbird, blue jay, downy woodpecker, cedar waxwing, cowbird, eastern towhee, house sparrow, carolina wren, house finch, European starling, goldfinch

mammals: eastern cottontail (scat), whitetail deer (bedding/scat), coyote, other canid scat

insects: damselfly, bumblebees

reptiles: cottonmouth, coachwhip, unknown colubrid (snake; black), broadhead skink, green anole

Additional relevant factors:

Sites are located on a large military base, adjacent to developed portions of the base. Hurricane Michael (2018) severely impacted mature woody vegetation on both sites (downed trees removed between 2019 and 2022).

Assessment conducted by:	Assessment date(s):
B. Leatherland	21-23 April 2025

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall CEMIRT Project		Alternative Site 1
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	B. Leatherland	27-May-25

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 7	with:
	Existing adjacent development/military land uses to the north, west, and south limit Alternative Site 1 habitat value and function (and wildlife access/connectivity). Hurricane Michael also severely impacted mature vegetation in 2018. Downed trees were subsequently removed from the site in 2019-2022. Natural succession has been allowed to progress since then. Site is predominately scrub-shrub habitat now, with some recovery of remnant standing hurricane-damaged canopy trees. Heavy equipment that was used to clear downed trees left 2-3 foot deep track ruts in some areas, though these have become re-vegetated/naturalized, and provide greater habitat diversity now. This site has connectivity to a downgradient wetland area to southeast, though this connectivity is bisected by Mississippi Road. Assessment Factors: wildlife support, invasive/exotic species, wildlife access and barriers, downstream fish and wildlife benefits/barriers, external land use effects on fish and wildlife, benefits to hydrologically-connected areas, downstream benefits from discharges, and protection of wetland function by upland mitigation.	
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 6	with:
	No persistent aquatic habitat or inundation is present, though a 1.41-acre potentially-jurisdictional PSS wetland occupies the central 32% of the site. Based on field observations of soils and hydrology, this wetland area likely experiences periodic inundation followed by dessication (drying), due in part to underlying sandy soil. Estimated depth to groundwater is approximately 4 to 6 feet, based on observations of nearby off-site stormwater basin and excavated stream/ditch. No evidence of fire. No observed morphological plant adaptations. Assessment factors: water levels and flows, water level indicators, soil moisture, soil erosion or deposition, evidence of fire history, vegetation-community zonation, vegetation-hydrologic stress, wildlife use by species with specific hydrologic requirements, plant community composition (tolerance of water quality degradation or altered flow), standing water observation, existing water quality data, water depth/ wave energy / currents / llight penetration	
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 5	with:
	Scrub-shrub vegetation on-site is healthy and dense/abundant, with multiple native species (most growing from root mass remaining after 2018 hurricane effects). Minimal invasive species present. No benthic community (or aquatic habitat) is present. Existing CEMIRT facility and stormwater basin are located to the west, new commercial vehicle inspection area recently constructed to the north, and existing canine training facility to the south. Assessment factors: plant species (canopy, shrub, and/or ground-level strata), invasive species, regeneration/recruitment, age/size distribution, coarse woody debris density and quality, plant condition, land management practices, topographic features/diversity/refugia, siltation or algal growth on SAV, and upland mitigation area level of habitat and support.	

Score = sum of above scores/30 (if uplands, divide by 20)	current or w/o pres: 0.60	with:

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

For impact assessment areas
FL = delta x acres = 0.85

Delta = [with-current]

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

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

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

Site/Project Name	Application Number	Assessment Area Name or Number
Tyndall CEMIRT Project		Alternative Site 2
Impact or Mitigation	**Assessment conducted by:**	**Assessment date:**
Impact	B. Leatherland	27-May-25

Scoring Guidance
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

Optimal (10)	Moderate(7)	Minimal (4)	Not Present (0)
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	w/o pres or current: 8	with:	Existing roadway to north, though good habitat connectivity exists to west, south, and east. Hurricane Michael also severely impacted mature vegetation in 2018. Downed trees were subsequently removed from the site in 2019-2022. Natural succession has been allowed to progress since then. Site is predominately scrub-shrub habitat now, with some recovery of remnant standing hurricane-damaged canopy trees. Heavy equipment that was used to clear downed trees left 2-3 foot deep track ruts in some areas, though these have become re-vegetated/naturalized, and provide greater habitat diversity now. Site has good connectivity to a wetland area (to the south) and Saint Andrew Bay (to the south). Assessment Factors: wildlife support, invasive/exotic species, wildlife access and barriers, downstream fish and wildlife benefits/barriers, external land use effects on fish and wildlife, benefits to hydrologically-connected areas, downstream benefits from discharges, and protection of wetland function by upland mitigation.
.500(6)(b)Water Environment (n/a for uplands)	w/o pres or current: 8	with:	No persistent aquatic habitat or inundation is present, though a 0.94-acre potentially-jurisdictional PSS wetland occupies the southern 27% of the site. Based on field observations of soils and hydrology, this wetland area likely experiences periodic inundation followed by dessication (drying), due in part to underlying sandy soil. Estimated depth to groundwater is approximately 4 to 6 feet. Some evidence fire (intentional, for vegetation management). No observed morphological plant adaptations. Assessment factors: water levels and flows, water level indicators, soil moisture, soil erosion or deposition, evidence of fire history, vegetation-community zonation, vegetation-hydrologic stress, wildlife use by species with specific hydrologic requirements, plant community composition (tolerance of water quality degradation or altered flow), standing water observation, existing water quality data, water depth/ wave energy / currents / llight penetration
.500(6)(c)Community structure 1. Vegetation and/or 2. Benthic Community	w/o pres or current: 7	with:	Scrub-shrub vegetation on-site is healthy and dense/abundant, with multiple native species (most growing from root mass remaining after 2018 hurricane effects). Minimal invasive species present. No benthic community (or aquatic habitat) is present. Good connectivity to adjacent upland habitat. Assessment factors: plant species (canopy, shrub, and/or ground-level strata), invasive species, regeneration/recruitment, age/size distribution, coarse woody debris density and quality, plant condition, land management practices, topographic features/diversity/refugia, siltation or algal growth on SAV, and upland mitigation area level of habitat and support.

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres: 0.77	with:

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

For impact assessment areas
FL = delta x acres = 0.72

Delta = [with-current]

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

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

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