

DRAFT
FINDING OF NO SIGNIFICANT IMPACT (FONSI)
AND FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)

**ENVIRONMENTAL ASSESSMENT FOR RELOCATION OF MILITARY LAUNCH OPERATIONS
ON CAPE CANAVERAL SPACE FORCE STATION, FL**

Unique Identifier: EAXX-007-57-14Y-1770747966

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] § 4321 et seq.), the Department of the Air Force (DAF) is issuing this Finding of No Significant Impact (FONSI). Pursuant to the provisions of the NEPA, Department of War (DoW) *NEPA Implementing Procedures* (April 2026) and DAF *NEPA Implementing Procedures* (March 2026), the DAF, United States Space Force (USSF) prepared an Environmental Assessment (EA) to evaluate the potential environmental effects associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location more compatible with neighboring operations at Cape Canaveral Space Force Station (CCSFS) in Brevard County, Florida.

Consistent with the DAF *NEPA Implementing Procedures* (March 2026), this EA tiers from previous NEPA analyses in which the environmental effects of military launch operations from SLC-46 at CCSFS were adequately evaluated and determined not to result in significant effects. Tiering is appropriate where prior analyses have fully considered relevant effects and where the Proposed Action would not result in new or different significant effects. The relocation would not modify the broad ocean areas (BOA) or flight corridors associated with Joint Flight Campaign (JFC) and Trident launch operations, currently conducted from SLC-46. The land-based and sea-based environmental effects of these launch operations were previously evaluated and determined not to significantly affect the quality of the human or natural environment, as documented in the Department of the Navy (Navy) and the Department of the Army's February 2022 *JFC EA/Operational EA (OEA)*, and the Navy's May 2025 *Trident II Weapon Systems Testing Program EA/OEA*. If future operations are proposed that differ substantially from those analyzed in previous EAs, the DAF would evaluate those changes to determine whether additional environmental review is required under NEPA.

PURPOSE AND NEED FOR PROPOSED ACTION

The final EA defines the purpose of the Proposed Action is for SLD 45 to relocate Navy and Army launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones on CCSFS.

Current operations at nearby launch sites, such as SLC-36, pose hazards to assets at SLC-46, and the two complexes cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. The Proposed Action is needed to eliminate occupational safety and national security risks that arise due to conflicts between New Glenn launches (SLC-36) and DoW mission requirements (SLC-46). By deconflicting operations, national security requirements would be preserved while assured access to the Eastern Range is maintained, enabling DoW to conduct national security missions safely, with minimal disruptions, and with greater operational flexibility.

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action Alternative

The Proposed Action Alternative is to construct a new launch complex, SLC-51, as described in Section 2.1 of the EA, to support relocation of the JFC weapon systems test flight program and the Navy's Trident test flights from their current location at SLC-46. The EA analyzes potential impacts from the Proposed Action occurring within an approximately 80-acre undeveloped site to the south of the Skid Strip within CCSFS. The estimated total construction area for the Proposed Action encompasses approximately 50 acres of land within the 80-acre site. The Proposed Action also includes an

approximately 1.79-mile utility corridor located along Pier Road within an existing, previously disturbed right-of-way that is cleared of vegetation and routinely maintained.

The construction and operation of SLC-51 would reduce conflict between military and commercial launch operations in the southeastern portion of CCSFS, as the dedicated military launch site would be proximate to other facilities operated by the Navy, and all commercial launch operations would remain north of the Skid Strip. The construction and operation of SLC-51 would also have the potential to deconflict concurrently scheduled national security missions. SLC-51 would be designed and constructed to provide the same operational features and infrastructure currently in place at SLC-46 that are necessary for military weapons systems testing. As a new launch complex, the SLC-51 site would require complete construction of new infrastructure, utilities, and structures.

No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur. Deconfliction of hazardous clear areas would continue to occur via cessation of activities at SLC-36. Blue Origin's operations at SLC-36, including potential national security missions, would continue to be delayed for weeks at a time when DoW hardware and personnel are present at SLC-46. DAF's ability to meet its mission to support and encourage commercial space activities and assured access to space in line with DoW's Commercial Space Integration Strategy would continue to be impeded. Therefore, the No Action Alternative would not satisfy the Purpose and Need for the Proposed Action.

Alternatives Eliminated from Further Consideration

The NEPA requires agencies to identify "a reasonable range of alternatives to the proposed agency action...that are technically and economically feasible and meet the purpose and need of the proposal" (42 U.S.C. § 4322(C)(iii)). The DAF evaluated several possible locations within CCSFS that could potentially support relocated military operations, including land north of the Explosive Ordnance Disposal (EOD) range, relocation of the EOD range, and relocating launch operations to SLC-5/6, SLC-25/29, and SLC-17/18 (see Section 2.4 of the EA). The aforementioned alternatives were considered but not carried forward for detailed analysis in the EA because they did not meet the purpose and need for the project and/or did not satisfy the reasonable alternative selection criteria presented in Section 2.3.1 of the EA. Therefore, only the Proposed Action and the No Action Alternative were carried forward for further evaluation.

ENVIRONMENTAL CONSEQUENCES

The attached EA evaluates in detail the potential environmental consequences from the Proposed Action Alternative and the No Action Alternative in the following resource areas: air quality and weather-related resiliency, airspace and maritime management, infrastructure, socioeconomics, health and safety (including noise effects on humans), geology, cultural resources, biological resources (including noise effects on species), water resources, and land use (including range management). Certain other environmental resources (i.e. noise and vibration, and visual resources) were evaluated but not carried forward for detailed analyses in the EA because potential environmental effects were determined to be negligible or non-existent. Potential reasonably foreseeable effects are also addressed in the EA. Based on the analysis, neither the Proposed Action nor the No Action Alternative will result in significant impacts to any resources.

The No Action Alternative would result in less impact than the Proposed Action; however, it would not meet the Action's purpose and need.

MITIGATION

The DAF incorporated protective measures into the Proposed Action Alternative through project siting, design, construction planning, and compliance with applicable permit, consultation, and installation requirements. These measures include avoidance and minimization practices, standard construction Best Management Practices (BMPs), erosion and sediment controls, stormwater management, lighting controls, species protection measures, and use of existing disturbed corridors, as described in the EA.

Compensatory mitigation for the Proposed Action Alternative would be designed to ensure no net loss of wetland functions and values, as determined through the regulatory permitting process and documented in the Environmental Resource Permit (ERP). As described in Section 3.10.2.3 of the Final EA, all onsite wetlands were comprehensively evaluated using the Uniform Mitigation Assessment Method (UMAM) and categorized by habitat type to accurately characterize existing conditions and establish a defensible ecological baseline. The resulting functional assessments were used to quantify potential impacts and inform mitigation requirements. Furthermore, the UMAM functional scores were reviewed and verified by the St. Johns River Water Management District (SJRWMD), providing additional regulatory confirmation of the site's assessed conditions and impact calculations. Impacts to wetlands and surface waters will be addressed in accordance with Florida House Bill 1175/Senate Bill 492, *Wetland Mitigation Banking*, with final mitigation requirements to be determined by SJRWMD during ERP review and authorization prior to permit issuance.

In addition, the Proposed Action Alternative requires conservation measures for effects to listed species and associated habitat will be implemented consistent with the Biological Assessment (BA), Endangered Species Act consultation, and the Biological Opinion (BO) issued by the U.S. Fish and Wildlife Service, which will further document applicable requirements. As discussed in Section 3.10.2.3 of the Final EA, compensatory mitigation for unavoidable permanent impacts to suitable southeastern beach mouse habitat will be offset at a 1:1 ratio and suitable Florida scrub-jay habitat will be offset at a 2:1 ratio. Additionally, avoidance and minimization measures for listed species, including lighting controls, construction BMPs, Eastern indigo snake protection measures, and other species-specific conservation measures are discussed in the Final EA.

FINDING OF NO SIGNIFICANT IMPACT

Based on my review of the facts and analyses contained in the attached EA, conducted per NEPA (42 U.S.C. § 4321 et seq.), DoW *NEPA Implementing Procedures* (April 2026), and DAF *NEPA Implementing Procedures* (March 2026), I conclude that implementing the Proposed Action Alternative and associated mitigation measures will not have a significant effect on the quality of the human environment. Therefore, an Environmental Impact Statement is not required and this FONSI is appropriate. I decided this after considering all submitted information, including the agency comments submitted in response to the Draft EA, and considering a range of reasonable alternatives. This analysis fulfills the requirements of NEPA and the signing of this FONSI completes the Environmental Impact Analysis Process.

FINDING OF NO PRACTICABLE ALTERNATIVE

Pursuant to Executive Order (EO) 11988, Floodplain Management, and EO 11990, Protection of Wetlands (24 May 1977), and considering all supporting information, I find there is no practicable alternative to the Proposed Action, which will impact floodplains and wetlands. As noted in the attached EA, the proposed construction would be within the floodplain as the entirety of the Project Area is located in either the 100- or 500-year floodplain. As described in the final EA, avoidance of Floodplain areas is not practicable due to mission-driven siting constraints, including explosive safety arcs, range safety requirements, and the need to locate new launch infrastructure within an existing launch operations district at CCSFS. The Proposed Action would result in the loss of approximately 3.8 acres of wetland habitat that would be offset by the required wetland compensatory mitigation plan. This finding fulfills the requirements of the referenced EOs.

JASON GLYNN, Col, USAF
Director, Space Force Mission Sustainment
(Engineering, Logistics, Force Protection)

Date:

Attachment: *Final Environmental Assessment for Relocation of Military Launch Operations on Cape Canaveral Space Force Station, FL.*

Draft

**Environmental Assessment
For
Relocation of Military Launch Operations on Cape Canaveral Space Force Station**

Cape Canaveral Space Force Station, Florida

UID #: EAXX-007-57-14Y-1770747966

September 03, 2026

Abstract

Designation:	Environmental Assessment
Title of Proposed Action:	Relocation of Military Launch Operations on Cape Canaveral Space Force Station
Lead Agency and Action Proponent for the EA:	Department of the Air Force, United States Space Force Space Launch Delta 45
Cooperating Agencies:	Department of the Navy, Department of the Army, U.S. Coast Guard
Affected Region:	Cape Canaveral Space Force Station, Florida
Point of Contact:	Environmental Program Manager Jessica Stuczynski
Unique ID#:	EAXX-007-57-14Y-1770747966
Date:	03 September 2026

This Draft Environmental Assessment (EA) has been provided for stakeholder comment in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] § 4321, et seq.); Executive Order (EO) 14154, Unleashing American Energy; and Department of War¹ (DoW) *NEPA Implementing Procedures* (DoW April 2026). This Draft EA provides an opportunity for stakeholder input on U.S. Department of the Air Force (DAF) decision-making, allows stakeholders to offer input on alternative ways for the DAF to accomplish what it is proposing, and solicits comments on the DAF's analysis of environmental effects. Letters or other written or verbal comments provided may be published in this EA. Providing personal information is voluntary. Personal contact information, including home addresses, telephone numbers, and email addresses will be compiled to develop a stakeholder inventory. However, only the names of the individuals making comments and the comments themselves will be disclosed. Personal contact information will not be published in this EA.

Section 508 of the Rehabilitation Act of 1973

The digital version of this EA and its project website are compliant with Section 508 of the Rehabilitation Act of 1973 because assistive technology (e.g., "screen readers") can be used to help individuals with disabilities to understand these electronic media. Due to the nature of graphics, figures, tables, and images occurring in the document, accessibility may be limited to a descriptive title for each item.

¹ The Department of War was previously known as the Department of Defense.

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Acronyms and Abbreviations

ACAM	Air Conformity Applicability Model
APE	Area of Potential Effects
AUR	All Up Round
BA	Biological Assessment
BCC	Birds of conservation concern
BMP	Best Management Practice
BOA	Broad Ocean Areas
CAA	Clean Air Act
CCSFS	Cape Canaveral Space Force Station
CFR	Code of Federal Regulations
CO	Carbon monoxide
CRAS	Cultural Resources Assessment Survey
CWA	Clean Water Act
DAF	Department of the Air Force
DOA, Army	Department of the Army
DON, Navy	Department of the Navy
DoW	Department of War
EA	Environmental Assessment
EA/OEA	Environmental Assessment / Overseas Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EOD	Explosive Ordnance Disposal
EPN	Early Public Notice
ERP	Environmental Resource Permit
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Management Agency
FNAI	Florida Natural Areas Inventory
FONSI	Finding of No Significant Impact
FWC	Florida Fish and Wildlife Conservation Commission
GHG	Greenhouse gas
INRMP	Integrated Natural Resource Management Plan
JFC	Joint Flight Campaign
KSC	Kennedy Space Center
LRHW	Long Range Hypersonic Weapon
MBTA	Migratory Bird Treaty Act
MRTFB	Major Range and Test Facility Base
NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen dioxide
NOA	Notice of Availability

NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notices to Airmen
NOTMAR	Notices to Mariners
NRHP	National Register of Historic Places
NSSL	National Security Space Launch
O ₃	Ozone
OSHA	Occupational Safety and Health Administration
PAE FIRES	Portfolio Acquisition Executive FIRES
PAESSP	Portfolio Acquisition Executive Strategic Systems Programs
Pb	Lead
PM	Particulate matter
PPE	Personal protective equipment
ROI	Region of Influence
ROW	right-of-way
RWWTF	Regional Wastewater Treatment Facility
SLC	Space Launch Complex
SLD 45	Space Launch Delta 45
SHPO	State Historic Preservation Officer
SJRWMD	St. Johns River Water Management District
SO ₂	Sulfur dioxide
SOP	Standard operating procedure
SR	State Road
SSC	Space Systems Command
SWMU	Solid Waste Management Unit
SWPPP	Stormwater Pollution Prevention Plan
TNW	Traditionally Navigable Water
UFC	Unified Facilities Criteria
UMAM	Uniform Mitigation Assessment Method
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USSF	United States Space Force
WOTUS	Waters of the United States
WSTP	Weapons System Testing Program

1.0 PURPOSE OF AND NEED FOR ACTION

1.1 Introduction

The Department of the Air Force (DAF), U.S. Space Force (USSF) is preparing this Environmental Assessment (EA) to evaluate the potential environmental effects associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 at Cape Canaveral Space Force Station (CCSFS) in Brevard County, Florida.

This EA assesses the potential environmental, infrastructure, social, economic, geologic, historic, and cultural effects of the Proposed Action and alternatives. It was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] § 4321, et seq.); Executive Order (EO) 14154, *Unleashing American Energy*; EO 14335, *Enabling Competition in the Commercial Space Industry*; Department of War (DoW) *NEPA Implementing Procedures* (DoW April 2026); and the DAF *NEPA Implementing Procedures* (DAF March 2026).

In accordance with the DAF *NEPA Implementing Procedures*, this EA evaluates the reasonably foreseeable environmental effects of the Proposed Action and alternatives, including the No Action Alternative, to support the DAF's determination regarding whether the Proposed Action may affect the quality of the human environment. The EA will inform the DAF Responsible Official's decision to issue a Finding of No Significant Impact (FONSI), to prepare an Environmental Impact Statement (EIS), or to take no action on the proposal.

1.1.1 Background

CCSFS, which is managed by USSF Space Launch Delta 45 (SLD 45), occupies approximately 15,800 acres along the Atlantic Coast of Brevard County, Florida, southeast of National Aeronautics and Space Administration's (NASA's) Kennedy Space Center (KSC) on adjacent Merritt Island. SLD 45 oversees the entirety of the Eastern Range, which includes launch activities at the CCSFS, and supports land-based and sea-based missile and rocket launches over more than 15 million square miles, from the Florida mainland across the Atlantic Ocean and into the Indian Ocean. Land uses at CCSFS include airfield operations, port operations, launch operations, launch and range support, landing support, commercial aerospace ventures, maintenance areas, and open space. CCSFS is managed by SLD 45 as the primary launch site for the National Security Space Launch (NSSL) Eastern Range. The Eastern Range is part of the Major Range and Test Facility Base (MRTFB) construct, a set of test installations, facilities and ranges that support DoW test and evaluation programs.

SLD 45 has entered into agreements with numerous commercial launch providers performing commercial launch operations in addition to military tenant organizations (DAF 2025a). SLD 45 strives to meet DoW and tenant mission requirements by improving, modernizing, and expanding infrastructure at CCSFS (USSF 2024).

SLC-46, the southernmost active launch complex at CCSFS, lies east of a 10,000-foot runway referred to as the Skid Strip, and less than one mile south of the most adjacent pad, SLC-36. SLC-46, which had been licensed to Space Florida by the Federal Aviation Administration (FAA) as a multi-user commercial launch site, is currently operated by the Department of the

Navy (Navy) as a missile test site and supports DoW missions. Space Florida commercial operations are no longer occurring at SLC-46 due to termination of the real property agreement.

The Navy Portfolio Acquisition Executive Strategic Systems Programs (PAESSP) and the Department of the Army (Army) Portfolio Executive FIRES (PAE FIRES) are currently conducting a multi-year (through 2032) Joint Flight Campaign (JFC) from SLC-46 that includes up to six land-based test launches per year from SLC-46. The JFC land-based test operations are for the Navy's Conventional Prompt Strike weapon system and the Army's Long Range Hypersonic Weapon (LRHW) system. The Navy and Army jointly published a *Finding of No Significant Impact/Finding of No Significant Harm for the Environmental Assessment/Overseas Environmental Assessment (EA/OEA) for the Joint Flight Campaign (JFC)* (DON and DOA 2022), concluding that the test launches would not significantly affect the quality of the human or natural environment. The DAF was a cooperating agency in the preparation of the 2022 EA and issued its own FONSI that concurred with the Navy and Army's findings (DAF 2022). The Navy prepared a 2025 *Final EA/OEA for Trident II (D5) Life Extension/Life Extension 2 (D5LE/LE2) Weapon Systems Testing Program (WSTP)*, which evaluated the environmental effects of up to 10 land-based test launches from SLC-46 between 2032 and 2036 (DON 2025). The DAF was also a cooperating agency in the preparation of the 2025 EA/OEA and issued its own FONSI that concurred with the Navy's findings.

SLC-36 is operated by Blue Origin and supports testing and launch operations for the New Glenn heavy-lift orbital launch vehicle. The DAF issued a FONSI for the 2016 *Final EA for Blue Origin Orbital Launch Site Construction at Launch Complexes 11 and 36* which analyzed the affected environment and environmental effects of the construction of SLC-36 and up to 12 annual New Glenn launches (DAF 2016). No safety clearance areas have changed since the original NEPA decision making. The proximity of SLC-46 and SLC-36 presents the potential for conflicts between operations at SLC-36 – currently New Glenn operations – and DoW operations, as the safety clearance areas² associated with test and launch operations overlap. This requires the evacuation of personnel and equipment from one launch pad while the other pad is active.

The immediate management and mitigation strategy implemented by the DAF is to restrict commercial operations by limiting hazardous testing and launch support activities at SLC-36 when DoW hardware and personnel are present at SLC-46. This results in operational and scheduling restrictions for Blue Origin that can last several weeks. These scheduling conflicts, delays, and restrictions are expected to increase as Blue Origin progresses towards its approved launch cadence. This conflict is further heightened as Blue Origin was awarded a contract by Space Systems Command (SSC) on 4 April 2025 to serve as an NSSL Phase 3 Lane 2 heavy-lift provider, tasking Blue Origin with providing critical space support to meet national security objectives.

² Safety clearance areas are designated zones which ensure the safety of the personnel and resources during hazardous operations (SSC 2022).

1.1.2 Lead and Cooperating Agencies

The DAF is the lead Federal agency for this EA as the owner of the real property where the Proposed Action would occur. SLD 45 is both the real property manager for the site and the approval authority for space launch programs on the Eastern Range. This approval authority encompasses changes to planning, construction, and operation of the launch pads supporting the Eastern Range.

The Navy is a cooperating agency due to its Naval Ordnance Test Unit operations at SLC-46 and its presence as a tenant organization on CCSFS. The Navy has a long-standing presence at CCSFS through various sites and tests programs. The Navy has utilized SLC-46 for the Trident missile program since the 1980s and currently utilizes SLC-46 for the Conventional Prompt Strike program.

The Army is a cooperating agency for LRHW joint test operations at SLC-46 and is responsible for developing information, preparing analyses on issues for which it has special expertise, such as water resources and contaminated site cleanup, exercising its potential jurisdiction by law over certain aspects of projects at the station, and making recommendations to the DAF to address information in the analysis, as required.

The U.S. Coast Guard (USCG) is a cooperating agency because of its role in maritime safety and its regulatory authority over waters subject to jurisdiction of the United States., pursuant to the Ports and Waterways Safety Act, 46 U.S.C. Chapter 700. The USCG also has regulatory authority over United States and foreign flagged vessels as outlined in Title 46, Chapter I of the Code of Federal Regulations (CFR) and is required to review and advise SLD 45 on all launch and reentry site evaluation risk assessments with a focus on vessel navigation safety.

1.1.3 Scope of Environmental Analysis

Consistent with the DAF *NEPA Implementing Procedures*, this EA tiers from previous NEPA analyses in which the environmental effects of military launch operations from SLC-46 at CCSFS were adequately evaluated and determined not to result in significant effects (DAF 2026). Tiering is appropriate where prior analyses have fully considered relevant effects and where the Proposed Action would not result in new or different significant effects. Tiering is employed to eliminate repetitive discussions and reduce duplication to the maximum extent possible.

The Proposed Action would involve relocating SLC-46 military launch operations to another location within CCSFS. The relocation would not modify the broad ocean areas (BOA) or flight corridors associated with JFC and Trident launch operations, currently conducted from SLC-46. The land-based and sea-based environmental effects of these launch operations were previously evaluated and determined not to significantly affect the quality of the human or natural environment, as documented in the February 2022 *JFC EA/OEA* and the May 2025 *Trident II WSTP EA/OEA*. Because the BOA, flight corridors, launch profiles, and launch frequencies would remain unchanged, any differences in potential sea-based effects resulting solely from relocating the launch point within CCSFS are anticipated to be negligible, and new or different significant effects are not reasonably foreseeable. The location within CCSFS that would support

relocated military launch operations would be exclusive to DoW use.³ Any relocated military launch operations would remain subject to SLD 45 oversight, range scheduling and safety review requirements, as well as compliance with all other applicable federal environmental review obligations. If future military launch operations are proposed that differ substantially from those analyzed in previous EAs, SLD 45 would evaluate those changes to determine whether additional environmental review is required under NEPA.

1.1.4 Key Documents

Key documents are sources of information incorporated into this EA by reference. Documents are considered key because of similar actions, analyses, or effects that may apply to this Proposed Action. Documents incorporated by reference in part or in whole include:

- Joint Flight Campaign (JFC) EA/OEA (DON and DOA 2022). Available at: https://www.patrick.spaceforce.mil/Portals/14/Tab%202%20Final%20PEA_OEA%20for%20the%20Army%20Navy%20JFC.pdf
- Final EA/OEA for the TRIDENT II (D5) Life Extension/Life Extension 2 (D5LE/LE2) Weapon Systems Testing Program (DON 2025). Available at: https://www.nepa.navy.mil/Portals/20/Documents/SSP/Trident%20II/Trident%20Missile%20Testing%20Program%20EA-OEA_FINAL.pdf?ver=R1B1EGy_xwjTAm-7P8cXxg%3D%3D

1.2 Purpose of Action

The purpose of the Proposed Action is for SLD 45 to relocate Navy and Army launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones⁴ on CCSFS. This relocation would help ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity.

1.3 Need for Action

As an MRTFB, CCSFS is required to maintain a capability for military development and testing for DoW platforms and capabilities. Current operations at nearby launch sites, such as SLC-36, pose hazards to assets at SLC-46, and the two complexes cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. Therefore, relocation is necessary to eliminate occupational safety and national security risks that arise due to conflicts between New Glenn launches (SLC-36) and DoW mission requirements (SLC-46).

By deconflicting operations, national security requirements would be preserved while assured access to the Eastern Range is maintained, enabling DoW branches to conduct national security missions safely, with minimal disruptions, and with greater operational flexibility.

³ Any potential future use of SLC-46, including construction or operational activities, would be subject to separate analysis pursuant to NEPA and is not being considered further herein.

⁴ Explosive clear zones are areas designated to contain the potential adverse effects of an accidental explosion including fragments, fire, heat, and toxic materials (SSC 2022)

1.4 Interagency / Intergovernmental Coordination and Consultations

1.4.1 Government-to-Government Consultation

During development of this EA, the DAF initiated government-to-government consultation with federally recognized Tribal Nations that may attach religious or cultural significance to historic properties within the Area of Potential Effects (APE), consistent with Section 106 of the National Historic Preservation Act (NHPA), NEPA, and EO 13175, *Consultation and Coordination with Indian Tribal Governments*. Consultation efforts included coordination to identify concerns related to cultural resources and to inform the effects analysis presented in this EA.

The DAF sent a Section 106 consultation package describing the undertaking, APE, identification efforts (including previous Phase I Cultural Resources Assessment Survey [CRAS] reports overlapping the project site), and the DAF's preliminary findings to the Seminole Tribe of Florida, Seminole Nation of Oklahoma, and the Miccosukee Tribe of Indians of Florida on 05 December 2025, requesting initiation of government-to-government consultation (Appendix A). The DAF received concurrence from the Seminole Tribe of Florida on 14 January 2026 (Appendix A). No responses were received from the Seminole Nation of Oklahoma or the Miccosukee Tribe of Indians of Florida. The DAF provided an additional CRAS report to the Seminole Tribe of Florida on 06 May 2026. The DAF will continue to engage with Tribal Nations throughout the NEPA and Section 106 processes and will consider all comments received prior to final decision-making.

1.4.2 Interagency Consultation

Pursuant to Section 7(a)(2) of the Endangered Species Act (ESA), the DAF re-initiated consultation with the U.S. Fish and Wildlife Service (USFWS) regarding potential effects to ESA-listed species and designated critical habitat via Biological Assessment (BA) on 20 July 2026 (Appendix B). The Navy previously completed formal consultation with the USFWS to address potential effects from launch operations on terrestrial species during the May 2025 *Trident II WSTP EA/OEA* (DON 2025). The Navy and the Army also determined during the February 2022 *JFC EA/OEA* that launch operations may affect, but are not likely to adversely affect ESA-listed terrestrial species and designated critical habitats under USFWS jurisdiction (USFWS reference number 01EPIF00-2021-I-0329; DON and DOA 2022).

Pursuant to Section 106 of the NHPA (54 U.S.C. § 306108) and implementing regulations at 36 CFR Part 800, the DAF initiated consultation with the Florida State Historic Preservation Office (SHPO) via letter dated 05 December 2025. The DAF's Section 106 consultation package described the undertaking, APE, identification efforts (including previous CRAS reports that overlapped the project area), and the DAF's preliminary findings. The DAF received SHPO concurrence with the finding of No Historic Properties Affected via letter dated 08 January 2026 (Appendix A). The DAF provided an additional Phase I CRAS report to SHPO on 07 May 2026. On 28 May 2026, SHPO requested revisions to the CRAS report. The DAF delivered the final revised CRAS report to SHPO on 06 July 2026. Concurrence on the final revised CRAS report was received from Florida SHPO on 17 July 2026 (Appendix A).

In accordance with the Coastal Zone Management Act (CZMA; 16 U.S.C. §§ 1451–1466), the DAF will provide the Draft EA to the Florida State Clearinghouse for review on 02 September 2026. The Proposed Action will be reviewed for consistency with Florida's approved Coastal

Management Program through coordination with the FDEP. The final CZMA Consistency Determination will be published in the Final EA.

Consultation with the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Protected Resource Division to address potential effects from launch operations on marine species was completed during the February 2022 *JFC EA/OEA* and the May 2025 *Trident II WSTP EA/OEA*. NMFS provided letters of concurrence dated 14 October 2021 and 11 June 2025, respectively, supporting the EA conclusions that launch operations at CCSFS, and specifically at SLC-46 may affect, but are not likely to adversely affect, any ESA-listed species or designated critical habitat within BOA or flight corridors (DON and DOA 2022; DON 2025). The BOA and flight corridors for JFC and Trident launches would remain unchanged as a result of relocating the launch point within CCSFS. Thus, the February 2022 and May 2025 EA determinations still accurately reflect any potential effects on ESA-listed species or designated critical habitat that may result from SLC-46 launch operations conducted from either the current or the relocated launch point. Therefore, additional consultation with NMFS is not anticipated for this Proposed Action.

1.5 Stakeholder Participation

The DAF is soliciting stakeholder input on the Proposed Action. Stakeholders will be notified via email that the Draft EA is available for review on the DAF's website at <https://www.patrick.spaceforce.mil/Resources/Environmental-Information/>. The Draft EA will be available for comment from stakeholders for 30 days between 02 September 2026 and 02 October 2026. An Early Public Notice (EPN) that the Proposed Action would occur in a floodplain was published in *Florida Today* and the *Hometown News* on 23 April 2026 (Appendix C). No comments were received on the EPN. Tear sheets from the newspaper publications are included in Appendix C.

2.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

This EA evaluates two alternatives: the Proposed Action and the No Action Alternative. The Proposed Action, which is described in Section 2.1, is to construct a new launch complex, SLC-51, to support relocation of the JFC weapon systems test flight program and the Navy's Trident test flights from their current location at SLC-46. Under the No Action Alternative, which is described in Section 2.2, SLC-51 would not be constructed, and military launch operations would continue at SLC-46.

2.1 Proposed Action Alternative

SLC-51 would be located approximately 2.5 miles southwest of SLC-46, just southeast of Pier Road, and would be outside the hazardous clear areas⁵ for all commercial launch vehicles, including Blue Origin's New Glenn vehicle at SLC-36 (Figure 2-1). The undeveloped site consists of approximately 80 acres where construction activities would occur. The Florida Department of Environmental Protection (FDEP) designates the majority of the site as mixed upland non-forested, and the western border adjacent to Pier Road is designated as shrub and brushland (FDEP 2025a). The estimated total construction area for the Proposed Action encompasses approximately 50 acres of land within the 80-acre site (Figure 2-2). The site plan is subject to change as the design is refined and construction approvals are issued by SLD 45; however, the final site plan would remain within the project site presented in this EA. The Proposed Action also includes an approximately 1.79-mile utility corridor located along Pier Road within an existing, previously disturbed right-of-way (ROW) that is cleared of vegetation and routinely maintained (Figure 2-2).

The construction and operation of SLC-51 would reduce conflict between military and commercial launch operations in the southeastern portion of CCSFS, because the dedicated military launch site would be proximate to other facilities operated by the Navy, and all commercial launch operations would remain north of the Skid Strip. The construction and operation of SLC-51 would also have the potential to deconflict concurrently scheduled national security missions. SLC-51 would be designed and constructed to provide the same operational features and infrastructure currently in place at SLC-46 that are necessary for military weapons systems testing. As a new launch complex, the SLC-51 site would require complete construction of new infrastructure, utilities, and structures.

⁵ Hazardous clear areas are safety clearance zones for ground processing which include blast danger areas, control area clears, toxic hazard corridors, and toxic hazard zones (SSC 2022).

Figure 2-1 Site Location Map

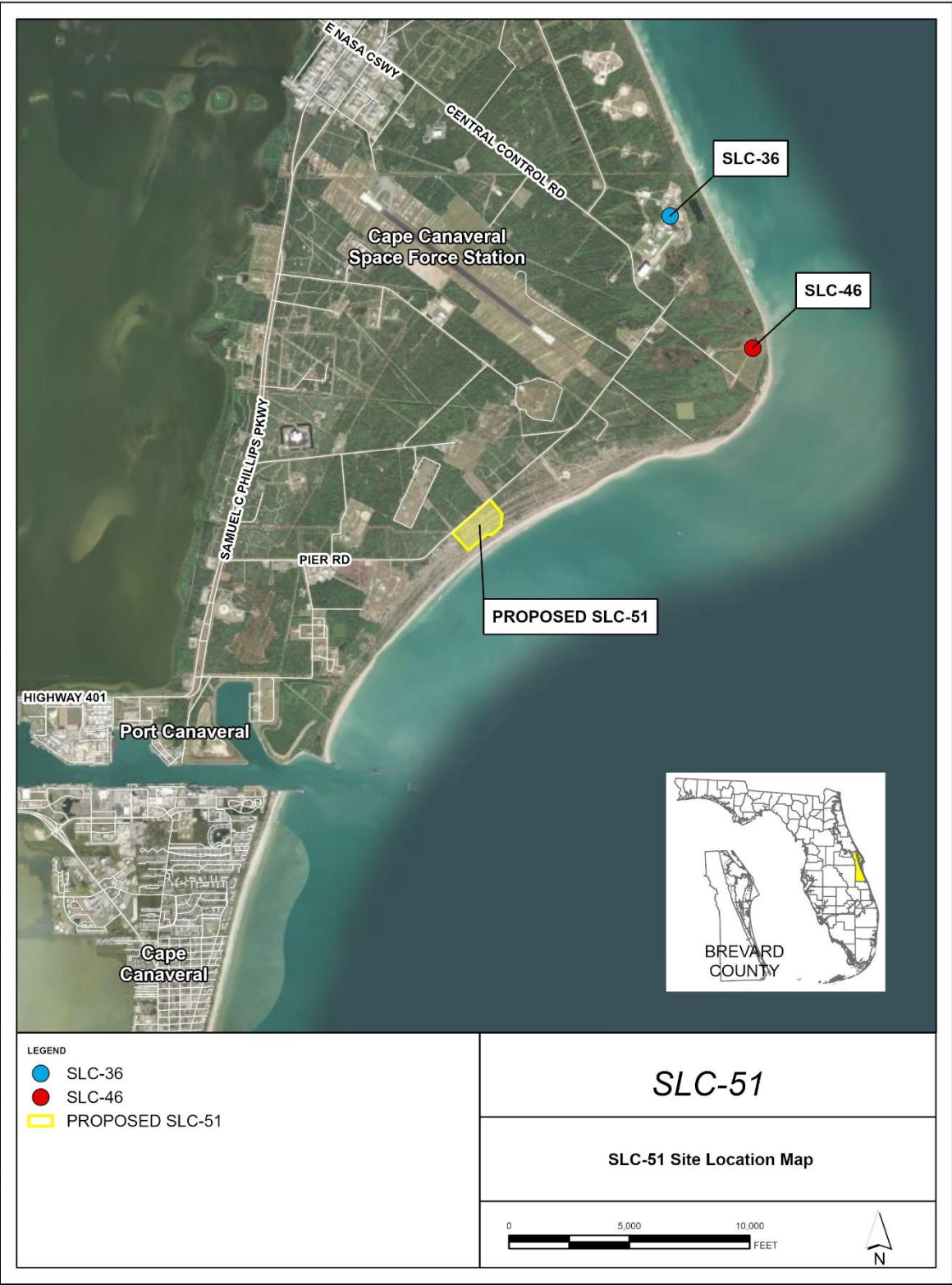
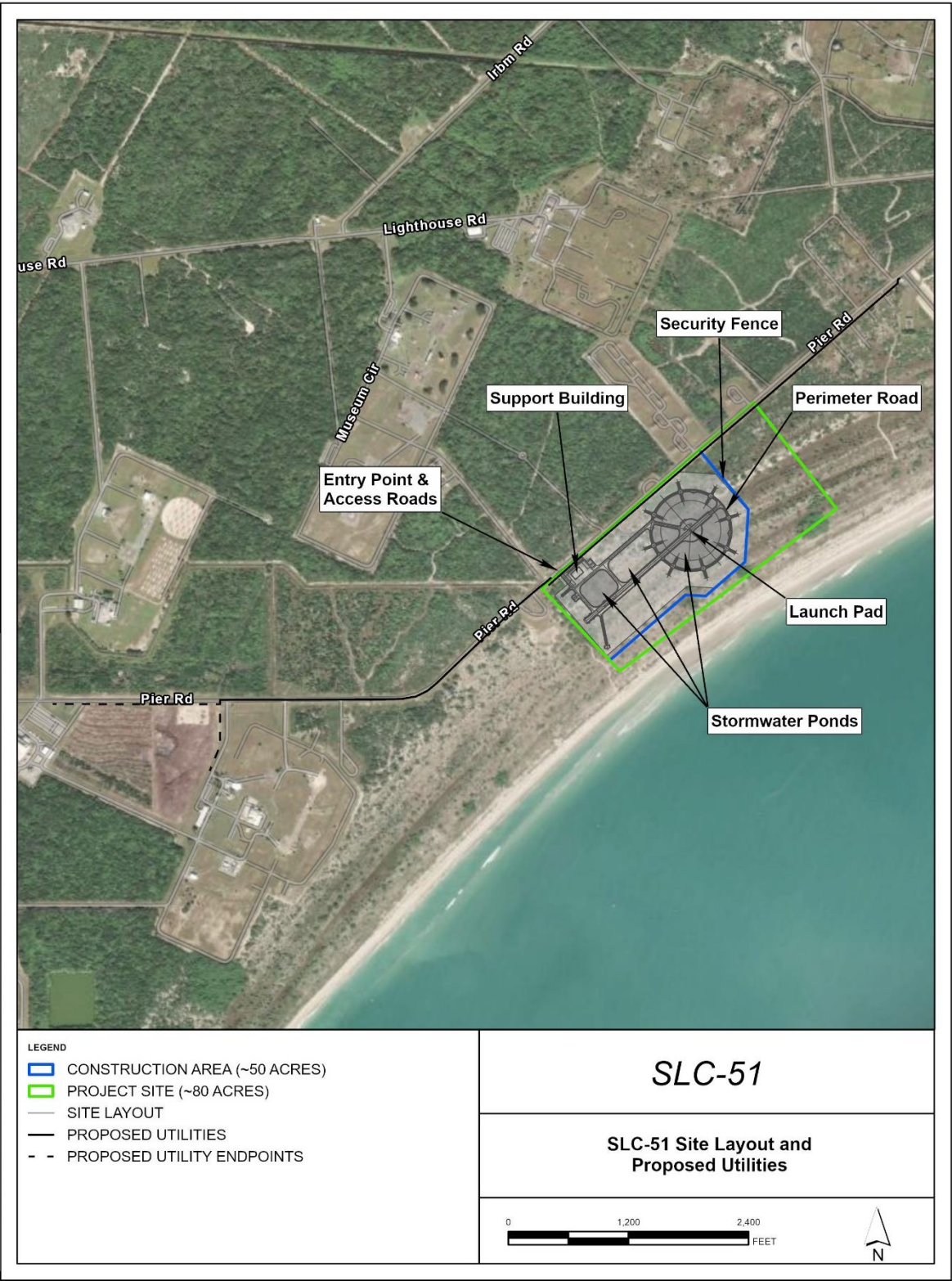


Figure 2-2 SLC-51 Site Layout and Proposed Utilities



2.1.1 Construction Activities and Facility Descriptions

Primary infrastructure elements to be constructed at SLC-51 would include a launch pad with an at-grade launch stand; a flame duct to direct vehicle exhaust away from the facility; an ordnance shed; a below-grade utility and control room; and a perimeter road to provide access and supports for camera mounts. A new Mobile Access Structure (approximately 100' tall) would also be constructed within the launch pad area.

This central area of the launch pad would be connected via a rail system to a support area approximately one-half mile away, also within the SLC-51 boundary. The support area would include a packaging pit, erector pit, gantry crane, and various laydown, storage, and proof loading areas to support pre-launch testing operations. A perimeter security fence around the launch pad and support area with a sentry house and gate at the main access point along Pier Road would also be constructed.

Construction activities at SLC-51 would include the installation of various equipment; electrical and communication utility buildings; underground utilities such as potable water, sanitary sewer, communications ducts, and power; as well as lightning protection systems, internal access roads, parking, and stormwater management areas. The site would also require construction of offsite utility extensions for sanitary sewer approximately one mile southwest on Pier Road, and electrical tie-ins along the existing approximately 1.79-mile corridor. Installation of the sanitary sewer and electrical utilities would be primarily through open trenching. Fire protection water would be connected to an existing 12" line at the SLC-51 boundary on Pier Road and the potable water tie-in would be connected to the existing 8" potable system north of the SLC-51 boundary. Construction activities are expected to take approximately 12-18 months.

2.1.2 Military Launch Operations

As described in Section 1.2, SLC-46 currently supports two military launch programs: JFC land-based test operations and Trident testing. Military launch operations at SLC-51 would be the same as those currently occurring and planned to occur at SLC-46. While only JFC and Trident testing currently operate at SLC-46, the relocation to SLC-51 could also support and deconflict future military testing requirements as such needs arise. As stated above in Section 1.1.3, SLD 45 would evaluate any proposed changes to determine whether additional environmental review is required under NEPA.

2.1.2.1 JFC Test Operations

In 2022, the Navy and Army jointly conducted an environmental analysis of the potential effects that could result from JFC test launches. As described in Section 1.3 of the 2022 EA, the purpose of JFC test operations is to ensure that all key performance requirements within the capabilities of the All Up Round (AUR) are met. The AUR test configurations include launches from a stool or from a canister. The Navy canister is emplaced on a box launcher, whereas the Army canister is emplaced on the LRHW transporter erector launcher.

Under the Proposed Action, JFC launch operations would be conducted in the same manner as described in the 2022 EA, but from SLC-51 instead of SLC-46. The BOA and rate of launch operations would remain the same: through 2032, up to six land-based test launches per year may occur from SLC-51. Accordingly, the effects analyzed in the 2022 EA are substantially similar to

the effects expected from those same launches at SLC-51. A detailed discussion of JFC launch operations can be found in the 2022 EA.

2.1.2.2 Trident Program Testing

In 2025, the Navy evaluated the potential environmental effects of conducting land-based and sea-based test flights and fielding evaluations for the Trident testing program through the year 2039. As described in the 2025 EA, these tests are needed to further the Navy's execution of its congressionally mandated role and responsibility under U.S.C. Title 10, § 8062, to maintain mission readiness of the nation's submarine forces.

Under the Proposed Action, land-based Trident launch operations would be conducted in the same way as described in the 2025 EA but from SLC-51 instead of SLC-46. The rate of launch operations would remain the same: between 2032 and 2036, up to 10 land-based test launches would occur from SLC-51. Accordingly, the effects analyzed in the 2025 EA are substantially similar to the effects expected from those same launches at SLC-51. A detailed discussion of Trident launch operations can be found in the 2025 EA.

2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur. Deconfliction of hazardous clear areas would continue to occur via cessation of activities at SLC-36. Blue Origin's operations at SLC-36, including potential national security missions, would continue to be delayed for weeks at a time when DoW hardware and personnel are present at SLC-46. The DAF's ability to meet its mission to support and encourage commercial space activities and ensure assured access to space, consistent with DoW's Commercial Space Integration Strategy, would continue to be impeded.

The No Action Alternative would not satisfy the Purpose and Need for the Proposed Action. However, in accordance with 42 U.S.C. § 4332(C)(iii), any negative environmental effects of not implementing the proposed agency action (i.e., the No Action Alternative) must be analyzed. Therefore, the No Action Alternative is retained for detailed study and serves as a baseline against which the Proposed Action is compared.

2.3 Alternatives Considered but Not Carried Forward

NEPA requires agencies to identify "a reasonable range of alternatives to the proposed agency action...that are technically and economically feasible and meet the purpose and need of the proposal" (42 U.S.C. § 4332(C)(iii)). Several possible locations within CCSFS were evaluated as preliminary candidates that could potentially support relocated military operations. Because the Proposed Action is an initiative which is directly supported by SLD 45, only locations within CCSFS were considered. The status of current launch complexes, SLD 45's current and future plans for CCSFS, current and future operations, site relocation implications, flight safety analysis requirements, hazardous clear areas, and the time and cost to add the necessary vertical and horizontal infrastructure were considered to identify the optimal site(s) for relocation of military launch operations.

In addition to evaluating other locations, infrastructure modifications (e.g., blast walls, hardened structures) on the existing site were also considered. However, on-site infrastructure

modifications would not meet the Purpose and Need as no modification would be capable of deconflicting military and commercial launch operations in the southeast corner of CCSFS.

2.3.1 *Selection Criteria*

This section describes the selection criteria used to inform the identification of alternatives and discusses the ability of each to meet selection criteria. Candidate sites to support relocated military launch operations were evaluated against the following selection criteria:

- **Mission Support:** Located on the Eastern Range to leverage existing facilities and personnel resources necessary to sustain ongoing DOA and DON missions.
- **Land Use & Operational Compatibility:** Land use is compatible with launch operations, minimizes operational conflicts with the airfield, adjacent users or commercial launch activities, is situated outside of safety clearance areas, and can support launch operations comparable to those conducted at SLC-46 currently. The site must provide suitable conditions for DoW launch operations and site construction to be conducted in accordance with applicable safety regulations.
- **Infrastructure Suitability:** The site can accommodate supporting infrastructure equivalent to that available at SLC-46 to ensure continuity of operations.
- **MRTFB:** The relocation site must be a MRTFB authorized and designated facility managed by the Eastern Range to support DoW Test & Evaluation programs.

2.4 *Alternatives Eliminated*

In general, military operations are located south of the CCSFS Skid Strip, whereas commercial launch sites and commercial launch operations are located north of the Skid Strip. Further, all existing and future commercial space launches are projected to launch from complexes north of the Skid Strip. Accordingly, locations south of the Skid Strip presented the best options to avoid operational conflicts with commercial launch operations to the north of the Skid Strip. For this reason, sites north of the Skid Strip were not assessed in detail.

Several candidate sites were screened using the selection criteria in Section 2.3.1 (Table 1). The proposed SLC-51 site is the only location that simultaneously (1) supports continued DOA and DON operations, (2) avoids conflicts with safety clearance areas, (3) is compatible with adjacent mission users and projected commercial activities, and (4) provides sufficient area to develop infrastructure equivalent to that available at SLC-46. While multiple sites could meet one or more criteria, each alternative other than SLC-51 presented at least one non-negotiable incompatibility (e.g., conflicts with safety arcs/hazard areas, incompatibility with ongoing mission uses, or insufficient space for required infrastructure) that prevented it from meeting the full set of criteria.

Of all alternatives considered, only the SLC-51 alternative (Proposed Action) meets all criteria required for relocation of SLC-46 operations. As summarized in Table 1 and described in the sections below, SLC-51 is capable of sustaining DOA and DON launch operations, minimizing operational conflicts with adjacent users and commercial space launch operations, accommodating supporting infrastructure equivalent to that available at SLC-46, and meeting applicable safety requirements for launch operations and site construction. Accordingly, the Proposed Action, and the No Action Alternative were retained for detailed analysis in this EA.

Table 1. Candidate Launch Sites Compared to the Selection Criteria

	SLC-51 South of EOD ^a Range	North of EOD Range	EOD Range	SLC-5/6	SLC- 25/29	SLC- 17/18
Mission Support: Located on Eastern Range to leverage existing facilities and personnel resources necessary to sustain ongoing DOA and DON missions.	Meets	Meets	Meets	Meets	Meets	Meets
Land Use & Operational Compatibility: Land use is compatible with launch operations, minimizes operational conflicts with the airfield, adjacent users or commercial launch activities, is situated outside of safety clearance areas, and can support launch operations comparable to those conducted at SLC-46 currently. The site must provide suitable conditions for DoW launch operations and site construction to be conducted in accordance with applicable safety regulations.	Meets	Does Not Meet	Does Not Meet	Does Not Meet	Does Not Meet	Does Not Meet
Infrastructure Suitability: The site can accommodate supporting infrastructure equivalent to that available at SLC-46 to ensure continuity of operations.	Meets	Meets	Does Not Meet	Meets	Does Not Meet	Meets
MRTFB: The relocation site must be a MRTFB authorized and designated facility managed by the Eastern Range to support DoW Test & Evaluation programs.	Meets	Meets	Meets	Meets	Meets	Meets

^a explosive ordnance disposal

2.4.1 SLC-51: South of Explosive Ordnance Disposal (EOD) Range

This alternative is located on an established MRTFB authorized and designated facility managed by the Eastern Range, which allows it to use existing facilities, utilities, and personnel to sustain ongoing DOA and DON missions. This site was selected for the Proposed Action because it is compatible with launch operations, avoids conflicts with the airfield, adjacent users, and commercial activities, and is positioned outside hazardous clear areas to ensure safe and efficient integration with launch operations similar to those at SLC-46. In addition, the site can support infrastructure equivalent to that at SLC-46, including launch facilities, utilities, and mission-critical systems, providing the foundation needed for reliable and continuous operations.

2.4.2 North of EOD Range

This alternative does not satisfy the land use and operational compatibility requirements. The proposed siting would directly conflict with the existing EOD range because it would locate the new launch pad within the existing EOD range safety arc, which is a restricted area, creating an immediate incompatibility and safety violation. Such conflicts compromise safe launch operations and introduce unacceptable risks to adjacent mission activities. These risks include allowing more people and equipment in a restricted safety area where explosives are located. In addition, the site's proximity to the runway would breach approach and departure surface requirements, creating operational conflicts with airfield use. These conditions demonstrate that the alternative fails to minimize conflicts with adjacent users, airfield operations, and hazardous

clear areas, and therefore cannot support launch operations comparable to those conducted at SLC-46.

2.4.3 EOD Range Relocation

This alternative does not satisfy the land use and operational compatibility or infrastructure suitability requirements. The SLD 45 EOD unit provides critical support across a large area of Florida, ensuring explosives are detonated in a controlled and safe environment. The EOD range cannot be relocated elsewhere on CCSFS due to the extensive land area required for ordnance disposal, and remediation of the existing range to allow construction would be prohibitively costly. These conditions demonstrate that the alternative fails to accommodate supporting infrastructure equivalent to that available at SLC-46 and therefore cannot ensure continuity of operations.

2.4.4 SLC-5/6

This alternative does not meet the land use and operational compatibility requirements. The proposed siting would directly conflict with ongoing administrative operations, as SLD 45 is relocating personnel from the industrial area to the new administrative campus (see the 2024 USSF EA and 2022 Range of the Future CCSFS District Plan). In addition, mandated safety arcs established during active pad operations would require closure of the CCSFS Museum. These conflicts demonstrate that the site would not minimize operational effects to adjacent users, nor would it maintain compatibility with existing mission support functions. As a result, the alternative fails to satisfy the criterion that land use must be compatible with DOA and DON launch operations, avoid conflicts with airfield and adjacent activities, and remain outside hazardous clear areas necessary to support launch operations comparable to those at SLC-46.

2.4.5 SLC-25/29

This alternative does not satisfy the land use and operational compatibility or infrastructure suitability requirements. Integrated testing of Strategic Weapons Systems Ashore at SLC-25/29 currently supports SLC-46 mission operations; relocating SLC-46 operations to SLC-25/29 would introduce additional delays to mission capabilities. Establishing a new SLC at this location would be counterproductive, creating additional conflicts within the same mission and undermining the ability to minimize operational effects. From an infrastructure standpoint, the site lacks sufficient space to construct facilities necessary to support current and future demands of the mission operations. The limited area available at SLC-25/29 cannot accommodate the scale of infrastructure required to ensure continuity of operations. As a result, the alternative fails to satisfy both the compatibility and infrastructure suitability criteria necessary to support launch operations comparable to those conducted at SLC-46.

2.4.6 SLC-17/18

This alternative fails to meet the land use and operational compatibility requirements. A new weather station is already under contract and in design for construction at SLC-17, designated as a critical mission capability to support launch operations. The relocation of the weather station to SLC-17 is intended to ensure weather personnel can perform their duties without evacuation during launch activities. In addition, ongoing/planned space vehicle processing use at CCSFS (including payload processing capacity developed under the NSSL Space Vehicle Processing Commercial Solutions Opening [CSO]) specifically at SLC-18 is intended to support launch

operations and requires compatible siting and access controls. As identified in the 2024 Eastern Range Planning and Infrastructure Development EA, a new 0.70-mile road would be constructed to connect Lighthouse Road through SLC-17 and SLC-18 to provide additional haul route options for large transports. The road is currently being constructed, with an estimated completion date in FY27 (DAF 2024b).

Siting the proposed alternative at this location would directly conflict with the weather station’s mission, and the creation of additional haul routes, would compromise operational continuity, and would introduce incompatible land use. As a result, the alternative does not minimize operational conflicts with adjacent users, nor does it maintain compatibility with DOA and DON launch operations comparable to those conducted at SLC-46.

2.5 Permits, Licenses, and Other Authorizations

This section provides a summary of the regulatory requirements that may need to be met, along with the permits and approvals that may need to be obtained, before implementing the Proposed Action. Discussion with the agencies identified in this section would be necessary to understand the extent of permits and approvals required in the future. This list is not intended to be all inclusive – there is the potential for additional required permits, approvals, or agreements.

Table 2. Permits, Licenses, and Other Authorizations

Law / Regulation	Primary Responsible Agency	Status
Clean Air Act (CAA) Titles I and V 42 U.S.C. §§ 7401–7671q	U.S. Environmental Protection Agency (USEPA); Florida Department of Environmental Protection (FDEP)	Title I and Title V permitting requirements apply to stationary sources of air emissions. The Proposed Action would not include stationary emission sources requiring Title I or Title V permits. Construction-related emissions would be temporary, intermittent, and below permitting thresholds. Accordingly, no CAA Title I or Title V permits are required for the Proposed Action.
CAA - General Conformity 40 CFR Part 93, Subpart B	USEPA	The Proposed Action is located within an area designated in attainment for all National Ambient Air Quality Standards (NAAQS). Construction-related emissions would be temporary and would not exceed applicable <i>de minimis</i> thresholds under 40 CFR § 93.153. Therefore, a General Conformity determination is not required.
Coastal Zone Management Act (CZMA) 16 U.S.C. §§ 1451–1466	FDEP	The Proposed Action is located within Florida’s designated coastal zone and is therefore subject to the CZMA federal consistency requirements. The Proposed Action would be reviewed for consistency with Florida’s approved Coastal Management Program through coordination with the FDEP. A federal consistency determination would be completed prior to final agency approval.
Public Water System Chapter 403, Part VI, Florida Statutes, and by delegation of the federal	FDEP	The Proposed Action is required to have potable water and wastewater infrastructure accessible to staff onsite.

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Law / Regulation	Primary Responsible Agency	Status
program from the USEPA		
Clean Water Act (CWA) - Section 404 Regulatory Program 33 U.S.C. §§ 1251–1388	USEPA; U.S. Army Corps of Engineers (USACE)	The Proposed Action will not result in impacts to Waters of the U.S. (WOTUS) according to the approved jurisdictional determination provided by the USACE (SAJ-2026-01945) dated 28 August 2026. Therefore, authorization under Section 404 of the CWA is not anticipated.
CWA – National Pollutant Discharge Elimination System (NPDES) 40 CFR § 122-125	USEPA; FDEP	Construction activities associated with the Proposed Action would require coverage under the NPDES Construction General Permit. The required NPDES authorization would be obtained prior to commencement of construction.
Clean Water Ways Act Chapter 2020-150, Florida Statutes	FDEP	The Proposed Action is not anticipated to result in impacts to Outstanding Florida Waters or impaired waterbodies. Therefore, authorization under the Clean Water Ways Act is not anticipated.
Endangered Species Act (ESA) 16 U.S.C. §§ 1531–1544	U.S. Fish and Wildlife Service (USFWS)	SLD 45 has re-initiated consultation under Section 7 of the ESA. Consultation would be completed prior to finalizing the NEPA process.
Florida Water Resources Act – Environmental Resource Permit (ERP) Program Chapter 373, Florida Statutes; Chapter 62-330, Florida Administrative Code (F.A.C.)	FDEP (with implementation by the St. Johns River Water Management District [SJRWMD], as applicable)	The Proposed Action would require authorization under Florida’s ERP program for stormwater management and potential impacts to state-jurisdictional wetlands or surface waters. The required ERP would be obtained prior to commencement of construction.
Migratory Bird Treaty Act (MBTA) 16 U.S.C. §§ 703–712	USFWS	The Proposed Action would be implemented in compliance with the MBTA. Measures to avoid or minimize impacts to migratory birds would be incorporated during construction, as applicable.
Bald and Golden Eagle Protection Act 16 U.S.C. §§ 668-668d	USFWS	The Proposed Action would be implemented in compliance with the Bald and Golden Eagle Protection Act. Measures to avoid or minimize impacts to bald and golden eagles would be incorporated during construction, as applicable.
National Historic Preservation Act (NHPA) 54 U.S.C. § 300101 et seq.; 54 U.S.C. § 306108	Florida Department of State, Division of Historical Resources	SLD 45 initiated consultation under Section 106 of the NHPA on 05 December 2025 with the finding of No Historic Properties Affected. SHPO concurrence with this determination was received on 08 January 2026. A revised, final CRAS was provided to the Florida SHPO on 7 May 2026 with additional comments addressed on 28 May 2026. Concurrence on the final CRAS was reached on 17 July 2026.

Law / Regulation	Primary Responsible Agency	Status
Consultation and Coordination with Indian Tribal Governments E.O. 13175	DAF; SLD 45	SLD 45 initiated government-to-government consultation with Federally Recognized Tribes on 05 December 2025 and will complete consultation prior to finalizing the NEPA process.

2.6 Comparison of Environmental Consequences by Alternative

Table 3 summarizes the potential environmental consequences associated with the applicable resource areas for the Proposed Action and the No Action Alternative. These consequences are discussed in detail in Chapter 3, *Affected Environment and Environmental Consequences*.

Table 3. Comparison of Environmental Effects by Alternative

Resource Area	Proposed Action	No Action Alternative
Air Quality and Weather-related Resiliency	No significant effects to air quality and weather-related resiliency because emissions and environmental stressors would be temporary, localized, and consistent with existing coastal conditions at CCSFS.	No significant effects to air quality or weather-related resiliency because no construction would occur and existing baseline conditions would be unchanged.
Airspace and Maritime Management	No significant effects to airspace and maritime management from construction activities or project development, further airspace restrictions, flight corridors, and offshore safety zones would remain consistent with those previously analyzed.	No significant effects to airspace and maritime management because no construction activities would occur and existing baseline conditions would be unchanged.
Infrastructure	No significant effects to infrastructure because construction-related traffic and utility installation would be short-term and would not result in significant changes to CCSFS infrastructure capacity or operation.	No significant effects to infrastructure because no construction activities, traffic increases, or utility extensions would occur.
Socioeconomics	No significant effects to socioeconomics because short-term changes in employment and expenditures would not result in adverse economic conditions.	No significant effects to socioeconomics because existing employment and economic conditions associated with ongoing CCSFS operations would remain unchanged.
Health and Safety	No significant effects to health and safety because construction activities would occur under established safety requirements and would not result in unacceptable risk conditions.	No significant effects, as continued operational constraints would not substantially affect overall health and safety conditions.
Geology	No significant effects to soils and geology because soil disturbance would be localized and temporary and would not result in long-term erosion, instability, or changes to geologic conditions.	No significant effects to geology and soils because no ground-disturbing activities would occur and existing soil and geologic conditions would remain unchanged.

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Resource Area	Proposed Action	No Action Alternative
Cultural Resources	No significant effects to cultural resources because no Historic properties would be affected and inadvertent discovery procedures would be followed.	No significant effects to cultural resources because no construction or ground disturbance would occur and no historic properties would be affected.
Biological Resources	No significant effects to biological resources because conservation measures and compensatory mitigation would address habitat loss and construction-related disturbance. Conservation measures include pre-construction surveys, lighting controls, habitat protection measures, and compliance with applicable Biological Opinions and installation resource management plans. Compensatory mitigation would be implemented for permanent habitat impacts to the Southeastern beach mouse and Florida scrub-jay at ratios discussed in the EA.	No significant effects to biological resources because no habitat disturbance, vegetation removal, or construction-related disturbance would occur.
Water Resources	No significant effects to water resources because avoidance, minimization, and compensatory measures would address potential impacts to wetlands, surface waters, and groundwater. Best Management Practices (BMPs) such as erosion and sediment controls, spill prevention measures, and proper equipment maintenance would be implemented to protect groundwater, surface waters, and wetlands. Compliance with NPDES requirements and Stormwater Pollution Prevention Plan (SWPPP) would be required. A dewatering plan would be implemented to ensure no contaminants or groundwater impacts are incurred, and no effluent would be discharged offsite. Compensatory mitigation for unavoidable wetland impacts would be implemented in coordination with regulatory agencies, as required.	No significant effects to water resources because no construction, dewatering, wetland filling, or stormwater discharges would occur.
Land Use (Includes Range Management)	No significant effects to land use because the action would remain consistent with CCSFS land use planning and mission compatibility.	No significant effects to land use and range management because existing land use patterns, operational constraints, and range management practices at CCSFS would remain unchanged.

3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

3.1 Introduction

This chapter describes the affected environment and evaluates the reasonably foreseeable environmental effects of the Proposed Action and the No Action Alternative. The scope and level of analysis are commensurate with the nature of the Proposed Action, the affected environment, and the degree of potential effects, and are focused on information relevant to informed decision-making in accordance with DoW *NEPA Implementing Procedures*. As described in Section 1.1.3, the environmental effects of military launch operations that would be conducted at SLC-51 were previously evaluated in the February 2022 *JFC EA/OEA* and the May 2025 *Trident II WSTP EA/OEA*, where it was determined that those operations would not result in significant effects on the quality of the human or natural environment.

As described in Sections 1.1.3 and 2.1.2, military launch operations proposed for SLC-51 would be the same JFC and Trident operations previously evaluated for SLC-46. The Proposed Action would not authorize an increased launch frequency, new launch vehicle or weapon system type, new impact area, new BOA, or change in established range safety procedures. JFC operations were previously analyzed for up to six land-based test launches per year through 2032, and Trident land-based testing was previously analyzed for up to 10 launches during calendar years 2032 through 2036. Launch operations would therefore remain intermittent, infrequent, and mission specific.

Because SLC-51 operations would remain within the operational framework previously analyzed, any launch-related airspace or maritime controls would continue to be implemented through established Eastern Range, SLD 45, FAA, USCG, and Navy coordination procedures, including Notices to Airmen (NOTAMs) and Notices to Mariners (NOTMARs), as applicable, to support temporary clearance of affected airspace and maritime hazard areas for individual military launch events. Maritime controls would be temporary and mission-specific and would be implemented within the offshore Cape Canaveral Regulated Navigation Area established under 33 CFR § 165.775, which provides the existing framework for launch-related vessel restrictions based on mission-specific risk assessments.

Accordingly, Chapter 3 focuses on the reasonably foreseeable effects of construction activities, utility extensions, and development of SLC-51 infrastructure on the surrounding environment. Operational effects previously analyzed in the 2022 *JFC EA/OEA* and the 2025 *Trident II WSTP EA/OEA* are incorporated by reference and are discussed in individual resource sections only where needed to explain why additional analysis is not warranted. If future launch operations differ substantially from those previously analyzed, SLD 45 would determine whether additional environmental review is required under NEPA.

3.1.1 Resource Screening

The determination of which resource areas to carry forward for detailed analysis was informed by early project planning, interagency coordination, and review of existing environmental documentation for CCSFS. Resource areas with no potential for meaningful effects from the Proposed Action were identified through this process and are documented in Table 4 and not evaluated further in this chapter.

Table 4. Resources Not Carried Forward for Detailed Analysis

Resource Area	Rationale for Exclusion from Detailed Analysis
Noise and Vibration	The Proposed Action relocates existing military launch operations previously analyzed under NEPA and does not introduce new launch profiles, noise sources, or changes in launch frequency. The sensitive receptors, biological resources, and public spaces which would be impacted by noise associated with launch operations within CCSFS were previously analyzed under NEPA in the 2022 and 2025 EAs, respectively. Construction noise would be temporary, localized, and consistent with typical installation construction activities; therefore, noise does not warrant detailed analysis. Potential impacts from elevated noise levels associated with the Proposed Action are analyzed in Section 3.6 <i>Health and Safety</i> , and Section 3.9, <i>Biological Resources</i> .
Visual Resources	The Proposed Action would relocate existing military launch operations within CCSFS and does not introduce new types of visual elements, expand viewsheds into previously unaffected areas, or alter the frequency or characteristics of launch-related visual effects previously analyzed under NEPA. Construction activities would be temporary, localized within the project site and within an existing, maintained roadway and utility corridor, and would not result in long-term changes to the visual character of the installation or surrounding environment. Therefore, visual resources do not warrant detailed analysis.

3.1.2 *Effects Analysis Approach*

Environmental effects are evaluated within a resource specific Region of Influence (ROI) appropriate to the nature of the Proposed Action and the resource being considered. The ROI is defined based on the nature of the action and the potential pathways of effect. Unless otherwise noted in an individual resource section, the ROI encompasses the SLC-51 project site, consisting of approximately 80 acres and the approximately 1.79-mile utility line corridor within the existing Pier Road ROW. The Pier Road ROW is an established, previously disturbed corridor that is routinely cleared and maintained for access and infrastructure support; therefore, activities within this corridor would occur in an area that is already altered and actively managed.

The 80-acre project site contains an approximately 50-acre construction area representing the anticipated limits of ground disturbance and permanent infrastructure development. Together, these areas represent the spatial extent within which direct and indirect effects would reasonably occur.

Following construction, SLC-51 would function as a secure, military test launch facility. Outside of scheduled test campaigns, the launch pad and associated infrastructure would be occupied primarily for inspection, maintenance, and security functions, with limited personnel presence and infrequent activity levels comparable to the current use of SLC-46. This condition represents the long-term operational baseline assumed for all environmental analyses in Chapter 3 and supports the determination that environmental effects would not increase or compound over time.

For each resource area carried forward for detailed analysis, the environmental consequences analysis evaluates whether the Proposed Action would result in significant effects, based on the context and intensity of reasonably foreseeable effects. The analysis considers the affected environment, the nature of the action, the spatial and temporal extent of effects, and changes to

baseline conditions and reasonably foreseeable future actions. This EA uses the term “effects” when describing environmental consequences. However, the term “impacts” is used when it appears in applicable source material or referenced documents.

3.2 Air Quality and Weather-related Resiliency

Air Quality

Air quality refers to the presence and concentration of pollutants in the ambient atmosphere and is regulated under the Clean Air Act (CAA) (42 U.S.C. § 7401 et seq.). U.S. Environmental Protection Agency (USEPA) establishes National Ambient Air Quality Standards (NAAQS), which define the maximum allowable concentrations for criteria air pollutants, including carbon monoxide (CO), nitrogen dioxide (NO₂), ozone (O₃), sulfur dioxide (SO₂), particulate matter (PM₁₀ and PM_{2.5}⁶), and lead (Pb) (USEPA 2020). The NAAQS are designed to protect public health and welfare with an adequate margin of safety.

At the state level, Florida Administrative Code (F.A.C.) Chapter 62-204, *Air Pollution Control – General Provisions*, adopts the NAAQS as state standards and designates areas within Florida as attainment, nonattainment, or unclassifiable for each regulated pollutant. Federal actions occurring in nonattainment or maintenance areas are subject to the CAA General Conformity requirements, which ensure that federal actions do not interfere with state implementation plans developed to attain or maintain compliance with the NAAQS (40 CFR Part 93, Subpart B). Emissions thresholds that trigger the need for a conformity determination are referred to as *de minimis* levels (40 CFR § 93.153) and vary by pollutant and nonattainment classification. Greenhouse gases (GHGs) are air pollutants that trap heat in the atmosphere. Although GHGs are not criteria pollutants regulated under the NAAQS, they may be evaluated to provide context regarding emissions associated with the Proposed Action. Where appropriate, GHG emissions are addressed qualitatively or quantitatively to characterize emission sources and relative magnitude.

Overall, air quality effects are assessed in accordance with the CAA, NAAQS, and General Conformity requirements to determine whether emissions associated with the Proposed Action would result in adverse or significant effects.

Weather-related Resiliency

Weather-related resiliency refers to the capacity of CCSFS infrastructure and associated resources to endure, function under, and recover from extreme weather events and other meteorological conditions characteristic of the central Florida coastal environment. For coastal installations such as CCSFS, relevant weather-related stressors include hurricanes, tropical storms, high winds, lightning, intense precipitation, storm surge, coastal flooding, and temperature variability. For purposes of this EA, weather-related resiliency is defined as the ability of the Proposed Action and associated resources to withstand, adapt to, and recover from

⁶ PM₁₀ refers to particulate matter with a diameter that is 10 micrometers or less (e.g. dust, mold, and pollen) including all PM_{2.5} particles. PM_{2.5} refers to particulate matter with a diameter that is 2.5 micrometers or less, such as smoke or other emissions.

extreme precipitation, storms, heat, and other meteorological stressors that may reasonably influence environmental conditions and infrastructure performance over time.

Although no single federal statute specifically governs weather-related resiliency, consideration of weather-related stressors is consistent with NEPA requirements to evaluate existing environmental conditions and reasonably foreseeable future conditions that may affect the sustainability, reliability, and operational performance of the Proposed Action. Accordingly, this EA considers historical weather patterns, regional coastal hazards, and site-specific exposure to extreme weather events to provide environmental context for the analysis of potential effects associated with the construction and operation of infrastructure at CCSFS.

Infrastructure at CCSFS is planned, designed, and constructed in accordance with applicable Unified Facilities Criteria (UFC), which establish mandatory technical requirements for planning, design, construction, sustainment, restoration, and modernization of facilities across DoW installations, including USSF installations. UFC requirements applicable to coastal and high-hazard environments address wind loading, lightning protection, corrosion potential, drainage, and stormwater management based on site-specific conditions typical of CCSFS. These requirements are implemented through installation-specific standards, including SLD 45 Installation Facilities Standards, and represent established engineering and design controls routinely applied throughout the installation.

Consideration of weather-related stressors in this EA is used to address the environmental setting in which the Proposed Action would occur and to provide context for evaluating whether environmental effects associated with meteorological conditions could reasonably influence the construction or long-term operation of the Proposed Action.

3.2.1 *Affected Environment*

Air Quality

CCSFS is located in Brevard County, Florida, which is designated as an attainment area for all NAAQS criteria pollutants under the CAA (USEPA 2026). Background concentrations of criteria pollutants are monitored by FDEP and are generally below applicable NAAQS thresholds (FDEP 2025b). Ambient air quality in the region is influenced by coastal meteorological conditions, including prevailing onshore and offshore winds, high humidity, and frequent atmospheric mixing. Current emission sources at the project site include occasional vehicular traffic and emissions from adjacent infrastructure. Because Brevard County is in attainment for all pollutants, the ROI for air quality for this EA includes the SLC-51 project site (approximately 80 acres), with analysis focused on the approximately 50-acre construction footprint and approximately 1.79-mile utility line corridor, as well as adjacent areas where short-term construction emissions could reasonably occur.

Weather-related Resiliency

CCSFS is located in a humid subtropical climate characterized by hot, humid summers, mild winters, and a distinct wet season that typically extends from May through October. The region is periodically affected by extreme weather events, most notably hurricanes and tropical storms during the Atlantic hurricane season. The analysis considers existing meteorological conditions

and reasonably foreseeable weather-related stressors relevant to the siting, construction, and operation of the Proposed Action.

For purposes of this EA, the ROI for weather-related resiliency includes the approximately 80-acre project site, encompassing the construction footprint and adjacent areas where extreme weather conditions could reasonably affect construction activities or infrastructure performance. The ROI also includes the approximately 1.79-mile utility line corridor within the existing Pier Road ROW. Weather-related conditions within the ROI include high winds and storm surge associated with tropical systems, frequent lightning, and heavy precipitation that may result in localized flooding. Longer-term coastal processes, including gradual sea level rise and coastal erosion, are also characteristic of the CCSFS setting and may influence infrastructure performance over time.

3.2.2 Environmental Consequences

Air Quality

For the purposes of this analysis, an adverse effect to air quality would occur if construction activities under the Proposed Action generated emissions (including fugitive dust and equipment exhaust) that measurably degraded ambient air conditions within the ROI. Air quality effects would be considered significant if the Proposed Action caused or contributed to exceedances of NAAQS or otherwise interfered with maintenance of attainment status for regulated pollutants.

Weather-related Resiliency

For purposes of this analysis, an adverse effect to weather-related resiliency would occur if the Proposed Action introduced new vulnerabilities or reduced the ability of facilities and infrastructure within the ROI to withstand, respond to, or recover from extreme weather conditions. Weather-related resiliency effects would be considered significant if the Proposed Action resulted in infrastructure that is inconsistent with applicable siting, engineering, or design standards, thereby increasing susceptibility to damage, operational disruption, or reduced functionality during extreme weather events, or impairing emergency response, recovery, or operational continuity at CCSFS.

3.2.2.1 Proposed Action

Air Quality

The Proposed Action would result in short-term air quality effects associated with construction activities at SLC-51. Construction activities would occur over a limited timeframe of approximately 12 to 18 months. Total construction equipment operation is conservatively expected to occur over the full construction period, with equipment operating intermittently rather than continuously. Construction activities would generate fugitive dust and criteria pollutant emissions during land clearing, grading, excavation, hauling, and material handling within the defined impact area. As recognized by USEPA, earthwork and foundation stage activities, including travel on unpaved surfaces, material loading and hauling, and soil disturbance, are the primary contributors to construction-related PM emissions, with emissions concentrated during active construction periods and decreasing rapidly following site stabilization (USEPA 2022). USEPA AP-42 guidance further indicates that implementation of standard construction Best Management Practices (BMPs), such as watering, soil stabilization,

and speed control on unpaved surfaces, can reduce fugitive dust emissions by approximately 50% or more during active construction (USEPA 2026). Consistent with these findings, fugitive dust emissions associated with the Proposed Action would be limited to active work areas and confined to the short construction window. Criteria pollutants would also be emitted by nonroad construction equipment and construction-related vehicle trips, including worker commuting, delivery trucks, and material hauling vehicles traveling to and within the construction footprint. USEPA identifies construction emissions and construction-related traffic as common sources of CO, NO_x, SO₂, and PM during active construction phases (USEPA 2026). For the Proposed Action, these emissions would occur intermittently across the construction footprint over the 12- to 18-month construction period and, even under conservative assumptions, would remain well below the General Conformity *de minimis* thresholds specified in 40 CFR § 93.153.

To further support the evaluation of emissions associated with the Proposed Action, an Air Conformity Application Model (ACAM) was prepared for the ROI (Appendix D). Specifically, the construction emission burdens estimated through the use of the ACAM were compared to significance indicators within the model and to overall emission estimates for Brevard County obtained through the National Emission Inventory. Following guidance from the DAF, a Level II Air Quality Impact Analysis was completed using the ACAM to quantify estimated emissions associated with the Proposed Action. Estimated construction emissions were compared with the ACAM insignificance indicators, and the results are presented in the Record of Air Analysis in Appendix D. The ACAM Insignificance Indicators identify emission increases that are too minor to harm public health or the environment and too trivial to merit further consideration. As shown in Table 5, estimated annual emissions for the Proposed Action during the phase with the highest anticipated projected construction emissions (2027) would not exceed any ACAM insignificance indicator and would not cause or contribute to an exceedance of a NAAQS. Separately, because Brevard County is designated as an attainment area for all NAAQS criteria pollutants, the General Conformity requirements of 40 CFR Part 93, Subpart B, do not apply to the Proposed Action.

Table 5. Air Analysis Summary 2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
VOC	0.339	250	No
NO _x	2.901	250	No
CO	3.561	250	No
SO _x	0.007	250	No
PM 10	70.211	250	No
PM 2.5	0.106	250	No
Pb	0.000	25	No
NH ₃	0.011	250	No

GHG emissions would be generated during construction, primarily from fuel combustion by construction equipment and construction-related vehicle use. These emissions would occur during discrete construction activities over a finite construction period. USEPA recognizes that construction-phase GHG emissions are short term in nature and are best evaluated in comparison with regional and global emission sources rather than as standalone contributors (USEPA 2025). Given the limited size of the construction footprint, the temporary nature of ground disturbance,

be limited in magnitude relative to regional and global sources and would not represent a meaningful contribution to long-term atmospheric GHG concentrations.

Potential air quality effects would be avoided and minimized through the implementation of protective measures including the use of standard BMPs and construction controls routinely applied at CCSFS. These measures would limit the extent, duration, and intensity of construction-related emissions. These measures would include the use of dust suppression methods, such as watering or other approved techniques, during land clearing, grading, and other earth disturbing activities, as needed to control fugitive dust. Construction equipment and vehicles would be operated and maintained in accordance with applicable federal, state, and installation requirements to minimize exhaust emissions. Unnecessary idling of equipment and vehicles would be avoided to the extent practicable. All construction activities would comply with applicable installation requirements, FDEP air quality regulations, and relevant federal standards governing fugitive dust control and nonroad equipment emissions. Construction activities would be confined to a defined footprint and conducted over a limited timeframe, which inherently limits the generation and persistence of temporary air emissions.

As indicated in Table 6, construction emissions would be temporary, limited, and occur locally. Because of these characteristics, the Proposed Action does not trigger General Conformity requirements. Once construction is completed, the finished SLC-51 facility will lack stationary emission sources that require CAA Title I or Title V permits. Additionally, there will be no ongoing air emissions aside from launch activities previously addressed in earlier NEPA documents.

Table 6. Construction-Phase Air Emissions Screening Summary and Findings

Construction Emission Source	Primary Pollutants	Quantitative Screening Indicator	Finding
Non-road construction equipment (e.g., excavators, cranes, graders, haul trucks)	NO _x , CO, PM ₁₀ , PM _{2.5} , VOCs	Intermittent diesel equipment operation totaling several thousand equipment-hours over an approximately 12–18 month construction period	Temporary and localized emissions; below <i>de minimis</i> thresholds
Fugitive dust from clearing, grading, excavation, and hauling	PM ₁₀ , PM _{2.5}	Active during earth-disturbing activities; emissions reduced by approximately 50% or more with implementation of standard BMPs	Short-term and confined to active work areas
Construction-related vehicle traffic (worker commuting, deliveries, material hauling)	NO _x , CO, PM	Temporary increase above baseline traffic levels during peak construction activity	Below <i>de minimis</i> thresholds, no NAAQS exceedances anticipated
Combined construction-related emissions	Criteria pollutants	Overall emissions well below CAA General Conformity <i>de minimis</i> thresholds (40 CFR § 93.153)	General Conformity determination not required

Therefore, the Proposed Action would result in no significant effects to air quality because construction activities would be temporary and localized, would occur within an attainment area, and would be conducted using standard construction practices that inherently limit emissions and fugitive dust. As a result, the Proposed Action would not alter local or regional air quality conditions.

Weather-related Resiliency

SLC-51 would be located in a coastal setting subject to both acute extreme weather events and longer-term environmental stressors, including hurricanes, storm surge, heavy precipitation, and sea level rise. The Proposed Action would not alter regional meteorological patterns or long-term climate trends; however, existing and reasonably foreseeable weather-related conditions provide important environmental context for evaluating the performance and durability of new infrastructure at CCSFS.

Geodetic and coastal studies indicate that relative sea level rise at Cape Canaveral reflects the combined influence of global sea level rise and localized land subsidence, resulting in higher relative rates of inundation compared to regions affected by sea level rise alone. Analyses using Interferometric Synthetic Aperture Radar, Global Navigation Satellite System, and historical leveling data indicate that portions of Cape Canaveral are subsiding at rates of approximately 2 to 5 millimeters per year. This subsidence compounds projected sea level rise and increases the long-term vulnerability of low-lying infrastructure to tidal flooding and storm surge, including areas adjacent to the SLC-51 project site (USGS 2020; NASA/NOAA 2024–2025). These subsidence rates reflect long-standing geomorphic conditions at Cape Canaveral and do not result from, nor would they be accelerated by, construction of SLC-51.

The project site is also located in a region with a documented history of frequent tropical storms and hurricanes, with Cape Canaveral experiencing direct or indirect effects from tropical systems on average every two years (NOAA n.d.). Such events can affect construction schedules and infrastructure performance. Scientific literature indicates that while year-to-year hurricane frequency varies, the intensity of tropical cyclones and associated rainfall has increased in recent decades, contributing to heightened flood risk and wind-related stress on coastal infrastructure (Knutson et al. 2021; Knight and Davis 2009). These conditions represent baseline environmental stressors affecting existing facilities throughout CCSFS and are not created or exacerbated by the Proposed Action.

Under the Proposed Action, construction of SLC-51 would be planned and implemented in accordance with applicable siting, engineering, and building standards that address coastal and extreme weather hazards, including wind loading, lightning protection, stormwater management, corrosion resistance, and emergency access considerations. These standards are applied routinely across CCSFS and are intended to ensure that new infrastructure maintains functional integrity under conditions characteristic of the region. Application of these standards would not alter the ability of surrounding resources or ongoing operations to respond to or recover from extreme weather events.

Construction activities would remain temporarily sensitive to extreme weather events, as is typical for projects at CCSFS; however, this sensitivity reflects normal operating conditions at the installation and would not result in long-term vulnerability or degradation of surrounding environmental resources.

The Proposed Action would not introduce new regional vulnerabilities related to weather-related resiliency and would not impede the ability of surrounding resources or operations to respond to

or recover from extreme meteorological conditions. Launch infrastructure has operated at CCSFS for decades within this climatic and geomorphic setting, and SLC-51 would represent an incremental reconfiguration of launch capability within an existing exposure envelope rather than the introduction of new weather-related risk conditions.

Risks from extreme weather and coastal stressors would be addressed primarily through established siting, design, and operational practices at CCSFS. Development of SLC-51 would be coordinated through installation master planning and SLD 45 facilities standards to ensure compatibility with drainage patterns, emergency access, and operational continuity. The site layout would avoid placing permanent infrastructure in areas prone to frequent tidal inundation, in line with CCSFS district development planning guidance. Consistent with Section 380.093, Florida Statutes, and the FDEP's Comprehensive Statewide Flood Vulnerability and Sea Level Rise dataset, projected sea level rise over the 50-year planning horizon would not affect the proposed SLC-51 site or its infrastructure (FDEP 2023a).

Design and construction of SLC-51 would comply with applicable UFC and installation-specific standards, including coastal and high-wind design requirements that account for site-specific wind loading, heavy precipitation, corrosion potential, and storm conditions typical of the CCSFS coastal environment. Stormwater management features would be designed in accordance with CCSFS standards to minimize localized flooding and maintain existing drainage functionality. Material selection, protective coatings, and construction sequencing would follow established installation requirements for high-corrosion environments, consistent with longstanding practices across CCSFS.

Although long-term sea level rise, land subsidence, and increased storm intensity represent reasonably foreseeable future stressors at CCSFS, the Proposed Action would not substantially alter exposure to these stressors relative to existing conditions at the installation. Infrastructure performance considerations associated with coastal flooding, storm surge, and extreme precipitation would be addressed through design and operational controls rather than through modification of environmental processes.

Therefore, the Proposed Action would result in no significant effects to weather-related resiliency because permanent facilities would be designed and constructed in accordance with established coastal, wind, stormwater, and lightning design standards applicable at CCSFS and to governing similar facilities throughout the installation. Consequently, the Proposed Action would not introduce new vulnerabilities to weather-related stressors.

3.2.2.2 No Action Alternative

Air Quality

Under the No Action Alternative, the Proposed Action would not occur, and no construction activities would take place at SLC-51. As a result, no construction-related emissions would be generated, and air quality conditions within the ROI would remain unchanged from existing baseline conditions. No construction-related sources of fugitive dust, criteria pollutants, or GHG emissions would be introduced at SLC-51. The No Action Alternative would result in no significant effects to air quality because no construction would occur, and baseline air quality conditions and exposure to coastal weather stressors would remain unchanged.

Weather-related Resiliency

Existing weather-related risks and resiliency conditions at CCSFS would remain unchanged. The ROI would continue to be subject to hurricanes, storm surge, extreme precipitation, sea level rise, and land subsidence consistent with current and projected climatic trends. No new infrastructure would be introduced, and no improvements to resilience would occur. Therefore, the No Action Alternative would result in no significant effects on weather-related resiliency.

3.2.2.3 Mitigation

No mitigation measures are required for effects to air quality or weather-related resiliency as a result of the Proposed Action. As described above, potential effects associated with the Proposed Action would be avoided and minimized through the implementation of standard construction BMPs, including dust suppression, equipment maintenance, and limits on unnecessary idling. These measures are routinely applied at CCSFS and are effective in reducing emissions to temporary, localized levels that remain below applicable thresholds.

With respect to weather-related resiliency, infrastructure would be designed and constructed in accordance with applicable UFC and installation-specific standards that address coastal hazards, including wind loading, stormwater management, and flood risk. These siting and design measures inherently avoid the introduction of new vulnerabilities. Because potential effects are minimized through established design and construction practices and do not rise to the level of significance, mitigation is not required.

3.3 Airspace and Maritime Management

Airspace and maritime management encompass the regulation, coordination, and control of aircraft and vessel movements to ensure public safety and the orderly conduct of operations within designated areas. In the United States, civil and military airspace is managed by the FAA, while maritime navigation and vessel safety are overseen by the USCG.

At CCSFS, airspace and maritime management for launch activities is implemented through established Eastern Range and SLD 45 procedures in coordination with the FAA and USCG. These procedures include advance coordination, scheduling, and verification that airspace and maritime hazard areas are clear of non-participating aircraft and vessels through issuance of FAA NOTAMs to notify pilots of temporary airspace closures or hazards, and issuance of USCG NOTMARs to notify vessel operators of temporary maritime hazards or restrictions. These measures represent standard operational practices at CCSFS and are designed to ensure public safety while minimizing disruption to civilian aviation and maritime traffic.

3.3.1 Affected Environment

Airspace over CCSFS is part of the Eastern Range and supports a combination of military, commercial, and general aviation activities. The FAA manages controlled and restricted airspace in the region, including permanent and temporary airspace restrictions established to support launch operations. NOTAMs are issued to notify pilots and other interested parties of temporary airspace conditions, closures, or hazards associated with launch-related activities. Advance notice through NOTAMs, together with identification of aircraft hazard areas, assists pilots in

scheduling around temporary disruptions and supports separation of non-participating aircraft from launch activities.

Offshore waters adjacent to CCSFS support a range of maritime uses, including commercial shipping, recreational boating, fishing activities, and military operations. The USCG manages maritime navigation safety in these waters through the establishment of safety zones, temporary restricted areas, and issuance of NOTMARs that inform vessel operators of temporary hazards, dates and times of operations, and coordinates of applicable hazardous operations areas. Consistent with 33 CFR § 165.775, the offshore waters adjacent to CCSFS are located within a USCG Regulated Navigation Area established as an operational component of Eastern Range launch activities to protect maritime traffic from launch-related hazards originating from CCSFS.

For this EA, the ROI for airspace and maritime management is limited to the SLC-51 project site, where construction activities could reasonably interact with existing airspace and maritime management procedures. Operational effects associated with launch trajectories, flight corridors, and maritime safety zones are not evaluated further because they were previously analyzed in the February 2022 *JFC EA/OEA* and the May 2025 *Trident II WSTP EA/OEA* and are addressed through tiering. The Proposed Action would not increase previously analyzed launch frequencies, modify launch trajectories or flight corridors, or expand the geographic extent of airspace or maritime restrictions. Therefore, this section focuses on potential construction-related interactions within the SLC-51 project site.

3.3.2 Environmental Consequences

3.3.2.1 Proposed Action

The Proposed Action may involve temporary use of tall construction equipment, such as cranes and heavy-lift erection equipment, within the SLC-51 project site. Construction activities would be confined to the SLC-51 project footprint. The Proposed Action would not include airfield construction, runway modifications, in-water work, dredging, marine-based construction, barge-supported construction, or construction activities within navigable waters.

Potential construction-related interactions with airspace would be limited to the temporary presence of tall equipment within the project site. As such, it is unexpected that there would be significant effects to airspace and maritime management from construction activities or project development. Further airspace restrictions, flight corridors, and offshore safety zones would remain consistent with those previously analyzed. However, if required, such activities would be coordinated through established SLD 45 and Eastern Range procedures, including FAA airspace notification procedures, as applicable. Construction of SLC-51 would not require new permanent airspace restrictions, modification of existing flight corridors, or changes to established airspace management procedures.

Therefore, the Proposed Action would not result in significant adverse effects on airspace and maritime management.

3.3.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and SLC-51 would not be constructed. No construction activities, temporary use of tall construction equipment, or

ground-disturbing activities associated with SLC-51 would occur. Therefore, the No Action Alternative would not require potential construction-related airspace coordination or other Eastern Range operational controls for construction activities.

Military launch operations would continue at SLC-46 under existing conditions and would remain subject to established Eastern Range, SLD 45, FAA, USCG, and Navy coordination procedures, as applicable. Because no new construction would occur and no new construction-related airspace or maritime management requirements would be introduced, the No Action Alternative would result in no significant effects on airspace and maritime management.

3.3.2.3 Mitigation

No mitigation measures are required for effects to airspace and maritime management. Potential effects associated with the Proposed Action would be avoided and minimized through continued implementation of established Eastern Range operational controls and interagency coordination procedures. These measures are routinely applied at CCSFS and are designed to limit the duration, frequency, and spatial extent of any temporary interactions with airspace or maritime traffic. During construction and relocation activities at SLC-51, coordination with relevant federal agencies would ensure that construction activities do not interfere with existing airspace or maritime operations.

3.4 Infrastructure

For purposes of this EA, infrastructure refers to the transportation and utility systems that enable access to and support construction and facility development at CCSFS, including internal roadways and controlled entry points, as well as potable water, wastewater, electrical power, and stormwater systems. Infrastructure effects are evaluated in the context of the Proposed Action to construct new launch complex facilities at SLC-51 on an undeveloped site and to extend supporting utilities as required.

Infrastructure construction and utility connections at CCSFS are subject to applicable federal, state, and installation-specific regulatory requirements, which are summarized in Table 2. Existing transportation and utility systems operate under established agreements and permits. Electrical infrastructure installation and distribution systems must comply with the National Electrical Code (National Fire Protection Association 70), applicable DoW design criteria, and installation-specific electrical safety and operational standards. Operational controls and any new infrastructure connections would be planned and implemented in coordination with installation utility managers and applicable service providers to ensure compliance with all governing requirements. Transportation access, internal roadway use, and construction safety are administered by SLD 45.

3.4.1 Affected Environment

Internal access within CCSFS is supported by a roadway network anchored by Phillips Parkway, the primary north–south corridor, with east–west connections across the installation. SLC-51 is located along Pier Road, which runs northeast–southwest along the eastern shoreline of CCSFS. These systems constitute the baseline transportation network available to support construction access and material delivery for SLC-51.

The SLC-51 site currently has no existing onsite utilities or sanitary sewer infrastructure. Utilities relevant to the Proposed Action include potable and non-potable water, wastewater, electrical power, communications infrastructure, and stormwater management, all of which would require tie-in extension within the existing Pier Road ROW utility corridor. Potable water at CCSFS is supplied through existing distribution systems, and wastewater generated on the installation is treated at the CCSFS Regional Wastewater Treatment Facility (RWWTF). Electrical power at CCSFS is supplied through existing transmission and distribution systems, and new distribution infrastructure via extension of existing lines would be required to provide service to SLC-51.

For this EA, the ROI for infrastructure includes the project site (approximately 80 acres) and the approximately 1.79-mile utility line corridor within the Pier Road ROW where new SLC-51 systems such as water, sewer, and electrical infrastructure would be connected to existing infrastructure. The ROI also includes the broader CCSFS transportation and utility network that supports site access, material delivery, and integration of utilities to the project site. The existing approximately 1.79-mile ROW is an established and actively maintained corridor that supports transportation access and existing utility infrastructure, including communications systems. The corridor is routinely cleared and mowed and represents a previously disturbed environment with ongoing operational use. This corridor provides the primary alignment for utility extensions associated with the Proposed Action.

3.4.2 Environmental Consequences

For the purposes of this analysis, an adverse effect to infrastructure would occur if the Proposed Action resulted in measurable disruption to transportation access or reduced utility service reliability within the ROI, constrained access, or impaired system functionality. Infrastructure effects would be considered significant if the Proposed Action caused long-term degradation of transportation or utility systems or interfered with CCSFS's ability to support ongoing mission operations.

3.4.2.1 Proposed Action

Potential effects to transportation and utility infrastructure associated with the Proposed Action would be avoided and minimized through protective measures to include siting, design, and construction planning measures that confine primary facility construction to the defined SLC-51 footprint, within the existing Pier Road ROW. These measures reflect standard practices implemented at CCSFS to maintain safe and efficient installation operations including siting utility infrastructure within the existing and previously disturbed Pier Road ROW corridor.

3.4.2.2 Transportation Infrastructure

Construction of SLC-51 would require the movement of personnel, equipment, and materials to and from the project area using the existing transportation network at CCSFS. Commercial construction traffic would primarily access the installation through Gate 1 (South Gate) on State Road (SR) 401, which serves as the commercial vehicle inspection station and designated entry point for deliveries. Additional workforce traffic may enter through the NASA Causeway or Phillips Parkway access points following screening at the KSC Badging Office.

Construction and staff vehicles within CCSFS would use Phillips Parkway, Central Command Road, Pier Road, and other internal roadways to access the SLC-51 site. These roadways were designed to accommodate heavy equipment and launch-support traffic consistent with CCSFS installation standards. Temporary increases in traffic would occur during peak construction activities, such as site preparation, foundation installation, and delivery of large components. However, following completion of temporary construction and activities, no long-term changes to roadway capacity, alignment, or function are anticipated.

The Proposed Action would not require modifications to regional transportation systems. No construction or alteration of port facilities, wharves, or airfields is included. Existing transportation infrastructure would continue to support construction logistics without expansion or reconfiguration.

During construction, transportation-related effects would be minimized by directing contractor vehicles, equipment deliveries, and material shipments to designated access points and internal roadways approved for commercial traffic. Construction traffic would be managed to reduce conflicts with routine installation activities, including advanced coordination of oversized or specialized deliveries and use of temporary traffic control measures, as needed, within active work areas. These practices would limit congestion, maintain roadway function, and protect existing pavement and associated infrastructure.

3.4.2.3 Utility Infrastructure

Construction of SLC-51 would require the installation of new utility infrastructure, as the site is currently undeveloped and lacks existing utility connections. Utilities associated with the Proposed Action include potable and non-potable water, fire protection water, wastewater, electrical power, and communications infrastructure.

Utility-related effects would be minimized through coordination with CCSFS utility managers to ensure that installation of potable water, wastewater, and electrical infrastructure does not disrupt existing services. Prior to excavation, known underground utilities would be identified and marked to avoid damage, and construction staging and sequencing would be planned to maintain access to utility easements, manholes, and service points required for routine maintenance and emergency response. New utility installations and tie-ins would be routed within the existing Pier Road ROW and connected to established distribution infrastructure.

Water

Construction of SLC-51 would require the installation of new utility infrastructure to serve the project site. While the SLC-51 pad area itself is currently undeveloped, it is located within a fully developed space launch installation with existing utility distribution systems and established utility corridors in the surrounding area. New water lines would be installed to provide potable water for personnel support facilities and non-potable water for fire protection, launch support systems, and limited operational needs. Fire protection infrastructure would include new fire mains and hydrant connections. Construction activities may include trenching, installation of underground piping, and connection to an existing distribution main located within the Pier Road ROW utility corridor. Water infrastructure serving SLC-51, including meters, backflow prevention devices, and distribution piping, would be newly constructed. The Proposed Action

would not require modifications to off-installation water treatment or supply systems, and no new groundwater withdrawals would occur.

Wastewater

The SLC-51 site is not currently served by sanitary sewer infrastructure. The Proposed Action would require construction of new wastewater collection lines and a tie-in to an existing force main approximately one mile southwest on Pier Road to convey domestic wastewater from SLC-51 to the CCSFS RWWTF. Construction activities would include excavation, installation of sewer lines and manholes, and connection to an existing CCSFS sanitary sewer force main within the Pier Road utility corridor. No modifications to the RWWTF are anticipated.

Electrical Power

The Proposed Action would require extension of electrical service from the existing CCSFS electrical distribution system, which receives high-voltage power from Florida Power & Light and distributes power to launch complexes through existing substations and distribution infrastructure across the installation. Electrical service is currently available along Pier Road near Bumper Road and new electrical infrastructure (e.g., underground conduits, transformers, and switchgear) would be constructed primarily within the project site and along existing ROW along Pier Road connecting to SLC-51. While overhead electrical lines are present within the surrounding corridor, new electrical connections for SLC-51 would be installed underground in accordance with CCSFS standards. Electrical extensions would be co-located within the existing Pier Road ROW to the maximum extent practicable to minimize new ground disturbance.

Potential effects associated with electrical connections would be avoided and minimized by routing new electrical lines within existing roadway and utility corridors and connecting them to nearby CCSFS distribution infrastructure. Electrical tie-ins would be coordinated through established installation procedures to avoid the need for new transmission lines, substation upgrades, or off-installation electrical infrastructure.

Following construction, infrastructure demand at SLC-51 would be intermittent and comparable to existing use at SLC-46, with utilities supporting inspection, maintenance, and testing activities rather than continuous industrial operations. Utility installation within the existing Pier Road ROW would occur in a previously disturbed and actively maintained corridor, reducing the potential for new impacts to undisturbed areas. Overall, the Proposed Action would result in no significant effects to infrastructure because all construction access, traffic, and utility connections would occur within existing installation transportation and utility systems and would be coordinated through established CCSFS procedures. Construction activities would be temporary and would not disrupt long-term access, capacity, or service reliability for existing infrastructure.

3.4.2.4 No Action Alternative

Under the No Action Alternative, SLC-51 would remain undeveloped, with no launch infrastructure, construction activities, or utility extensions. Existing transportation and utility systems within the region would not be affected, and no additional demand would be placed on CCSFS or local infrastructure. No construction materials, equipment, or personnel would be transported to SLC-51, so regional roadways and CCSFS access points would experience no

increase in traffic or changes in access patterns. The No Action Alternative would result in no significant effect on infrastructure.

3.4.2.5 Mitigation

No compensatory mitigation measures are required for infrastructure. As described above, potential effects would be avoided and minimized through siting, design, and construction planning measures that confine development to the defined project footprint and utilize existing transportation and utility systems, including the previously disturbed and maintained Pier Road ROW utility corridor.

Installation of utilities within the existing ROW minimizes the need for new ground disturbance and avoids impacts to undisturbed areas. Additional avoidance and minimization measures include coordination with installation utility managers, routing within established corridors, protection of existing infrastructure during excavation, and management of construction traffic to maintain system functionality. Because these measures effectively limit effects to temporary and localized conditions without degrading infrastructure capacity or reliability, compensatory mitigation is not required.

3.5 Socioeconomics

Socioeconomic resources describe the characteristics of the human environment that reflect population, employment, income, housing, and economic activity. Economic activity is commonly characterized using indicators such as employment levels, unemployment rates, personal income, and dominant industry sectors, while social conditions are reflected in population trends and housing availability.

The analysis in this EA focuses on whether the Proposed Action would result in measurable changes to employment, economic activity, and income within the affected region. Consistent with the DAF practice, the analysis emphasizes the scale and duration of construction activities and evaluates whether those activities would meaningfully alter existing socioeconomic conditions.

3.5.1 Affected Environment

Socioeconomic resources in CCSFS and Brevard County, Florida, support installation-related employment, housing, and services. As of 2025, Brevard County had an estimated population of approximately 660,000, while the State of Florida had an estimated population of approximately 23.4 million (U.S. Census Bureau 2025). The median household income (2024 dollars) in Brevard County was approximately \$78,000, which is equivalent to the statewide average (U.S. Census Bureau 2025).

The aerospace and defense sector represents a major component of the regional economy. Aerospace-related employment and investment associated with federal installations, commercial space operations, and supporting industries contribute substantially to regional employment and income. Housing, public services, and infrastructure within the ROI are developed to support both permanent residents and a transient workforce associated with space and defense activities, and these conditions represent an established component of the regional socioeconomic baseline.

For this EA, the ROI for socioeconomic resources is defined at the Brevard County scale, consistent with the spatial extent over which changes to employment, income, housing demand, or public services could reasonably occur as a result of construction activities at SLC-51. This scale captures the labor market and service area from which construction workers are drawn and where short-term economic activity associated with construction would be experienced.

3.5.2 Environmental Consequences

For the purposes of this analysis, an adverse effect to socioeconomics would occur if the Proposed Action caused measurable strain on regional employment markets, housing availability, or public services by creating demand that could not be absorbed under existing baseline conditions within the ROI. Socioeconomic effects would be considered significant if the Proposed Action resulted in long-term adverse economic displacement, required expansion of housing or public services, or exceeded the capacity of existing community infrastructure, thereby reducing the ability of the affected region to maintain acceptable levels of service.

3.5.2.1 Proposed Action

The Proposed Action would result in temporary, short-term socioeconomic effects associated with construction employment and related expenditures. Federal evaluations of infrastructure construction employment conclude that construction-phase job effects are short-term and localized, limited largely to the duration of active construction, and do not produce lasting changes in regional labor markets or population patterns (U.S. Department of Transportation [USDOT] 2023). Consistent with these findings, construction employment associated with the Proposed Action would be temporary and would not result in sustained changes to regional employment levels.

To the extent that construction workers are drawn from outside the ROI, short-term increases in demand for temporary lodging, food services, and local goods could occur during peak construction periods. Federal studies of short-duration construction projects indicate that such effects are typically absorbed by existing housing and service markets in regions with established industrial and defense workforces, without inducing measurable changes in housing availability or prices (USDOT 2023). Given the existing scale of aerospace and defense activity in Brevard County, including a large transient and contract workforce, the region is well-positioned to accommodate temporary construction-related demand.

Permanent staffing associated with SLC-51 would consist primarily of reassigned CCSFS installation personnel and routine contractor support comparable to that currently supporting military test launch facilities at the installation. Accordingly, the Proposed Action would not result in a net increase in regional employment or long-term changes to population, housing demand, or public services.

Overall, the Proposed Action would result in no significant effects to socioeconomics associated with temporary construction employment and expenditures. The Proposed Action development benefits would be small relative to the size and diversity of the regional economy, would not extend beyond the construction period, and would not result in long-term changes to socioeconomic conditions within the ROI.

3.5.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur, and no new launch infrastructure would be constructed at SLC-51. Existing launch operations would continue under current conditions at SLC-46. As a result, no construction-related employment or short-term economic activity associated with the development of SLC-51 would occur.

Socioeconomic conditions within the ROI would remain consistent with the existing baseline, including continued employment and economic activity associated with ongoing operations at CCSFS. Compared to the Proposed Action, the No Action Alternative would forgo the temporary, localized increase in construction employment and associated short-term expenditures that would otherwise occur during development of SLC-51. Accordingly, the No Action Alternative would result in no significant effects to socioeconomics.

3.5.2.3 Mitigation

No compensatory mitigation measures are required for socioeconomics. The Proposed Action would result in temporary, short-term increases in employment and associated economic activity during construction, which would be minor relative to the scale of the regional economy and consistent with existing conditions associated with aerospace and defense operations at CCSFS.

As described above, the region has an established workforce and infrastructure capable of accommodating temporary demand without measurable strain on housing, public services, or economic conditions. Because the Proposed Action would not result in adverse socioeconomic effects and would not create long-term changes to regional conditions, compensatory mitigation is not required.

3.6 Health and Safety

Health and safety considerations address the protection of the public, installation personnel, contractors, and property from risks associated with construction and installation activities at CCSFS. Applicable requirements include construction safety regulations, occupational health standards, explosive safety controls applicable to construction siting, hazardous material handling requirements related to construction activities, and emergency response and security procedures. Contractors and installation personnel operate under established CCSFS procedures and applicable federal and DoW/DAF requirements intended to maintain acceptable risk levels and prevent injury, illness, death, or property damage during construction and installation activities. Hazardous materials associated with construction and installation activities at CCSFS are regulated under USDOT hazardous materials regulations at 49 CFR Parts 100–199, which govern packaging, labeling, handling, routing, and transportation. These requirements establish controls to reduce the potential for accidental release or exposure during the delivery, storage, and use of fuels, chemicals, and other regulated materials commonly used during construction.

Occupational health and safety for construction, demolition, and installation activities are regulated under Occupational Safety and Health Administration (OSHA) requirements, including 29 CFR Part 1926, *Safety and Health Regulations for Construction*, and 29 CFR Part 1910, *Occupational Safety and Health Standards*. These regulations establish worker protection requirements related to heavy equipment operation, electrical hazards, noise exposure, hazardous materials, and other industrial safety risks associated with construction activities.

In addition, protection of DoW personnel who may be affected by the contractor's activities is required. All work performed in support of the Proposed Action would comply with applicable OSHA standards (29 CFR). The prime contractor is responsible for protecting contractor personnel in accordance with OSHA requirements, including the OSHA *General Duty Clause* (Section 5[a][1]). DoW Occupational Safety personnel may monitor activities at the project site and may intervene in Immediate Danger to Life and Health situations.

In naval ranges within the BOA for launches from CCSFS, SLD 45 Range Control has published safety procedures for activities conducted both nearshore and offshore. In accordance with 33 C.F.R. part 72, *Aids to Navigation*, the USCG informs private and commercial vessels about temporary closures via NOTAMs. These notices provide information about durations and locations of closures because of activities that are potentially hazardous to surface vessels.

During training and testing activities in the BOAs, the Navy ensures that the appropriate safety zones are clear of non-participants before engaging in certain activities, such as test launches and weapon system deployment. Inability to obtain a "clear range" could result in the delay, cancellation, or relocation of an event. Navy operations occurring in the airspace are planned and implemented according to Office of the Chief of Naval Operations Instruction 3770.2L, *Department of the Navy Airspace Procedures and Planning*, and are subject to FAA regulations and guidance (DON 2017).

For projects occurring in the vicinity of the ROI during the time of scheduled launches, such as dredging activities, port operations, and federally mandated shoreline management activities, SLD 45 Range Control will coordinate with appropriate agencies to deconflict operations and ensure project activities are conducted in accordance with applicable safety standards. Sea space and airspace safety measures associated with JFC and Trident launch activities are detailed in the February 2022 *JFC EA/OEA*, and the May 2025 *Trident II WSTP EA/OEA*, respectively.

3.6.1 Affected Environment

Health and safety conditions at CCSFS reflect the presence of both natural and human caused hazards associated with construction, maintenance, transportation, and other installation activities. Naturally occurring hazards present at CCSFS include insects, snakes, lightning, and other climatic conditions typical of the central Florida coastal environment. These hazards are routinely managed through established installation procedures, training requirements, and access controls.

Human-caused hazards present within the installation include those associated with construction and demolition activities, transportation of equipment and materials, maintenance and repair activities, and localized high-noise environments. Elevated noise levels associated with industrial activities may temporarily reduce the audibility of verbal or mechanical warning signals, such as sirens, bells, or horns, within active work areas. These conditions are typical of largescale industrial and military installations and are addressed through established safety protocols and work controls.

3.6.2 *Environmental Consequences*

For the purposes of this analysis, an adverse effect to health and safety would occur if construction activities under the Proposed Action increased the risk of bodily injury, illness, death, or property damage within the ROI. Health and safety effects would be considered significant if the Proposed Action substantially increased risks to installation personnel, contractors, or the general public; interfered with effective emergency response during construction; or introduced a construction-related hazard for which CCSFS does not have established management measures or response capabilities.

3.6.2.1 Proposed Action

The Proposed Action would require the construction of new infrastructure, utilities, and support structures at SLC-51. The Proposed Action would not change existing CCSFS operational programs; however, construction would introduce temporary occupational hazards typical of major civil and vertical construction activities. Federal construction safety guidance identifies heavy equipment operation, material handling activities, electrical hazards, and high-noise work environments among the most common contributors to construction-related injuries and near-miss events, particularly during active site preparation and installation phases (OSHA 2026).

Construction activities associated with the Proposed Action would be conducted under established construction safety requirements and contractor safety procedures applicable to CCSFS, including OSHA requirements for construction work. Contractors performing construction activities at CCSFS would comply with OSHA-prescribed standards intended to reduce risk to workers and the public. This federal safety guidance indicates that common construction hazards can be effectively reduced through systematic hazard identification, worker training and supervision, and use of appropriate personal protective equipment (PPE). Additional protective measures include BMPs that would be implemented during construction and installation activities, including the use of appropriate PPE, clear construction phasing and sequencing, maintenance of secured work areas with appropriate signage, and controlled access to active construction zones. These measures are intended to reduce exposure to typical construction hazards such as heavy equipment operation, elevated noise levels, electrical work, and material handling.

Construction activities would also involve the use, storage, and transport of various hazardous and potentially hazardous materials, including fuels, oils, lubricants, solvents, paints, surface coatings, batteries, cleaning compounds, and other chemical constituents. Hazardous materials used during construction would be managed in accordance with established material handling and waste management procedures. Transportation of construction-related hazardous materials would comply with applicable USDOT requirements at 49 CFR Parts 100–199.

As described in Chapters 1 and 2, SLC-46 is within the explosive clear zone for SLC-36, and relocation of operations at SLC-46 is necessary to eliminate occupational safety and national security risks that arise due to conflicts between the two locations. The Proposed Action would reduce the safety concerns related to personnel exposure, emergency access, and mission execution that currently occur due to ongoing operations at SLC-46 and would therefore have positive impacts on health and safety compared to current conditions.

The Proposed Action would result in no significant effects to health and safety because construction activities would be conducted under existing occupational safety, hazardous materials handling, and installation access control requirements that govern similar activities across CCSFS. These requirements limit health and safety risks to temporary, localized conditions typical of construction in an active mission-support environment.

3.6.2.2 No Action Alternative

Under the No Action Alternative, construction of new infrastructure at SLC-51 would not occur, and military launch operations would continue to be conducted at SLC-46 under existing conditions. As a result, no construction-related occupational hazards associated with site preparation, utility installation, or facility construction would be introduced.

However, the No Action Alternative would not achieve the project's primary purpose of reducing operational and safety conflicts associated with continued reliance on SLC-46. As described in Chapters 1 and 2, ongoing operations at SLC-46 require the establishment of safety clearance areas that overlap with adjacent facilities and activities, resulting in personnel relocations, access restrictions, and operational coordination challenges during periods of heightened activity. These conditions represent existing safety concerns related to personnel exposure, emergency access, and mission execution.

By foregoing the construction of SLC-51, the No Action Alternative would perpetuate these existing safety constraints and would not provide the infrastructure separation and siting improvements intended to reduce safety-related conflicts. While the No Action Alternative would avoid short-term, construction-related occupational risks, it would maintain baseline safety challenges associated with continued operations at SLC-46. Accordingly, the No Action Alternative would result in no significant effects with committed measures to reduce overall launch operations that ensure no additional operational safety conflicts.

3.6.2.3 Mitigation

No compensatory mitigation measures are required for health and safety. Potential risks associated with the Proposed Action are typical of construction activities and would be avoided and minimized through compliance with applicable OSHA regulations, DoW safety requirements, and CCSFS-specific safety protocols.

As described above, these measures include the use of PPE, controlled access to construction areas, hazard identification and training, and adherence to established procedures for handling hazardous materials. These regulatory and procedural requirements are designed to reduce risk to acceptable levels and are routinely applied across CCSFS. Because these measures effectively manage potential hazards and effects would be temporary and localized, compensatory mitigation is not required.

3.7 Geology

Geology and soils (earth resources) include the soil mantle, underlying geologic materials, and the potential for geologic hazards, such as erosion, settlement, or instability that could affect construction feasibility or result in sediment transport. Soil is defined as unconsolidated material

overlying bedrock or parent material; soil structure, strength, shrink–swell potential, permeability, and erodibility influence the suitability of a site for foundations and infrastructure, as well as the potential for erosion and sedimentation during ground-disturbing activities.

Ground disturbing construction activities are regulated through stormwater and erosion control requirements intended to prevent offsite transport of sediments and pollutants. For construction projects disturbing more than one acre, construction stormwater permit coverage under the NPDES program is required, and site-specific erosion and sediment controls are implemented through a Stormwater Pollution Prevention Plan (SWPPP) and associated BMPs. These requirements emphasize stabilization of disturbed soils, protection of adjacent wetlands and waterbodies, and minimization of fugitive dust and sediment migration during and following construction.

3.7.1 *Affected Environment*

Existing soils and geologic conditions within the CCSFS region reflect predominantly sandy coastal deposits. The Soil Survey of Brevard County (1974) identified multiple soil types within the broader CCSFS area, including the Canaveral–Palm Beach–Welaka association. The most prevalent soil described in the baseline is Canaveral sand, occurring on moderately low ridges and consisting of light-colored quartz sand grains and multicolored shell fragments; soils in these areas are sandy throughout and range from moderately well-drained to excessively drained.

For geology and soils, the ROI is defined as the areas where ground disturbance could occur under the Proposed Action, including the approximately 50-acre construction footprint within the project site and associated approximately 1.79-mile utility corridors where utilities would be installed or connected.

3.7.2 *Environmental Consequences*

For the purposes of this analysis, an adverse effect to geology and soils would occur if ground-disturbing activities under the Proposed Action resulted in measurable erosion, sediment transport, instability, or localized contamination beyond the limits of active construction areas within the ROI. Geology and soil effects would be considered significant if the Proposed Action caused long-term degradation of soil resources, affected unique geologic features, or resulted in offsite sedimentation or instability that could not be managed under applicable regulatory requirements.

3.7.2.1 *Proposed Action*

Construction activities associated with the Proposed Action would directly disturb up to approximately 50 acres of native and non-native soils within the ROI through clearing, grading, excavation, and infrastructure installation, including trenching and other ground disturbance associated with utility installation within the approximately 1.79-mile Pier Road ROW. Removal of vegetation and disturbance of surficial soils would temporarily expose soils to wind, rainfall, and stormwater runoff, increasing susceptibility to erosion, sediment transport, and fugitive dust generation during active construction phases.

In coastal environments such as CCSFS, sandy soils with high permeability can be particularly vulnerable to surface erosion and wind-driven transport when vegetation cover is removed.

Fugitive dust generated during earth-moving and vehicle traffic on disturbed surfaces can be transported off-site by wind, contributing to nuisance conditions and, in some cases, deposition into nearby surface waters.

BMPs include erosion control and soil stabilization measures, such as phased clearing, temporary stabilization of disturbed areas, perimeter sediment controls, and protection of drainage features, which would be implemented to minimize soil erosion and prevent sediment-laden runoff from entering adjacent wetlands or surface waters. Fugitive dust would be controlled through standard dust suppression practices to reduce off-site transport of particulate matter and protect nearby sensitive resources.

All construction and operational activities would comply with applicable FDEP requirements and installation-specific environmental standards governing soil protection, materials handling, and spill prevention. Hazardous materials used during construction would be properly stored, handled, and transported in accordance with established procedures, and waste materials would be managed to prevent releases to soils. Spill prevention and response measures would be implemented to minimize the potential for accidental releases that could affect soil or geologic resources.

Accordingly, the Proposed Action would result in no significant effects on geology and soils because ground disturbance would be confined to the project footprint and managed using standard construction practices that control erosion, sedimentation, and material handling, preventing long-term soil instability or offsite effects.

3.7.2.2 No Action Alternative

Under the No Action Alternative, no construction, grading, excavation, or other ground-disturbing activities would occur within the ROI. Existing soils, geologic conditions, and site stability would remain unchanged, and there would be no potential for construction-related erosion, sediment transport, fugitive dust generation, or soil contamination. Therefore, the No Action Alternative would result in no significant effects on geology and soils.

3.7.2.3 Mitigation

No compensatory mitigation measures are required for geology and soils. Potential effects associated with ground disturbance would be avoided and minimized through the implementation of erosion and sediment control measures and compliance with NPDES requirements.

As described above, construction would be conducted in accordance with an approved SWPPP, which includes BMPs such as soil stabilization, erosion control measures, and dust suppression. These measures would limit erosion, sediment transport, and soil disturbance to the confined project footprint. Because impacts would be temporary, localized, and effectively managed through standard construction practices, compensatory mitigation is not required.

3.8 Cultural Resources

This section evaluates potential for effects to historic properties. Historic properties are cultural resources that are listed in or eligible for listing in the National Register of Historic Places

(NRHP). Cultural resources may be adversely affected by ground disturbance, structural alteration, or changes to the setting, use, or characteristics that qualify historic properties for NRHP eligibility. Accordingly, this section evaluates the potential for effects to historic properties, resulting from implementation of the Proposed Action, consistent with both NEPA and NHPA requirements.

Federal agencies are required to consider the effects of undertakings on historic properties pursuant to the NHPA and its implementing regulations at 36 CFR Part 800. The Section 106 consultation process obligates agencies to identify historic properties that may be affected by a proposed project and assess the potential impacts to cultural resources. Section 106 consultation is conducted with the SHPO and federally recognized Tribal Nations that may attach religious or cultural significance to historic properties within the APE.

The APE is defined as the geographic area within which an undertaking may directly or indirectly alter the character or use of historic properties and is influenced by the scale and nature of the undertaking. The regulations require that APE delineation be effects-based and commensurate with the potential mechanisms of effect.

3.8.1 *Affected Environment*

For purposes of NHPA compliance, the APE encompasses approximately 80 acres corresponding to the project site boundary and the approximately 1.79-mile utility corridor located along the Pier Road ROW. For purposes of NEPA compliance, the ROI for the cultural resource is the APE.

The APE is located within CCSFS, an installation characterized by extensive twentieth-century military, aerospace, and launch-related development. Cultural resources in the vicinity reflect multiple historic contexts, including early to mid-twentieth-century coastal development, Cold War–era missile testing and tracking activities, and the establishment and expansion of CCSFS as a national space launch center.

Previous investigations of the APE did not result in the documentation of historic properties. Supplemental surveys of the APE, which include a Phase I Cultural Resources Assessment Survey (CRAS), have been conducted for the analysis and did not result in the recordation of any previously unrecorded historic properties.

One previously recorded archaeological site is mapped within the Phase I CRAS survey area:

- **8BR02087 (Jupiter Missile Crash Site):** This site is located within the CRAS survey area and consists of an impact crater and associated missile debris from a late 1950s test failure. Prior investigations refined site boundaries and documented Cold War–era materials. Fieldwork for the Phase I CRAS identified limited surface debris and subsurface materials within the previously defined site boundary; observed materials were documented photographically and mapped in place to support integrity and eligibility evaluation.

3.8.2 *Environmental Consequences*

For the purposes of this analysis, an adverse effect to cultural resources would occur if the Proposed Action altered the characteristics that qualify as a historic property for NRHP eligibility, including through ground disturbance, destruction, or indirect effects that change setting, feeling, or association within the APE. Cultural resources effects would be considered significant if the Proposed Action resulted in adverse effects to an NRHP-eligible or NRHP-listed property that could not be avoided, minimized, or resolved through the Section 106 process.

3.8.2.1 Proposed Action

The Proposed Action would involve construction and associated ground-disturbing activities totaling approximately 50 acres and potential underground or above ground utilities within the existing disturbed Pier Road ROW. Pursuant to 36 CFR § 800.5(a)(1), the effects assessment incorporated a thorough review of both direct and indirect impacts, including visual, auditory, atmospheric, and cultural landscape considerations.

The assessment evaluated potential impacts to cultural landscapes and properties of religious and cultural significance to Tribal communities. No evidence was found indicating that the relocation would create new or different pathways for effects or expand impacts into areas that have not already been subjected to launch-related activities. This technical review confirms the absence of new or expanded effects on cultural resources.

Based on the results of the Phase I CRAS, one NRHP-eligible historic property was identified within the APE. Evaluation of site 8BR02087 (Jupiter Missile Crash Site) determined that it does not retain sufficient integrity to be eligible for listing in the NRHP due to erosion, vegetation overgrowth, and prior disturbance, and therefore the site is recommended as ineligible. The SHPO issued concurrence with the CRAS findings of No Historic Properties Affected via letter dated 08 January 2026 and reiterated this finding via letter dated 17 July 2026 (Appendix A).

No additional archaeological sites, historic structures, or other cultural resources were identified within the APE. Because no NRHP-eligible historic properties are present within the area that would be affected by construction activities, implementation of the Proposed Action would not alter the characteristics that qualify a historic property for NRHP eligibility.

If previously unidentified cultural resources or human remains are encountered during construction, work would stop in the immediate vicinity of the discovery. Appropriate notification and coordination procedures would be implemented in accordance with the SLD 45 Integrated Cultural Resources Management Plan, 36 CFR Part 800, Florida Statutes Chapter 872.05, and installation-specific cultural resources protocols (DAF 2025b).

Therefore, the Proposed Action results in no historic properties affected, and construction activities would occur within previously disturbed areas under procedures that address any unanticipated discoveries during ground disturbance.

3.8.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, and no

construction or ground-disturbing activities would occur within the APE. Existing conditions would remain unchanged; therefore, the No Action Alternative would result in no significant effects on cultural resources.

3.8.2.3 Mitigation

No compensatory mitigation measures are required for cultural resources. As described above, the Proposed Action would not affect historic properties.

Avoidance of impacts is achieved through project siting within previously evaluated areas and through the absence of eligible resources within the APE. In the event that previously unidentified cultural resources or human remains are encountered during construction, established inadvertent discovery procedures would be implemented in accordance with the SLD 45 Integrated Cultural Resources Management Plan (DAF 2025b). Because no impacts to historic properties are anticipated and appropriate procedures are in place to address unanticipated discoveries, compensatory mitigation is not required.

3.9 Biological Resources

Biological resources include native or naturalized plants, fish, wildlife, and the habitats in which these species occur. Plants and plant communities are referred to as vegetation, and animal species are referred to as wildlife. Habitat is defined as the biotic and abiotic conditions that support plant or animal species. Within this EA, biological resources are divided into two categories: (1) terrestrial vegetation and (2) terrestrial wildlife. Within each category, threatened and endangered species (i.e., those listed under the ESA) are described in detail.

Environmentally sensitive habitats are those areas designated by the USFWS as critical habitat for ESA-listed species or other sensitive habitats such as wetlands, habitats limited in distribution, or important seasonal use areas for wildlife (e.g., breeding areas, feeding/foraging areas, or migration routes). In this EA, special-status species refers to those species listed by federal or state agencies, including those afforded protection under the regulations listed below.

Section 7 of the ESA requires action proponents to consult with the USFWS and/or NMFS to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species or result in the destruction or adverse modification of designated critical habitat (16 U.S.C. §§ 1531-1544). For all ESA-listed species, the ESA defines “harm” as an act that kills or injures wildlife, including significant habitat modification or degradation, where it kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering (50 CFR § 17.3). The ESA defines “harassment” as an intentional or negligent act or omission that creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns, which include, but are not limited to, breeding, feeding, or sheltering.

Pursuant to the Migratory Bird Treaty Act (MBTA), both migratory and most native-resident bird species are protected under the MBTA (16 U.S.C. §§ 703-712), and their conservation by federal agencies is mandated by EO 13186, *Migratory Bird Conservation*. Under the MBTA, it is unlawful by any means or in any manner to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation. Under EO 13186, federal agencies must evaluate the effects of actions on

migratory birds with emphasis on species of concern, which were later defined as birds of conservation concern (BCC) by USFWS (USFWS 2008a). Birds listed as BCC are species with the highest conservation priority, which without additional conservation actions, are likely to become candidates for listing under the ESA (USFWS 2008a). The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d) also provides penalties for the “take, possession, selling, purchasing, bartering, offering to sell, purchase or barter, transporting, exporting, or importing” of any bald or golden eagle, or any part including feathers, nest, or egg, unless permitted by the Secretary of the Interior.

The 2003 National Defense Authorization Act gave the Secretary of the Interior authority to prescribe regulations to exempt the Armed Forces from the incidental taking of migratory birds during authorized military readiness activities. The final rule authorizing the DoW to take migratory birds in such cases includes a requirement that the Armed Forces must confer and cooperate with USFWS to develop and implement appropriate conservation measures to minimize or mitigate adverse effects of the Proposed Action if the action is likely to result in a significant adverse effect on the sustainability of a population of a migratory bird species (72 FR 8931 [28 February 2007]). This EA also evaluates the effects of the action on biological resources as required by EO 13112, *Invasive Species*, and EO 11990, *Protection of Wetlands*.

3.9.1 Affected Environment

Existing conditions for terrestrial vegetation and terrestrial wildlife within the project site have been extracted from the SLD 45 Integrated Natural Resource Management Plan (INRMP) (USAF 2025), the February 2022 *JFC EA/OEA*, and the May 2025 *Trident II WSTP EA/OEA*, and from a natural resource survey of the ROI. Biologists conducted the natural resources survey of habitat at the project area and assessed the project site for the potential occurrence of federal and state-listed species.

For biological resources, the ROI is defined as the area to be affected directly or indirectly by the Proposed Action, and not merely the immediate construction area involved in the action (50 CFR Part 402.02). The Proposed Action involves relocating SLC-46 launch operations to the new launch complex SLC-51. The land-based and sea-based environmental effects of these launch operations were previously evaluated and determined not to significantly affect the quality of the human or natural environment, as documented in the February 2022 *JFC EA/OEA*, and the May 2025 *Trident II WSTP EA/OEA*. These assessments evaluated the effects of launch operations on all listed species identified for this Proposed Action, as well as the primary habitats comprising the 80-acre project site, including beach dune, coastal grassland, coastal strand, and wetland communities. Because the BOA, flight corridors, launch profiles, launch frequencies, and affected terrestrial wildlife and vegetation would remain unchanged, this analysis focuses on the land-based environmental effects associated with construction of the new launch complex and related infrastructure and does not re-evaluate launch operation effects that have been previously analyzed.

Accordingly, the ROI for biological resources includes the approximately 80-acre project site in addition to a 1,000 ft construction buffer surrounding the project site to encompass indirect effects from construction activities, including visual disturbances, noise, and vibration, and the approximately 1.79-mile existing utility ROW along Pier Road. Due to the reflection and

scattering of sound waves at the air-water interface, noise from construction within the project site is not anticipated to attenuate into water, and therefore the construction buffer does not extend into the Atlantic Ocean (Urlick 1983; Maurer 1998; Zhao-Hui and Ling-Shan 2016).

The USFWS Information for Planning and Consultation (IPaC) system was queried on 5 March 2026, for an official species list for the ROI (USFWS Project Code: 2026-0058521; Appendix B). The official species list includes certain species that do not have suitable habitat within the ROI, and therefore do not or are not expected to occur within the ROI. This includes the Eastern black rail (*Laterallus jamaicensis* spp. *jamaicensis*), Everglade snail kite (*Rostrhamus sociabilis plumbeus*), and West Indian manatee (*Trichechus manatus*). These species are not included in Table 7 and are not discussed further. Additionally, no threatened or endangered plant species have been observed on CCSFS and no critical habitat for plants has been designated on CCSFS (USAF 2025). Consequently, Carter's mustard (*Warea carteri*) and Lewton's polygala (*Polygala lewtonii*) are not further addressed in this EA because they are not expected to occur within the ROI.

Eleven species listed as threatened or endangered under the ESA have been identified as having potential to occur within the ROI due to the presence of suitable habitat (USFWS 2026a). These species are included in Table 7 and are discussed in each representative section below.

Table 7. Federally Listed Species with Potential to Occur within the ROI

Group	Common Name	Scientific Name	Federal Status	Habitat
Mammal	Southeastern beach mouse	<i>Peromyscus polionotus niveiventris</i>	Threatened	Coastal strand, coastal grassland, interdunal swales, cabbage palm hammocks, and sand dunes vegetated by sea oats and dune panic grass. And adjoining scrub populated by oaks and sand pine or palmetto.
Bird	Audubon's crested caracara	<i>Caracara plancus audubonii</i>	Threatened	Wet prairies with cabbage palms, and wooded areas with saw palmetto, cypress, scrub oaks, and pastures. Found throughout south-central Florida.
Bird	Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened	Fire-dominated, low-growing, oak scrub habitat found on well-drained sandy soils. May persist in areas with sparser oaks or scrub areas that are overgrown.
Bird	Piping plover	<i>Charadrius melodus</i>	Threatened	Sandy beaches, tidal mudflats, and sandflats along the coast.
Bird	Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	Tidal flats and shores, open sandy beaches, require sparse vegetation and open landscapes to avoid predation.
Reptile	Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	Pine flatwoods, hardwood forests, edges of cypress swamps, and hydric hammocks.
Reptile	Green sea turtle	<i>Chelonia mydas</i>	Threatened	Estuarine and marine coastal and oceanic waters.
Reptile	Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	Tropical and subtropical waters with rocky areas and coral reefs.
Reptile	Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	Marine waters of the Gulf of America and the western North Atlantic Ocean.

Group	Common Name	Scientific Name	Federal Status	Habitat
Reptile	Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Oceanic waters.
Reptile	Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	Marine coastal and oceanic waters.

Source: USFWS 2026a

The IPaC official species list did not include the piping plover (*Charadrius melodus*; federally threatened) or hawksbill sea turtle (*Eretmochelys imbricata*; federally endangered). The ROI provides suitable foraging habitat for the piping plover, and this species has been observed on CCSFS. The ROI also provides suitable nesting habitat for the hawksbill sea turtle, and therefore, the DAF has opted to include these three species in this EA.

Terrestrial Vegetation

CCSFS is located on the east coast of Florida within the transitional area where temperate and tropical zones converge, creating a large diversity of plant communities and floral species (USAF 2025). CCSFS is dominated by scrub habitat with small patches of riverine hammock and maritime hammock vegetation types (USAF 2025). Much of the natural landscape on CCSFS has been fragmented by roads, buildings, space launch complexes, sight lines, ditches, and an aircraft runway. Additionally, fire exclusion, hydrological alterations, and the introduction of invasive vegetation have further altered the vegetative communities on CCSFS (USAF 2025).

The Florida Fish and Wildlife Conservation Commission (FWC) and Florida Natural Areas Inventory (FNAI) Cooperative Land Cover mapping system identified the majority of the ROI as coastal strand habitat. Coastal strand is an evergreen shrub community that grows on stabilized coastal dunes. This community has sandy, well-drained soil and is typically dominated by sea oats (*Uniola paniculata*) (FNAI 2010). Vegetation associated with coastal strand communities within CCSFS includes saw palmetto (*Serenoa repens*), sea grape (*Coccoloba uvifera*), sea oats, tough bully (*Sideroxylon tenax*), twinberry (*Lonicera involucrata*), and southern hairgrass (*Muhlenbergia capillaris* var. *filipes*) (SLD 45 2026a). Other communities identified within coastal strand in the ROI include Guianese colicwood scrub association, and coughbush subtropical dune grassland alliance. Guianese colicwood scrub association forms a narrow, dense strip of salt-tolerant shrubs parallel to the ocean, typically located between ocean dunes and inland maritime forests (FNAI 2010). Coughbush subtropical dune grassland alliance is generally found as a transition zone between beach dune and coastal shrub thickets, and is comprised of herbaceous dune vegetation, maritime grasslands, and shrubs (FNAI 2010).

Moving southeast from Pier Road toward the Atlantic Ocean, the project site transitions from coastal strand to coastal grassland habitat landward of the beach dunes. The coastal grassland habitat contains greater than 50% groundcover, with less than 25% bare sand patches and little to no canopy. Dominant vegetation consists of salt-tolerant grasses and herbs, including sea oats, saltmeadow cordgrass, broomsedge bluestem, and eastern prickly pear (*Opuntia humifusa*). The coastal grassland community transitions to coastal upland beach dune habitat along the southeastern boundary of the project site. Observed coastal upland habitat consists of open herbaceous, salt-tolerant vegetation including sea oats, southern hairgrass, eastern prickly pear,

beach star (*Remirea maritima*), and railroad vine (*Ipomoea pes-caprae*). This habitat contains the coughbush subtropical dune grassland alliance community and has no canopy (SLD 45 2026a).

The invasive species Brazilian pepper (*Schinus terebinthifolia*) predominates the invasive flora at CCSFS and is located sporadically throughout the ROI.

Terrestrial Wildlife

Mammals

More than 25 mammal species are known to occur on CCSFS (USAF 2025). Common species include white-tailed deer, armadillos (*Dasypus novemcinctus*), bobcats (*Lynx rufus*), feral pigs, raccoons, long-tail weasels (*Mustela frenata*), cotton rats (*Sigmodon hispidus*), and round-tail muskrats (*Neofiber alleni*) (FAA 2010).

The Southeastern beach mouse (SEBM) (*Peromyscus polionotus niveiventris*) is the only strictly terrestrial ESA-listed mammal species found at CCSFS (USAF 2025). Historically, SEBM populations occurred along Florida's east coast and have been limited to coastal strand and coastal dune communities (USAF 2025). Extirpation of the SEBM from much of its range has resulted from human modification of the coastal barrier islands (USAF 2025). Federal lands, including CCSFS, now hold the most viable populations of SEBM (USAF 2025). On CCSFS, SEBM typically inhabit disturbed oak scrub and coastal dune/strand communities. SEBM habitat occurs within the ROI, and individuals have been documented in the southeastern portion of the ROI around the beach dunes (Appendix B; SLD 45 2026b). Primary threats to the SEBM are urbanization and coastal erosion, both resulting in loss and alteration of coastal dune habitat (USAF 2025).

Birds

More than 200 bird species occur at or near CCSFS (USAF 2025). These include a diversity of seabirds, shorebirds, grassland birds, and wetland birds, as well as species of scrub habitats and urban areas. Almost all of these birds are protected under the MBTA and a number are BCC species. Four ESA-listed bird species have the potential to occur within the ROI (Table 7). The threatened Florida scrub-jay (*Aphelocoma coerulescens*) is found in scrubby flatwoods and xeric scrub communities at CCSFS (USAF 2025). Approximately half of the estimated Florida scrub-jay population (7,000 – 11,000 birds) occurs in the CCSFS, KSC, and Merritt Island National Wildlife Refuge area (USAF 2025). Scrub-jays primarily eat insects, especially during the nesting season (late February to early July), and acorns make up their essential and primary plant food throughout the year (USAF 2025). Florida scrub-jays have been historically documented within the ROI (Appendix B; SLD 45 2026b).

Other federally listed birds with potential to occur within the ROI include the rufa red knot (*Calidris canutus rufa*), piping plover, and Audubon's crested caracara (*Polyborus plancus audubonii*) (USAF 2025). No nesting behavior or nests for any of these species have been observed on CCSFS; however, these species do use CCSFS for foraging and resting (USAF 2025).

Reptiles

Listed sea turtles are addressed in this EA when on the beach where they are under the jurisdiction of the USFWS. Sea turtles, including the green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), and Kemp's ridley (*Lepidochelys kempii*), are known to use and nest on the beaches of CCSFS and in the vicinity of the ROI (Appendix B), creating between 1,800 and 5,000 nests in any given year between March and October (USAF 2025). The hawksbill sea turtle is not known to nest within CCSFS; however, suitable nesting habitat for this species is present within the ROI. Each of these five species may occur within the ROI along the Atlantic Ocean shoreline, but suitable habitat does not exist within the construction area. Since 1986, SLD 45 has implemented a sea turtle plan which employs preservation techniques such as exterior light management, predator control, rescue and release of hatchlings, nest relocation, daily nest surveys, salvage and stranding activities, and taking part in the State of Florida Index Nesting Beach Survey (USAF 2025).

The Eastern indigo snake (*Drymarchon couperi*) has the potential to be present at CCSFS due to the presence of gopher tortoise (*Gopherus polyphemus*) burrows. An unconfirmed observation of an Eastern indigo snake was made in November 2023 at the end of Camera Road Alpha, approximately 1.50 miles northeast of the ROI (SLD 45 2026b). The second most-recent observation of an Eastern indigo snake occurred in 2018 when a snake was killed by a vehicle on a roadway approximately 0.4 km (0.3 mi) north of the CCSFS north boundary (USAF 2025).

Environmentally Sensitive Habitats

Critical nesting habitat for the Northwest Atlantic Distinct Population Segment (DPS) of the Loggerhead sea turtle was designated through a final rule issued by USFWS on 10 July 2014 (79 FR 39756). The USAF was granted an exemption from having a critical habitat designation on land at CCSFS due to their INRMP, which specifies the implementation of measures to benefit the conservation of loggerheads and other sea turtles (USAF 2025). Critical habitat for the rufa red knot has been designated on Merritt Island National Wildlife Refuge, but this critical habitat is more than 10 miles north of the construction area and would not be affected by the Proposed Action (USFWS 2025a). Because CCSFS is exempted from critical habitat for the loggerhead sea turtle, and the ROI does not contain designated or proposed critical habitat for other listed species, no critical habitat will be affected by the Proposed Action.

3.9.2 Environmental Consequences

For the purposes of this analysis, an adverse effect to biological resources would occur if the Proposed Action resulted in measurable habitat loss that permanently affects the viability of wildlife populations within the ROI. Biological resources effects would be considered significant if the Proposed Action resulted in population-level effects to ESA-listed species, destruction or adverse modification of designated critical habitat, or other effects inconsistent with ESA and applicable USFWS determinations.

3.9.2.1 Proposed Action

Under the Proposed Action, construction activities at SLC-51 would expose biological resources to noise, vibrations, light, and traffic from ingress/egress of vehicles in the construction area. Project activities would include land clearing, wetland filling, and construction.

A natural resources survey conducted in April 2026 identified coastal strand, coastal grassland,

coastal upland, coastal interdunal swale, and cabbage palm hammock habitats within the approximately 80-acre project site. Up to 50 acres of native coastal habitat would be permanently lost by the construction of SLC-51 and new infrastructure, although the final amount to be affected may be less and would be determined upon completion of the final design. As described in Section 3.9.2.3, lost scrub habitat would be mitigated. Construction activities and SLC-51 infrastructure would have no long-term adverse effects on vegetation at CCSFS as there would be no effects to habitat management, land management, or prescribed fire operations due to the Proposed Action. The Proposed Action is not expected to change the abundance or distribution of any plant species or vegetation type at CCSFS.

Terrestrial wildlife species may be affected by land clearing activities, construction, and the associated habitat loss. The Proposed Action is in an area that has routine traffic and human activity, and therefore, terrestrial wildlife would not be significantly affected by the Proposed Action. Increased human and equipment activity during construction may cause mobile wildlife to temporarily leave the area. It is expected that these individuals would return to the area and to normal activity after construction activities have been completed. Disturbance from construction would be minor and short-term.

The gopher tortoise is a former federal candidate species and is proactively managed by SLD 45. To the extent possible, gopher tortoise burrows would not be disturbed in accordance with FWC guidelines. No more than 90 days before and no fewer than 72 hours before any clearing or construction, a 100% pedestrian survey would be conducted to locate and flag/stake all burrows. Gopher tortoise burrows in areas to be cleared, areas for new construction, or on the shoulder of roads to be rebuilt would be excavated, and captured tortoises would be relocated in accordance with FWC guidelines to an SLD 45-approved recipient site.

A BA was prepared and submitted to USFWS on 20 July 2026, to support Section 7 consultation with USFWS for construction of SLC-51 (Appendix B). The BA provides a detailed assessment of the Proposed Action's effects on federally listed species managed by the USFWS. Table 8 summarizes the effects determinations and necessary mitigation measures for USFWS-managed ESA species. Details of the effects determinations for USFWS-managed ESA species are included in Section 5 of the BA (Appendix B).

Table 8. USFWS Protected Species Effects Determinations

Species Group	Common Name	Scientific Name	Federal Status	Effects Determination	Mitigation Measures
Mammal	Southeastern beach mouse	<i>Peromyscus polionotus niveiventris</i>	Threatened	May affect, and is likely to adversely affect	Habitat lost to construction would be mitigated at a 1:1 ratio. Funding for habitat restoration would be deposited into the Conservation Fund to be used at a site to be determined. The DAF would continue to implement its prescribed fire program which maintains scrub habitat suitable for SEBM.
Bird	Audubon's crested caracara	<i>Caracara plancus audubonii</i>	Threatened	May affect, but is not likely to adversely affect	No conservation or compensation measures are proposed.
Bird	Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened	May affect, and is likely to adversely affect	Habitat lost to construction would be mitigated at a 2:1 ratio. The DAF would continue to comply with the SLD 45 Scrub-jay Management Plan including implementing scrub habitat restoration and pre-clearing nest surveys (USAF 2025). Scrub-jay nests would be flagged, and no clearing would be allowed within 300 feet until all birds have fledged. The DAF would continue to implement its prescribed fire program.
Bird	Piping plover	<i>Charadrius melodus</i>	Threatened	May affect, but is not likely to adversely affect	No conservation or compensation measures are proposed.
Bird	Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	May affect, but is not likely to adversely affect	No conservation or compensation measures are proposed.
Reptile	Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	May affect, and is likely to adversely affect	The DAF would comply with the SLD 45 Indigo Snake Protection/Education Plan which would include displaying educational posters prominently at the site, stop working if an Eastern indigo snake is identified, and report all observations of live or dead Eastern indigo snakes to USFWS (USAF 2025).

Species Group	Common Name	Scientific Name	Federal Status	Effects Determination	Mitigation Measures
Reptile	Green sea turtle	<i>Chelonia mydas</i>	Threatened	May affect, but is not likely to adversely affect	Permanent exterior lighting would comply with the SWI 32-7001, <i>Exterior Light Management</i> (23 April 2018). A Lighting Management Plan (LMP) for construction of SLC-51 would be implemented to be consistent with the USFWS Programmatic BO for light management activities at CCSFS (USFWS Log No. 41910-2009-F-0087; USFWS 2008b). SLD 45 would employ turtle monitoring protocols per SLD 45 Sea Turtle Management Plan (USAF 2025).
Reptile	Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	May affect, but is not likely to adversely affect	Consistent mitigation measure with Green sea turtle above.
Reptile	Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	May affect, but is not likely to adversely affect	Consistent mitigation measure with Green sea turtle above.
Reptile	Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	May affect, but is not likely to adversely affect	Consistent mitigation measure with Green sea turtle above.
Reptile	Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	May affect, but is not likely to adversely affect	Consistent mitigation measure with Green sea turtle above.

Mammals

During the natural resources survey, all natural habitats within the approximately 80-acre project site were determined to provide suitable foraging and nesting habitat for the SEBM. Project activities would result in direct effects to the SEBM through the removal of up to 50 acres of suitable foraging and nesting habitat within the SLC-51 construction area ROI. Any land within the ROI that is either temporarily cleared or not directly affected by construction activities would be allowed to redevelop into natural habitats post-construction that may be used by the SEBM. Habitat loss would likely reduce SEBM survival and recruitment in future years.

Increased roadway traffic from construction activities and construction equipment may result in take of this species. During clearing, SEBM could be harmed due to strikes from heavy machinery and/or crashes with vehicles during ingress/egress from the construction area. However, most construction activities would take place during daylight hours, and the SEBM typically forages at nighttime when traffic volume is decreased. Mortality by vehicles is a rare occurrence due to the nocturnal nature of the species, the natural tendency of the species to flee from noise and human presence, and the lower speed limits in this area of CCSFS.

Because the SEBM is a nocturnal species, individuals may be deterred from foraging in suitable habitats if the launch pad or construction area is lit during nighttime. Nighttime construction would be minimized; however, when deemed necessary, measures would be implemented to shield and minimize light exposure to avoid disturbing SEBM in the vicinity. If nighttime construction is required, upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term, and therefore, negative effects on foraging would be considered temporary and insignificant. Permanent lighting emitted from the SLC-51 facility would comply with the standard operating procedures (SOPs) and relevant terms and conditions of existing BOs to reduce the potential effects of infrastructure lighting on the SEBM. Additionally, an LMP would be required for the construction and operation of the Proposed Action, which would be consistent with the USFWS Programmatic BO for light management activities at CCSFS (USFWS Log No. 41910-2009-F-0087; USFWS 2008b) and would be implemented year-round.

Noise and vibration generated from construction activities may interrupt foraging behavior or elicit startle responses in the SEBM. The startle response may prompt SEBM to flee the area to avoid the noise and therefore lessen the threat of harm from construction activities. It is anticipated that burrowing animals, including the SEBM, would be relatively unaffected by noise and vibration due to the attenuation of sound through the soil (DAF 2024a). Noise and vibration effects would be short-term in duration and would likely have an insignificant effect on this species.

Because of the potential for incidental take from construction activities and loss of habitat, the DAF has determined that the Proposed Action may affect, and is likely to adversely affect, the SEBM. Mitigation for effects on this species is described in Section 3.9.2.3.

Birds

The SLC-51 construction area contains up to 50 acres of suitable foraging habitat for the Audubon's crested caracara which may be permanently removed through land clearing activities. Habitat loss has the potential to displace individuals which may forage or roost in the construction area; however, this species has not been documented within the vicinity of the project site. Because this species is known to successfully forage and breed in a variety of habitats including those which are impacted by human development, it is likely that disturbed individuals would relocate to other areas in the vicinity with available habitat. Therefore, habitat loss is likely to have insignificant and discountable effects on this species.

Increased vehicle traffic from construction activities would not increase the likelihood of a vehicle strike as the species is rare on CCSFS and would be expected to avoid collisions with vehicles. Light from construction activities would not be expected to interfere with the Audubon's crested caracara foraging activities as the species forages only during the day when light from construction would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb Audubon's crested caracaras that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing Audubon's crested caracaras in the vicinity. Upward pointing lighting would

be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the Audubon's crested caracara. Noise and vibration from construction activities may temporarily disturb Audubon's crested caracaras foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect this species' ability to feed or shelter. Therefore, noise and vibration from construction activities would have insignificant effects on the Audubon's crested caracara.

Construction equipment, roadway traffic, light, noise, and vibrations from construction activities would likely have an insignificant effect on the Audubon's crested caracara. Due to the loss of habitat, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the Audubon's crested caracara.

Potential effects on the Florida scrub-jay resulting from the Proposed Action include the permanent removal of habitat due to land clearing and construction activities. During the natural resources survey, approximately 59 acres of suitable scrub habitat for the Florida scrub-jay was delineated within the approximately 80-acre project site in accordance with the FWC Scrub Management Guidelines (FWC 2019). Approximately 40 acres of suitable Florida scrub-jay scrub habitat lie within the 50-acre SLC-51 construction area, all of which may be affected as a result of the Proposed Action. The remaining approximately 10 acres of undeveloped land within the SLC-51 construction area lack appropriate vegetation, shrub density, composition, or soils to constitute suitable foraging or nesting habitat for this species (FWC 2019). As such, habitat loss for the Florida scrub-jay is quantified with respect to suitable foraging and nesting habitat which would be directly and permanently affected within the SLC-51 footprint, as delineated during the natural resources survey.

Habitat loss is expected to reduce Florida scrub-jay survival and recruitment immediately after habitat removal and in future years. Temporary adverse effects on individuals as a result of habitat loss include increased stress, increased competition for resources, and disturbance of young. Prolonged exposure to these stressors may result in reduced fitness of the species. Pre-construction surveys for the Florida scrub-jay would be completed before land-disturbing activities to identify nests or individuals that may be in the vicinity of the construction area. If the species is observed within the construction area, construction operations would cease until the individual is no longer within 300 ft of construction activities.

Increased vehicle traffic from construction activities is expected to have insignificant effects on this species due to lower posted speed limits in this area of CCSFS and lower Florida scrub-jay population density in the vicinity of Pier Road (SLD 45 2026b). As such, the likelihood of vehicle collisions with Florida scrub-jays along Pier Road is minimal compared to more densely populated areas within CCSFS. Light from construction activities would not be expected to interfere with Florida scrub-jay foraging, breeding, or socializing, as this species is active only during the day when light from construction would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb Florida scrub-jays that are inactive during the night, but the disturbance would be short-term in duration. Noise and vibration from construction activities may temporarily disturb Florida scrub-jays foraging in the immediate vicinity; however,

disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect the Florida scrub-jay's ability to nest, feed, or shelter, and would therefore have insignificant effects on this species.

Because of the loss of habitat due to construction activities, the DAF has determined that the Proposed Action may affect, and is likely to adversely affect, the Florida scrub-jay. Mitigation for effects on this species is described in Section 3.9.2.3.

The piping plover and rufa red knot are migratory shorebirds that nest and breed in northern climates and overwinter in southern climates during the winter. Both species may forage along the shoreline and intertidal area within the action area while overwintering outside their breeding seasons but would not be expected to forage within the project site or construction area due to the lack of suitable habitat. Neither species has been documented as nesting within Florida or CCSFS (USAF 2025). The presence of these species would be limited to the shoreline approximately 500 feet to the southeast of construction activities. Construction activities would have no effect on the piping plover or rufa red knot, nor their habitat.

Increased roadway traffic from construction activities and operation of construction equipment would have no direct effect on the piping plover or rufa red knot as their foraging habitat does not occur adjacent to roadways or the construction area. Light from construction activities would not be expected to interfere with piping plover or rufa red knot foraging, roosting, or socializing. These species are active only during the day when light from construction activities would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb individuals that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing piping plovers and rufa red knots in the vicinity. Upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the piping plover and rufa red knot.

Noise and vibration from construction activities may temporarily disturb piping plovers and rufa red knots foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect the piping plover's and rufa red knot's ability to feed or shelter, and would therefore have insignificant effects on these species.

Because effects to the piping plover due to light, noise, and vibration from construction activities would be temporary, short-term in duration, and insignificant, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the piping plover and rufa red knot.

Reptiles

Because gopher tortoise burrows occur throughout the construction area, use of this area by Eastern indigo snakes is possible. During the construction of the project, up to 50 acres of suitable Eastern indigo snake habitat would be disturbed and permanently lost. The loss of

habitat may contribute to reduced population levels by reducing foraging and breeding opportunities.

There is potential for incidental mortality of this species from land clearing activities through crushing or entombment from heavy machinery; however, it is anticipated that disturbances from construction activity would prompt Eastern indigo snakes to temporarily flee the area during construction. The potential for incidental mortality would be minimized through pre- and during-construction surveys and relocations of gopher tortoises and Eastern indigo snakes that may be found within burrows. Increased roadway traffic from construction activities may also slightly increase the risk of vehicle strikes on Eastern indigo snakes where habitats are adjacent to roadways. However, the likelihood of vehicle strikes is mitigated by the lower speed limits in this area of CCSFS, and incidental mortality from increased vehicle traffic is considered minimal.

Increased light from construction activities would not be expected to interfere with Eastern indigo snake foraging or breeding activities, as daytime construction lighting would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light would be short-term in duration and would be expected to have an insignificant effect on Eastern indigo snakes. Noise and vibration associated with construction activities could displace Eastern indigo snakes from foraging in the vicinity of the construction area; however, it is anticipated that burrowing animals, including the Eastern indigo snake, would be relatively unaffected by noise and vibration due to the attenuation of sound through the soil (DAF 2024a).

Construction equipment, roadway traffic, light, noise, and vibrations from construction activities would likely have an insignificant effect on Eastern indigo snakes. Based on the loss of habitat and potential for incidental take from construction activities, the DAF has determined that the Proposed Action may affect, and is likely to adversely affect, the Eastern indigo snake.

Approximately 4,600 linear feet of beach habitat where marine turtles may nest are within the ROI. The construction area does not overlap sea turtle nesting habitat, and therefore, no direct effects to sea turtle nesting habitat would occur from construction activities or increased vehicle traffic. Artificial light associated with SLC-51 infrastructure and nighttime construction activities may be visible from the beach and therefore result in disorientation or misorientation of marine turtle adults and hatchlings that nest on the beaches within the ROI. LMP's would be required for the construction and operation consistent with the existing Programmatic BO for light management activities and would be implemented year-round (USFWS 2008a). The construction LMP would address temporary lighting during predawn hours to accommodate activities such as concrete pours. Adherence to the LMP would reduce the effects of construction and infrastructure lighting on nesting marine turtles and hatchlings and therefore reduce the possibility of take of these species. SLC-51 would be conducted in accordance with the SOPs and relevant terms and conditions of existing BOs to reduce effects from infrastructure lighting on nesting sea turtle species. Light from nighttime construction may also disorient or misorient hatchlings, causing turtles to head inland and have difficulty reaching the sea, and potentially resulting in incidental mortality. Adults would typically survive, but nesting success could be reduced.

Construction noise would be limited to daytime hours except for limited pre-dawn work for concrete pours, which would generate less noise than typical construction. Noise from construction is unlikely to affect sea turtles as they typically venture on shore to nest during the nighttime, and nighttime construction activities would be limited. Noise and vibration resulting from construction activities would be short-term in duration.

Because construction lighting would be consistent with the existing Programmatic BO for light management activities (FWS Log No. 41910-2009-F-0087), and SLC-51 lighting would comply with the SOPs and relevant terms and conditions of existing BOs, the DAF has determined that the Proposed Action may affect, but is not likely to adversely affect, the green, loggerhead, leatherback, Kemp's ridley, and hawksbill sea turtles.

Conservation Measures

The DAF would implement the following conservation measures to proactively reduce the potential effects associated with the construction of SLC-51 on biological resources. Conservation measures are further detailed in Section 6 of the BA in Appendix B.

- Nighttime construction would be limited to the greatest extent practicable; however, when deemed necessary, measures would be implemented to shield and downcast light exposure, and reduce upward pointing lighting, to avoid disorienting sensitive species within the vicinity.
- Permanent facility lighting would comply with the SOPs and relevant terms and conditions of existing BOs.
- A LMP would be required, which would be consistent with the USFWS Programmatic BO for light management activities at CCSFS, and would be implemented year-round (USFWS Log No. 41910-2009-F-0087; USFWS 2008b).
- Pre-construction surveys for the Florida scrub-jay and gopher tortoise would be completed before land-disturbing activities to identify individuals, nests, or burrows that may be in the vicinity of the construction area.
- No more than 90 days before and no fewer than 72 hours before clearing or construction, a 100% pedestrian survey would be conducted to locate and flag/stake all gopher tortoise burrows. Gopher tortoise burrows would be excavated, and captured tortoises would be relocated in accordance with FWC guidelines to an SLD 45-approved recipient site. Any Eastern indigo snakes found within the burrows would also be relocated.
- SLD 45 would implement the USFWS Standard Protection Measures for the Eastern Indigo Snake during construction activities (USFWS 2024). Educational signs and posters would be displayed at the construction site to inform personnel of the appearance and status of the Eastern indigo snake.
- SLD 45 would continue to implement its prescribed fire program, as defined in the 2025 INRMP, which would benefit listed species through habitat restoration and conservation.
- Loss of habitat for the SEBM and Florida scrub-jay would be mitigated at a ratio of 1:1 and 2:1, respectively, as detailed in Section 3.9.2.3.

Construction activities would occur within a defined footprint and in accordance with existing species protection requirements and conservation practices at CCSFS, which limit disturbance to wildlife and habitats. While unavoidable habitat loss would occur, such effects would be addressed through authorized compensation mechanisms established through applicable consultation and permitting processes and would not result in population-level or ecosystem-scale effects. Accordingly, biological resource effects would not rise to the level of significance under NEPA.

3.9.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to biological resources. Baseline conditions would remain the same and no significant effects on biological resources would occur with the implementation of the No Action Alternative.

3.9.2.3 Mitigation

No mitigation measures are proposed for the Audubon's crested caracara, piping plover, Eastern indigo snake, and green, leatherback, loggerhead, Kemp's ridley, and hawksbill sea turtles.

The acreage of permanent loss of SEBM habitat would be mitigated at a 1:1 ratio (USFWS 2023) and would consist of restoration of habitat at a site to be determined and could occur on CCSFS or offsite. Restoration may include, but would not be limited to, mechanical cutting of overgrown scrub, treatment of invasive vegetation, creation of openings, prescribed burning, and plantings. Funding for habitat restoration would be deposited into the Conservation Fund to be used at a site to be determined. Funding would be required for the initial restoration as well as any annual maintenance to ensure the site is maintained as suitable SEBM habitat.

The acreage of permanent loss of Florida scrub-jay habitat would be mitigated at a 2:1 ratio (USAF 2025). This mitigation would consist of restoration of habitat on CCSFS outside of the project area of impact in a land management unit to be determined by SLD 45 and USFWS. Restoration may include, but not be limited to, mechanical cutting of overgrown scrub, treatment of invasive vegetation, creation of openings, prescribed burning, and plantings. Funding would be required for the initial restoration as well as any annual maintenance to ensure the site is maintained as a suitable scrub habitat.

3.10 Water Resources

Water resources evaluated in this section include groundwater, surface water, wetlands, and floodplains. The analysis focuses on whether construction and long-term presence of SLC-51 infrastructure could reasonably affect water quality, hydrology, wetland functions, or floodplain values through ground disturbance, stormwater runoff, dewatering, and wetland fill. The Proposed Action would not include dredging, in-water work, marine-based construction, modification of the Canaveral Sand Bypass borrow area, or approval of any change to shoreline-management activities. Construction activities would be limited to the SLC-51 project footprint, associated utility extensions, and supporting upland infrastructure.

At the federal level, Section 404 of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into Waters of the U.S. (WOTUS), and in Florida, is currently

administered by the U.S. Army Corps of Engineers (USACE). Further, per EO 11990, *Protection of Wetlands*, federal agencies must evaluate potential impacts to wetlands, avoid adverse effects where practicable, and consider alternatives that preserve wetland functions and values.

At the state level, Florida's Environmental Resource Permit (ERP) Program, authorized under Chapters 373, Florida Statutes, and 62-330, F.A.C., regulates activities that alter surface waters, wetlands, or hydrologic conditions, including upland development that generates stormwater runoff and dredge and fill activities (FDEP 2023b). The ERP Program is jointly implemented by FDEP and the state's five water management districts pursuant to operating and delegation agreements.

At CCSFS, both the St. Johns River Water Management District (SJRWMD) and the FDEP have demonstrated responsibility for ERP implementation, including review of stormwater management design, wetland impacts, and compensatory mitigation requirements. For purposes of this EA, the FDEP is identified as the lead state regulatory agency for implementation of the ERP program, with review and permitting actions undertaken by the SJRWMD pursuant to delegated authority.

Floodplain management for federal actions is governed by EO 11988, *Floodplain Management*, which directs federal agencies to avoid development in floodplains where practicable and to minimize potential adverse effects on natural and beneficial floodplain values when avoidance is not possible. In support of EO 11988, the Federal Emergency Management Agency (FEMA) identifies flood hazard areas through Flood Insurance Rate Maps. FEMA defines the Special Flood Hazard Area as the area inundated by the 1-percent annual chance flood (base flood or 100-year floodplain) and identifies moderate flood hazard areas as those located between the base flood and the 0.2-percent annual chance flood (500-year floodplain) (FEMA 2021). These mapped floodplains provide the regulatory basis for evaluating floodplain encroachment and compliance with EO 11988 for the Proposed Action.

Groundwater protection in Florida is governed primarily under the Safe Drinking Water Act (42 U.S.C. §§ 300f et seq.) and state water resource authorities administered by FDEP pursuant to Chapters 373 and 403, Florida Statutes. Regulatory oversight focuses on the protection of groundwater quality, control of discharges that may affect aquifers, and management of activities that could degrade potable water supplies or alter natural hydrogeologic conditions.

3.10.1 Affected Environment

3.10.1.1 Groundwater

Brevard County contains two primary aquifer systems: the surficial aquifer and the Floridan aquifer. The surficial aquifer occurs only a few feet below ground surface and is recharged primarily through local precipitation. This shallow aquifer is separated from the deeper Floridan aquifer by layers of low-permeability clays, silts, and marl that restrict vertical groundwater movement and limit hydraulic interaction between the two systems (USGS 2019). In coastal areas such as CCSFS, the Floridan aquifer is typically too deep or too mineralized for local potable use.

The project site is located within a coastal watershed where groundwater and stormwater either

infiltrate directly into the surficial aquifer or flow eastward as sheet flow toward the Atlantic Ocean. The surficial aquifer at CCSFS is classified by FDEP as a Class GII aquifer, indicating that it is capable of supplying potable water. However, the aquifer is not currently used for drinking water supply, and no future potable use is planned due to concerns related to salinity, vulnerability to contamination, and the availability of alternative regional water supplies (DAF 2015).

Available environmental records indicate that the proposed utility right-of-way is located within 500 feet of groundwater contamination associated with Solid Waste Management Unit (SWMU) C091, the former Security Police Confidence Course (Facility 18003). SWMU C091 is an Installation Restoration Program site where investigations and corrective measures have been conducted to address documented groundwater contamination (Tetra Tech 2007). The Proposed Action is not expected to adversely affect existing remediation systems or monitoring infrastructure. If dewatering is required near the SWMU, a dewatering plan would be submitted and, following approval by 45 Civil Engineer Squadron, Environmental Division, the Installation Restoration Program, and the FDEP, dewatering activities may commence. Land use controls would be implemented if groundwater is encountered to prevent the potential transfer of contamination to previously unaffected areas. Excavation equipment that comes into contact with groundwater would be decontaminated and dried prior to being moved offsite. In addition, the locations of existing monitoring wells would be incorporated into construction planning and operations, and any monitoring wells damaged or destroyed during construction would be replaced.

3.10.1.2 Surface Waters

There are no surface waters located within the SLC-51 project area. The southernmost corner of the SLC-51 project area is located approximately 250 feet west of the Atlantic Ocean, while the westernmost corner is approximately 2 miles east of the Banana River. Although these waters lie outside the project site, the presence of these nearby coastal and estuarine systems underscores the importance of effective stormwater management and erosion-control practices to prevent offsite transport of sediments or pollutants as a result of the Proposed Action.

Federal regulatory guidance on construction stormwater management indicates that improper handling, storage, or accidental release of fuels, oils, concrete products, and other construction materials can result in localized soil contamination and transport of pollutants in stormwater runoff. USEPA guidance notes that stormwater flowing over disturbed soils and exposed materials can mobilize sediment and associated contaminants and convey them to surface waters particularly during active earth-disturbing construction activities (USEPA 2025; USEPA 2022). However, these risks are generally localized and short-term when construction materials are managed in accordance with established pollution prevention and spill control practices.

3.10.1.3 Wetlands

Under Florida's ERP program, wetlands are defined as areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands are identified and delineated in accordance with the Florida Unified Wetland Delineation Methodology, codified in Chapter 62-340, F.A.C., which evaluates

vegetation, soils, and hydrologic indicators to determine wetland boundaries (FDEP 2023c). Wetlands regulated under the ERP program include, but are not limited to, swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, and mangrove systems. Wetlands within and adjacent to the ROI are influenced by shallow groundwater tables and precipitation patterns and provide important ecological functions such as flood attenuation, water quality treatment, and habitat for fish and wildlife, including federally protected species.

An aquatic resources delineation was completed in January 2026, and a wetland survey conducted in June 2026 confirmed a total of approximately 9.9 acres of wetlands within the 80-acre project site. Approximately 3.8 acres of wetlands could potentially be permanently impacted by construction activities. No streams, channels, ditches, ponds, or other open water features were observed within the project site during field investigations, and wetlands represent the only aquatic resources present onsite. The majority of delineated wetlands occur within interdunal swales, which are shallow depressional features formed between stabilized coastal dune ridges that retain water seasonally, following rainfall events, or as a result of high tide events. A cabbage palm hammock wetland was also identified within the project site, which lies slightly above the surrounding interdunal swale but is lower than the surrounding upland. All identified wetlands function as precipitation-driven systems that temporarily store surface water following rainfall events and intercept shallow groundwater during periods of elevated water tables. Hydrologic conditions are therefore seasonal and variable, with wetland inundation and saturation fluctuating in response to rainfall patterns and antecedent moisture conditions rather than sustained surface inflow or outflow. The absence of defined banks, channels, or ordinary high-water marks indicates that these wetlands do not support concentrated or directional surface flow and instead function as isolated depressional features within the coastal dune landscape.

Vegetation within the interdunal wetlands is dominated by palustrine emergent and scrub-shrub communities adapted to fluctuating hydroperiods and sandy substrates. Observed plant assemblages include herbaceous hydrophytes such as salt meadow cordgrass (*Sporobolus pumilus*), sand cordgrass (*Sporobolus bakeri*), bushy bluestem (*Andropogon glomeratus*), cattail (*Typha* spp.), and sedges, along with scattered shrubs and small trees such as coastal plain willow (*Salix caroliniana*) and cabbage palm (*Sabal palmetto*). The cabbage palm hammock wetland has a closed canopy dominated by cabbage palms, with subcanopy species including groundsel tree (*Baccharis halimifolia*), wax myrtle (*Morella cerifera*), and Brazilian pepper. Wetland soils exhibit hydric characteristics, including prolonged saturation, localized organic matter accumulation, and redoximorphic features, consistent with seasonal wetland conditions. Overall, all wetlands within the project site are relatively small in size, lack internal zonation or complex microtopography, and provide localized habitat and hydrologic functions typical of interdunal wetland systems along Florida's Atlantic coastal barrier environments (NOAA 2026).

Based on field observations and review of high-resolution Light Detection and Ranging data, the wetlands identified within the project site do not exhibit evidence of a relatively permanent flow or surface discharge to downstream waters and lack hydrologic connectivity to WOTUS, as defined under current federal guidance (USACE 2020; NOAA 2026). The identified wetlands are hydrologically isolated, with no surface or shallow subsurface connection to a Traditionally

Navigable Waterway or other jurisdictional WOTUS. An approved jurisdictional determination provided by the USACE on 28 August 2026 confirmed all identified wetlands are federally non-regulated wetlands. However, these wetlands are subject to state jurisdiction and regulation under the ERP program, and any impacts to such wetlands would require ERP authorization (FDEP 2023b).

3.10.1.4 Floodplains

The majority of the project site falls within the 100-year floodplain, also referred to as the 1-percent-annual-chance floodplain (Appendix E). FEMA defines this area as having a one percent probability of flooding in any given year, which is considered a high-risk zone where construction activities are subject to additional design, siting, and mitigation requirements to reduce potential flood damage and ensure public safety (FEMA 2021). Portions of the ROI also fall within the 500-year floodplain, or the 0.2-percent-annual-chance floodplain, which represents areas with a moderate risk of flooding. While development in the 500-year floodplain is not regulated to the same extent as the 100-year floodplain, these areas may experience flooding during extreme storm events, including hurricanes and coastal surge events that exceed typical design storms. These mapped floodplains provide the basis for determining whether proposed activities may result in floodplain encroachment under EO 11988, *Floodplain Management*, and related agency guidance.

For water resources, the ROI includes the SLC-51 project site (approximately 80 acres), including the approximately 50-acre construction area, and adjacent downgradient areas where stormwater runoff, erosion, or dewatering discharges could reasonably influence wetlands or nearby receiving waters. The analysis evaluates construction-phase pathways (grading/excavation, temporary dewatering, stormwater runoff, and wetland filling), and the post-construction condition (stormwater management and drainage function associated with permanent infrastructure). The ROI does not include the approximately 1.79-mile utility corridor because it is located within the existing Pier Road ROW upland corridor that is previously disturbed, cleared of vegetation, and routinely maintained through mowing.

3.10.2 Environmental Consequences

For the purposes of this analysis, an adverse effect to water resources would occur if the Proposed Action resulted in the permanent loss of wetland functions and values, generated construction-related discharges (e.g., stormwater runoff or dewatering effluent) that degraded nearby aquatic resources, or increased flood risk within the ROI.

Water resources effects would be considered significant if the Proposed Action resulted in unacceptable conditions such as violations of applicable water quality standards, uncontrolled pollutant loading to aquatic resources, a net loss of wetland or floodplain functions and values, or increased flood hazards inconsistent with EO 11990/EO 11988, particularly where impacts could not be avoided and minimized to the maximum extent practicable and remaining functional losses could not be fully offset through ERP and Uniform Mitigation Assessment Method (UMAM) requirements.

3.10.2.1 Proposed Action

The Proposed Action would affect approximately 3.8 acres of wetland habitat within the approximately 80-acre project site through clearing, grading, excavation, construction, roadway improvements, and installation of new utility corridors for power, communications, water, and propellant systems. Due to the shallow water table within the ROI, dewatering may be required during portions of excavation and subsurface construction. These activities have the potential to interact with groundwater, surface waters, wetlands, and floodplains within the ROI.

3.10.2.1.1 Groundwater

Construction of SLC-51 would occur within the surficial aquifer, where groundwater is typically encountered a few feet below ground surface. Excavation for foundations, utility trenches, flame trench structures, and subsurface infrastructure may require temporary dewatering to maintain stable working conditions. Groundwater drawdown is expected to be localized to the immediate construction area and be temporary in duration, although the specific method has not yet been selected. The surficial aquifer is unconfined and recharged primarily through precipitation. Temporary lowering of groundwater levels during dewatering may occur within and adjacent to excavation zones, but groundwater levels would be expected to rebound following cessation of construction activities. Construction would not penetrate the confining units that separate the surficial aquifer from the deeper Floridan aquifer; therefore, no effects to the Floridan aquifer are anticipated.

Installation of deep and shallow foundations, utility corridors, and subsurface structures would not alter long-term groundwater flow patterns, which generally move westward toward the Banana River, although local drainage features may influence flow direction. The Proposed Action does not include groundwater withdrawal for potable use and would not introduce long-term changes to aquifer recharge or storage. Therefore, the Proposed Action would have no significant effect on groundwater.

3.10.2.1.2 Surface Waters

There are no surface waters within the ROI. Construction activities would not involve dredging, filling, or direct modification of surface waters. The Proposed Action would add a significant amount of new, impervious surface and would therefore require an ERP from FDEP. The Proposed Action would follow stormwater regulations set forth by the SJRWMD and FDEP standards, and as a result, would not result in significant effects to surface waters.

3.10.2.1.3 Wetlands

Construction of SLC-51 would require permanent fill of approximately 3.8 acres of wetlands located within the construction area footprint, and secondary impacts to approximately 1.8 acres of wetlands. Due to being hydrologically isolated and the lack of connection to a TNW, these wetlands are not considered WOTUS under Section 404 of the CWA. Additional temporary effects may occur where construction access, grading, or utility installation intersect wetland boundaries. Permanent wetland filling would result in the loss of wetland acreage and associated hydrologic and ecological functions.

3.10.2.1.4 Floodplains

Portions of the ROI are located within FEMA-designated 100-year and 500-year floodplains,

representing areas with a 1% and 0.2% annual chance of flooding, respectively (FEMA 2021). Construction activities would occur within these mapped flood hazard areas. Consistent with EO 11988 and DoW siting requirements, the Proposed Action would be designed to avoid significant encroachment into floodplains and to maintain natural and beneficial floodplain values. Construction would not involve significant hydrologic modifications that would substantially alter floodplain elevations, flow paths, or floodwater storage capacity. Because the Proposed Action consists of constructing new facilities within an existing federal installation and does not alter regional hydrology, no significant effects to floodplain function are anticipated.

Avoidance of floodplain areas is not practicable due to mission-driven siting constraints, including explosive safety arcs, range safety requirements, and the need to locate new launch infrastructure within an existing launch operations district at CCSFS. Consistent with EO 11988, floodplain-related effects would be minimized through facility siting, elevation, stormwater management, and structural design measures incorporated during project development in accordance with applicable DoW, DAF, and installation standards. With implementation of these minimization measures, the Proposed Action would not substantially alter floodplain storage capacity, flow paths, or natural floodplain functions within the ROI.

Conservation Measures

Avoidance and minimization are the primary means of reducing potential effects to water resources. The Proposed Action was designed through iterative site planning to avoid and minimize effects to wetlands, surface waters, groundwater, and floodplains to the maximum extent practicable. Project layout refinements intentionally avoided approximately 60% of the wetlands identified within the SLC-51 project site by clustering infrastructure, aligning access and utility corridors with existing roadway interfaces, and maintaining buffers around higher-quality and less-disturbed wetland systems. As a result, unavoidable wetland impacts are concentrated primarily in smaller, lower-functioning wetlands located adjacent to existing roadways and disturbed upland areas, which exhibit reduced ecological integrity due to edge effects, altered hydrology, and proximity to infrastructure.

In addition to avoidance by design, the Proposed Action incorporates established protective measures to include BMPs and construction-phase controls intended to further minimize effects to water resources. These measures include controlled construction sequencing, stormwater management features designed to limit ground disturbance, reduce erosion, and prevent uncontrolled runoff, and implementation of erosion and sediment control measures consistent with applicable regulatory requirements.

During construction, stormwater and erosion control BMPs would be implemented in accordance with an approved SWPPP and applicable NPDES Construction General Permit requirements. Measures such as silt fencing, stabilized construction entrances, temporary soil stabilization, and other sediment control practices would be used to prevent sediment and associated pollutants from leaving the site. These controls would minimize the potential for water-quality degradation in adjacent wetlands and downgradient receiving environments. A dewatering plan would be implemented to ensure no contaminants or groundwater impacts are incurred, and no effluent would be discharged offsite. In accordance with Chapter 62-330 F.A.C., post-construction contamination thresholds would be monitored in accordance with stormwater design criteria

outlined in the ERP.

Equipment maintenance and spill-prevention measures would also be implemented to minimize risks to water resources. Construction equipment would be routinely inspected and maintained to prevent leaks of fuel, oil, or hydraulic fluids, and spill-response materials would be readily available onsite. Any accidental releases would be promptly contained and cleaned in accordance with established spill-response procedures to prevent migration to soils, groundwater, wetlands, or nearby surface waters. SLC-51 infrastructure would be designed, constructed, and operated in accordance with applicable DoW directives and installation requirements to minimize long-term risks to water resources.

Overall, the Proposed Action would result in no significant effects to water resources because site design, construction methods, and stormwater management practices required for development at CCSFS limit changes to surface water flow, water quality, and wetland function, and unavoidable wetland effects would be addressed through authorized compensation as part of the ERP framework governing the action.

3.10.2.2 No Action Alternative

Under the No Action Alternative, new launch infrastructure would not be constructed, and existing launch operations would remain at SLC-46. No ground disturbance, excavation, dewatering, utility installation, or construction activities would occur. Therefore, the No Action Alternative would result in no significant effect on groundwater, surface waters, wetlands, or floodplains.

3.10.2.3 Mitigation

In accordance with FDEP requirements, unavoidable adverse effects to wetlands and other surface waters must be fully offset through compensatory mitigation on a functional basis to ensure no net loss of wetland functions and values. The UMAM evaluates wetland and surface water functions by considering factors such as location and landscape support, water environment, community structure, time lag, and mitigation risk, and is used by FDEP and the water management districts to ensure mitigation is commensurate with the functions lost as a result of proposed impacts. Compensatory mitigation for the Proposed Action would be designed to ensure no net loss of wetland or surface water functions and values, as determined through the regulatory permitting process and documented in applicable state authorization. In accordance with the Florida House Bill 1175/Senate Bill 492, *Wetland Mitigation Banking*, mitigation may be implemented onsite or offsite, including permittee-responsible mitigation or the use of approved mitigation banks or regional offsite mitigation areas, as appropriate (FDEP 2023c; Rule 62-345, F.A.C.). Prior to permit issuance, compensatory mitigation requirements would be finalized by FDEP as part of the ERP authorization.

3.11 Land Use (Includes Range Management)

Land use and range management at CCSFS are governed by a comprehensive framework of federal statutes, DoW policy, and USSF operational guidance that collectively ensure the safe, compatible, and mission-effective use of land, airspace, and offshore areas. CCSFS is part of the Eastern Range, an MRTFB, and is managed to support national security, civil, and commercial

space launch and test activities while maintaining acceptable levels of risk to the public, personnel, and mission-critical infrastructure.

Primary authority for range management and operational land use at CCSFS rests with SLD 45, which oversees range safety, coordinates access to range resources and ensures that proposed activities are compatible with existing and planned mission requirements. SLD 45 manages the Eastern Range to prevent conflicts among launch operations, air and maritime traffic, and on-installation land-use through established safety corridors, hazard areas, and operational restrictions.

Range operations and land use compatibility requirements are implemented through Space System Command Manual 91-710, *Range Safety User Requirements Manual*, which applies to all activities conducted on resources: land, sea, or air, owned or controlled by SSC ranges, including CCSFS. This manual establishes mandatory requirements governing ground operations, launch support activities, explosive safety, hazardous materials handling, and access controls to ensure that land uses within the range do not compromise operational safety or mission execution.

3.11.1 Affected Environment

The land use ROI includes the approximately 80-acre project site and the approximately 1.79-mile utility line corridor within the existing Pier Road ROW. The project site is located on the eastern side of CCSFS, south of the Skid Strip, between Pier Road and the Atlantic Ocean, and currently consists of land designated for mission-related use. The Atlantic Ocean shoreline along the project site is restricted for public use. Land surrounding the project site is managed in accordance with Air Force Manual 32-7003, *Environmental Conservation*, and the 45th *Space Wing Wildland Fire Management Plan*.

3.11.2 Environmental Consequences

For the purposes of this analysis, an adverse effect to land use and range management would occur if the Proposed Action introduced land-use incompatibilities, expanded operational hazard areas, or increased restrictions on adjacent activities within the ROI. Land use and range management effects would be considered significant if the Proposed Action reduced the effectiveness of established range safety procedures or created unacceptable incompatibilities with existing land use designations at CCSFS.

3.11.2.1 Proposed Action

Under the Proposed Action, construction of SLC-51 would convert up to 50 acres of natural habitat within the project site to launch and support infrastructure. This conversion would occur entirely within CCSFS, where land use is already designated and managed for military, aerospace, and range operations. Implementation of the Proposed Action would be consistent with the intent of long-range development objectives for CCSFS, including the USSF Range of the Future (ROTF) 2028 Strategic Intent, which identifies the need to increase launch posture over the next decade through modernization and reconfiguration of infrastructure. The ROTF planning framework anticipates continued development to enable daily launch capability, support multiple launches per day, eliminate critical day restrictions, and improve infrastructure

redundancy and operational efficiency through district-based planning, infrastructure roadmaps, and upfront environmental planning.

Development of up to 50 acres would not alter overall land use patterns at CCSFS or introduce new land use incompatibilities. The project site is currently under federal control and is not used for residential, commercial, recreational, or agricultural purposes. Adjacent land uses consist of existing launch complexes, range support facilities, natural buffer areas reserved for safety and security, and other installation-related uses that are compatible with launch operations. As a result, the Proposed Action would not displace incompatible uses or conflict with adjacent activities.

With respect to range management, the Proposed Action would assist in alleviating restrictions on testing and launch support activities occurring at SLC-36. As described in Section 1.1.1, scheduling conflicts between SLC-46 and SLC-36 result in delays and restrictions on launch operations at SLC-36, which creates competing national security priorities. Construction of SLC-51 would eliminate these conflicts and therefore alleviate current restrictions on land use and range operations. Although the configuration of launch infrastructure within CCSFS would change, launch operations at SLC-51 would be conducted under existing range safety procedures, airspace and maritime coordination practices, and exclusion zones previously assessed for similar launch complexes at CCSFS. Therefore, the Proposed Action would not expand operational hazard areas beyond those already established for CCSFS launch activities or introduce new types of operations or hazard characteristics that differ meaningfully from baseline launch activities already occurring or planned at the installation.

For projects occurring in the vicinity of the ROI during the time of scheduled launches, such as dredging activities, port operations, and federally mandated shoreline management activities, SLD 45 Range Control would coordinate with appropriate agencies to deconflict operations and ensure project activities are conducted in accordance with applicable safety standards. Sea space and airspace safety measures associated with JFC and Trident launch activities are detailed in the February 2022 *JFC EA/OEA*, and the May 2025 *Trident II WSTP EA/OEA*, respectively.

The Proposed Action represents an incremental change within this broader, ongoing pattern of range development and would not preclude, constrain, or fundamentally alter future range operations or land management objectives. Standard planning, coordination measures, and BMPs would be implemented to ensure continued compatibility of the Proposed Action with range operations. Coordination with SLD 45 would ensure that all project elements remain consistent with established range safety and operational requirements. The siting of facilities and associated infrastructure under the Proposed Action would maintain required safety buffers, avoid encroachment into incompatible land use areas, and remain outside operationally sensitive zones such as safety arcs, airfield protection surfaces, and critical range corridors. Access controls, operational restrictions, and range safety procedures applicable to mission-related use areas would continue to be applied in accordance with established range management and safety guidance.

Adherence to installation land use plans and approved development would envelop further effects by keeping construction and operations within areas already designated for such

activities, avoiding encroachment into sensitive or incompatible zones. Maintaining required safety buffers and exclusion areas would provide an additional layer of protection by physically separating project activities from adjacent resources, personnel, and mission-critical infrastructure. Finally, implementing access controls and operational restrictions during construction and operations would help manage the movement of personnel and equipment, preventing accidental disturbance of restricted areas and ensuring that activities occur only where they are authorized.

Accordingly, conversion of up to 50 acres of natural habitat for the construction and operation of SLC-51 would not result in new land use incompatibilities, expansion of operational hazard areas, or increased restrictions on adjacent activities. The Proposed Action would result in no significant effects to land use and range management because the action is consistent with existing CCSFS land use designations and operational controls, and would not expand safety zones, hazard areas, or incompatible land uses beyond those already established for mission-support activities.

3.11.2.2 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be implemented, and existing land use conditions at CCSFS would remain unchanged. Current mission facilities and operational patterns would continue under existing land use and range management frameworks.

While the No Action Alternative would avoid short-term construction-related disturbances, it would not provide the operational efficiencies, safety improvements, or land use optimization associated with the Proposed Action. Over time, continued reliance on existing configurations could constrain mission flexibility or require continued use of less-efficient land use arrangements. The No Action Alternative would result in no significant effects on land use and range management.

3.11.2.3 Mitigation

No compensatory mitigation measures are required for land use and range management. As described above, the Proposed Action is consistent with existing CCSFS land use designations and range management practices and would not introduce incompatible land uses or expand operational hazard areas.

Avoidance and minimization of potential effects are achieved through adherence to installation land use plans, coordination with Space Launch Delta 45, and compliance with established range safety and operational requirements. Siting of infrastructure outside of safety arcs and within designated mission-compatible areas ensures continued compatibility with existing operations. Because the Proposed Action does not result in land use conflicts or adverse effects requiring mitigation, compensatory mitigation is not required.

4.0 REFERENCES

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Years of Experience: 2

APPENDIX A

Section 106 Consultation



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

4 December 2025

MEMORANDUM FOR THE TRIBAL HISTORIC PRESERVATION OFFICER
MICCOSUKEE TRIBE OF INDIANS OF FLORIDA
ATTENTION: DR. JASON DANIEL
TAMIAMI STATION
PO BOX 440021
MIAMI, FL 33114

FROM: 45 CES/CEIE
1224 Jupiter Street, MS-9125
Patrick Space Force Base FL 32925-3242

SUBJECT: Construction and Operations at the Proposed Space Launch Complex 51, Cape Canaveral Space Force Station (CCSFS), Brevard County, Florida.

1. [REDACTED] [REDACTED]
[REDACTED] The purpose of the proposed undertaking is to relocate Department of the Navy (DON) and Department of the Army (DOA) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones, including BO's explosive clear zone at SLC-36. This relocation will ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity.
2. The undertaking is needed to resolve safety and operational challenges at CCSFS. Current operations at nearby launch sites, including SLC36, pose hazards to assets at SLC46, and the two complexes cannot operate simultaneously without disruption. Relocation eliminates these risks, prevents conflicts between Department of War (DoW) mission requirements and commercial launches; therefore, enabling the USSF to better integrate commercial space activities under the 2024 Commercial Space Integration Strategy. By deconflicting operations, national security requirements are preserved while assured access to the Eastern Range is maintained, enabling the DoW, NASA, other federal and commercial partners to conduct missions safely, with minimal disruptions, and with greater operational flexibility.
3. The undertaking will be within the area indicated at the large rectangle in (Attachment A; Figure 2) which is undeveloped land at this time.
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Air Force Station, Brevard Country, Florida. As part of the investigation an interview was conducted with an eyewitness to the launch failure. John Hilliard stated that only large pieces of the wreckage was collected if they were a range safety hazard or there was “no telemetry data.”. He also stated there was only one impact site. A surface survey was conducted over the entire project area along north to south and east to west transects. A close inspection was conducted of all roads, trails, open areas, fence lines, ditches, and drainages. The site appeared to be confined to the surface based on informant accounts no subsurface testing was conducted except for the use of a soil probe. Only diagnostic artifacts were collected in the field. Artifacts are curated at the SLD 45 archaeology laboratory, CCSFS, Florida. The results suggested that the site 8BR2087 is the remains of Jupiter Missile AM-9 which crashed on October 10, 1958. 45 SW CRM determined that the site appears to be eligible for listing in the NRHP based on its significance and research potential in the development of the US missile program during the Cold War and later applications in the manned space program. At the time this was the only terrestrial missile crash site identified on CCSFS and since that time at least six more have been discovered and recorded. In addition, the impact crater from the crash may have been filled and destroyed by one or more storm events. In 2023, a section of the debris field from this crash was found further south during a prescribed burn.

5. The second CRAS was conducted within the southern edge of the undertaking site. It was conducted by the Cape Canaveral Archaeological Mitigation Project in 2018. As part of the University of Central Florida’s field school, students documented historic surface features and excavated 103 shovel test pits (STP). These investigations recovered both Euro-American and Indigenous materials, confirming the site’s multi-component character. Analysis of artifacts, field notes, and spatial data refined prior interpretations of the site’s occupational history, boundaries, and integrity. Results identified concentrated areas of Indigenous and historic activity alongside zones of modern disturbance. As a result of the combined investigations, the core artifact-bearing area was expanded to 8.77 acres (3.55 hectares), with the total site boundary extending across 17.8 acres (7.2 hectares). Findings indicate a primary phase of use during the early twentieth century and a possible Indigenous component dating to the Malabar I–II periods or this precontact component could be fill material for a parking lot. Based on the survey results, site 8BR240 does not meet the criteria for listing on the National Register of Historic Places. The result of this survey is titled *Archaeological and Historical Investigation of the Hotel Site (8BR240) Final Report of all Project Activities 2018* and was sent to your office for review in November 2025.

6. The SLD 45 CRM proposes that an archaeological reconnaissance survey be conducted of the Jupiter Missile Crash Site (8BR2087) to include surface collection of artifacts along with GPSing of their locations and photography. This should include the present location of the site and additional artifacts to the south. A determination will also need to be made to ensure that the crater is still at its present location and intact, as well as establishing a new boundary. An evaluation of the site should also be made based on the new data.

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9. Point of contact for this matter is Tom Penders at 321-853-0886, or e-mail, Thomas.Penders@spaceforce.mil.

MICHAEL A. BLAYLOCK, NH-3, DAF
Chief Environmental Conservation

Attachment:
Figures

ATTACHMENT A FIGURES



Figure 1. Location map

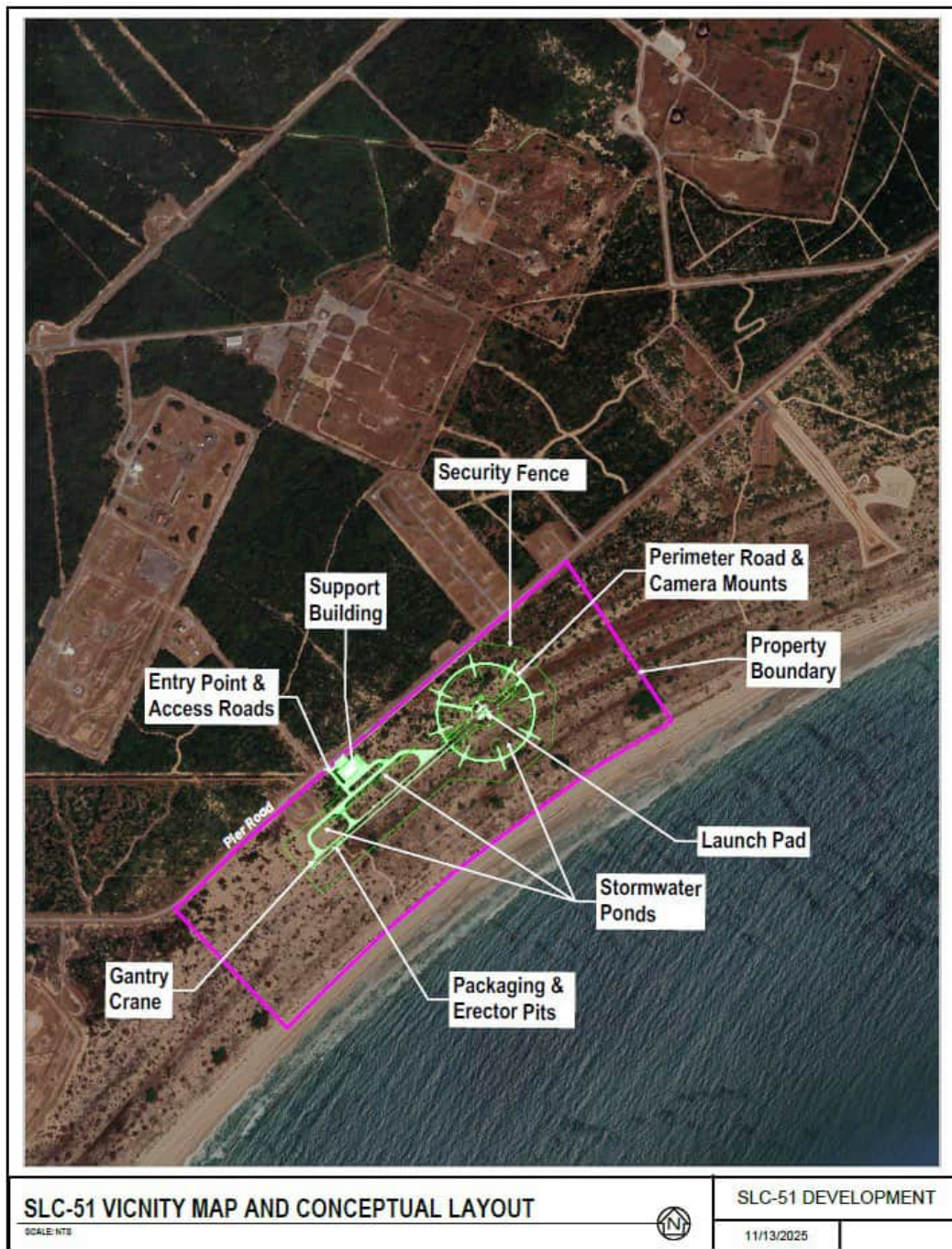


Figure 2. Conceptual layout of SLC-51

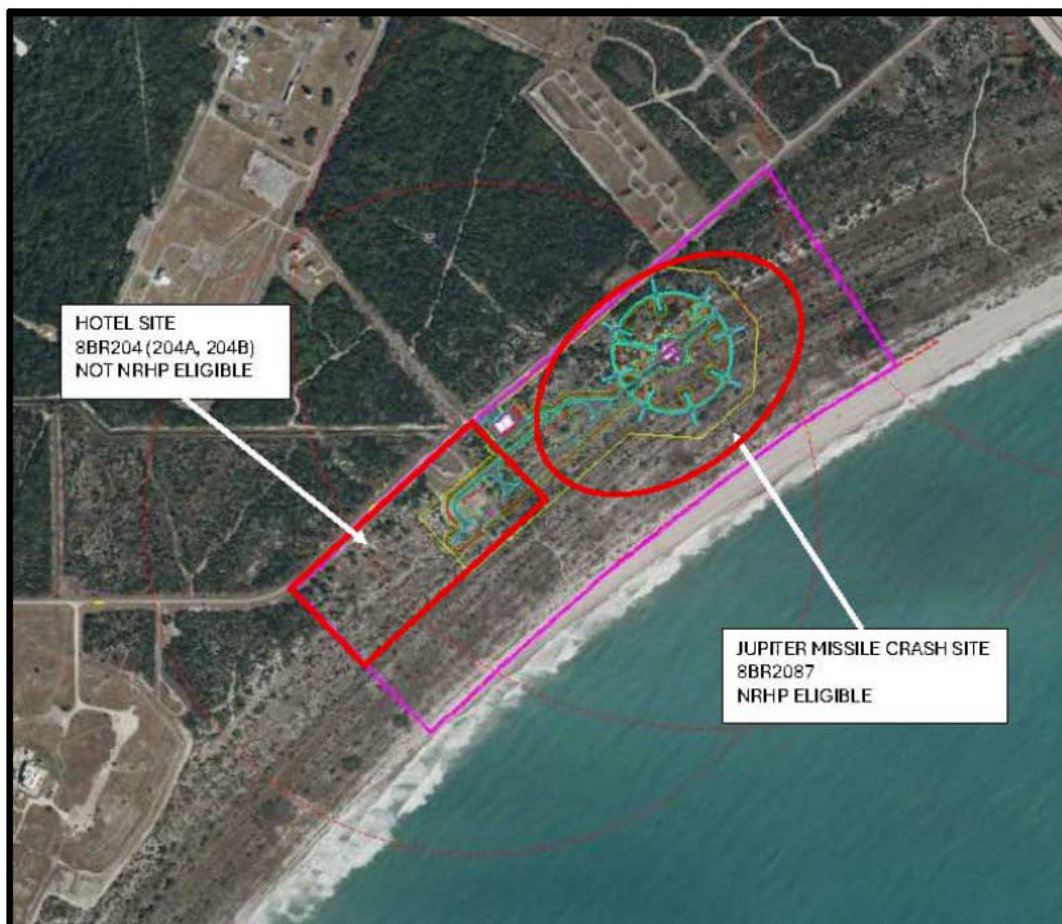


Figure 3. Archaeological sites within the subject property.



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

4 December 2025

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SEMINOLE NATION OF OKLAHOMA
ATTENTION: MR. JEFFREY HARJO
P.O. BOX 1498
WEWOKA, OKLAHOMA 74884

FROM: 45 CES/CEIE
1224 Jupiter Street, MS-9125
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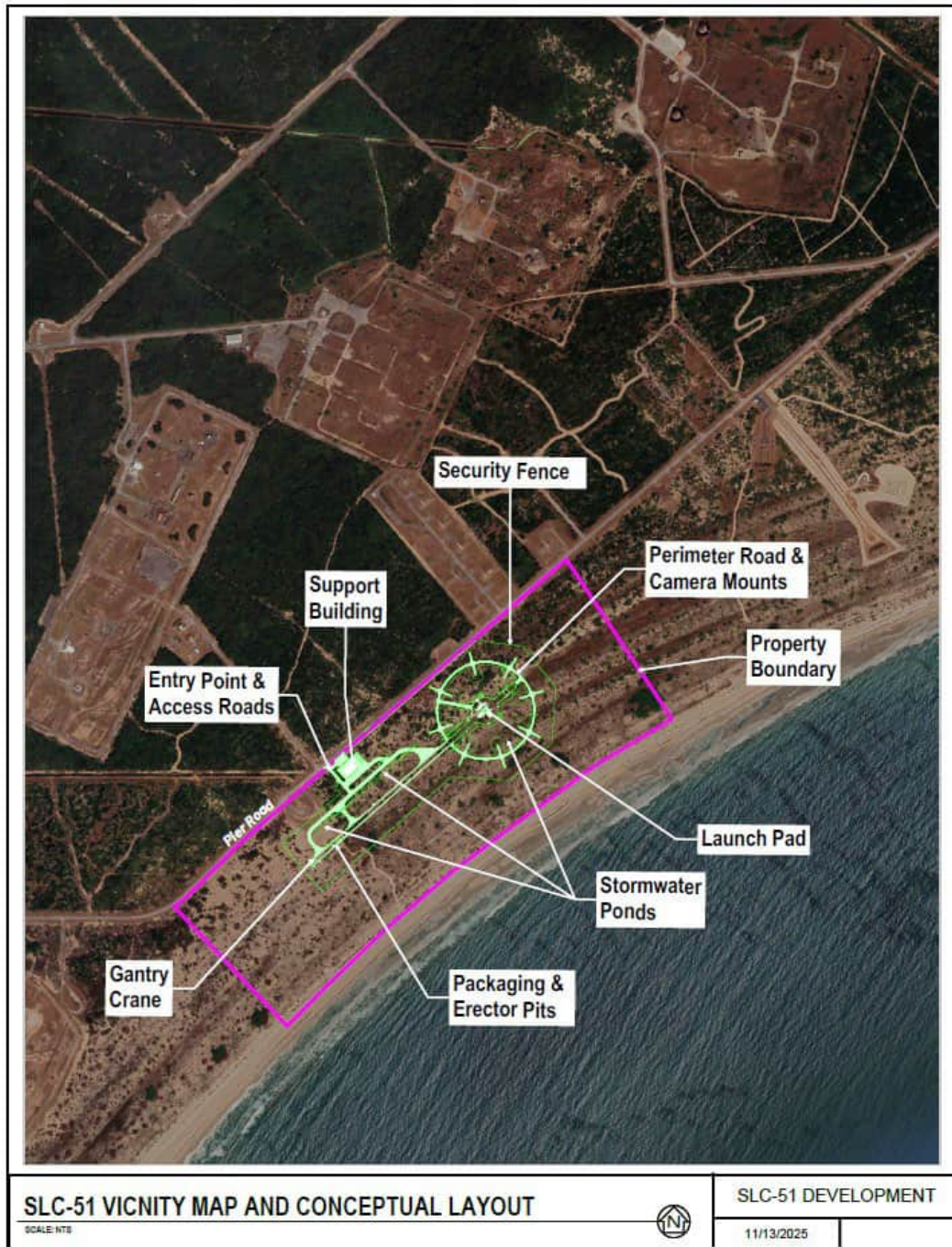


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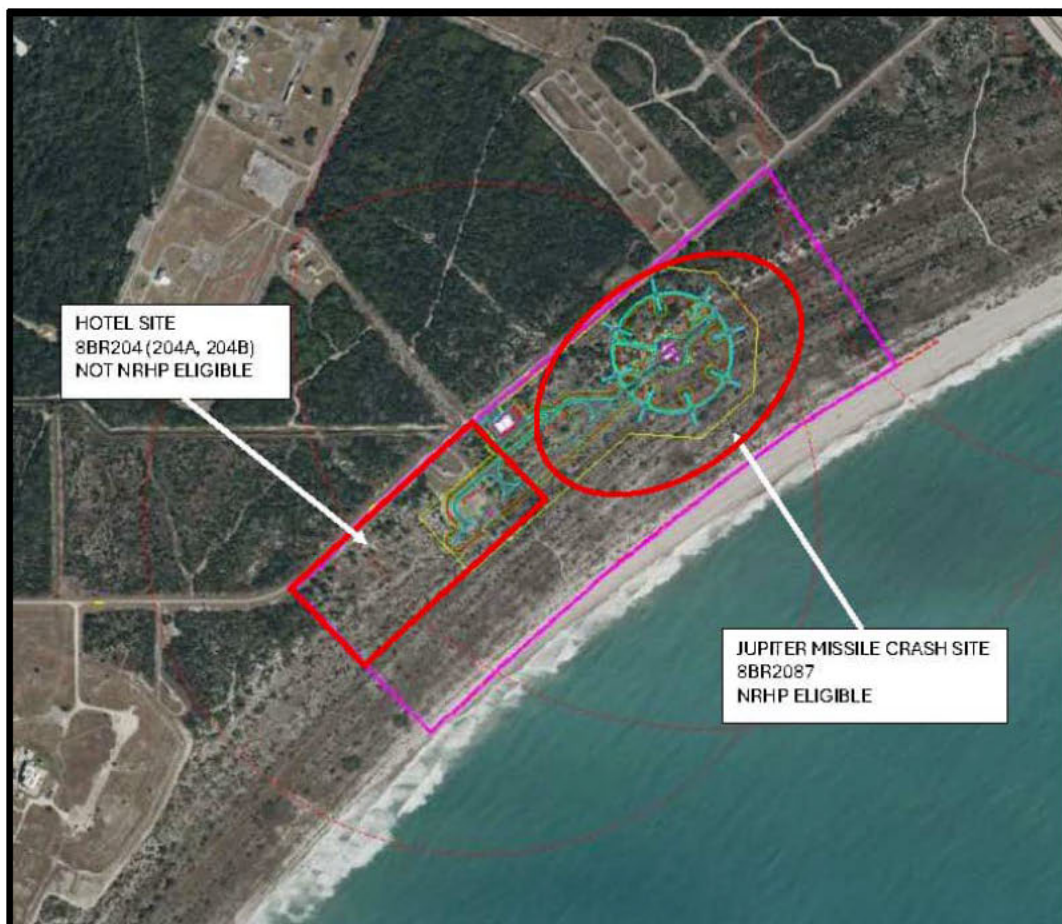


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**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

4 December 2025

MEMORANDUM FOR TRIBAL HISTORIC PRESERVATION OFFICER
SEMINOLE TRIBE OF FLORIDA
ATTENTION: MS. TINA OSCEOLA
30290 JOSIE BILLIE HIGHWAY, PMB 1004
CLEWISTON, FL 33440

FROM: 45 CES/CEIE
1224 Jupiter Street, MS-9125
Patrick Space Force Base FL 32925-3242

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conducted with an eyewitness to the launch failure. John Hilliard stated that only large pieces of the wreckage was collected if they were a range safety hazard or there was “no telemetry data.”. He also stated there was only one impact site. A surface survey was conducted over the entire project area along north to south and east to west transects. A close inspection was conducted of all roads, trails, open areas, fence lines, ditches, and drainages. The site appeared to be confined to the surface based on informant accounts no subsurface testing was conducted except for the use of a soil probe. Only diagnostic artifacts were collected in the field. Artifacts are curated at the SLD 45 archaeology laboratory, CCSFS, Florida. The results suggested that the site 8BR2087 is the remains of Jupiter Missile AM-9 which crashed on October 10, 1958. 45 SW CRM determined that the site appears to be eligible for listing in the NRHP based on its significance and research potential in the development of the US missile program during the Cold War and later applications in the manned space program. At the time this was the only terrestrial missile crash site identified on CCSFS and since that time at least six more have been discovered and recorded. In addition, the impact crater from the crash may have been filled and destroyed by one or more storm events. In 2023, a section of the debris field from this crash was found further south during a prescribed burn.

5. The second CRAS was conducted within the southern edge of the undertaking site. It was conducted by the Cape Canaveral Archaeological Mitigation Project in 2018. As part of the University of Central Florida’s field school, students documented historic surface features and excavated 103 shovel test pits (STP). These investigations recovered both Euro-American and Indigenous materials, confirming the site’s multi-component character. Analysis of artifacts, field notes, and spatial data refined prior interpretations of the site’s occupational history, boundaries, and integrity. Results identified concentrated areas of Indigenous and historic activity alongside zones of modern disturbance. As a result of the combined investigations, the core artifact-bearing area was expanded to 8.77 acres (3.55 hectares), with the total site boundary extending across 17.8 acres (7.2 hectares). Findings indicate a primary phase of use during the early twentieth century and a possible Indigenous component dating to the Malabar I–II periods or this precontact component could be fill material for a parking lot. Based on the survey results, site 8BR240 does not meet the criteria for listing on the National Register of Historic Places. The result of this survey is titled *Archaeological and Historical Investigation of the Hotel Site (8BR240) Final Report of all Project Activities 2018* and was sent to your office for review in November 2025.

6. The SLD 45 CRM proposes that an archaeological reconnaissance survey be conducted of the Jupiter Missile Crash Site (8BR2087) to include surface collection of artifacts along with GPSing of their locations and photography. This should include the present location of the site and additional artifacts to the south. A determination will also need to be made to ensure that the crater is still at its present location and intact, as well as establishing a new boundary. An evaluation of the site should also be made based on the new data.

7. The SLD 45 CRM also proposes that no further archaeological investigations are needed at the Hotel Site (8BR240) due to it not being eligible for inclusion in the NRHP and that the current CRAS report is sufficient for documentation of the site (FDHR Project No. 2016-5267-B).

8. This consultation is being submitted in accordance with Section 106 of the National Historic Preservation Act and 36 CFR 800.

9. Point of contact for this matter is Tom Penders at 321-853-0886, or e-mail, Thomas.Penders@spaceforce.mil.

MICHAEL A. BLAYLOCK, NH-3, DAF
Chief Environmental Conservation

Attachment:
Figures

ATTACHMENT A FIGURES



Figure 1. Location map

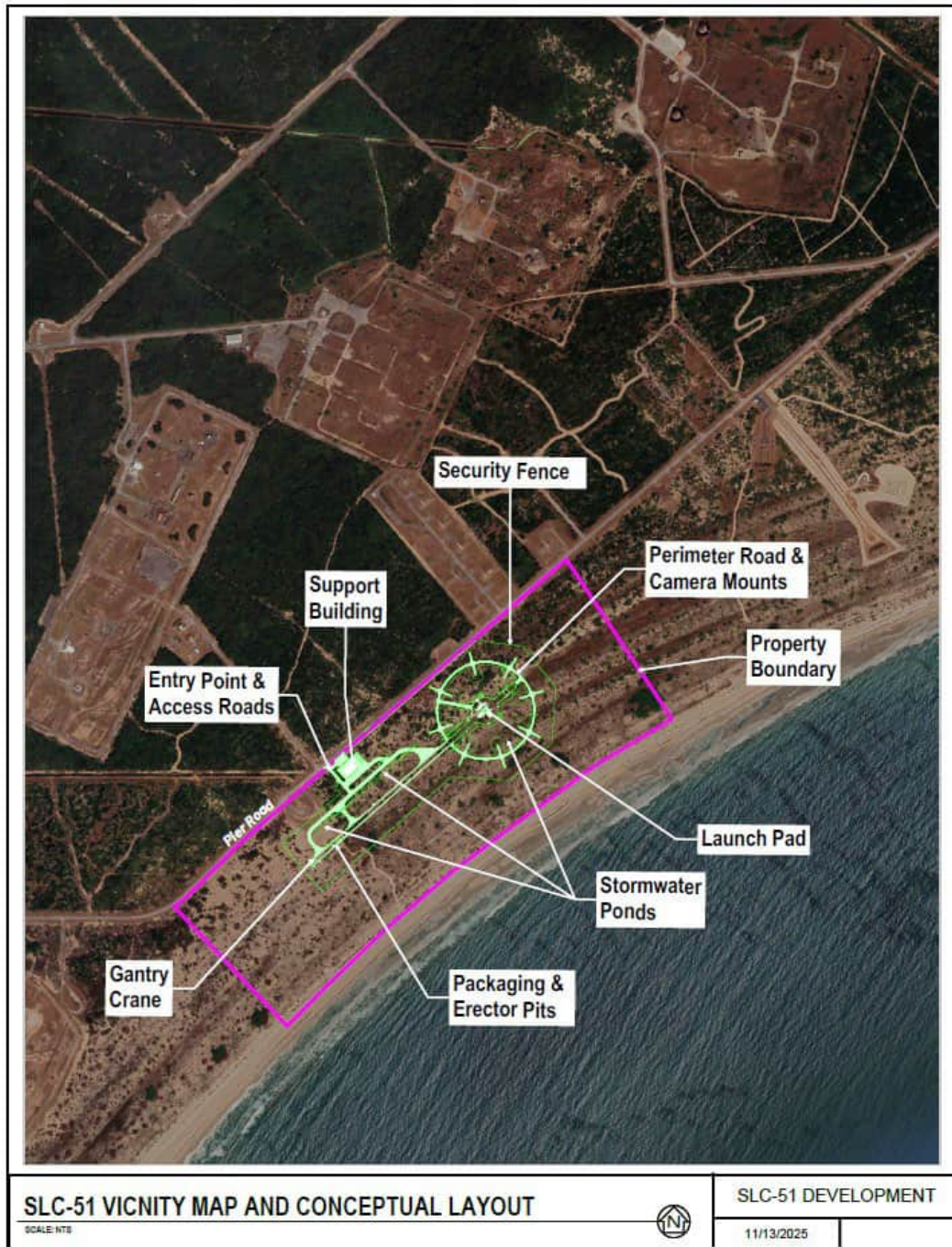


Figure 2. Conceptual layout of SLC-51

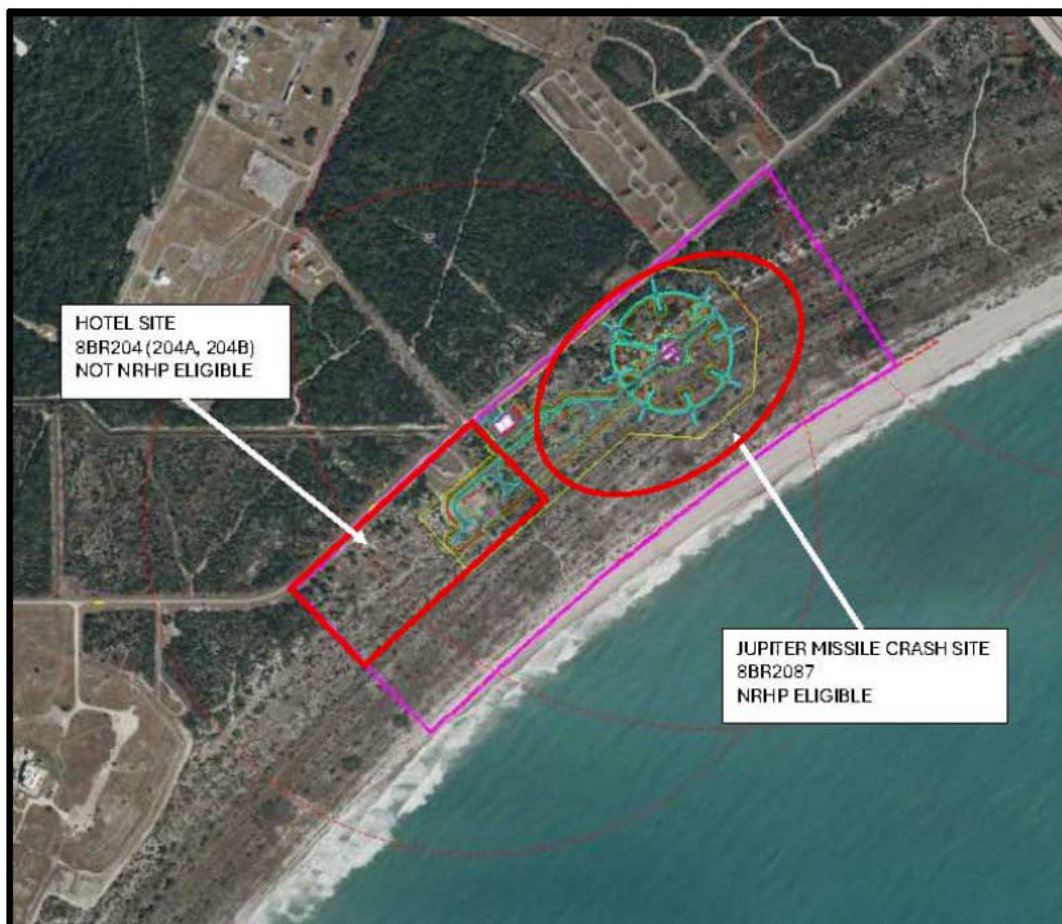


Figure 3. Archaeological sites within the subject property.



Dear Tom Penders:

Thank you for contacting the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF THPO) Compliance Section regarding the *Construction and Operations at the Proposed Space Launch Complex 51, Cape Canaveral Space Force Station (CCSFS), Brevard 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: 863-458-8195
Email: victoriamentchaca@seminoletribe.com

-

From: PENDERS, THOMAS E CIV USSF SSC 45 CES/CEIE <thomas.penders@spaceforce.mil>
Sent: Monday, January 5, 2026 10:10 AM
To: Victoria Menchaca <VictoriaMenchaca@seminoletribe.com>
Cc: BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; THPO Compliance <THPOCompliance@seminoletribe.com>; Danielle Simon <daniellesimon@seminoletribe.com>
Subject: RE: Proposed LC-51

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.

Victoria,

In answer to your questions;

1. There will be an EA prepared for this action
2. There will be no noise or vibration analysis because the hypersonic missile testing data is classified. Operations at SLC-51 would be the same as those currently occurring or planned at SLC-46. The Navy coordinated with SLC-46 regarding the Trident LEDE2 mission, but that mission would shift to SLC-51 if approved under NEPA—same operations, just a new location. The Final EA for this is located here: [TRIDENT II Weapon Systems Testing Program EA/OEA](#)
3. A copy of the construction CRAS will be sent to your office for review.

Thanks,

Tom

Sincerely,
Victoria L. Menchaca, M.A.,RPA
Compliance Analyst II
Seminole Tribe of Florida
Tribal Historic Preservation Office
Phone: 863-458-8195
Email: victoriamenchaca@semtribe.com

From: Victoria Menchaca

Sent: Friday, December 19, 2025 12:35 PM

To: PENDERS, THOMAS E CIV USSF SSC 45 CES/CEIE <thomas.penders@spaceforce.mil>

Cc: BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; THPO Compliance <THPOCompliance@semtribe.com>; Danielle Simon <daniellesimon@semtribe.com>

Subject: RE: Proposed LC-51

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



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MARCELLUS W. OSCEOLA JR.
CHAIRMAN

HOLLY TIGER
VICE CHAIRWOMAN

NAOMI R. WILSON
SECRETARY

PETER A. HAHN
TREASURER

December 19, 2025

Thomas E. Penders, MS, RPA
U.S. Space Force
Space Launch Delta 45 CES/CEIE-C
1224 Jupiter Street
Patrick SFB FL 32925-3343
Phone: 321-853-0886
Phone: 321-307-0075
Email: thomas.penders@spaceforce.mil

Subject: Construction and Operations at the Proposed Space Launch Complex 51, Cape Canaveral Space Force Station (CCSFS), Brevard County, Florida

THPO Compliance Tracking Number: 0034764

In order to expedite the THPO review process:

1. Please correspond via email and provide documents as attachments,
2. Please send all emails to THPOCompliance@semtribe.com,
3. Please reference the THPO Compliance Tracking Number if one has been assigned.

Dear Tom Penders,

Thank you for contacting the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF THPO) Compliance Section regarding the *Construction and Operations at the Proposed Space Launch Complex 51, Cape Canaveral Space Force Station (CCSFS), Brevard County, Florida*.

The proposed undertaking does fall within the STOF Area of Interest. We have reviewed the documents that you provided pursuant to Section 106 of the National Historic Preservation Act (16 USC 470) as amended and its implementing regulations (36 CFR 800). In order for our office to complete our review, we would like to request the following additional information:

- Will consultation regarding launch operations at this new complex occur separately? If not, please provide an APE and description of launch operations.

We look forward to the delivery of the additional information requested. Please continue to consult with our office 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: 863-458-8195
Email: victoriamentchaca@semtribe.com

From: PENDERS, THOMAS E CIV USSF SSC 45 CES/CEIE <thomas.penders@spaceforce.mil>

Sent: Friday, December 5, 2025 8:40 AM

To: Tina Osceola <TinaOsceola@semtribe.com>; THPO Compliance <THPOCompliance@semtribe.com>; Victoria Menchaca <VictoriaMenchaca@semtribe.com>; Danielle Simon <daniellesimon@semtribe.com>

Cc: BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>

Subject: Proposed LC-51

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.

Good Morning,

[REDACTED] This attached package is being submitted in accordance with Section 106 of the NHPA and ARPA. We request your review and comments.



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

4 December 2025

MEMORANDUM FOR STATE HISTORIC PRESERVATION OFFICER
ATTENTION: MS. ALISSA SLADE LOTANE
FLORIDA STATE HISTORIC PRESERVATION OFFICE
R.A. GRAY BUILDING, 4TH FLOOR
500 SOUTH BRONOUGH STREET
TALLAHASSEE, FLORIDA 32399

FROM: 45 CES/CEIE
1224 Jupiter Street, MS-9125
Patrick Space Force Base FL 32925-3242

SUBJECT: Construction and Operations at the Proposed Space Launch Complex 51, Cape Canaveral Space Force Station (CCSFS), Brevard County, Florida.

1. [REDACTED] The purpose of the proposed undertaking is to relocate Department of the Navy (DON) and Department of the Army (DOA) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones, including BO's explosive clear zone at SLC-36. This relocation will ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity.
2. The undertaking is needed to resolve safety and operational challenges at CCSFS. Current operations at nearby launch sites, including SLC36, pose hazards to assets at SLC46, and the two complexes cannot operate simultaneously without disruption. Relocation eliminates these risks, prevents conflicts between Department of War (DoW) mission requirements and commercial launches; therefore, enabling the USSF to better integrate commercial space activities under the 2024 Commercial Space Integration Strategy. By deconflicting operations, national security requirements are preserved while assured access to the Eastern Range is maintained, enabling the DoW, NASA, other federal and commercial partners to conduct missions safely, with minimal disruptions, and with greater operational flexibility.
3. The undertaking will be within the area indicated at the large rectangle in (Attachment A; Figure 2) which is undeveloped land at this time.
4. There were two cultural resources archaeological surveys (CRAS) conducted within the project area (Attachment A; Figure 3). The first was conducted by the 45 Space Wing Cultural Resource Manager (SW45 CRM) between February 2007 and October 2009, and was titled *A Cultural Resource Assessment Survey, Jupiter Missile Crash Site (8BR2087), Cape Canaveral*

Air Force Station, Brevard Country, Florida. As part of the investigation an interview was conducted with an eyewitness to the launch failure. John Hilliard stated that only large pieces of the wreckage was collected if they were a range safety hazard or there was “no telemetry data.”. He also stated there was only one impact site. A surface survey was conducted over the entire project area along north to south and east to west transects. A close inspection was conducted of all roads, trails, open areas, fence lines, ditches, and drainages. The site appeared to be confined to the surface based on informant accounts no subsurface testing was conducted except for the use of a soil probe. Only diagnostic artifacts were collected in the field. Artifacts are curated at the SLD 45 archaeology laboratory, CCSFS, Florida. The results suggested that the site 8BR2087 is the remains of Jupiter Missile AM-9 which crashed on October 10, 1958. 45 SW CRM determined that the site appears to be eligible for listing in the NRHP based on its significance and research potential in the development of the US missile program during the Cold War and later applications in the manned space program. At the time this was the only terrestrial missile crash site identified on CCSFS and since that time at least six more have been discovered and recorded. In addition, the impact crater from the crash may have been filled and destroyed by one or more storm events. In 2023, a section of the debris field from this crash was found further south during a prescribed burn.

5. The second CRAS was conducted within the southern edge of the undertaking site. It was conducted by the Cape Canaveral Archaeological Mitigation Project in 2018. As part of the University of Central Florida’s field school, students documented historic surface features and excavated 103 shovel test pits (STP). These investigations recovered both Euro-American and Indigenous materials, confirming the site’s multi-component character. Analysis of artifacts, field notes, and spatial data refined prior interpretations of the site’s occupational history, boundaries, and integrity. Results identified concentrated areas of Indigenous and historic activity alongside zones of modern disturbance. As a result of the combined investigations, the core artifact-bearing area was expanded to 8.77 acres (3.55 hectares), with the total site boundary extending across 17.8 acres (7.2 hectares). Findings indicate a primary phase of use during the early twentieth century and a possible Indigenous component dating to the Malabar I–II periods or this precontact component could be fill material for a parking lot. Based on the survey results, site 8BR240 does not meet the criteria for listing on the National Register of Historic Places. The result of this survey is titled *Archaeological and Historical Investigation of the Hotel Site (8BR240) Final Report of all Project Activities 2018* and was sent to your office for review in November 2025.

6. The SLD 45 CRM proposes that an archaeological reconnaissance survey be conducted of the Jupiter Missile Crash Site (8BR2087) to include surface collection of artifacts along with GPSing of their locations and photography. This should include the present location of the site and additional artifacts to the south. A determination will also need to be made to ensure that the crater is still at its present location and intact, as well as establishing a new boundary. An evaluation of the site should also be made based on the new data.

7. The SLD 45 CRM also proposes that no further archaeological investigations are needed at the Hotel Site (8BR240) due to it not being eligible for inclusion in the NRHP and that the current CRAS report is sufficient for documentation of the site (FDHR Project No. 2016-5267-B).

8. This consultation is being submitted in accordance with Section 106 of the National Historic Preservation Act and 36 CFR 800.

9. Point of contact for this matter is Tom Penders at 321-853-0886, or e-mail, Thomas.Penders@spaceforce.mil.

MICHAEL A. BLAYLOCK, NH-3, DAF
Chief Environmental Conservation

Attachment:
Figures

ATTACHMENT A FIGURES



Figure 1. Location map

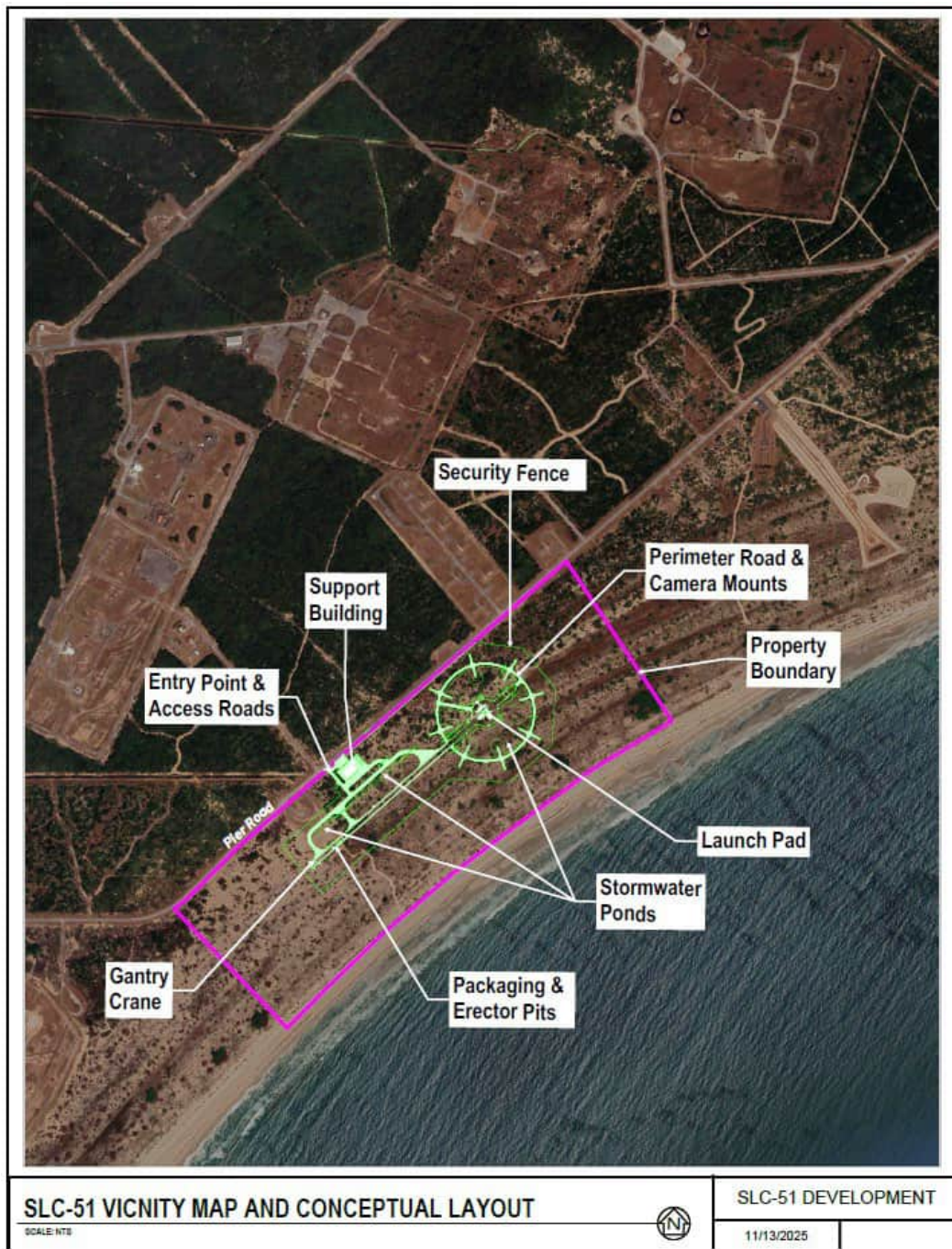


Figure 2. Conceptual layout of SLC-51

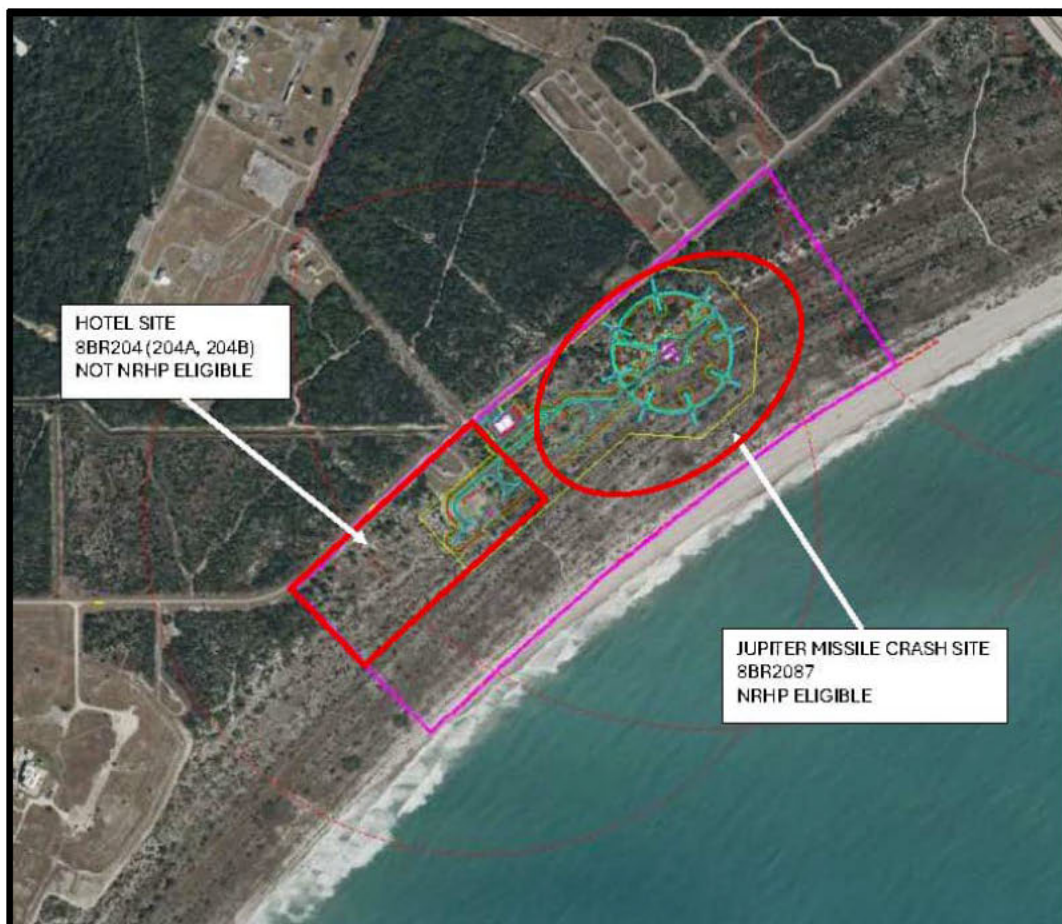


Figure 3. Archaeological sites within the subject property.



FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

CORD BYRD
Secretary of State

Michael Blaylock, NH-03, DAF
Chief, Environmental Conservation
45 CES/CEIE-C
1224 Jupiter Street
Patrick SFB FL 32925-3343

January 8, 2026

DHR Project File No.: 2025-8331, Received by DHR: December 5, 2025
Project: *Construction and Operations at the Proposed Space Launch Complex 51*
County: Brevard

Dear Mr. Blaylock:

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*. 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 United States Space Force (USSF).

The Space Launch Dept 45 (SLD 45) of the United States Space Force proposes to relocate Department of the Navy (DON) and Department of the Army (DOA) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones, including Blue Origin's explosive clear zone at SLC-36. The SLD 45 Cultural Resources Manager has applied the Criteria of Effect and found that the proposed undertaking will have no effect on any NRHP cultural resources within or adjacent to the proposed undertaking.

Our office concurs with the SLD 45's determination of no effect for the above referenced project. 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,

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



FLORIDA DEPARTMENT of STATE

RON DESANTIS
Governor

CORD BYRD
Secretary of State

Cape Canaveral Space Force Station
Cape Canaveral, FL 32920

July 17, 2026

RE: DHR Project File No.: 2025-8331-B
Cultural Resources Assessment Survey of the Proposed Space Launch Complex 51, Brevard County, Florida

Received by DHR: May 6, 2026

To Whom It May Concern:

Our office reviewed the referenced project 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*, as well as Chapters 267.061 and 373.414, *Florida Statutes*, and implementing state regulations for possible effects on historic properties listed, or eligible for listing, in the *National Register of Historic Places*. The project is subject to compliance with requirements for Cape Canaveral Space Force Station (CCSFS) and the U.S. Department of the Space Force (USSF).

In January 2026, SWCA Environmental Consultants (SWCA) conducted the above referenced Phase I cultural resource assessment survey (CRAS) on behalf of CCSFS. SWCA excavated approximately 78.68 acres with 161 shovel tests dug throughout the project area in Brevard County. As a result of the survey, four previously recorded archaeological sites and six known historical resources were identified.

The four known sites include 8BR240 (Hotel; SHPO Ineligible, 2025), 8BR240A (Hotel Site A; SHPO Unevaluated), 8BR240B (Hotel Site B; SHPO Unevaluated), and 8BR2087 (Jupiter Missile Crash Site; SHPO Eligible, 2010). SWCA retested sites 8BR240A and 8BR2087 and recommends both ineligible for listing on the NRHP due to lack of integrity and minimal, if any, remaining research potential.

The six known resources include 8BR2169 (Universal Camera Site 25; SHPO Unevaluated), 8BR2231 (LMU 139 CZR Camera Orientation Poles; SHPO Unevaluated), 8BR2540 (Fuel Storage Area 3; SHPO Eligible, 2012), 8BR3130 (Facility 1244: Magazine #7; SHPO Eligible, 2012), 8BR3132 (Facility 1246: Magazine #8; SHPO Eligible, 2012), and 8BR3133 (Facility 1247: Magazine #10; SHPO Eligible, 2012). SWCA recommends resources 8BR2169 and 8BR2231 ineligible for listing on the National Register, and notes that the project as proposed should have no adverse effect on the remaining resources which are considered eligible by SHPO. Based on the survey results, it is the opinion of SWCA that the proposed project will have no adverse effect on any known historic properties.

Based on the information provided, our office concurs with the survey results and recommendations presented and finds that the proposed project should have no adverse effect on historic properties listed, or eligible for listing, in the NRHP. Further, we find the submitted report complete and sufficient in accordance with Chapter 1A-46, *Florida Administrative Code*.

CCSFS

DHR Project File No.: 2025-8331-B

July 17, 2026

Page 2

If you have any questions, please contact Ethan Putman, Historic Preservationist, by email at Ethan.Putman@dos.fl.gov.

Sincerely,



Alissa Slade Lotane

Director, Division of Historical Resources
& State Historic Preservation Officer

APPENDIX B

Section 7 Consultation Biological Assessment

Relocation of Military Launch Operations on Cape Canaveral Space Force Station

Biological Assessment

Space Launch Delta 45

July 15, 2026

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Acronyms and Abbreviations

BA	Biological Assessment
BOA	Broad Ocean Areas
BO	Biological Opinion
CCSFS	Cape Canaveral Space Force Station
CFR	Code of Federal Regulations
CWA	Clean Water Act
DAF	Department of the Air Force
dBA	A-weighted decibels
DON, Navy	Department of Navy
DOA, Army	Department of the Army
DPS	Distinct Population Segment
ESA	Endangered Species Act
EA	Environmental Assessment
EA/OEA	Environmental Assessment / Overseas Environmental Assessment
EO	Executive Order
FNAI	Florida Natural Areas Inventory
Ft	Feet
FWC	Florida Fish and Wildlife Conservation Commission
Hz	Hertz
INRMP	Integrated Natural Resources Management Plan
IPaC	Information for Planning and Consultation
JFC	Joint Flight Campaign
KSC	Kennedy Space Center
LiDAR	Light Detection and Ranging
LMP	Light Management Plan
MHW	Mean High Water
MRTFB	Major Range and Test Facility Base
NASA	National Aeronautics and Space Administration
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
SEBM	Southeastern Beach Mouse
SLC	Space Launch Complex
SLD 45	Space Launch Delta 45
SOP	Standard Operating Procedure
TNW	Traditionally Navigable Water
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service
USSF	United States Space Force
WOTUS	Waters of the United States
WSTP	Weapon System Testing Program

1. Summary

The United States Air Force (USAF) is proposing to relocate Department of the Navy (DON; Navy) and Department of the Army (DOA; Army) launch operations from Space Launch Complex (SLC) 46 to a location that results in little to no overlapping or conflicting explosive clear zones on Cape Canaveral Space Force Station (CCSFS). Space Launch Delta 45 (SLD 45) manages CCSFS as the primary launch site for the Eastern Range. The Proposed Action would include the construction of SLC-51 to support relocation of the Joint Flight Campaign (JFC) Weapon Systems Testing Program (WSTP) and the Navy's Trident test flights from their current location at SLC-46. The land-based and sea-based environmental effects of these launch operations were previously evaluated and determined not to significantly affect the quality of the human or natural environment, as documented in the February 2022 *JFC Environmental Assessment/Overseas Environmental Assessment* (EA/OEA; DON and DOA 2022) and the May 2025 *Trident II WSTP EA/OEA* (DON 2025). The United States Fish and Wildlife Service (USFWS) issued a concurrence letter (USFWS reference number 2025-0068780) stating that launch operations conducted at SLC-46 may affect, but are not likely to adversely affect listed species or critical habitat within CCSFS. Accordingly, this Biological Assessment (BA) re-initiates the original consultation and focuses on evaluating the land-based environmental effects associated with construction of the new launch complex and related infrastructure and does not re-evaluate launch operation effects that have been previously analyzed.

The Proposed Action would include construction activities resulting in disturbance of approximately 50 acres of undeveloped land. The construction activities would result in light, noise, and vibrations which may impact resources within and outside of the construction area. The action area evaluated by this BA includes all areas to be affected directly or indirectly by the federal action and not merely the immediate construction area involved in the action (50 Code of Federal Regulations [CFR] 402.02).

Sixteen species listed as threatened or endangered under the Endangered Species Act (ESA) have been identified as having potential to occur within the action area (Table 4-1). Two plant species, Carter's mustard (*Warea carteri*) and Lewton's polygala (*Polygala lewtonii*), were identified as potentially occurring in the action area; however, no federally listed plants are documented at CCSFS (USAF 2025). Consequently, these two species are not further addressed in this BA because they are not expected to occur within the action area. No habitat is present for the Eastern black rail (*Laterallus jamaicensis* spp. *jamaicensis*) or Everglade snail kite (*Rostrhamus sociabilis plumbeus*) on CCSFS. Additionally, habitats for aquatic dependent species including the West Indian manatee (*Trichechus manatus*) do not exist within the action area. As no in-water construction work will occur, the West Indian manatee would not be affected by the Proposed Action and therefore is not considered further in this BA. The hawksbill sea turtle (*Eretmochelys imbricata*) is not known to nest within CCSFS; however, suitable nesting habitat for this species is present within the action area, and therefore this species is addressed in this BA.

Listed species identified as having potential to occur within the action area include the southeastern beach mouse (*Peromyscus polionotus niveiventris*), Audubon's crested caracara (*Caracara plancus audubonii*), scrub-jay (*Aphelocoma coerulescens*), piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), Eastern indigo snake (*Drymarchon couperi*), green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricata*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), and loggerhead sea turtle (*Caretta caretta*). Anticipated effects from the Proposed Action on these species and their habitat are included in Table 1-1 and discussed in this BA.

Table 1-1. USFWS Protected Species Effects Determinations

Common Name	Scientific Name	Federal Status	Effects Determination	Cause of Take
Mammals				
Southeastern beach mouse	<i>Peromyscus polionotus niveiventris</i>	Threatened	May affect, and is likely to adversely affect	Direct mortality, loss of habitat
Birds				
Audubon's crested caracara	<i>Caracara plancus audubonii</i>	Threatened	May affect, but is not likely to adversely affect	Loss of habitat
Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened	May affect, and is likely to adversely affect	Direct mortality, loss of habitat
Piping plover	<i>Charadrius melodus</i>	Threatened	May affect, but is not likely to adversely affect	Disturbance from light, noise, and vibration
Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	May affect, but is not likely to adversely affect	Disturbance from light, noise, and vibration
Reptiles				
Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	May affect, and is likely to adversely affect	Direct mortality, loss of habitat
Green sea turtle	<i>Chelonia mydas</i>	Threatened	May affect, but is not likely to adversely affect	Disorientation or misorientation due to lighting
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	May affect, but is not likely to adversely affect	
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	May affect, but is not likely to adversely affect	
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	May affect, but is not likely to adversely affect	
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	May affect, but is not likely to adversely affect	

The Audubon's crested caracara has suitable foraging and nesting habitat within the construction area which would be permanently impacted by construction activities; however, due to the rare presence of this species within CCSFS, the availability of suitable

habitat in other areas within CCSFS, and this species' ability to inhabit disturbed environments, habitat loss is likely to have insignificant and discountable effects on this species. Suitable foraging habitat for the piping plover and rufa red knot is present along the Atlantic Ocean shoreline within the southeastern portion of the action area; however, construction activities would have no effect on habitat for these species, and impacts due to light, noise, and vibration from construction activities would be temporary, short-term in duration, and insignificant. As a mobile species, it is anticipated that any Audubon's crested caracaras, piping plovers, and rufa red knots would temporarily shift to nearby areas during construction activities and return to the vicinity once construction is complete. It is therefore anticipated that the Proposed Action **may affect, but is not likely to adversely affect** the Audubon's crested caracara, piping plover, and rufa red knot.

There would be no loss of sea turtle nesting habitat from the proposed construction and subsequent operation of SLC-51 infrastructure, and a Lighting Management Plan (LMP) for construction and operation of SLC-51 would be implemented to be consistent with the USFWS Programmatic Biological Opinion (BO) for light management activities at CCSFS (USFWS Log No. 41910-2009-F-0087; USFWS 2008a). SLD 45 has determined that the Proposed Action **may affect, but is not likely to adversely affect**, the green, leatherback, loggerhead, Kemp's ridley, and hawksbill sea turtles, due to lighting produced by construction activities and SLC-51 infrastructure.

Based on the analysis in this BA, SLD 45 has determined that the Proposed Action **may affect, and is likely to adversely affect**, the southeastern beach mouse (SEBM), Florida scrub-jay, and Eastern indigo snake from the potential for direct mortality and habitat loss from construction activities and development of permanent infrastructure.

No critical habitat has been designated within the terrestrial portion of the action area. Critical nesting habitat for the Northwest Atlantic Distinct Population Segment (DPS) of the loggerhead sea turtle was designated through a final rule issued by USFWS on 10 July 2014 (79 FR 39756). This rule exempted CCSFS from the area designated as critical habitat for nesting turtles due to the existence of the CCSFS Integrated Natural Resource Management Plan (INRMP), which specifies the implementation of measures to benefit the conservation of this species within the adjacent critical habitat (USAF 2025). Critical habitat for the rufa red knot has been designated on Merritt Island National Wildlife Refuge, but this critical habitat is more than 10 miles north of the construction area and would not be affected by the Proposed Action (USFWS 2025a). The Proposed Action would not cause any destruction or modification of critical habitat in the vicinity of the action area.

2. Introduction

2.1 Proposed Action Background

Under the Federal action (Proposed Action), Space Launch Delta (SLD) 45 is proposing to construct Space Launch Complex (SLC)-51 within Cape Canaveral Space Force Station (CCSFS) to support relocation of the Joint Flight Campaign (JFC) weapon systems test flight program and the Department of the Navy's (DON; Navy) Trident test flights from their current location at SLC-46.

The Proposed Action involves relocating SLC-46 launch operations to the new launch complex SLC-51. The relocation would not modify the broad ocean areas (BOA) or flight corridors associated with the JFC and Trident launch operations currently conducted from SLC-46. The land-based and sea-based environmental effects of these launch operations were previously evaluated and determined not to significantly affect the quality of the human or natural environment, as documented in the February 2022 *JFC Environmental Assessment/Overseas Environmental Assessment* (EA/OEA; DON and Department of the Army [DOA; Army] 2022) and the May 2025 *Trident II WSTP EA/OEA* (DON 2025). Because the BOA, flight corridors, launch profiles, and launch frequencies would remain unchanged, any differences in potential sea-based effects resulting solely from relocating the launch point within CCSFS are anticipated to be negligible and not reasonably foreseeable to result in new or different significant impacts. Additionally, the United States Fish and Wildlife Service (USFWS) issued a concurrence letter (USFWS reference number 2025-0068780) stating that launch operations conducted at SLC-46 may affect, but are not likely to adversely affect, listed species or critical habitat within CCSFS. Accordingly, this Biological Assessment (BA) re-initiates the original consultation and focuses on evaluating the land-based environmental effects associated with construction of the new launch complex and related infrastructure and does not re-evaluate launch operation effects that have been previously analyzed.

2.2 Proposed Action Location

CCSFS occupies approximately 15,800 acres along the Atlantic Coast of Brevard County, Florida, southeast of the National Aeronautics and Space Administration (NASA) Kennedy Space Center (KSC) on adjacent Merritt Island (Figure 2-1). CCSFS includes 81 miles of paved roads and a 10,000-foot (ft) runway referred to as the Skid Strip. Natural areas near CCSFS include the Merritt Island National Wildlife Refuge and the Canaveral National Seashore to the north. The new launch complex, SLC-51, would be constructed approximately 2.5 miles southwest of SLC-46, just south of Pier Road.

2.3 Description of the Proposed Action

Primary infrastructure elements to be constructed at SLC-51 would include a launch pad with an at-grade launch stand; a flame duct to direct vehicle exhaust away from the facility; a below-grade utility and control room; and a perimeter road to provide access and support for camera mounts. A new Mobile Access Structure (approximately 100' tall) would also be constructed within the launch pad area.

The central area of the launch pad would be connected via a rail system to a support area on the western side of the SLC-51 boundary. The support area would include a packaging pit, erector pit, gantry crane, and various laydown, storage, and proof loading areas to support pre-launch testing operations. A perimeter security fence around the launch pad and support area with a sentry house and gate at the main access point along Pier Road would also be constructed. The preliminary site layout for SLC-51 is shown in Figure 2-2.

Construction activities at SLC-51 would include the installation of various equipment; electrical and communication utility buildings; underground utilities such as potable water, sanitary sewer, communications ducts, and power; as well as lightning protection systems, internal access roads, parking, and stormwater management areas. The site would also require construction of approximately 1.79 miles of offsite utility extensions for potable and fire protection water, sanitary sewer, overhead electrical, and communications duct bank from existing connection points along Pier Road (Figure 2-3). Construction activities are expected to take approximately 12-18 months. Conservation measures to be implemented during the Proposed Action are included in Section 6.0.

Figure 2-1 SLC-51 Site Location

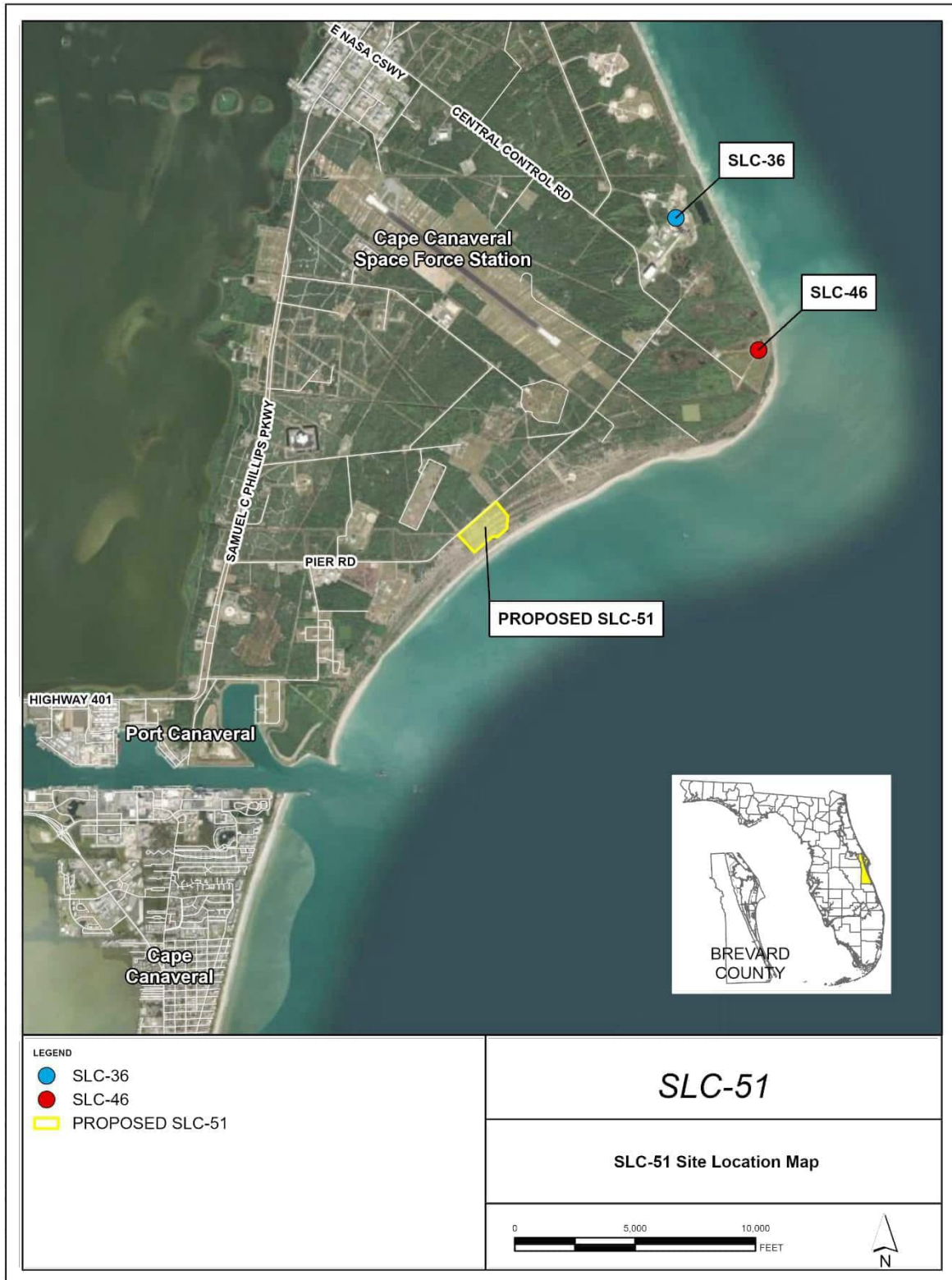


Figure 2-2. SLC-51 Site Layout

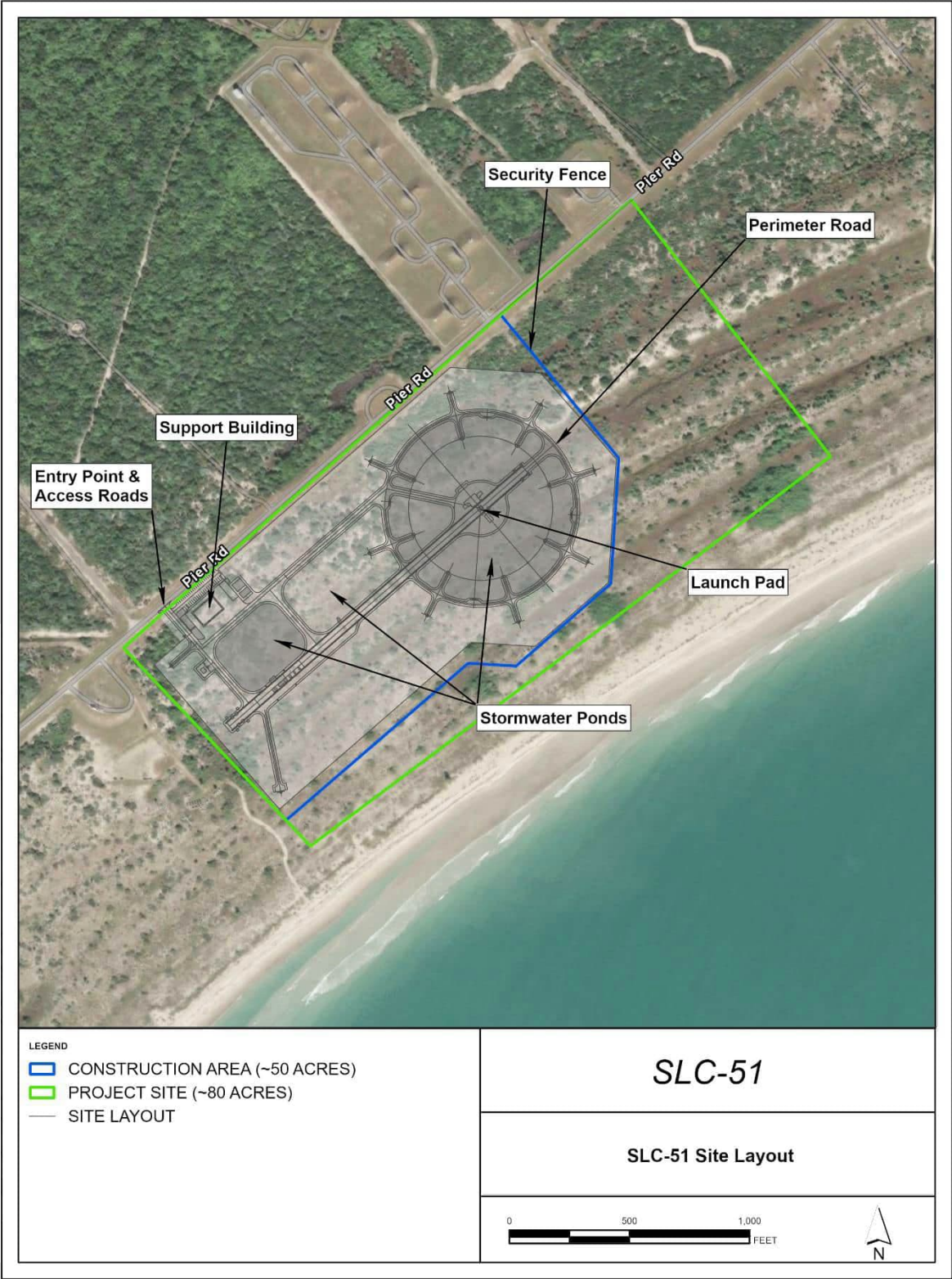


Figure 2-3. SLC-51 Site Layout and Proposed Utilities



3. Description of the Area Impacted by the Proposed Action

3.1 Action Area

The action area refers to all areas to be affected directly or indirectly by the federal action and not merely the immediate construction area involved in the action (50 Code of Federal Regulations [CFR] 402.02). The action area evaluated in this BA is shown in Figure 3-1 and includes the following Proposed Action components:

- Construction area: The SLC-51 disturbance area, totaling approximately 50 acres.
- Project site: The approximately 80-acre survey area within which the construction area would be located. The construction area may shift positions within the project site but would not exceed the boundaries of the project site.
- Construction buffer: A 1,000 ft buffer surrounding the project site to include further-reaching effects from construction including noise, vibration, and visual disturbances.
- Roadway access: Ingress and egress roads allowing access to and from the construction area (encompassed within the construction buffer).
- Offsite utility connections: Areas requiring construction of offsite utility connections.

Each of the Proposed Action components is described in further detail below. The action area establishes the geographic scope of the BA for the purposes of identifying the species and critical habitats that may be exposed to the effects of the action and describing the environmental baseline for the species considered in this BA. The Proposed Action may cause permanent physical impacts to habitats and effects to wildlife. There would be no impacts to habitat management, land management, or future prescribed fire operations in surrounding areas due to construction activities or launch complex infrastructure.

The action area includes the construction area (approximately 50 acres), the project site (approximately 80 acres), construction related to utility connections and a 1,000 ft construction buffer around the project site which encompasses impacts from noise, vibration, and visual disturbances, and vehicle traffic.

3.2.1 Construction Area

The construction area includes the land that would be directly and permanently impacted by SLC-51 infrastructure. The construction area encompasses approximately 50 acres of undeveloped land and lies above the mean high water (MHW) line along the Atlantic shoreline (Figure 3-1). Construction activities have potential to disturb up to 50 acres of undeveloped land within the construction area, but the direct impact acreage may be less than 50 acres and would be confirmed upon completion of the final design. No construction activities would be performed along the beach dunes.

3.2.2 Project Site

The project site encompasses an approximately 80-acre area within which the

construction area would be located, to account for potential changes in the construction area location. The construction area may shift positions within the project site but would not disturb more than 50 acres of undeveloped land nor exceed the boundaries of the project site. Natural resource surveys were conducted within the project site to map vegetation communities, determine the presence of wetlands and surface waters subject to regulation under the Clean Water Act (CWA), and document the occurrence of habitats that could support listed wildlife species. The habitat assessment conducted in April 2026 provided refined land use and habitat type descriptions within the project site (Appendix A). Table 3-1 provides the total habitat types and acreages mapped during the habitat assessment, as well as those provided by the Florida Fish and Wildlife Conservation Commission (FWC) and Florida Natural Areas Inventory (FNAI) Cooperative Land Cover (CLC) mapping system (FWC 2025). Communities within the project site were field verified by staff, and communities outside the project site are based on the FWC CLC mapping. Figure 3-2 depicts the habitat types within the action area.

3.2.2.1 Uplands

During the habitat assessment, the majority of the project site was identified as coastal strand habitat (Table 3-1). Coastal strand is an evergreen shrub community that grows on stabilized coastal dunes and has sandy, well-drained soil (FNAI 2010). General characteristics of this habitat within the project site include more than 25 percent ground cover consisting of grasses and shrubs, no more than 75 percent bare patches of sandy soils, and scattered trees mainly consisting of cabbage palms (*Sabal palmetto*), sea grapes (*Coccoloba uvifera*), and Brazilian pepper (*Schinus terebinthifolia*). The northwestern portion of the project site along Pier Road is generally denser than the remainder of the site moving southeast, and contains scattered mature sand live oak (*Quercus geminata*) trees, and woody shrubs including saw palmetto (*Serenoa repens*), Brazilian pepper, and wax myrtle (*Morella cerifera*). Additional shrub and herbaceous vegetation observed within the project site includes sea oats (*Uniola paniculata*), hopbush (*Dodonaea viscosa*), tough bully (*Sideroxylon tenax*), twinberry (*Lonicera involucrata*), gopher apple (*Geobalanus oblongifolius*), saltmeadow cordgrass (*Spartina patens*), broomsedge bluestem (*Andropogon virginicus*), and southern hairgrass (*Muhlenbergia capillaris* var. *filipes*) (Appendix A; SLD 45 2026a).

Other communities identified within coastal strand in the project site include Guianese colicwood scrub association, and coughbush subtropical dune grassland alliance (SLD 45 2026a). Guianese colicwood scrub association forms a narrow, dense strip of salt-tolerant shrubs parallel to the ocean, typically located between ocean dunes and inland maritime forests (FNAI 2010). Coughbush subtropical dune grassland alliance is generally found as a transition zone between beach dune and coastal shrub thickets, and is comprised of herbaceous dune vegetation, maritime grasslands, and shrubs (FNAI 2010).

From Pier Road moving southeast towards the Atlantic Ocean, the project site transitions from coastal strand to coastal grassland habitat landward of the beach dunes. The coastal grassland habitat contains greater than 50 percent groundcover with less than 25 percent bare sand patches and little to no canopy. Dominant vegetation consists of salt-tolerant

grasses and herbs including sea oats, saltmeadow cordgrass, broomsedge bluestem, and Eastern prickly pear (*Opuntia humifusa*). This community has sparse, scattered sea grape and saw palmetto shrubs.

The coastal grassland community transitions to coastal upland beach dune habitat along the southeastern boundary of the project site. Observed coastal upland habitat consists of open herbaceous, salt-tolerant vegetation including sea oats, southern hairgrass, Eastern prickly pear, beach star (*Remirea maritima*), and railroad vine (*Ipomoea pes-caprae*). This habitat contains the coughbush subtropical dune grassland alliance community and has no canopy (SLD 45 2026a).

The remainder of the project site along Pier Road that is not mapped as natural habitat constitutes transportation and high intensity urban land use (Table 3-1; FWC 2025). Although the project site supports native vegetation and habitat types, it has experienced direct and ongoing disturbance associated with historical site activities and maintenance and access use, in addition to its proximity to adjacent roadways and developed areas. These onsite and surrounding disturbances have contributed to landscape fragmentation and persistent edge effects that reduce habitat quality and ecological function relative to intact interior habitat.

3.2.2.2 Wetlands

The project site is located within a watershed where groundwater and stormwater flows either directly into the Atlantic Ocean as sheet flow or is absorbed directly into the water table. A wetland delineation of the project site was conducted in January 2026 (see Appendix B). The United States Environmental Protection Agency (USEPA) indicates that no mapped waterways are present within the project site and no intermittent or ephemeral streams were observed during the January 2026 site investigation (USEPA 2022). A wetland survey conducted in June 2026 confirmed a total of 9.5 acres of wetlands throughout the project site¹; approximately 3.7 acres of wetlands are located within the construction area boundary and could potentially be permanently impacted by construction activities.

During the habitat assessment conducted in April 2026, approximately 9.34 acres of wetlands were confirmed as intermittent coastal interdunal swales, and approximately 0.16 acres of wetlands were confirmed as cabbage palm hammock (Appendix A). The interdunal swales are formed from linear depressions within upland coastal scrub and grassland habitat which are inundated by rainfall. Vegetation species within the interdunal swales consisted of a mix of facultative and facultative wetland species including camphorweed (*Pluchea baccharis*), partridge pea (*Chamaecrista fasciculata*), Carolina willow (*Salix caroliniana*), Eastern prickly pear, sea oats, broadleaf cattail (*Typha* spp.), and southern beeblossom (*Oenothera simulans*). Edge species included saw palmetto, sea grape, and groundsel tree (*Baccharis halimifolia*). The cabbage palm hammock lies slightly

¹ A formal wetland survey was conducted in June 2026 subsequent to the wetland delineation conducted in January 2026. This report includes wetland acreages based on the June 2026 wetland survey data which more accurately reflects wetland sizes within the project site.

above the surrounding interdunal swale but is lower than the surrounding upland. This wetland has a closed canopy dominated by cabbage palms, with subcanopy species including groundsel tree, wax myrtle (*Morella cerifera*), and small amounts of Brazilian pepper. Photographic documentation of the wetlands is included in Appendix A.

Based on field observations and review of Light Detection and Ranging (LiDAR) data of the property, all delineated wetlands appear to be confined to interdunal swales, and do not appear to have any relatively permanent discharge to Waters of the United States (WOTUS; NOAA 2026). Additionally, all wetlands appear to be hydrologically isolated and lack a connection to a traditionally navigable water (TNW) and therefore are unlikely to be considered WOTUS under Section 404 of the CWA.

3.2.3 Construction Buffer

A 1,000 ft construction buffer surrounding the project site was applied to encompass further-reaching effects from construction activities including light, noise, and vibration.

Lighting

During daylight hours, construction activities that involve large machinery such as cranes would be visible at a distance. Construction activities may continue into non-daylight hours and would require artificial lighting. Nighttime construction would be minimized; however, when deemed necessary, measures would be implemented to shield and downcast light exposure to avoid disorienting sensitive species in the vicinity. A USFWS-approved sea turtle Lighting Management Plan would be utilized at the construction site.

SLC-51 infrastructure would also produce lighting that would be visible at a distance. Numerous BOs have been issued by USFWS for launch operations at CCSFS which included the effects of launch complex lighting (United States Air Force [USAF] 2025). The SLC-51 launch facility would be conducted within the standard operating procedures (SOPs) and relevant terms and conditions of existing BOs. With a USFWS approved Light Management Plan (LMP), the potential effects of lighting from SLC-51 infrastructure are covered under previous Section 7 consultation with the USFWS (Appendix I of USAF 2025).

Noise and Vibration

Sensitive receptors within the vicinity of the project site which have potential to be impacted by construction noise from the Proposed Action include terrestrial wildlife. It is anticipated that construction activities may produce noise averaging between 65 and 100 A-weighted decibels (dBA), with noise effects usually limited to a distance of 1,000 ft from the source of the noise (SLD 45 2016). Literature suggests that due to the reflection and scattering of sound waves at the air-water interface, noise from upland construction is not anticipated to attenuate into the water (Urlick 1983; Maurer 1998; Zhao-Hui and Ling-Shan 2016). As such, the 1,000 ft construction buffer does not extend past the Atlantic Ocean shoreline on the southeastern side of the project site. Construction activities described in Section 2.3 would temporarily increase noise levels in the vicinity of the construction area; however, distance rapidly attenuates noise levels, and terrestrial vegetation would act as a natural buffer to reduce the expansion of noise from the source.

3.2.4 Roadway Ingress/Egress Access

Construction equipment would be transported to the project site via Pier Road which provides access to and from the construction area within CCSFS. Construction vehicles would likely park and dispense materials within the project site boundary directly adjacent to Pier Road and would not affect traffic patterns along Pier Road outside of the immediate vicinity of the construction area. Therefore, the action area includes the portions of Pier Road immediately adjacent to the construction boundary to accommodate for ingress and egress traffic. These areas are encompassed by the 1,000 ft construction buffer.

3.2.5 Offsite Utility Connections

Construction of SLC-51 would require connection to offsite utility extensions for water, fire, sewer, and telecommunications, within an approximate 1.79-mile utility corridor located along the Pier Road right-of-way. The right-of-way was previously cleared, is continuously maintained and mowed, and does not contain natural habitats. Impacts to the right of way would be minor, temporary, and occur within previously disturbed areas.

Table 3-1. Acreages of Land Use and Habitat by Type within the Action Area

Habitat Type	Within Construction Area (acres) ^a	Within Project Site (acres) ^a	Within Action Area (acres) ^b
Cabbage Palm Hammock^c (Wetland)	0.16	0.16	0.16
Coastal Grassland	5.72	14.28	14.65
Coastal Interdunal Swale^c (Wetland)	3.52	9.34	9.34
Coastal Strand	35.98	48.97	174.02
Coastal Uplands	-	1.26	11.82
Cultural-Riverine	-	-	0.02
High Intensity Urban	2.11	2.77	11.22
Low Intensity Urban	-	-	0.13
Marine	-	-	10.31
Maritime Hammock	-	-	7.28
Rural	-	-	14.69

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Habitat Type	Within Construction Area (acres) ^a	Within Project Site (acres) ^a	Within Action Area (acres) ^b
Sand Beach (dry)	-	-	15.39
Transportation	1.24	1.89	7.42
Total	48.72	78.68	276.44

^a Source: Appendix A

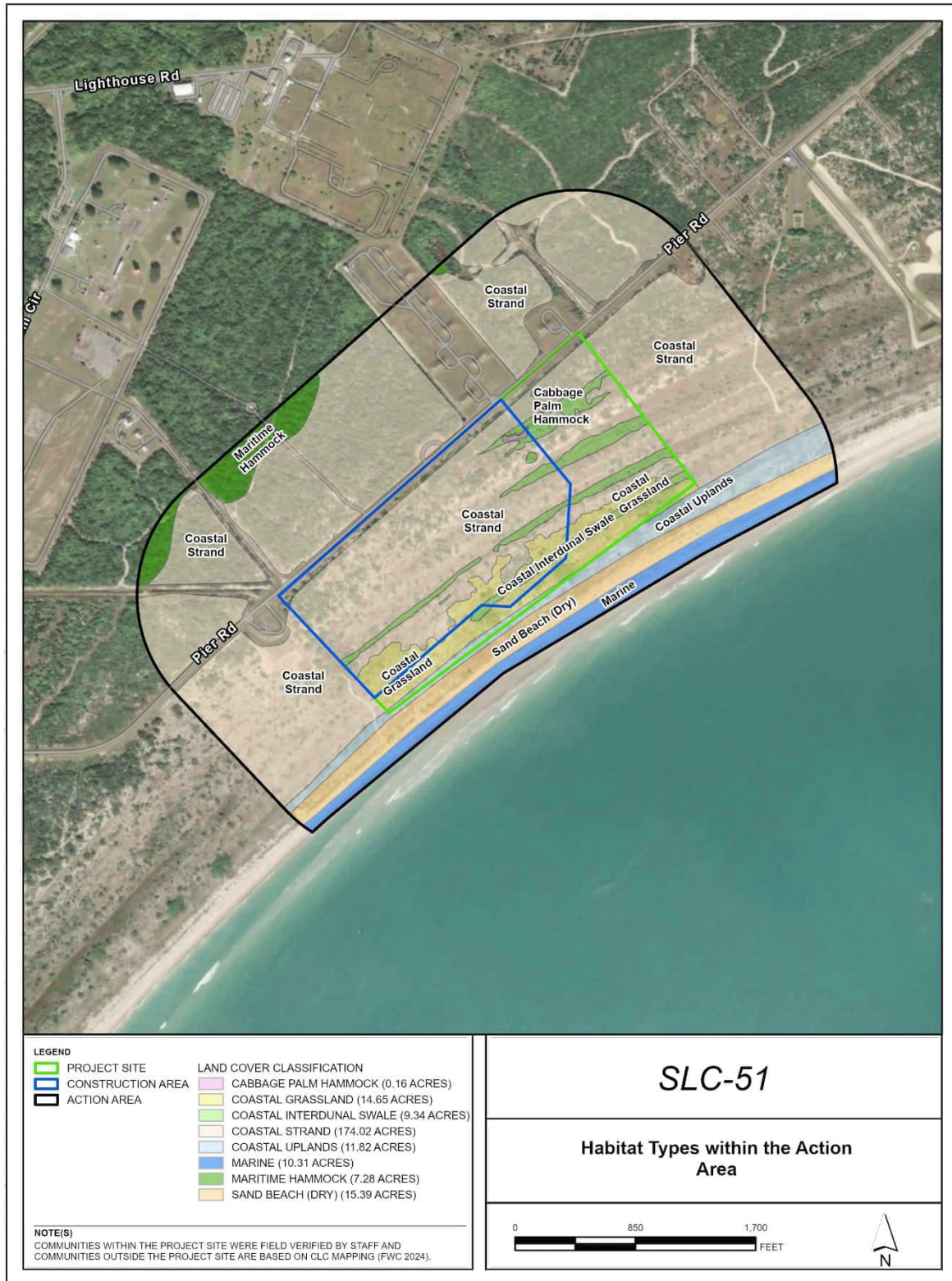
^b Source: FWC and FNAI Cooperative Land Cover (FWC 2025)

^c Source: Appendix A and Appendix B

Figure 3-1. SLC-51 Action Area



Figure 3-2. Habitat Types within the Action Area



4. Listed Wildlife Species

The USFWS Information for Planning and Consultation (IPaC) system was queried on 5 March 2026, for an official species list for the action area (Appendix C). The action area includes the construction area, a 1,000 ft buffer encompassing disturbance from construction and infrastructure, ingress and egress pathways for construction vehicles, and offsite utility connections (Figure 3-1). Sixteen species listed as threatened or endangered under the Endangered Species Act (ESA) have been identified as having potential to occur within the vicinity of the action area (USFWS 2026a). These species, along with their preferred habitat and potential to occur within the action area, are included in Table 4-1.

Table 4-1. Federally Listed Species with Potential to Occur within the Action Area

Common Name	Scientific Name	Federal Status	Habitat	Potential for Occurrence within Action Area
Mammals				
Southeastern beach mouse	<i>Peromyscus polionotus niveiventris</i>	Threatened	Coastal strand, coastal grassland, interdunal swales, cabbage palm hammocks, and sand dunes vegetated by sea oats and dune panic grass. And adjoining scrub populated by oaks and sand pine or palmetto.	Yes
West Indian manatee	<i>Trichechus manatus</i>	Threatened	Marine and freshwater habitats.	No
Birds				
Audubon's crested caracara	<i>Caracara plancus audubonii</i>	Threatened	Wet prairies with cabbage palms and open ground, wooded areas with saw palmetto, cypress, scrub oaks and pastures. Found throughout south-central Florida.	Yes
Eastern black rail	<i>Laterallus jamaicensis</i> spp. <i>jamaicensis</i>	Threatened	Salt, brackish, and freshwater marshes, requiring dense vegetative cover for movement under canopy.	No
Everglade snail kite	<i>Rostrhamus sociabilis plumbeus</i>	Endangered	Nesting: low shrubs or trees on or near shallow grassy shorelines of freshwater marshes and lakes.	No
Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened	Fire-dominated, low-growing, oak scrub habitat found on well-	Yes

Common Name	Scientific Name	Federal Status	Habitat	Potential for Occurrence within Action Area
			drained sandy soils. May persist in areas with sparser oaks or scrub areas that are overgrown.	
Piping plover	<i>Charadrius melodus</i>	Threatened	Sandy beaches, tidal mudflats, and sandflats along the coast.	Yes
Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	Tidal flats and shores, open sandy beaches; require sparse vegetation and open landscapes to avoid predation.	Yes
Reptiles				
Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	Pine flatwoods, hardwood forests, edges of cypress swamps, and hydric hammocks.	Yes
Green sea turtle	<i>Chelonia mydas</i>	Threatened	Estuarine and marine coastal and oceanic waters. Beaches for nesting.	Yes
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	Marine coastal and oceanic waters. Beaches for nesting.	Yes
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	Oceanic waters. Beaches for nesting.	Yes
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	Oceanic waters. Beaches for nesting.	Yes
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	Marine coastal and oceanic waters. Beaches for nesting.	Yes
Plants				
Carter's mustard	<i>Warea carteri</i>	Endangered	Sandhill, scrubby flatwoods, scrubby inland and coastal habitats.	No
Lewton's polygala	<i>Polygala lewtonii</i>	Endangered	Sandhill, scrub, scrubby flatwoods, and their transition zones.	No

Source: USFWS 2026a

The IPaC official species list did not include the piping plover (*Charadrius melodus*; federally threatened); however, the action area provides suitable foraging habitat for this species, and this species has been observed on CCSFS (SLD 45 2026b). Therefore, DAF has opted to include this species in this BA.

Listed sea turtles are addressed in this BA when on the beach where they are under the jurisdiction of the USFWS. Sea turtles including the green (*Chelonia mydas*), leatherback (*Dermochelys coriacea*), loggerhead (*Caretta caretta*), and Kemp's ridley (*Lepidochelys kempii*), are known to use the beaches within the action area for nesting. The IPaC official

species list also did not include the hawksbill sea turtle (*Eretmochelys imbricata*; federally endangered) because this species is not documented or known to nest within CCSFS; however, suitable nesting habitat for this species is present within the southeastern portion of the action area, and therefore DAF as opted to include this species in this BA. While no physical modifications to nesting habitat from construction activities are proposed, indirect effects to nesting sea turtles from construction activities are considered in this analysis.

Suitable terrestrial habitat for the Eastern black rail (*Laterallus jamaicensis* spp. *jamaicensis*) and Everglade snail kite (*Rostrhamus sociabilis plumbeus*) is not present within the action area. Additionally, habitat for aquatic dependent species such as marine turtles and the West Indian manatee (*Trichechus manatus*) do not exist within the action area. As no habitat for these species exists within the action area, these species would not be affected by the Proposed Action and therefore are not considered further in this BA.

No federally listed plants are documented at CCSFS (USAF 2025). However, the IPaC Report identified a potential for Carter’s mustard (*Warea carteri*) and Lewton’s polygala (*Polygala lewtonii*), both federally listed as endangered, to occur within the action area. According to the USAF 2025 Integrated Natural Resource Management Plan (INRMP), no federally listed plant species are documented at CCSFS. These two species are found in sandhills and scrub in central Florida but are not documented at CCSFS (USAF 2025). Consequently, these two plant species are not expected to occur within the action area and are therefore not considered further in this BA.

Within the action area, habitat is present for the southeastern beach mouse (SEBM) (*Peromyscus polionotus niveiventris*), Audubon’s crested caracara (*Caracara plancus audubonii*), Florida scrub-jay (*Aphelocoma coerulescens*), piping plover, rufa red knot (*Calidris canutus rufa*), Eastern indigo snake (*Drymarchon couperi*), and nesting sea turtles including the green, leatherback, loggerhead, Kemp’s ridley, and hawksbill. Anticipated effects from the Proposed Action on these species and their habitat are included in Table 4-2 and discussed in this BA.

Table 4-2. USFWS Protected Species Effects Determinations

Common Name	Scientific Name	Federal Status	Effects Determination	Cause of Take
Mammals				
Southeastern beach mouse	<i>Peromyscus polionotus niveiventris</i>	Threatened	May affect, and is likely to adversely affect	Direct mortality, loss of habitat
Birds				
Audubon’s crested caracara	<i>Caracara plancus audubonii</i>	Threatened	May affect, but is not likely to adversely affect	Loss of habitat
Florida scrub-jay	<i>Aphelocoma coerulescens</i>	Threatened	May affect, and is likely to adversely affect	Direct mortality, loss of habitat

Common Name	Scientific Name	Federal Status	Effects Determination	Cause of Take
Piping plover	<i>Charadrius melodus</i>	Threatened	May affect, but is not likely to adversely affect	Disturbance from light, noise, and vibration
Rufa red knot	<i>Calidris canutus rufa</i>	Threatened	May affect, but is not likely to adversely affect	Disturbance from light, noise, and vibration
Reptiles				
Eastern indigo snake	<i>Drymarchon couperi</i>	Threatened	May affect, and is likely to adversely affect	Loss of habitat, potential for direct mortality
Green sea turtle	<i>Chelonia mydas</i>	Threatened	May affect, but is not likely to adversely affect	Disorientation or misorientation due to lighting
Hawksbill sea turtle	<i>Eretmochelys imbricata</i>	Endangered	May affect, but is not likely to adversely affect	
Kemp's ridley sea turtle	<i>Lepidochelys kempii</i>	Endangered	May affect, but is not likely to adversely affect	
Leatherback sea turtle	<i>Dermochelys coriacea</i>	Endangered	May affect, but is not likely to adversely affect	
Loggerhead sea turtle	<i>Caretta caretta</i>	Threatened	May affect, but is not likely to adversely affect	

4.1 Critical Habitat

Critical nesting habitat for the Northwest Atlantic Distinct Population Segment (DPS) of the Loggerhead sea turtle was designated through a final rule issued by USFWS on 10 July 2014 (79 FR 39756). This rule exempted CCSFS from the area designated as critical habitat for nesting turtles because of the CCSFS INRMP, which specifies the implementation of measures to benefit the conservation of this species within the adjacent critical habitat (USAF 2025). Critical habitat for the rufa red knot has been designated on Merritt Island National Wildlife Refuge, but this critical habitat is more than 10 miles north of the construction area and would not be affected by the Proposed Action (USFWS 2025a). Because CCSFS is exempted from critical habitat for the loggerhead sea turtle, and the action area does not contain designated or proposed critical habitat for other listed species, no critical habitat would be affected by the Proposed Action.

4.2 Southeastern Beach Mouse

The southeastern beach mouse (SEBM) is a subspecies of the widely distributed oldfield mouse (*Peromyscus polionotus*) and this distinct subspecies was designated as threatened under the ESA through a final rule issued by the USFWS on 12 May 1989 (54 FR 20598). According to the most recent 5-year review published by the USFWS in 2019, two known extant populations of SEBM occur in the northern part of the historic range in Florida: an isolated population occurs on Smyrna Dunes Park, and a metapopulation occurs on the Cape Canaveral Complex (USFWS 2019a).

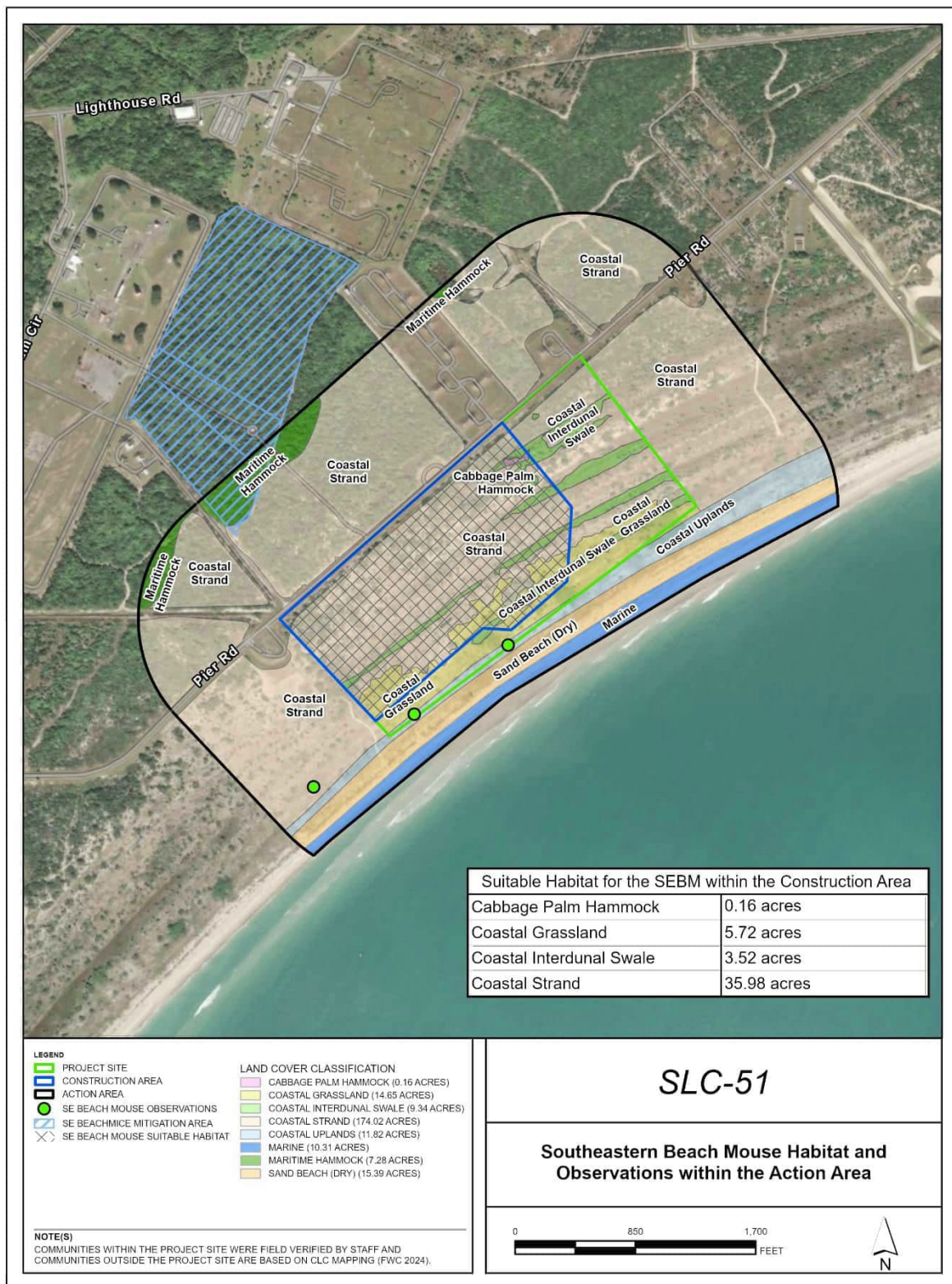
The SEBM is a small, light-brown to gray-colored rodent which reaches up to 6 inches in length, and has a tail length of 2 to 3 inches. This species is restricted to sand dunes vegetated primarily by sea oats and dune panic grass (*Paspalum amarulum*), and adjacent communities dominated by oaks (*Quercus* spp.), sand pine (*Pinus calusa*), and saw palmetto, where they are known to burrow and feed on dune plant seeds and insects (USFWS 1989). Human alteration of the coastal barrier islands has resulted in extirpation of the SEBM from the majority of its historical range. Current pressures leading to population decline include continuing loss or alteration of dunes due to human development, climate change and associated sea level rise, and predation (USFWS 1993a; USFWS 2019a).

SEBM population numbers fluctuate with the season; the highest numbers occur in the winter and the lowest occur in the summer. Reproductively active females are most abundant in autumn and limited in summer. The species exhibits fast turnover, surviving 4 months or less after capture (USFWS 1993a). Population trends for the SEBM have not been determined, but the Canaveral Complex population, which includes CCSFS, is considered stable (USFWS 2019a).

The most viable populations of the remaining SEBM are on federal lands, including CCSFS (USAF 2025a). This species typically occurs in coastal dune and strand communities with low vegetative density and areas of bare sand; CCSFS communities provide medium- to high-quality habitat for the species. Historically, SEBM populations within CCSFS were thought to be restricted to the coastal dune and coastal strand communities, but research has shown that as an opportunistic species, SEBM occur within most upland habitat types on CCSFS including interior oak scrub, open fields, grass road shoulders, and in buildings. The inland areas provide landward habitat that increases resilience of the SEBM on CCSFS and may also serve as refuge during extreme weather events (USAF 2025a). As such, SEBM habitat quality varies spatially across the action area, with areas closer to the roadways and disturbed edges providing moderate quality habitat due to fragmentation, human activity, and edge effects, while areas closer to primary and secondary dune systems represent higher quality habitat conditions. During the April 2026 habitat assessment, coastal strand, coastal grassland, coastal upland, coastal interdunal swale, and cabbage palm hammock communities delineated within the project site were determined to provide suitable habitat for the SEBM due to suitable soil and vegetative conditions. This species is reasonably certain to burrow and forage within upland habitats throughout the construction area, and during dry periods, may burrow and forage within the wetlands (Figure 4-1).

Within the construction area, there are up to 50 acres of suitable SEBM habitat (Table 3-1; Figure 4-1). Suitable SEBM habitat within the construction area and observations within the action area are shown in Figure 4-1.

Figure 4-1. Southeastern Beach Mouse Habitat and Observations within the Action Area



4.3 Audubon's Crested Caracara

The Audubon's crested caracara was listed as a threatened species under the ESA through a final rule issued by the USFWS on 6 July 1987 (52 FR 25229). The scientific name of this species was changed from *Polyborus plancus audubonii* to *Caracara planus audubonii* by USFWS through a final rule published on 31 July 2023 (88 FR 49310). The Audubon's crested caracara is a DPS of the crested caracara (*Caracara plancus*) occurring in Florida. This species remains a reproductively isolated population which is genetically distinct from other populations of the species (USFWS 2025b). The USFWS published 5-year reviews for the status of this species in 1991, 2009, and 2025 which recommended the Audubon's crested caracara has a high degree of recovery potential due to a low number of threats which are generally well understood. Critical habitat has not been designated for this species.

This species inhabits a wide variety of habitats with a mix of open ground for hunting and shrubs and tall vegetation for nesting. Preferred nesting is in cabbage palms surrounded by open land with low ground cover. In Florida, this species inhabits wet prairies with cabbage palms and may occur in pastures and wooded areas with saw palmetto, cypress trees, and scrub oaks (USAF 2025). This species is highly adaptable to human-modified landscapes, and individuals can successfully nest and reproduce in areas of development (USFWS 2025b).

The Audubon's crested caracara is occasionally observed around launch areas on CCSFS, but no nests have been documented within CCSFS (USAF 2025). Population trends for this species are uncertain due to low detectability of the species, limited access to suitable habitat on private lands, and the lack of data on recruitment rates. In 2018, the USFWS estimated approximately 550 mating pairs of this species throughout all 67 counties in Florida (USFWS 2025b).

The coastal strand, coastal grassland, and wetland communities within the construction area provide suitable open area for foraging, and cabbage palms present throughout the site provide suitable nesting habitat for this species. Therefore, there are up to 50 acres of suitable Audubon's crested caracara habitat within the construction area (Table 3-1).

4.4 Florida Scrub-Jay

The Florida scrub-jay was originally designated as a threatened species under the ESA through a final rule issued by the USFWS on 3 June 1987 (52 FR 20715). The USFWS published its most recent 5-year review of this species' status in August 2025 (USFWS 2025c). Prior reviews were completed in 2007 and 2020. All reviews recommended no change in status of this species. A recovery plan for the Florida scrub-jay was published in 2019 which outlined methods for minimizing threats to this species, and criteria which may be used to determine when recovery of this species is achieved.

The Florida scrub-jay is endemic to oak-dominated scrub, sand pine and xeric oak scrub, and scrubby flatwoods habitats in Florida, and requires open patches of scrub for foraging. This species primarily feeds on insects, frogs, toads, lizards, mice, bird eggs, and acorns. Degradation and loss of habitat from human activities have resulted in substantial

declines in the abundance and distribution of this species. Remaining populations are reproductively isolated, of small size, and are projected to continue to decline. KSC, Merritt Island National Wildlife Refuge, and CCSFS comprise one of the three core populations of this species (USAF 2025).

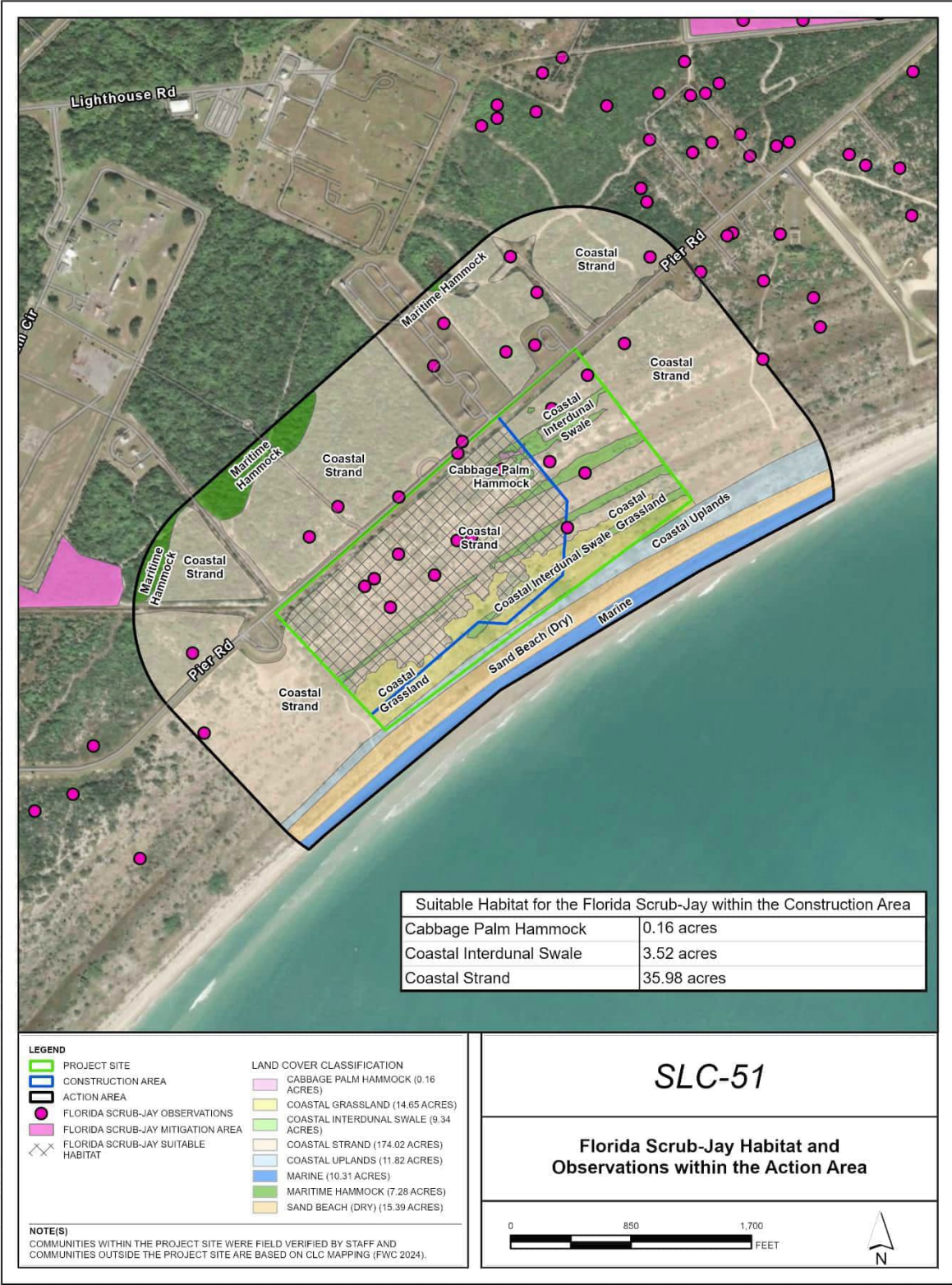
Florida scrub-jay populations have declined to less than 10% of their historical pre-European numbers (USFWS 2019b). Population numbers have continued to decline since their listing in 1987. The primary factors of decline for this species include the availability of territories for breeding males, disruption of natural fire regimes, habitat loss and fragmentation, disease, and predation (USFWS 2019b). CCSFS conducts annual monitoring of scrub-jay numbers and distribution beginning in June of each year, but detailed monitoring of specific groups is not conducted (USAF 2025). The 2024 census on CCSFS documented 294 adult birds and 147 juveniles from 112 family groups (USAF 2025).

The action area provides moderate-quality habitat for the Florida scrub-jay, as no nests were observed during surveys, the species appears to use the area primarily for occasional foraging, and scrub-jay-preferred woody structures and tree species are limited. Based on 2024 Florida scrub-jay survey data and the 2025 INRMP, the Florida scrub-jay has been previously identified within the construction area, and individuals may be present as foragers or transients (Figure 4-2; SLD 45 2026b; USAF 2025).

Suitable scrub habitat for the Florida scrub-jay was delineated within the project site during the April 2026 habitat assessment, in accordance with the FWC *Scrub Management Guidelines* (FWC 2019; Appendix A; Table 3-1; Figure 4-2). Coastal strand communities delineated within the project site were determined to provide suitable habitat for this species due to the shrub density, height, and species composition, as well as appropriate vegetative groundcover and percentage of bare sand patches. The coastal interdunal swales and cabbage palm hammock habitats within the project site may also intermittently provide suitable foraging habitat for this species during dry periods. Coastal grassland and coastal upland communities delineated within the project site lack the appropriate composition of shrubs, trees, and groundcover vegetation to constitute suitable habitat for this species. The Florida scrub-jay is not expected to forage or nest in coastal grassland or coastal upland habitat due to the lack of suitable scrub characteristics in these communities. Therefore, coastal grassland within the construction area is not classified as suitable habitat for this species.

Within the construction area, there are up to 40 acres of suitable Florida scrub-jay habitat (Table 3-1; Figure 4-2). Suitable Florida scrub-jay habitat within the construction area and observations within the action area are shown in Figure 4-2.

Figure 4-2. Florida Scrub-Jay Habitat and Observations within the Action Area



4.5 Piping Plover

The piping plover was listed as a threatened species under the ESA through a final rule issued by the USFWS on 11 December 1985 (50 FR 50726). The piping plover is a small, migratory shorebird which nests and breeds in northern climates during the summer and overwinters in southern climates during the winter. Three DPS's exist for this species: the Great Lakes, Northern Great Plains, and Atlantic Coast. The Atlantic Coast DPS overwinters along the southeastern Atlantic Coast of the US, including along the Gulf Coast stretching from Florida to Texas, from late July through late spring where they forage within sandy beaches, tidal flats, and coastal inlets (USFWS 2026b). Critical habitat for overwintering piping plovers was designated on 10 July 2001. The action area does not contain critical habitat for this species.

In 1988, a recovery plan was written for the Atlantic Coast DPS which was revised in 1996. The USFWS published 5-year reviews for this species in 2009 and 2020. Primary threats to this species include destruction, modification, and loss of breeding and overwintering habitat due to shoreline development, human disturbance, climate change, and sea level rise (USFWS 2020).

This species primarily forages on arthropods and marine worms, and preferred habitat is highly dependent on prey availability (USFWS 2026b). While the piping plover does not nest in Florida, and there is no habitat for this species within the construction area, it may forage along the shoreline and intertidal area within the action area while overwintering outside its breeding season.

4.6 Rufa Red Knot

The rufa red knot was listed as a threatened species under the ESA through a final rule issued by the USFWS on 11 December 2014 (79 FR 73706). The rufa red knot is a robin-sized, migratory shorebird identified by red-orange plumage on its face, neck, and breast, and brown camouflaged back. This species migrates up to 19,000 miles annually from their breeding grounds in the central Canadian Arctic to their overwintering grounds in the southern tip of South America (USFWS 2021). The USFWS published the most recent 5-year review for the status of this species in 2021, which confirmed no change in the status or recovery priority of this species.

Critical habitat for this species was proposed through a proposed rule published by the USFWS on 15 July 2021 (86 FR 37410). Critical habitat has been designated on Merritt Island National Wildlife Refuge, but this critical habitat is more than 10 miles north of the construction area and would not be affected by the Proposed Action (USFWS 2025a).

The rufa red knot preys primarily on mollusks and occasionally softer invertebrates such as shrimp and crabs. Coastal habitats preferred by this species while overwintering include muddy or sandy coastal areas including tidal flats, bays, and estuaries. Along the Atlantic Coast of the US, dynamic and ephemeral habitat features such as shoals, sandbars, and islets are also important for foraging and roosting. Foraging habitat for rufa red knots includes sparsely vegetated, open landscapes. (USFWS 2026c). Primary threats to this species include habitat loss, climate change, and reduced food availability (USAF 2025).

This species is not known to winter on CCSFS, but it has been observed as an occasional forager along the coastline (USAF 2025). There are no population estimates of this species on CCSFS. There is no habitat for the rufa red knot within the construction area; however, this species may occur along the shoreline and intertidal area within the action area while overwintering outside its breeding season.

4.7 Eastern Indigo Snake

Historically, the Eastern indigo snake was listed as a threatened subspecies (*Drymarchon corais couperi*) under the ESA on 3 March 1978 by the USFWS due to threats from habitat modification, collections for the pet trade, and gassing of gopher tortoise burrows (FR 43:4026-4029; USFWS 1978). A Recovery Plan was published in 1982 (USFWS 1982). In 2008, the USFWS adopted a change in nomenclature which elevated the Eastern indigo snake to a distinct species (*Drymarchon couperi*) (USFWS 2019c). The species is still currently listed as threatened.

The Eastern indigo snake is a nonvenomous, bluish-black colored snake that can reach a length of up to 8 ft long. The chin, cheek, and throat are mostly red or brown but can also be white or black. This species feeds on a variety of prey including small mammals, birds, frogs, toads, turtles and their eggs, lizards, and small alligators. They breed between the months of November and April and nest between the months of May and August (USFWS 2026d). Females may have the ability to hold sperm, which would allow them to defer fertilization of an egg. Females lay 4 to 12 eggs, with the eggs hatching 90 days after being laid. Eastern indigo snakes share a symbiotic relationship with gopher tortoises as they heavily depend on gopher tortoise burrows for shelter, especially during winter months, and female Eastern indigo snakes often lay eggs in gopher tortoise burrows (USAF 2015).

In August 2024, USFWS published a 5-year review for the Eastern indigo snake which details the status of populations within the southeast region of the U.S., habitat impacts, and recommended future activities for the recovery of this species (USFWS 2024a). This report details that since its listing under the ESA, the Eastern indigo snake is no longer significantly threatened by illegal pet trade and gassing of gopher tortoise burrows; however, current primary threats to this species include habitat destruction, habitat degradation, direct mortality from domestic animals, chemicals, roadways, climate conditions, diseases such as snake fungal disease and parasitic protozoans, and a decrease of gopher tortoise populations (USFWS 2024a). Eastern indigo snake populations have declined between 32% and 97% across Florida and Georgia (USFWS 2024a). Population resiliency is low to very low, and 13% of extant populations are likely to be extirpated in the foreseeable future.

The Eastern indigo snake is rarely observed within CCSFS and there is no data on the size of the population within CCSFS. An unconfirmed observation of an Eastern indigo snake was made in November 2023 at the end of Camera Road Alpha, approximately 1.30 miles northeast of the action area (SLD 45 2026b). The second most-recent observation of an Eastern indigo snake occurred in 2018 when a snake was killed by a vehicle on a roadway approximately 0.4 km (0.3 mi) north of the CCSFS north boundary (USAF 2025). The Eastern

indigo snake occurs in xeric pine-oak sandhills and commonly shares burrows with the gopher tortoise. SLC-51 was historically a recipient site for gopher tortoises relocated from within CCSFS; as such, numerous gopher tortoise burrows are within the construction area, and all natural habitats in the construction area, including coastal strand, coastal grassland, wetlands, and gopher tortoise burrows, are suitable for the Eastern indigo snake. There are up to 50 acres of suitable Eastern indigo snake habitat within the construction area (Table 3-1).

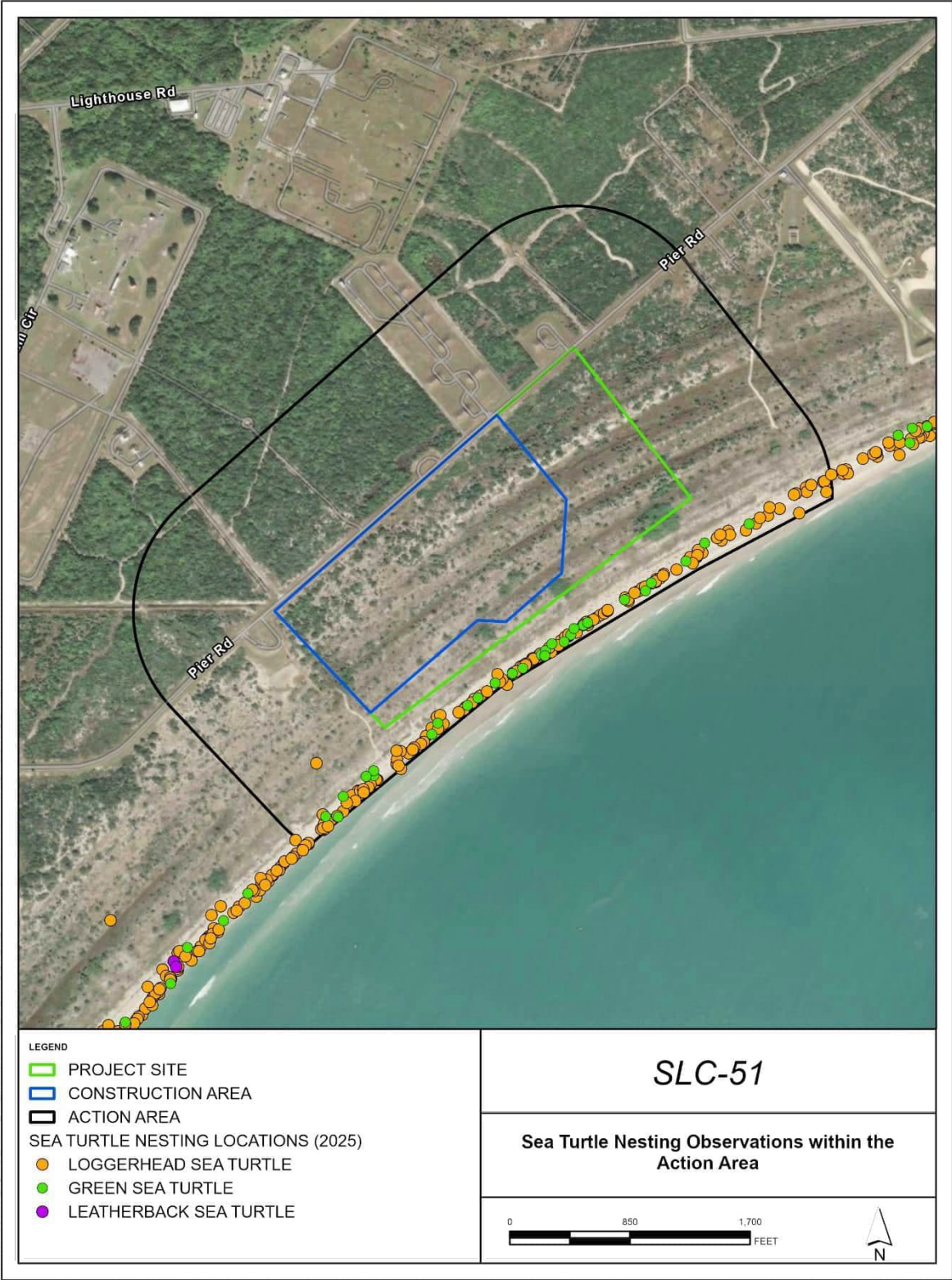
4.8 Sea Turtles

Green, leatherback, and loggerhead sea turtles are known to nest on the beaches at CCSFS, creating between 1,800 and 5,000 nests in any given year (USAF 2025). The Kemp's ridley sea turtle was documented to nest on CCSFS beaches in 2015 (two nests), 2023 (two nests), and 2024 (one nest) (USAF 2025). However, Kemp's ridley sea turtle nesting at CCSFS is considered a rare event as this species typically only nests on beaches in Northeastern Mexico in the Gulf of America (USAF 2025). The hawksbill sea turtle is not known to nest within CCSFS; however, suitable nesting habitat for this species is present within the action area. Each of these five species of marine turtles may occur within the action area along the Atlantic Ocean shoreline, but suitable habitat does not exist within the construction area.

CCSFS has developed and implemented LMPs for various facilities to protect sea turtles. The Programmatic BO for light management activities requires LMPs for any new facility that is close to the beach, not constructed in accordance with 45th SW Instruction 32-7001 *Exterior Lighting Management* (23 April 2018), has lighting directly visible from the beach, or may cause significant sky glow (USFWS 2008). The BO authorized a 3% take of nesting females and hatchlings from disorientation and misorientation, as determined from a representative sample of surveyed marked nests, and requires five light surveys to be conducted at night during the peak of nesting season (USFWS 2008). During the 2025 nesting season, CCSFS was below the required 3% incidental take as stipulated in the BO (USAF 2026).

Within the action area, there are approximately 4,600 linear feet of suitable nesting habitat for the green, leatherback, loggerhead, Kemp's ridley, and hawksbill sea turtles (Figure 4-3). Sea turtle nests observed within the vicinity of the action area during the 2025 nesting season are displayed in Figure 4-3 (USAF 2026).

Figure 4-3. Sea Turtle Nesting Observations within the Action Area



4.8.1 Green Sea Turtle

The green sea turtle was first listed as a federally threatened species on 28 July 1978 (43 Federal Register [FR] 32800). On 6 May 2016, the National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS; also known as NOAA Fisheries) revised the listing to include eleven DPSs worldwide (81 FR 20058). Under this listing, the North Atlantic DPS was identified and classified as threatened.

The green sea turtle is a hard-shelled sea turtle, with the adult's carapace varying in color from black to gray to greenish or brown, often with bold streaks or spots, and a yellowish white plastron. On average, a green sea turtle belonging to the Florida population has a straight carapace length of 3.3 ft and weighs 300 pounds (FWC 2026). This species is distinguished by its four pairs of lateral scutes, one pair of elongated prefrontal scales located between the eyes, their small, rounded head, and smooth carapace (FWC 2026). Hatchlings weigh approximately 0.88 ounces, their black carapace is about 2 inches long, and the ventral surface is white (USAF 2025). This species generally feeds on aquatic vegetation including seagrasses and algae.

From 1986 through 2024, the number of green sea turtle nests deposited on CCSFS beaches ranged from 4 to 1,282, with the record high number occurring in 2023. The five-year average number of green sea turtle nests deposited on CCSFS beach from 2019-2024 is 530 nests annually (USAF 2025).

Population threats for the green sea turtle include direct take of eggs and individuals, entanglement in fishing gear, increased human presence, coastal construction, beach erosion, nest predation, and habitat degradation (FWC 2026; USFWS 1998).

4.8.2 Leatherback Sea Turtle

The leatherback sea turtle was listed as federally endangered through a final rule published by NOAA Fisheries on 2 June 1970 (35 FR 8491).

The leatherback sea turtle is the largest of all sea turtles, attaining a straight carapace length of 5 to 5.5 ft and a weight that occasionally reaches 1,100 pounds. Instead of having keratinized scutes, its unique shell consists of leathery, oil-saturated connective tissue overlaying interlocking dermal bones. The carapace is raised into a series of seven longitudinal ridges. Other distinctive features include the absence of claws and scales, a reduced skeleton, the presence of long forelimbs, and a notable pink spot on the dorsal surface of the head in adults (USAF 2025).

Based on data from 1986 through 2024, the highest number of leatherback sea turtle nests observed in any given year on CCSFS was 15 in 2019. For many years during this survey period, no leatherback sea turtle nests were observed at CCSFS. A total of 178 leatherback nests have been documented on CCSFS since surveys began in 1986 (USAF 2025). It is estimated that the global population of leatherbacks has declined 40% over the last three generations (NOAA Fisheries 2025).

Common threats to the leatherback sea turtle include ingestion and entanglement in debris, incidental take, and predation (USAF 2025).

4.8.3 Loggerhead Sea Turtle

The loggerhead sea turtle was originally listed as federally threatened by NOAA Fisheries on 28 July 1978 (43 FR 32800). On 22 September 2011, NOAA Fisheries and USFWS published a final rule revising this listing from one single species to nine DPSs, including the Northwest Atlantic Ocean DPS which was listed as threatened (76 FR 58868).

The loggerhead sea turtle is the most common nesting turtle on CCSFS (USAF 2025). Adult and subadult loggerheads have reddish-brown carapaces and dull brown to yellowish plastrons. Adult loggerheads in the Southeastern U.S. have an average straight carapace length of approximately 3 ft and a mean body weight of about 250 pounds. The brown hatchlings weigh approximately 0.70 ounces and are approximately 1.7 inches long.

Loggerhead nests are deposited on CCSFS each year between April and September. A record number (4,275) of loggerhead nests were documented on CCSFS in 2023. Based on nest surveys at CCSFS, the five-year average number of loggerhead nests deposited on CCSFS from 2019-2024 is 3,380 nests annually (USAF 2025).

From 1988-2008, the loggerhead turtle population in Florida has decreased by 26%. Factors of decline include bottom trawling, longline and gill net fishing, legal and illegal harvesting, vessel strikes, beach armoring, beach erosion, debris ingestion, oil and light pollution, and predation (USFWS 2008b).

4.8.4 Kemp's Ridley Sea Turtle

The Kemp's ridley sea turtle was originally listed as federally endangered by NOAA Fisheries on 2 December 1970 (35 FR 18319). As a migratory species, the Kemp's ridley sea turtle spends the first one to two years of life in the open ocean associated with floating sargassum algae; after the oceanic phase, they migrate to nearshore areas of the Gulf of America and Atlantic Ocean where they forage on crustaceans (NOAA Fisheries 2026a).

The Kemp's ridley sea turtle is the smallest of the sea turtles, with adults reaching about 2 ft in length and weighing up to 100 pounds. The adult Kemp's ridley has an oval carapace with five pairs of costal scutes. that is almost as wide as it is long and usually olive-gray in color. In each bridge adjoining the plastron to the carapace, there are four inframarginal scutes, each of which is perforated by a pore. The head has two pairs of prefrontal scales. Hatchlings are black on both sides. The Kemp's ridley sea turtle has a triangular-shaped head with a somewhat hooked beak adept for crushing prey. This species is a shallow water benthic feeder with a diet consisting primarily of crabs.

In 2015, two Kemp's ridley nests were recorded at CCSFS, both by the same female. This was the first time that a Kemp's ridley sea turtle nest was observed on CCSFS. In 2023, two additional Kemp's ridley nests laid by different females were identified on CCSFS which had a combined hatch success of 74.4%. These two nests were part of 15 Kemp's ridley sea turtle nests confirmed throughout Florida in 2023. One Kemp's ridley nest was confirmed on CCSFS in 2024, and this nest had a 94% hatch success (USAF 2025).

Threats to the Kemp's ridley sea turtle include illegal harvesting of individuals and eggs, entanglement in fishing gear, ecosystem alterations, degradation of nesting habitat, vessel strikes, pollution, predation, climate change, and natural catastrophes (USFWS 2011).

4.8.5 Hawksbill Sea Turtle

The hawksbill sea turtle was originally listed as federally endangered by USFWS on 2 June 1970 (35 FR 8491). This species inhabits tropical and sub-tropical waters within all of the world's major oceans, with the largest populations being found in the west Atlantic, Indian, and Indo-Pacific Oceans. Nesting in Florida is generally limited to beaches along the southeastern coast and the Florida Keys (NOAA Fisheries 2026b).

This species derives its name from its unique beak-like mouth which allows it to forage in cracks and crevices. Their diet consists primarily of sponges, and is supplemented by anemones, jellyfish, mollusks, sea urchins, and algae. Hawksbill sea turtles have mottled shells consisting of shades of amber, orange, red, yellow, black and brown. Their shells typically have serrated edges with overlapping scutes (NOAA Fisheries 2026b). Their head comes to a tapered point and their lower jaw is V-shaped, giving them a hawk-like appearance. Adults can reach up to 2 to 3 feet in shell length and can weigh between 100 and 150 pounds at maturity. Hatchlings are only 2 to 3 inches long and mostly brown in color. Hawksbills have two pairs of scales between their eyes and four scutes along the edge of each side of their carapace (NOAA Fisheries 2026b).

The hawksbill sea turtle has not been documented nesting on CCSFS and there is no estimate on the number of individuals that may occur in nearshore areas of the Atlantic Ocean adjacent to the action area (USAF 2025).

The primary threats to this species include harvesting, increasing human populations, and destruction of habitat (USFWS 1993b).

5. Effects of Action on Listed Species and Critical Habitat

5.1 Construction Effects

Construction of SLC-51 would require disturbance of approximately 50 acres of undeveloped land (Figure 3-1). Construction activities would include the use of heavy equipment to remove vegetated communities, transportation of construction materials along existing roadways at CCSFS resulting in increased vehicle traffic, and stockpiling construction materials at the construction site. Construction activities would occur during the daytime to the greatest extent practicable; however, there may be predawn work required for concrete pours which would require lighting of the construction area. When nighttime construction is deemed necessary, measures would be implemented to shield and downcast light exposure to avoid disorienting sensitive species in the vicinity. Noise and vibrations would be generated from the use of heavy equipment.

Construction activities have the potential to affect listed species if the species do not disperse into neighboring habitats outside the construction area. Direct impacts to species may occur through crushing by heavy vehicle traffic or entombment with burrows during site clearing and grading. However, it is anticipated that most mobile organisms would flee ongoing construction activities before being directly impacted. Impacts to listed species would also occur from the removal of suitable habitats through construction activities. The removal of habitats would reduce the ability for these species to forage, nest, roost, or seek refuge from predators, which would increase species mortality. Indirect impacts to listed species have the potential to occur through visual, noise, and vibration disturbances as a result of construction activities.

5.2 Southeastern Beach Mouse

5.2.1 Direct Effects

5.2.1.1 *Habitat Loss*

Project activities would result in direct impacts to the SEBM through the removal of foraging and nesting habitat within the construction area. Within the construction area, up to 50 acres of suitable SEBM foraging and nesting habitat within coastal strand, coastal grassland, interdunal swale, and cabbage palm hammock communities would be permanently lost. All land within the construction area would be permanently impacted and not allowed to revegetate. Any land within the approximately 80-acre project site that is either temporarily cleared or not directly impacted by construction activities would be allowed to redevelop into natural habitats post-construction that may be used by the SEBM. Habitat loss would likely reduce SEBM survival and recruitment in future years. Potential for impacts to the SEBM would be minimized through pre- and during construction protection measures detailed in Section 6.1.

5.2.1.2 *Vehicle Mortality*

Operation of construction equipment and vehicle traffic within the construction area may result in take of this species. During clearing and construction operations within SEBM

habitat, SEBM could be struck by heavy machinery, crushed by construction equipment, or entombed within burrows during site clearing and grading. However, SEBM typically forage at nighttime when construction activity and associated vehicle operation is decreased, and most construction activities would take place during daylight hours while SEBM are in their burrows.

Vehicle traffic associated with ingress and egress from the construction site along Pier Road may also result in mortality of this species by direct strikes or crushing of individuals transiting above-ground. Due to this species' small size and light color, SEBM are generally more difficult to detect from a moving vehicle which decreases the likelihood that collisions with moving vehicles could be avoided. However, the likelihood of strikes by vehicle traffic is reduced by the lower speed limits in this area of CCSFS. Because Pier Road dead-ends at the construction site, vehicles within the action area would be traveling at lower speeds which reduces the likelihood of collisions with transient SEBM. Mortality by vehicles is a rare occurrence due to the nocturnal nature of the species, and the natural tendency of the species to flee from noise and human presence.

5.2.2 Indirect Effects

5.2.2.1 *Lighting*

Because the SEBM is a nocturnal species which typically forages during the night, the SEBM may be deterred from foraging in suitable habitats if the launch pad or construction area was lit during nighttime. Nighttime construction would be minimized; however, when deemed necessary, measures would be implemented to shield and downcast light exposure to avoid disorienting SEBM in the vicinity. If nighttime construction is required, upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Therefore, negative effects on foraging would be considered temporary and insignificant because it is anticipated that the SEBM would continue to use suitable habitats in the vicinity after construction is complete. Permanent lighting emitted from the SLC-51 launch facility would comply with the SOPs and relevant terms and conditions of existing BOs to reduce potential effects of infrastructure lighting on the SEBM. Additionally, a LMP would be required for the construction and operation of the Proposed Action and would be consistent with the existing Programmatic BO for light management activities (USFWS 2008a). The LMP would be implemented year-round.

5.2.2.2 *Noise and Vibration*

While effects from elevated noise and vibration on this species have not yet been determined, noise and vibration generated from construction activities may interrupt foraging behavior or elicit startle-responses in the SEBM. The startle-response may prompt SEBM to flee the area to avoid the noise and therefore lessen the threat of harm from construction activities. As such, it is anticipated that noise and vibrations associated with construction activities would not cause negative impacts to SEBM populations in the vicinity of the construction area. Any effects from noise and vibrations would be temporary in nature and would terminate when construction is completed.

Sandy soils such as those present within the construction area provide a highly porous and

permeable medium through which energy from sound waves is reflected, absorbed, scattered, or refracted. It is therefore anticipated that burrowing animals including the SEBM would be relatively unaffected by noise and vibration due to the attenuation of sound through the soil (Department of the Air Force [DAF] 2024). Noise and vibration impacts would be short-term in duration and would likely have an insignificant effect on this species.

5.2.3 Determination

Because of the potential for incidental take from construction equipment and reduction in available habitat, SLD 45 has determined that the Proposed Action **may affect, and is likely to adversely affect**, the SEBM. Impacts to SEBM habitat within the construction area would be mitigated offsite at a 1:1 ratio in accordance with the U.S. Space Force (USSF) Range of the Future Programmatic BO (USFWS Log No. 2023-0048779); therefore, the Proposed Action would result in no long-term loss of SEBM habitat.

5.3 Audubon's Crested Caracara

5.3.1 Direct Effects

Suitable habitat for the Audubon's crested caracara is present within the construction area. Land clearing would result in the permanent removal of up to 50 acres of suitable habitat for this species. Habitat loss has the potential to displace individuals which may forage or roost in the construction area; however, this species has not been documented within the vicinity of the project site. Because this species is known to successfully forage and breed in a variety of habitats including those which are impacted by human development, it is likely that disturbed individuals would relocate to other areas in the vicinity with available habitat. Therefore, habitat loss is likely to have insignificant and discountable effects on this species.

Increased vehicle traffic from construction activities would not increase the likelihood of a vehicle strike as the species is rare on CCSFS and would be expected to avoid collisions with vehicles.

5.3.2 Indirect Effects

Light from construction activities would not be expected to interfere with the Audubon's crested caracara foraging activities as the species forages only during the day when light from construction would not have an increased affect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb Audubon's crested caracaras that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing Audubon's crested caracaras in the vicinity. Upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the Audubon's crested caracara.

Noise and vibration from construction activities may temporarily disturb Audubon's crested caracaras foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect this species' ability to feed or shelter. Therefore, noise and vibration from construction activities would therefore have insignificant effects on the Audubon's crested caracara.

5.3.3 Determination

Based on the loss of habitat, SLD 45 has determined that the Proposed Action **may affect, but is not likely to adversely affect**, the Audubon's crested caracara.

5.4 Florida Scrub-Jay

5.4.1 Direct Effects

Suitable habitat for the Florida scrub-jay is present within the construction area, and this species has historically been documented within the construction area and action area (Figure 4-2; SLD 45 2026b). Land clearing would result in a direct effect by the permanent removal of up to 40 acres of suitable habitat for the Florida scrub-jay within the coastal strand and wetland communities. Habitat loss has the potential to reduce Florida scrub-jay survival and recruitment shortly after habitat removal. Temporary adverse effects on individuals as a result of habitat loss include increased stress, increased competition for resources, and disturbance of young. Prolonged exposure to these stressors may result in reduced fitness and survival of individuals.

There is a potential for land clearing activities and the operation of construction equipment to result in incidental mortality of this species due to their presence in the vicinity of the area (Figure 4-2). If construction is scheduled during the Florida scrub-jay nesting season (1 March to 30 June), pre-construction surveys would be completed prior to land disturbing activities to identify nests or individuals which may be in the vicinity of the construction area. If individuals or nests are observed within 300 ft of the construction area, construction activities would cease until the individual has fled the area, or fledglings have fled the nest, to the greatest extent practicable. By following the conservation measures included in Section 6.2, mortality of this species by construction activities and equipment would be minimized.

Increased vehicle traffic and collision risk with the Florida scrub-jay is expected to have an insignificant effect on this species due to lower posted speed limits in this area of CCSFS and lower Florida scrub-jay population density in the vicinity of Pier Road (SLD 45 2026b). As such, the likelihood of vehicle collisions with Florida scrub-jays is minimal compared to more densely populated areas within CCSFS.

5.4.2 Indirect Effects

Light from construction activities would not be expected to interfere with Florida scrub-jay foraging, breeding, or socializing. The Florida scrub-jay is active only during the day when light from construction would not have an increased affect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may

temporarily disturb Florida scrub-jays that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing Florida scrub-jays in the vicinity. Upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the Florida scrub-jay.

Noise and vibration from construction activities may temporarily disturb Florida scrub-jays foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect the Florida scrub-jay's ability to nest, feed, or shelter, and would therefore have insignificant effects on this species.

5.4.3 Determination

Because of the loss of habitat due to construction activities, SLD 45 has determined that the Proposed Action **may affect, and is likely to adversely affect**, the Florida scrub-jay. Impacts to the Florida scrub-jay habitat within the construction area would be mitigated offsite at a 2:1 ratio in accordance with the USSF Range of the Future Programmatic BO (USFWS Log No. 2023-0048779); therefore, the Proposed Action would result in no long-term loss of Florida scrub-jay habitat.

5.5 Piping Plover

5.5.1 Direct Effects

The piping plover may forage along the Atlantic Ocean shoreline within the southeastern portion of the action area during migration. The construction area contains no habitat for the piping plover, and the presence of this species would be limited to the shoreline approximately 500 feet to the southeast of construction activities. Construction activities would have no effect on the piping plover or habitats that this species uses.

Increased roadway traffic from construction activities and operation of construction equipment would have no direct effect on the piping plover as its foraging habitat does not occur adjacent to roadways or the construction area.

5.5.2 Indirect Effects

Light from construction activities would not be expected to interfere with piping plover foraging, roosting, or socializing. Piping plovers are active only during the day when light from construction activities would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb piping plovers that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing piping plovers in the vicinity. Upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the piping plover.

Noise and vibration from construction activities may temporarily disturb piping plovers foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect the piping plover's ability to feed or shelter, and would therefore have insignificant effects on this species.

5.5.3 Determination

Because effects to the piping plover due to light, noise, and vibration from construction activities would be temporary, short-term in duration, and insignificant, SLD 45 has determined that the Proposed Action **may affect, but is not likely to adversely affect** the piping plover.

5.6 Rufa Red Knot

5.6.1 Direct Effects

The rufa red knot may forage along the Atlantic Ocean shoreline within the southeastern portion of the action area during migration. The construction area contains no habitat for the rufa red knot, and the presence of this species would be limited to the shoreline approximately 500 feet to the southeast of construction activities. Construction activities would have no direct effect on the rufa red knot or habitats that this species uses.

Increased roadway traffic from construction activities and operation of construction equipment would have no direct effect on the rufa red knot as its foraging habitat does not occur adjacent to roadways or the construction area.

5.6.2 Indirect Effects

Light from construction activities would not be expected to interfere with rufa red knot foraging, roosting, or socializing. Rufa red knots are active only during the day when light from construction activities would not have an increased effect above ambient light conditions. Nighttime construction would be minimized; however, when deemed necessary, light may temporarily disturb rufa red knots that are inactive during the night. If nighttime construction is required, measures would be implemented to shield and downcast light exposure to avoid disturbing rufa red knots in the vicinity. Upward pointing lighting would be reduced and the frequency and duration of light would be low and short-term. Increased light from the Proposed Action would have a discountable effect on the rufa red knot.

Noise and vibration from construction activities may temporarily disturb rufa red knots foraging in the immediate vicinity; however, disturbances would be temporary, short-term in duration, and episodic, and would not result in permanent physiological or behavioral effects that would affect the rufa red knot's ability to feed or shelter, and would therefore have insignificant effects on this species.

5.6.3 Determination

Because effects to the rufa red knot due to light, noise, and vibration from construction activities would be temporary, short-term in duration, and insignificant, SLD 45 has determined that the Proposed Action **may affect, but is not likely to adversely affect** the rufa red knot.

5.7 Eastern Indigo Snake

5.7.1 Direct Effects

Because gopher tortoise burrows occur throughout the construction area, use of this area by Eastern indigo snakes is possible. During construction of the project, up to 50 acres of suitable Eastern indigo snake habitat would be disturbed and permanently lost. The loss of habitat may contribute to reduced population levels by reducing foraging and breeding opportunities. There is potential for incidental mortality of this species from land clearing activities through crushing or entombment from heavy machinery; however, it is anticipated that disturbances from construction activity would prompt Eastern indigo snakes to temporarily flee the area during construction. To further minimize construction impacts, the 2024 USFWS *Standard Protection Measures for the Eastern Indigo Snake* would be implemented during construction activities (USFWS 2024b). The potential for incidental mortality would also be minimized through pre- and during construction surveys, and relocations of gopher tortoises and Eastern indigo snakes that may be found within burrows. If an Eastern indigo snake is encountered during burrow excavations, work would stop until the snake voluntarily leaves the work area. Therefore, construction activities and operation of equipment would likely have an insignificant effect on Eastern indigo snakes within the construction area.

Increased roadway traffic from construction activities may slightly increase the risk of vehicle strikes on Eastern indigo snakes where habitats are adjacent to roadways. However, the likelihood of vehicle strikes is minimized by the lower speed limits in this area of CCSFS and incidental mortality from increased vehicle traffic is considered minimal. It is anticipated that increased roadway traffic from construction would have an insignificant effect on Eastern indigo snakes.

5.7.2 Indirect Effects

Increased light from construction activities would not be expected to interfere with Eastern indigo snake foraging or breeding activities. During the day, construction lighting would not have an increased effect above ambient light conditions. Nighttime construction would be minimized to the greatest extent practicable; however, when deemed necessary, upward pointing lighting would be reduced and short-term in duration and would be expected to have a discountable effect on Eastern indigo snakes.

Reptiles are sensitive to noise and vibration associated with construction activities and these disturbances could displace Eastern indigo snakes from foraging in the vicinity of the construction area. It is anticipated that burrowing animals including the Eastern indigo snake would be relatively unaffected by noise and vibration due to the attenuation of

sound through the soil. Noise and vibration impacts to the Eastern indigo snake would be short-term in duration and would likely have an insignificant effect on this species.

5.7.3 Determination

Based on the loss of habitat and potential for incidental take from construction activities, SLD 45 has determined that the Proposed Action **may affect, and is likely to adversely affect**, the Eastern indigo snake.

5.8 Sea Turtles

5.8.1 Direct Effects

The construction area does not overlap sea turtle nesting habitat, and therefore no direct impacts to sea turtle nesting habitat would occur from construction activities. The action area contains approximately 4,600 linear feet of beach habitat where marine turtles may nest. Increased traffic from project construction activities would have no effect on marine turtles.

5.8.2 Indirect Effects

Artificial light associated with SLC-51 infrastructure and nighttime construction activities may be visible from the beach and may therefore result in disorientation or misorientation of marine turtle adults and hatchlings that nest on the beaches within the action area. A LMP would be required for the construction and operation of the Proposed Action and would be consistent with the existing Programmatic BO for light management activities (USFWS 2008a). The construction LMP would address temporary lighting during predawn hours to accommodate activities such as concrete pours. Adherence to the LMPs would reduce the effects of construction and infrastructure lighting on nesting marine turtles and hatchlings and therefore reduce the possibility for take of these species. In addition, silt fences would be installed during construction, which would prevent potentially disoriented sea turtles from entering the construction site. The SLC-51 launch facility would be conducted within the SOPs and relevant terms and conditions of existing BOs to reduce impacts from infrastructure lighting on nesting sea turtle species. Light from nighttime construction may also disorient or misorient hatchlings, causing turtles to head inland and have difficulty reaching the sea, and potentially resulting in incidental mortality. Adults would typically survive but nesting success could be reduced. However, the frequency and duration of light during nighttime construction would be low and short-term, and with the implementation of minimization measures detailed in Section 6.6, construction and infrastructure lighting would have a minimal effect on marine turtles.

Noise from construction is unlikely to affect sea turtles because the construction area is more than 250 ft from nesting beaches, with intervening vegetation to further reduce the noise. Noise and vibration impacts to marine turtles would be short-term in duration and would have an insignificant effect on marine turtles.

5.8.3 Determination

Because construction lighting would be consistent with the 45th SW USFWS Biological Opinion for light management (FWS Log No. 41910-2009-F-0087), and the SLC-51 launch

facility would be conducted within the SOPs and relevant terms and conditions of existing BOs, SLD 45 has determined that the Proposed Action **may affect, but is not likely to adversely affect**, the green, loggerhead, leatherback, Kemp's ridley, and hawksbill sea turtles.

6. Conservation Measures to be Implemented

This section discusses conservation measures that would be implemented as part of the project to avoid or minimize effects on listed species.

6.1 Southeastern Beach Mouse

Lighting associated with routine construction activities must be minimized to reduce the possibility of disrupting nocturnal activities of SEBM, including but not limited to limiting nighttime work to the greatest extent practicable, reducing the amount of upward pointing lighting and white light, and only using white light where necessary. The USFWS Programmatic BO for light management activities would be followed during construction activities (USFWS 2008a). Construction equipment and human ingress and egress pathways would be configured in a manner that would minimize impacts to SEBM and SEBM habitat to the greatest extent practicable. Movement of vehicles and equipment would be restricted to roadways or outside of vegetated areas to the greatest extent practicable.

During construction activities, a siltation fence would be installed and maintained along the construction boundary to reduce the likelihood of SEBM entering the construction area. SLD 45 would continue to implement its prescribed fire program at CCSFS, which would provide long-term benefit to the SEBM. In addition, areas within the project site which are temporarily impacted by construction activities, but not hardened with roads or facilities, would be allowed to revegetate naturally after construction is complete, which would provide available habitat for SEBM to utilize post-construction.

6.2 Audubon's Crested Caracara

Minimal effects to the Audubon's crested caracara and its habitat were determined. No conservation measures for this species are proposed to be implemented.

6.3 Florida Scrub-Jay

Although no Florida scrub-jay nests have been identified within the construction area, if clearing of Florida scrub-jay habitat were to occur during the species' nesting season (typically 1 March through 30 June), Florida scrub-jay surveys would be conducted in accordance with the latest approved USFWS survey protocol by a qualified biologist before clearing to ensure that no jays are nesting within 300 ft of clearing activities. If construction were to occur during the species' nesting season, all suitable Florida scrub-jay habitat within the construction area would be surveyed for nesting scrub-jays a minimum of 14 days before habitat alterations. Any nests encountered would be flagged and no clearing would be allowed within 300 ft of the nest until all birds have fledged. If a nest is found during clearing activities, work will be avoided within 300 ft of the nest location and USFWS will be immediately contacted for guidance.

SLD 45 would continue to implement its prescribed fire program at CCSFS, which would benefit the Florida scrub-jay through habitat restoration and conservation.

6.4 Piping Plover

Minimal effects to the piping plover due to construction activities were determined. There would be no effect on the species' habitat. No conservation measures for this species are proposed to be implemented.

6.5 Rufa Red Knot

Minimal effects to the rufa red knot due to construction activities were determined. There would be no effect on the species' habitat. No conservation measures for this species are proposed to be implemented.

6.6 Eastern Indigo Snake

The SLD 45 *Indigo Snake Protection and Education Plan* and 2024 USFWS *Standard Protection Measures for the Eastern Indigo Snake* would be provided to the contractor's project manager, their construction manager, and construction personnel (USFWS 2024b). Educational signs and posters would be displayed at the site to inform personnel of the appearance and protected status of the Eastern indigo snake. Information on whom to contact if an Eastern indigo snake is seen in the area would be prominently displayed. If any Eastern indigo snake is encountered during clearing activities, work in the area would stop and the snake would be allowed to move safely out of the active construction area of its own volition. Observations of live or dead Eastern indigo snakes would be reported to SLD 45 immediately and SLD 45 would report them to USFWS, if appropriate.

The Eastern indigo snake is a known commensal of the gopher tortoise. Gopher tortoise burrows would be excavated prior to construction, and if an Eastern indigo snake is encountered, work would stop until the snake voluntarily leaves the active work area. Qualified biologists would monitor gopher tortoise relocations ahead of construction. SLD 45 implements conservation measures for the gopher tortoise that would minimize the potential for effects on the Eastern indigo snake.

6.7 Marine Turtles

Lighting required for construction would be limited to the immediate vicinity of the construction area. To minimize potential impacts to sea turtles from construction lighting, the exterior lighting proposed for the project would be in accordance with the 45th SW USFWS BO for light management (USFWS Log No. 41910-2009-F-0087) and 45th SW Instruction 32-7001 *Exterior Lighting Management* (23 April 2018).

A LMP would be completed by SLD 45 and submitted to USFWS for approval before new or temporary lighting construction. The LMP will specify that construction operations would be limited between 9:00 p.m. and dawn from 1 May through 31 October unless deemed essential to support construction activities. If nighttime construction is deemed necessary, measures would be implemented to shield and downcast light exposure to avoid disorienting sensitive species in the vicinity. Additionally, terrestrial vegetation beyond the construction area would not be cleared and therefore would act as a natural buffer to reduce the expansion of light from construction activities. SLD 45 will monitor disorientation within the action area as part of the normal daily sea turtle monitoring

program and per the Programmatic BO for exterior lighting. Incidental take as a result of SLC-51 lighting will be tracked and provided to USFWS on an annual basis. If SLD 45 observes any problematic lighting during light inspections, they will work to address the issue as quickly as possible. If incidental take nears the amount authorized in the Programmatic BO as the result of SLC-51 lighting, SLD 45 will initiate conversations with USFWS to resolve any source of lighting causing the issues. SLD 45 would follow all requirements of the Programmatic BO in the event that live or dead hatchlings or adults are found as a result of any disorientation.

7. Compensation for Affected Species

This section discusses compensation that would be implemented to mitigate effects on listed species and their habitat. Funding for habitat restoration would be deposited into the Conservation Fund to be used at a site to be determined.

7.1 Southeastern Beach Mouse

The Proposed Action would result in the permanent loss of up to 50 acres of coastal strand, coastal grassland, interdunal swale, and cabbage palm hammock habitat suitable for the SEBM.

SLD 45 recently concluded a programmatic consultation with USFWS on the Range of the Future, where mitigation for the SEBM is required for habitat impacts at a 1:1 ratio. Once final design plans are complete, the acreage of permanent loss of habitat will be quantified, and impacts to habitat will be mitigated at a 1:1 ratio (USFWS 2023). This mitigation will consist of restoration of habitat in a location to be determined by SLD 45 and USFWS, and could occur on CCSFS or offsite. Funding would be required for the initial restoration as well as any annual maintenance to ensure the site is maintained as suitable SEBM habitat. While all land within the construction area would be permanently impacted, the temporarily impacted areas within the project site would be allowed to revegetate naturally after construction is complete and would be available for SEBM to continue to use post-construction.

7.2 Audubon's Crested Caracara

No compensation measures would be implemented for the Audubon's crested caracara.

7.3 Florida Scrub-Jay

The Proposed Action would result in the permanent loss of up to 40 acres of coastal strand, coastal interdunal swale, and cabbage palm hammock habitat suitable for the Florida scrub-jay.

According to the 2025 INRMP and the September 11, 2011 amendment to USFWS BO #4190-2010-F-0019, the ratio for compensation for suitable Florida scrub-jay habitat is 2:1. Once final design plans are complete, the acreage of permanent loss of habitat will be quantified, and impacts to habitat will be mitigated at a 2:1 ratio. This mitigation will consist of restoration of habitat on CCSFS outside of the project area of impact in a land management unit to be determined by SLD 45 and USFWS. Funding would be required for the initial restoration as well as any annual maintenance to ensure the site is maintained as a suitable scrub habitat.

7.4 Piping Plover

No compensation measures would be implemented for the piping plover.

7.5 Rufa Red Knot

No compensation measures would be implemented for the rufa red knot.

7.4 Eastern Indigo Snake

No compensation measures would be implemented for the Eastern indigo snake.

7.6 Marine Turtles

No compensation measures would be implemented for marine turtles.

8. List of Preparers

The primary persons responsible for preparing and reviewing this report are listed in Table 8-1.

Table 8-1. List of Preparers

Name	Role	Years of Experience
Alexis Gabos	Biologist; Lead Author	4
Shannon McMorrow	Senior Biologist; Senior Reviewer; Project Manager	20
Angela Ryan	Technical Director; Project Manager	19

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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

In Reply Refer To:

03/05/2026 14:22:21 UTC

Project Code: 2026-0058521

Project Name: SLC-51

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
- 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: 2026-0058521

Project Name: SLC-51

Project Type: Commercial Development

Project Description: Constructing launch pad SLC-51 at Cape Canaveral Space Force Station. Construction will not occur within 500ft of the dunes, along the beach, or within ocean waters.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@28.439609949999998,-80.56132312466075,14z>



Counties: Brevard County, Florida

ENDANGERED SPECIES ACT SPECIES

There is a total of 16 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 Fisheries¹, 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
Southeastern Beach Mouse <i>Peromyscus polionotus niveiventris</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3951	Threatened
West Indian Manatee <i>Trichechus manatus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/4469 General project design guidelines: https://ipac.ecosphere.fws.gov/project/UYVIIVSDANCWTDUSLGJENFHUSM/documents/generated/7281.pdf	Threatened

BIRDS

NAME	STATUS
Crested Caracara (audubon's) [fl Dps] <i>Caracara plancus audubonii</i> Population: FL DPS No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8250	Threatened
Eastern Black Rail <i>Laterallus jamaicensis jamaicensis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10477	Threatened
Everglade Snail Kite <i>Rostrhamus sociabilis plumbeus</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7713	Endangered
Florida Scrub-jay <i>Aphelocoma coerulescens</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6174	Threatened
Rufa Red Knot <i>Calidris canutus rufa</i> 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
Eastern Indigo Snake <i>Drymarchon couperi</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/646	Threatened
Green Sea Turtle <i>Chelonia mydas</i> Population: North Atlantic DPS	Threatened

NAME	STATUS
There is proposed critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6199	
Hawksbill Sea Turtle <i>Eretmochelys imbricata</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3656	Endangered
Kemp's Ridley Sea Turtle <i>Lepidochelys kempii</i> There is proposed critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/5523	Endangered
Leatherback Sea Turtle <i>Dermochelys coriacea</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1493	Endangered
Loggerhead Sea Turtle <i>Caretta caretta</i> Population: Northwest Atlantic Ocean DPS There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1110	Threatened

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> 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
Carter's Mustard <i>Warea carteri</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5583	Endangered
Lewton's Polygala <i>Polygala lewtonii</i> Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6688	Endangered

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.

-
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 <i>Haliaeetus leucocephalus</i> 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 (■)

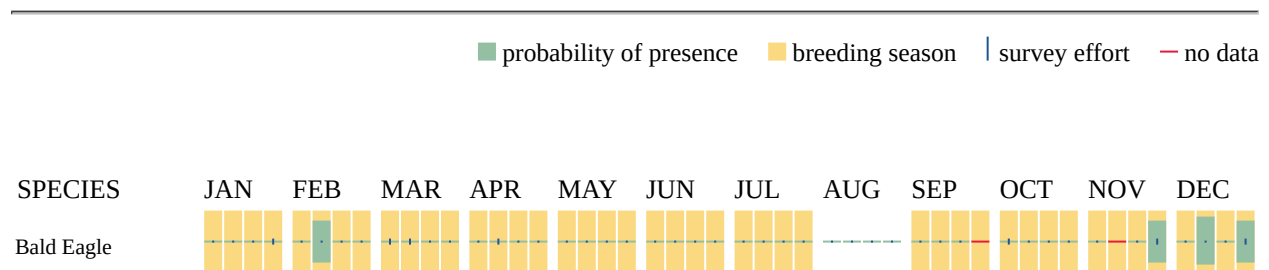
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

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.



Non-BCC
Vulnerable

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-incident-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).

-
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 <i>Falco sparverius paulus</i> 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
Bald Eagle <i>Haliaeetus leucocephalus</i> 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

NAME	BREEDING SEASON
Black Skimmer <i>Rynchops niger</i> 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
Cory's Shearwater <i>Calonectris diomedea</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/10452	Breeds elsewhere
Great Blue Heron <i>Ardea herodias occidentalis</i> 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/10590	Breeds Jan 1 to Dec 31
Least Tern <i>Sternula antillarum antillarum</i> 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
Magnificent Frigatebird <i>Fregata magnificens</i> 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/9588	Breeds Oct 1 to Apr 30
Reddish Egret <i>Egretta rufescens</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/7617	Breeds Mar 1 to Sep 15
Ruddy Turnstone <i>Arenaria interpres morinella</i> 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 <i>Calidris pusilla</i> 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 <i>Limnodromus griseus</i> 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
Swallow-tailed Kite <i>Elanoides forficatus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8938	Breeds Mar 10 to Jun 30

NAME	BREEDING SEASON
Whimbrel <i>Numenius phaeopus hudsonicus</i> 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 <i>Tringa semipalmata</i> 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 <i>Charadrius wilsonia</i> 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

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 (|)

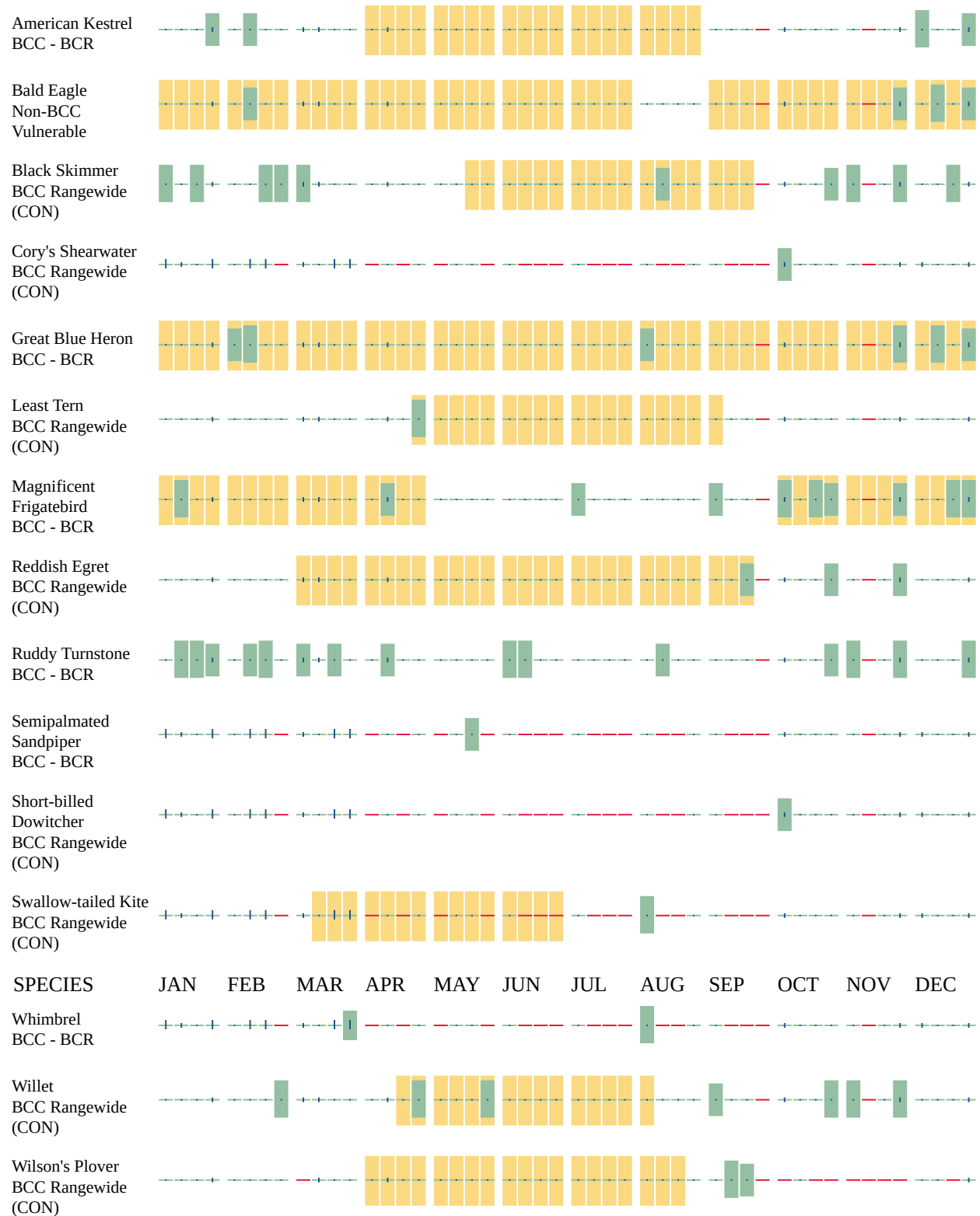
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (—)

A week is marked as having no data if there were no survey events for that week.

■ probability of presence ■ breeding season | survey effort — no data

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC



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>

MARINE MAMMALS

Marine mammals are protected under the [Marine Mammal Protection Act](#). Some are also protected under the Endangered Species Act¹ and the Convention on International Trade in Endangered Species of Wild Fauna and Flora².

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 Fisheries³ [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>

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.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED.
PLEASE VISIT [HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML](https://www.fws.gov/wetlands/data/mapper.html) OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Alexis Gabos
Address: 3701 NW 98th Street
City: Gainesville
State: FL
Zip: 32606
Email: alexisdgabos@gmail.com
Phone: 3212874770



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



In Reply Refer To:

Project code: 2026-0058521

Project Name:SLC-51

03/05/2026 14:26:38 UTC

Please provide this document to the U.S. Army Corps of Engineers with your permit application.

Subject: Technical Assistance letter for the project named 'SLC-51' for the endangered West Indian manatee (*Trichechus manatus*) and its critical habitat in the proposed project location, pursuant to the Florida Programmatic Manatee Key.

To whom it may concern:

On March 05, 2026, Alexis Gabos used the determination key U.S. Army Corps of Engineers Manatee Key for Florida dated March 02, 2026, in the U.S. Fish and Wildlife Service's online IPaC tool, to evaluate potential impacts to manatees and their critical habitat from a project named 'SLC-51' in (shown below).

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@28.439609949999998,-80.56132312466075,14z>



The following description was provided for the project 'SLC-51':

Constructing launch pad SLC-51 at Cape Canaveral Space Force Station.
Construction will not occur within 500ft of the dunes, along the beach, or within ocean waters.

Work proposed outside of waters that are accessible to the endangered West Indian manatee generally does not affect the manatee. Considering the above, along with all other information known about the project, Alexis Gabos made a no effect determination for the manatee.

Based on the answers provided, the proposed project is consistent with a determination of no effect for the endangered West Indian manatee (*Trichechus manatus*) and its critical habitat (where applicable) in the U.S. Fish and Wildlife Service's [2013 Florida Manatee Key](#) dated April 25, 2013.

Please be advised that it is the U.S. Army Corps of Engineers' (Corps) responsibility to make final effect determinations for potential impacts resulting from actions they conduct or permit and to confirm that your project is consistent with the aforementioned guidance.

Note to Corps: No consultation with the U.S. Fish and Wildlife Service is required for no effect determinations.

Please be advised that this key covers **only** the manatee and its critical habitat. If any other species occur within your project area, separate consultation with the U.S. Fish and Wildlife Service is necessary.

If modifications are made to the project that do not meet the criteria described above, additional information involving potential effects to listed species becomes available, or a new species is listed, re-initiation of consultation may be necessary.

Alexis Gabos answered the determination key interview for this project as follows:

1. Does your proposed project include in-water work?

No

Attachments:

- Standard manatee construction conditions
- Determination key description: U.S. Army Corps of Engineers Manatee Key for Florida
- U.S. Fish & Wildlife Service contact list

STANDARD MANATEE CONDITIONS FOR IN-WATER WORK

The permittee shall comply with the following conditions intended to protect manatees from direct project effects:

- a. All personnel associated with the project shall be instructed about the presence of manatees and manatee speed zones, and the need to avoid collisions with and injury to manatees. The permittee shall advise all construction personnel that there are civil and criminal penalties for harming, harassing, or killing manatees which are protected under the Marine Mammal Protection Act, the Endangered Species Act, and the Florida Manatee Sanctuary Act.
- b. All vessels associated with the construction project shall operate at "Idle Speed/No Wake" at all times while in the immediate area and while in water where the draft of the vessel provides less than a four-foot clearance from the bottom. All vessels will follow routes of deep water whenever possible.
- c. Siltation or turbidity barriers shall be made of material in which manatees cannot become entangled, shall be properly secured, and shall be regularly monitored to avoid manatee entanglement or entrapment. Barriers must not impede manatee movement.
- d. All on-site project personnel are responsible for observing water-related activities for the presence of manatee(s). All in-water operations, including vessels, must be shutdown if a manatee(s) comes within 50 feet of the operation. Activities will not resume until the manatee(s) has moved beyond the 50-foot radius of the project operation, or until 30 minutes elapses if the manatee(s) has not reappeared within 50 feet of the operation. Animals must not be herded away or harassed into leaving.
- e. Any collision with or injury to a manatee shall be reported immediately to the Florida Fish and Wildlife Conservation Commission (FWC) Hotline at 1-888-404-3922. Collision and/or injury should also be reported to the U.S. Fish and Wildlife Service in Jacksonville (1-904-731-3336) for north Florida or Vero Beach (1-772-562-3909) for south Florida, and to FWC at ImperiledSpecies@myFWC.com.
- f. Temporary signs concerning manatees shall be posted prior to and during all in-water project activities. All signs are to be removed by the permittee upon completion of the project. Temporary signs that have already been approved for this use by the FWC must be used. One sign which reads Caution: Boaters must be posted. A second sign measuring at least 8 ½" by 11" explaining the requirements for "Idle Speed/No Wake" and the shut down of in-water operations must be posted in a location prominently visible to all personnel engaged in water-related activities. These signs can be viewed at [MyFWC.com/manatee](https://myFWC.com/manatee). Questions concerning these signs can be sent to the email address listed above.

DETERMINATION KEY DESCRIPTION: U.S. ARMY CORPS OF ENGINEERS MANATEE KEY FOR FLORIDA

This key was last updated in IPaC on March 02, 2026. Keys are subject to periodic revision.

This key is for determining effects to the endangered West Indian manatee and their designated critical habitat resulting from U.S. Army Corps of Engineers' (Corps) permit applications for in-water activities in Florida. In-water activities include, but are not limited to, maintenance dredging, the placement of fill material for shoreline stabilization, the construction or placement of other in-water structures, as well as the construction of docks, marinas, boat ramps, boat slips, dry storage or any other watercraft access structures or facilities.

In March 2011, the U.S. Fish and Wildlife Service (Service) provided a programmatic consultation to the Corps on projects evaluated through the Key ([2011 Manatee Key](#)). In 2013, the Manatee Key was revised and our consultation was updated ([2013 Manatee Key](#)). A minor update to the Manatee Key was issued in 2019 ([2019 Manatee Key Addendum](#)).

For all of the following types of work that reach a may affect - not likely to adversely affect determination using the 2013 Manatee Key, the Service concurs with these determinations and no further consultation with the Service is necessary:

- New or expanding multi-slip facilities located in a county with a State-approved MPP in place;
- Residential dock facilities;
- New or expanding watercraft access facilities in counties with a watercraft-related mortality rate that averages less than one dead manatee a year;
- Repair or replacement of existing multi-slip facilities that do not provide new watercraft access (provided they are located outside of an Important Manatee Area [IMA]); and/or
- New culverts and/or the maintenance or modification of existing culverts so long as they are grated as described below:
 - All culverts 8 inches to 8 feet in diameter must be grated to prevent manatee entrapment. To effectively prevent manatee access, grates must be permanently fixed, spaced a maximum of 8 inches apart (may be less for culverts smaller than 16 inches in diameter) and may be installed diagonally, horizontally, or vertically. Culverts less than 8 inches or greater than 8 feet in diameter are exempt from this requirement.

All other applications for multi-slip facilities reaching a may affect - not likely to adversely affect determination using the 2013 Manatee Key will be forwarded to the Service for concurrence verification.

We have examined the April 2013 version of the Manatee Key and its enclosures and agree with its structure and content. Currently, the Florida Fish and Wildlife Conservation Commission (FWC) does not require implementation of the signage component of the standard construction

conditions for in-water work for the State's review of the permit application. However, the Corps and the Service will require applicants to implement the signage component of the standard construction conditions for any in-water work authorized by a Department of the Army permit.

Therefore, except as noted above, for all future applications reviewed with the April 2013 version of the Manatee Key in which the Corps reaches a may affect - not likely to adversely affect determination with respect to the manatee and or its designated critical habitat, the Service hereby concurs with those determinations in accordance with 50 CFR 402.14(b)l. As such, the March 2011 version of the Manatee Key and its associated maps, as well as other earlier versions of the Manatee Key, are no longer applicable.

The U.S. Fish and Wildlife Service is the lead Federal agency charged with the protection and conservation of Federal Trust Resources, such as threatened and endangered species and migratory birds, in accordance with section 7 of the [Endangered Species Act of 1973](#), as amended (Act) (87 Stat. 884; 16 U.S.C. 1531 et seq.), the [Marine Mammal Protection Act](#), the [Bald and Golden Eagle Protection Act](#), (16 U.S.C. 668-668d) (Eagle Act), and the [Migratory Bird Treaty Act](#) (40 Stat. 755; 16 U.S.C. 701 et seq.).

U.S. FISH & WILDLIFE SERVICE CONTACT LIST

DETERMINATION KEY OFFICE CONTACT INFORMATION

South Florida Ecological Services Field Office

777 37th St Suite D-101
Vero Beach, FL 32960-3559
(352) 448-9151

OFFICES WITH JURISDICTION OVER PROJECT AREA

Florida Ecological Services Field Office

777 37th St
Suite D-101
Vero Beach, FL 32960-3559
(352) 448-9151

IPAC USER CONTACT INFORMATION

Agency: Private Entity
Name: Alexis Gabos
Address: 3701 NW 98th Street
City: Gainesville
State: FL
Zip: 32606
Email: alexisdgabos@gmail.com
Phone: 3212874770

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Space Force

General Project Design Guidelines (1 Species)

Generated April 01, 2026 03:58 PM UTC, IPaC v6.128.25-rc0

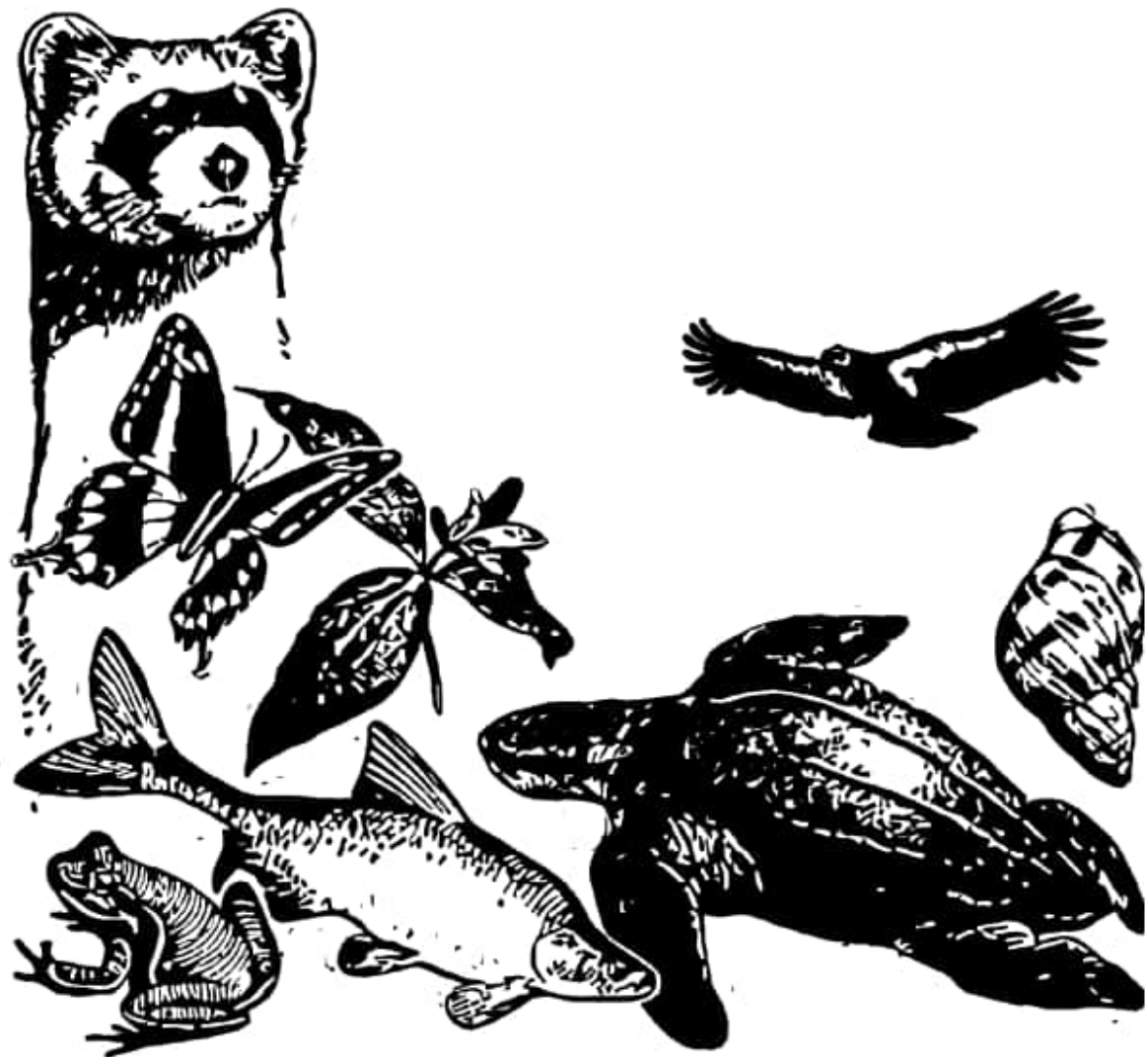


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Species Document Availability	<u>1</u>
West Indian Manatee - Florida Ecological Services Field Office	<u>2</u>

Species Document Availability

Species with general design guidelines

West Indian Manatee *Trichechus manatus*

Species without general design guidelines available

Carter's Mustard *Warea carteri*

Crested Caracara (audubon's) [fl Dps] *Caracara plancus audubonii*

Eastern Black Rail *Laterallus jamaicensis jamaicensis*

Eastern Indigo Snake *Drymarchon couperi*

Everglade Snail Kite *Rostrhamus sociabilis plumbeus*

Florida Scrub-jay *Aphelocoma coerulescens*

Green Sea Turtle *Chelonia mydas*

Hawksbill Sea Turtle *Eretmochelys imbricata*

Kemp's Ridley Sea Turtle *Lepidochelys kempii*

Leatherback Sea Turtle *Dermochelys coriacea*

Lewton's Polygala *Polygala lewtonii*

Loggerhead Sea Turtle *Caretta caretta*

Monarch Butterfly *Danaus plexippus*

Rufa Red Knot *Calidris canutus rufa*

Southeastern Beach Mouse *Peromyscus polionotus niveiventris*

General Project Design Guidelines - Lewton's Polygala and 15 more species

Published by Florida Ecological Services Field Office - Publication Date: January 16, 2024 for the following species included in your project

Lewton's Polygala *Polygala lewtonii*
Everglade Snail Kite *Rostrhamus sociabilis plumbeus*
West Indian Manatee *Trichechus manatus*
Loggerhead Sea Turtle *Caretta caretta*
Florida Scrub-jay *Aphelocoma coerulescens*
Eastern Indigo Snake *Drymarchon couperi*
Rufa Red Knot *Calidris canutus rufa*
Southeastern Beach Mouse *Peromyscus polionotus niveiventris*
Monarch Butterfly *Danaus plexippus*
Eastern Black Rail *Laterallus jamaicensis jamaicensis*
Carter's Mustard *Warea carteri*
Green Sea Turtle *Chelonia mydas*
Hawksbill Sea Turtle *Eretmochelys imbricata*
Leatherback Sea Turtle *Dermochelys coriacea*
Kemp's Ridley Sea Turtle *Lepidochelys kempii*
Crested Caracara (audubon's) [fl Dps] *Caracara plancus audubonii*



FISH AND WILDLIFE SERVICE
Florida Ecological Services Field Office



January 16, 2024

James L. Booth, Colonel
District Commander
U.S. Army Corps of Engineers
P.O. Box 4970
Jacksonville, Florida 32232-0019

Re: Addendum to the effects determination key for West Indian manatees

Dear Colonel Booth:

The U.S. Fish and Wildlife Service (Service) and the U.S. Army Corps of Engineers (Corps) use a dichotomous key (Key) to assist in making Endangered Species Act effect determinations for in-water activities that may affect manatees. The current Key has been in use since 2013, although an addendum was added in 2019 to address several issues Corps and Service staff had identified: requirements associated with clamshell dredge head operation; locations and conditions related to impact hammer driven metal piles and/or sheet piles; and incorporation of the current list of counties that have approved Manatee Protection Plans (MPPs). We plan to conduct a more thorough review and revision of the Key when time allows to formally incorporate the 2019 addendum and make other improvements; however, the Service has determined that another addendum is needed now to account for changed circumstances in parts of Florida.

As you probably are aware, there has been a designated Unusual Mortality Event (UME) for manatees in effect since March 2021, with the elevated mortality dating back to December 2020. The defined area for the UME is the Atlantic coast of Florida and the lower St. Johns River (although some affected manatees have been found north of Florida as well) and the cause is chronic malnutrition due to seagrass die-off in the Indian River Lagoon (IRL). The seagrass die-off, which is most prevalent in the northern and central IRL, began in 2010-11 and is associated with poor water clarity and quality related to nutrient overloading and multiple algal blooms that have impacted the system. Decreases in seagrass and other submerged aquatic vegetation (SAV) also have occurred in other parts of the state, including on the Gulf coast, but the losses to date have not been as significant, the causes as certain, or the toll on manatees as high as it has been in the IRL. Considerable efforts are being made by many parties to address the underlying issues and support and accelerate habitat restoration. Recovery, although still uncertain, will likely take many years to achieve.

In addition to affecting the health and survival of manatees directly, changes in the availability of seagrass and other SAV also can affect the relative abundance and distribution of manatees in different areas. For example, the number of manatees using Mosquito Lagoon (just north of the IRL) has increased significantly in recent years, presumably because manatees have shifted their distribution to account for there being more vegetation there than in the northern IRL.

The Service can and does evaluate these issues during project-specific consultations with the Corps. However, in some circumstances, the Key does not require the Corps to seek Service concurrence for a “may affect, not likely to adversely affect” (MANLAA) determination. One such circumstance is if a proposed multi-slip boating facility has been verified by the Florida Fish and Wildlife Conservation Commission (FWC) to be consistent with a county’s approved MPP (see couplet K and the first category under couplet P in the current Key). Due to the changed conditions described above, and because the Service is required to use the best scientific information available, we have concluded that some MANLAA determinations in counties that border the IRL need further evaluation to determine if consistency with the MPP still provides appropriate protection. In these circumstances, the Corps should request consultation with the Service. The specific areas and circumstances are described below.

For the purpose of continuing to use the Key to review multi-slip projects in portions of Volusia, Brevard, Indian River, St. Lucie, and Martin counties, the Service is issuing this letter as an addendum to the Key.

- Under couplet P, if a project is for a new or expanding multi-slip facility and it is located in coastal Volusia (south of Ponce Inlet), Brevard, Indian River, St. Lucie, or Martin County, further consultation with the Service is necessary for MANLAA determinations even though the project is believed to be consistent with the MPP.

Except for the change noted above, the Service finds that other MANLAA determinations made using the 2013 Key (and 2019 addendum) that do not require further consultation are still appropriate. However, the Service encourages Corps staff to carefully evaluate any project in the above counties or elsewhere and request consultation (informal or formal) if there is any question about whether a project has the potential to adversely affect manatees.

As noted previously, the 2019 addendum and the above changes (if deemed necessary on a long-term basis), and possibly other improvements, will ultimately be reflected in an updated version of the Key. We hope this letter provides the Corps with the ability to continue to work with the 2013 Key (and 2019 addendum) and in-water construction conditions until a revised and updated Key is approved.

Thank you for your continued support to facilitate recovery of the West Indian manatee and other species protected under the Endangered Species Act. If you have any questions, please contact Mr. Scott Calleson by e-mail at charles_calleson@fws.gov.

Sincerely yours,

**LAWRENCE
WILLIAMS** Digitally signed by
LAWRENCE WILLIAMS
Date: 2024.01.16
11:41:04 -05'00'

Larry Williams
State Supervisor
Florida Ecological Services Field Office

APPENDIX C

Stakeholder Engagement



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

**PUBLIC NOTICE
FOR POTENTIAL IMPACT TO WETLANDS/FLOODPLAINS
AT CAPE CANAVERAL SPACE FORCE STATION, FLORIDA**

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

The purpose of the Proposed Action is for SLD 45 to relocate the Department of the Navy (DON; Navy) and the Department of the Army (DOA; Army) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones on CCSFS. Currently, SLC-36 and SLC-46 cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. This relocation would ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity. The need for the Proposed Action is to deconflict operations and preserve national security requirements while assuring access to the Eastern Range and enabling the Department of War (DoW), the National Aeronautics and Space Administration (NASA), and other federal and commercial partners to conduct operations safely, with minimal disruptions, and with greater operational flexibility.

The Proposed Action is to build a new launch complex, SLC-51, at CCSFS located approximately 2.5 miles southwest of SLC-46, just south of Pier Road. The Proposed Action would include the complete construction of new infrastructure, utilities, and structures. The Proposed Action construction area is defined as approximately 45.6 acres, consisting of approximately 38 acres of direct impacts with an incorporated 20 percent buffer to address potential indirect impacts and minor design refinements.

The Proposed Action is subject to the requirements and objectives of Executive Order (EO) 11990, *Protection of Wetlands*, and EO 11988, *Floodplain Management*, as the proposed infrastructure improvements could potentially impact wetlands, if present within the project area, and would occur within the floodplain. A wetland survey has been initiated; however, field investigations and impact determinations are not yet complete, and the presence, extent, and magnitude of potential wetland impacts have not been fully defined. Wetland and floodplain impacts would be avoided and minimized to the greatest extent practicable through project design and implementation measures. Mitigation would be implemented for unavoidable impacts to prevent any net loss of wetland or floodplain function in accordance with applicable federal and state regulations.

Pursuant to EOs 11990, 11988, and Department of the Air Force Instruction 32-7064, Integrated Natural Resources Management, the DAF requests public comment in advance of preparation of the EA to determine if there are any public concerns regarding the Proposed Action's potential to impact floodplains and wetlands. The Proposed Action will be analyzed in the Draft EA, which will be made available for public review and comment. Comments may be submitted to Ms. Jessica Stuczynski, 45 CES/CEIE, 1224 Jupiter Street, Mail Stop 9125, Patrick Space Force Base, Florida 32925 or via email at 45CES.CEIE.EnvConservWorkflow@spaceforce.mil. Comments are requested within 30 days from the publication of this notice.



DEPARTMENT OF THE AIR FORCE UNITED STATES SPACE FORCE SPACE LAUNCH DELTA 45

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The Proposed Action is subject to the requirements and objectives of Executive Order (EO) 11990, Protection of Wetlands, and EO 11988, Floodplain Management, as the proposed infrastructure improvements could potentially impact wetlands, if present within the project area, and would occur within the floodplain. A wetland survey has been initiated; however, field investigations and impact determinations are not yet complete, and the presence, extent, and magnitude of potential wetland impacts have not been fully defined. Wetland and floodplain impacts would be avoided and minimized to the greatest extent practicable through project design and implementation measures. Mitigation would be implemented for unavoidable impacts to prevent any net loss of wetland or floodplain function in accordance with applicable federal and state regulations.

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Brevard Zoo gets more time to build aquarium

Extension will preserve \$15M in grants

Jim Waymer
Florida Today
USA TODAY NETWORK – FLA.

To enable Brevard Zoo to keep \$15 million in grants to build a new aquarium at Port Canaveral, the Brevard County Commission on April 21 approved extending an April 30 deadline for the zoo to break ground on the \$140 million aquarium.

The measure passed as part of Tuesday’s consent agenda.

The extension is required to meet rules that govern the \$15 million (over 10 years) in county tourism grants for the aquarium project. Such grants are funded by revenue generated from the county’s 5% tourist development tax on hotel rooms, vacation rentals and other short-term rentals.

Although the county doesn’t run the zoo, because the zoo is a non-profit, those county tax dollars can be used “... to acquire, construct, ex-

tend, enlarge, remodel, repair, improve, maintain, operate or promote” the new aquarium, county agenda materials say.

Saving the lagoon is the aquarium’s main focus

The future aquarium will span 14 acres of shoreline along the Banana River at Port Canaveral, with a focus on coastal conservation, environmental education and the rehabilitation of imperiled marine species throughout Florida.

The zoo initially had planned to meet a September 2025 grant deadline on breaking ground to not risk losing the \$15 million in funding. But on Aug. 12, commissioners approved an extension for the groundbreaking to April 30, 2026. Now the zoo wants another six month extension after the U.S. Army Corps of Engineers releases an easement tract back to the Canaveral Port Authority

which will allow the zoo to lease the site from the port and begin construction.

Just over half the aquarium funding in hand

Last week, with a little more than half of the funding in hand, Brevard Zoo announced plans to break ground Dec. 2 on the new aquarium.

To date, the zoo has raised \$74 million (53%) of the money needed for the new Bowen Aquarium.

The zoo’s initial \$100 million campaign to fund the aquarium grew to a goal of \$140 million, Zoo CEO Keith Winsten told Canaveral Port Authority commissioners in January, emphasizing how crossing the half-way mark on funding is a key milestone toward making the aquarium reality. The zoo expects to have more than \$100 million committed by year’s end, Winsten told commissioners at the time.

Last week, Winsten said the zoo chose the early December groundbreaking date for a reason.

“December 2 has been such a meaningful date for the “Our Legacy” Campaign,” Winsten said in a prepared statement. “On that date in 2021, we kicked off our fundraising campaign and in 2024 we announced Bowen Aquarium’s name and story.”

Contact Waymer at (321) 261-5903 or jwaymer@floridatoday.com



The Florida Highway Patrol continues to investigate a fatal hit-and-run crash in Manatee County that happened April 20 on Interstate 75. Investigators arrested an 18-year-old man from Cocoa, and impounded his 2022 Ford Mustang in connection to the crash. PROVIDED BY THE FLORIDA HIGHWAY PATROL

Morales

Continued from Page 3A

What happened to the drivers involved in fatal crash?

The driver of the Trailblazer was a 63-year-old Palmetto man who sustained minor injuries.

The 34-year-old semi-truck driver from New Smyrna, Florida died from his injuries, according to FHP.

Michelle Spitzer is a journalist for The USA TODAY Network-Florida. As the network’s Rapid Response reporter, she covers Florida’s breaking news. Get all of Florida’s best content directly in your inbox each weekday by signing up for the free newsletter, Florida TODAY, at <https://floridatoday.com/newsletters>.

Embryo

Continued from Page 3A

As of May 1, the Fertility Clinic of Orlando is being sold to new owners. Patients were informed via a letter that was sent out to them.

“Patients are welcomed and encouraged to transition their care to CNY Fertility. CNY Fertility is committed to supporting your continuity of care. You will continue to see many of

the same trusted and familiar faces who have been part of your care team, along with additional team members committed to supporting you on your journey,” the letter stated.

Michelle Spitzer is a journalist for The USA TODAY Network-Florida. As the network’s Rapid Response reporter, she covers Florida’s breaking news. You can get all of Florida’s best content directly in your inbox each weekday by signing up for the free newsletter, Florida TODAY, at <https://floridatoday.com/newsletters>.

Teacher

Continued from Page 3A

Student says sexual acts took place at teacher’s apartment ‘approximately 20 times’

Law enforcement became involved on March 18, when they were in-

formed about an allegation of a sexual act between Rose and a student, according to a heavily redacted arrest affidavit.

During the initial stage of the investigation, the student — a minor whose exact age was redacted — did not disclose any information, according to BCSO.

As the investigation

continued, BCSO was able to link the student and the teacher via a location-sharing app that the student used, which showed the teacher’s address.

In another interview with the student, the student told BCSO that he and Rose had become friends around November 2025 on Instagram, which is where most of their communication took place, according to the affidavit.

A friend of Rose’s was also interviewed and described Rose telling her about the student during the spring semester. She also described witnessing Rose engaging in sexual acts with the student, according to the affidavit.

Messages show ‘online grooming patterns’

Rose declined to speak to BCSO in March.

BCSO issued a search warrant to Instagram for Rose’s and the student’s Instagram accounts and login information, as well as for Rose’s cell phone. They found that Rose had saved the student’s phone number in her phone, and that the two had been communicating through messages and video calls on Instagram, though the app was set to “vanishing mode” so that all messages and media would be deleted.

In the content that was captured, BCSO found that the calls to one another “were daily and hours at a time,” taking place late at night and early in the morning, according to the arrest affidavit. The two began communicating around December of last year until March 14.

“The above links sent to (the student) show online grooming patterns from Ms. Rose,” BCSO Lt. Troy Deavers said.

Finch Walker is the education reporter at FLORIDA TODAY. Contact Walker at fwalker@floridatoday.com. X: @finchwalker. Instagram: @finchwalker_.

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CITY OF PALM BAY, FLORIDA

NOTICE OF PUBLIC HEARING

Notice is hereby given that a public hearing will be held by the Planning and Zoning Board/Local Planning Agency on May 6, 2026, and by the City Council on May 7, 2026, both to be held at 6:00 p.m., in the City Hall Council Chambers, 120 Malabar Road SE, Palm Bay, Florida, for the purpose of considering the following case(s):

1. Medical Marijuana Treatment Dispensing Facilities – City of Palm Bay (Office of the City Attorney)

An amendment to the City of Palm Bay Code of Ordinances, Title XI, Business Regulations, Chapter 120: Cannabis Dispensing Businesses, to prohibit the establishment of medical marijuana treatment dispensing facilities within the municipal boundaries

If an individual decides to appeal any decision made by the Planning and Zoning Board/Local Planning Agency or the City Council with respect to any matter considered at this meeting, a record of the proceedings will be required and the individual will need to ensure that a verbatim transcript of the proceedings is made, which record includes the testimony and evidence upon which the appeal is based (FS 286.0105). Such person must provide a method for recording the proceedings verbatim.

The request(s) may be inspected by the public during weekday office hours at City Hall, Palm Bay Land Development Division, 120 Malabar Road SE, Palm Bay, Florida.

Please contact the Palm Bay Land Development Division at (321) 733-3041 should you have any questions regarding the referenced case(s).

Chandra Powell

Senior Planning Specialist

DEPARTMENT OF THE AIR FORCE

UNITED STATES SPACE FORCE

SPACE LAUNCH DELTA 45

PUBLIC NOTICE

FOR POTENTIAL IMPACT TO WETLANDS/FLOODPLAINS AT CAPE CANAVERAL SPACE FORCE STATION, FLORIDA

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

The purpose of the Proposed Action is for SLD 45 to relocate the Department of the Navy (DON; Navy) and the Department of the Army (DOA; Army) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones on CCSFS. Currently, SLC-36 and SLC-46 cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. This relocation would ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity. The need for the Proposed Action is to deconflict operations and preserve national security requirements while assuring access to the Eastern Range and enabling the Department of War (DoW), the National Aeronautics and Space Administration (NASA), and other federal and commercial partners to conduct operations safely, with minimal disruptions, and with greater operational flexibility.

The Proposed Action is to build a new launch complex, SLC-51, at CCSFS located approximately 2.5 miles southwest of SLC-46, just south of Pier Road. The Proposed Action would include the complete construction of new infrastructure, utilities, and structures. The Proposed Action construction area is approximately 50 acres and includes the area of direct impacts along with a buffer to encompass minor design refinements.

The Proposed Action is subject to the requirements and objectives of Executive Order (EO) 11990, *Protection of Wetlands*, and EO 11988, *Floodplain Management*, as the proposed infrastructure improvements could potentially impact wetlands, if present within the project area, and would occur within the floodplain. A wetland survey has been initiated; however, field investigations and impact determinations are not yet complete, and the presence, extent, and magnitude of potential wetland impacts have not been fully defined. Wetland and floodplain impacts would be avoided and minimized to the greatest extent practicable through project design and implementation measures. Mitigation would be implemented for unavoidable impacts to prevent any net loss of wetland or floodplain function in accordance with applicable federal and state regulations.

Pursuant to EOs 11990, 11988, and Department of the Air Force Instruction 32-7064, Integrated Natural Resources Management, the DAF requests public comment in advance of preparation of the EA to determine if there are any public concerns regarding the Proposed Action's potential to impact floodplains and wetlands. The Proposed Action will be analyzed in the Draft EA, which will be made available for public review and comment. Comments may be submitted to Ms. Jessica Stuczynski, 45 CES/CEIE, 1224 Jupiter Street, Mail Stop 9125, Patrick Space Force Base, Florida 32925 or via email at 45CES.CEIE.EnvConserveWorkflow@spaceforce.mil. Comments are requested within 30 days from the publication of this notice.

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Facebook: MelbourneArtFestival

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PO Box 631244 Cincinnati, OH 45263-1244

AFFIDAVIT OF PUBLICATION

Angela Ryan
Angela Ryan
WSP USA Inc
11190 Sunrise Valley DR # 300
Reston VA 20191-4375

STATE OF WISCONSIN, COUNTY OF BROWN

Before the undersigned authority personally appeared, who on oath says that he or she is the Legal Advertising Representative of the Florida Today, a daily newspaper published in Brevard County, Florida; that the attached copy of advertisement, being a Legal Ad in the matter of, was published on the publicly accessible website of Brevard County, Florida, or in a newspaper by print in the issues of, on:

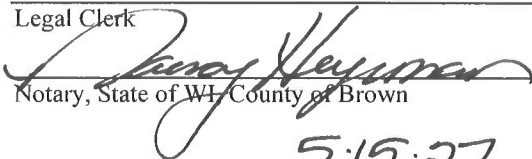
BRE Brevard Florida Today 04/23/2026

Affiant further says that the website or newspaper complies with all legal requirements for publication in chapter 50, Florida Statutes.

Subscribed and sworn to before me, by the legal clerk, who is personally known to me, on 04/23/2026



Legal Clerk



Notary, State of WI, County of Brown

5.15.27

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NANCY HEYRMAN
Notary Public
State of Wisconsin



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

**PUBLIC NOTICE
FOR POTENTIAL IMPACT TO WETLANDS/FLOODPLAINS
AT CAPE CANAVERAL SPACE FORCE STATION, FLORIDA**

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

The purpose of the Proposed Action is for SLD 45 to relocate the Department of the Navy (DON; Navy) and the Department of the Army (DOA; Army) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones on CCSFS. Currently, SLC-36 and SLC-46 cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. This relocation would ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity. The need for the Proposed Action is to deconflict operations and preserve national security requirements while assuring access to the Eastern Range and enabling the Department of War (DoW), the National Aeronautics and Space Administration (NASA), and other federal and commercial partners to conduct operations safely, with minimal disruptions, and with greater operational flexibility.

The Proposed Action is to build a new launch complex, SLC-51, at CCSFS located approximately 2.5 miles southwest of SLC-46, just south of Pier Road. The Proposed Action would include the complete construction of new infrastructure, utilities, and structures. The Proposed Action construction area is approximately 50 acres and includes the area of direct impacts along with a buffer to encompass minor design refinements.

The Proposed Action is subject to the requirements and objectives of Executive Order (EO) 11990, *Protection of Wetlands*, and EO 11988, *Floodplain Management*, as the proposed infrastructure improvements could potentially impact wetlands, if present within the project area, and would occur within the floodplain. A wetland survey has been initiated; however, field investigations and impact determinations are not yet complete, and the presence, extent, and magnitude of potential wetland impacts have not been fully defined. Wetland and floodplain impacts would be avoided and minimized to the greatest extent practicable through project design and implementation measures. Mitigation would be implemented for unavoidable impacts to prevent any net loss of wetland or floodplain function in accordance with applicable federal and state regulations.

Pursuant to EOs 11990, 11988, and Department of the Air Force Instruction 32-7064, Integrated Natural Resources Management, the DAF requests public comment in advance of preparation of the EA to determine if there are any public concerns regarding the Proposed Action's potential to impact floodplains and wetlands. The Proposed Action will be analyzed in the Draft EA, which will be made available for public review and comment. Comments may be submitted to Ms. Jessica Stuczynski, 45 CES/CEIE, 1224 Jupiter Street, Mail Stop 9125, Patrick Space Force Base, Florida 32925 or via email at 45CES.CEIE.EnvConservWorkflow@spaceforce.mil. Comments are requested within 30 days from the publication of this notice.



**DEPARTMENT OF THE AIR FORCE
UNITED STATES SPACE FORCE
SPACE LAUNCH DELTA 45**

21 April 2026

FROM: Michael Blaylock
Chief, Environmental Conservation
Space Launch Delta 45
1224 Jupiter Street, Mail Stop 9125
Patrick Space Force Base, FL 32925

SUBJECT: Environmental Assessment for the Relocation of Military Launch Operations on
Cape Canaveral Space Force Station, Florida

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

The purpose of the Proposed Action is for SLD 45 to relocate the Department of the Navy (DON; Navy) and the Department of the Army (DOA; Army) launch operations from SLC-46 to a location outside of all commercial space launch providers' explosive clear zones on CCSFS. Currently, SLC-36 and SLC-46 cannot operate simultaneously without disruption, as SLC-46 is within the explosive clear zone for SLC-36. This relocation would ensure safe and efficient use of launch infrastructure, reduce scheduling conflicts, and support both military and commercial space activities while safeguarding national security missions and enhancing overall launch capacity. The need for the Proposed Action is to deconflict operations and preserve national security requirements while assuring access to the Eastern Range and enabling the Department of War (DoW), the National Aeronautics and Space Administration (NASA), and other federal and commercial partners to conduct operations safely, with minimal disruptions, and with greater operational flexibility.

The Proposed Action is to build a new launch complex, SLC-51, at CCSFS located approximately 2.5 miles southwest of SLC-46, just southeast of Pier Road. The Proposed Action would include the complete construction of new infrastructure, utilities, and structures. The Proposed Action construction area is defined as approximately 50 acres and includes the area of direct impacts along with a buffer to encompass minor design refinements.

The EA will assess the potential environmental impacts associated with the Proposed Action as well as the No Action Alternative, which reflects the status quo as a baseline for comparison of potential effects from the Proposed Action. This EA is being prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 (Title 42 of the United States Code [U.S.C.] § 4321 et seq.), as amended by the Fiscal Responsibility Act of 2023 (Public Law 118-5). It also

complies with Air Force Instruction (AFI) 32-1015, Integrated Installation Planning; Executive Order (EO) 14154, Unleashing American Energy; the Department of Defense-wide NEPA Implementing Procedures, published June 30, 2025; and the Department of the Air Force NEPA Implementing Procedures, published March 2, 2026.

We request your input in identifying general or specific issues or areas of concern you believe should be addressed in the environmental analysis. If you have any specific items of interest or concern regarding this proposal, please contact Ms. Jessica Stuczynski, 45 CES/CEIE, 1224 Jupiter Street, Mail Stop 9125, Patrick Space Force Base, FL 32925 or via email at 45CES.CEIE.EnvConservWorkflow@spaceforce.mil within 30 days of receipt of this letter.

Thank you in advance for your assistance in the effort.

BLAYLOCK.MICH
AEL.A.1061700630



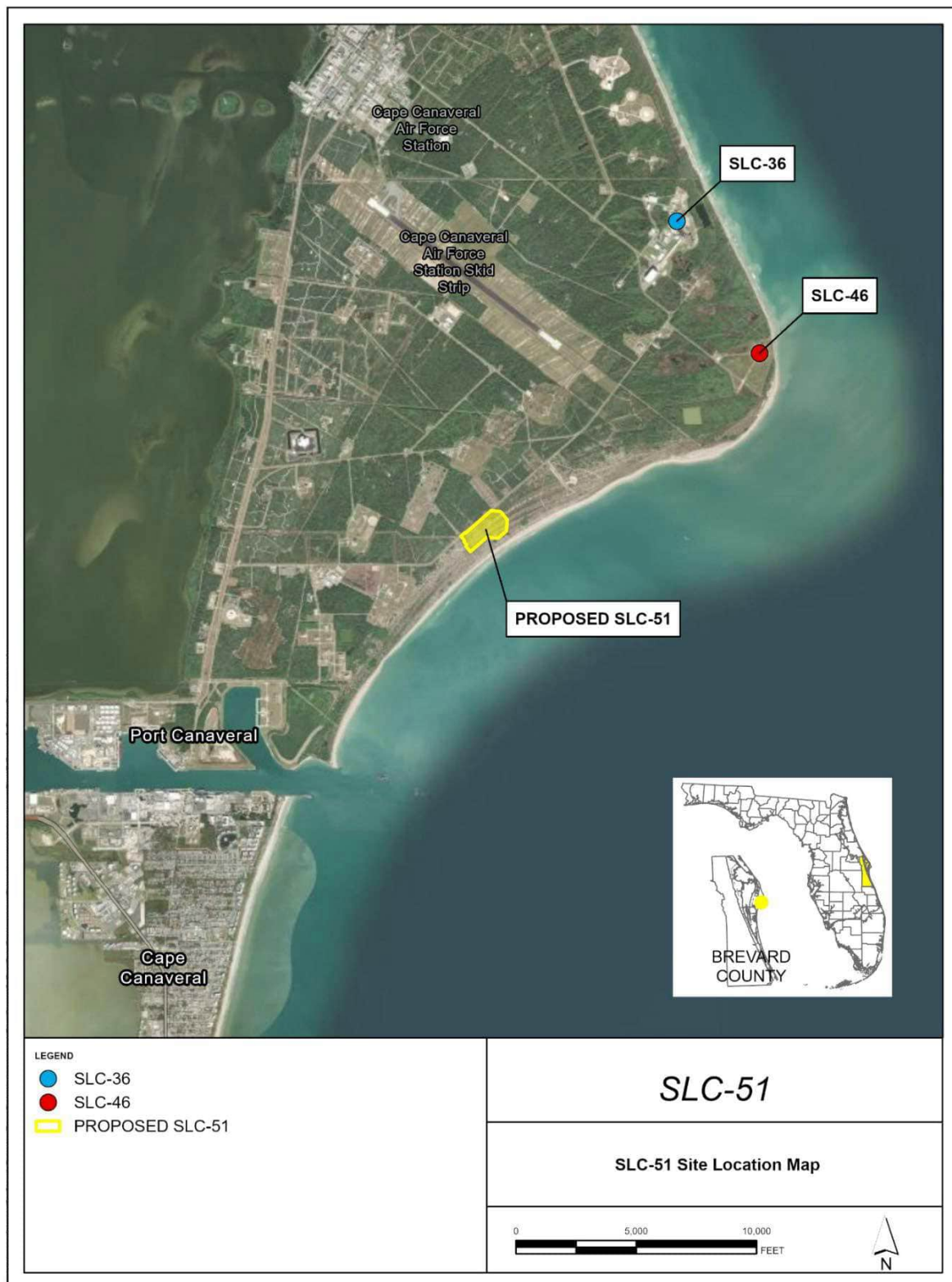
Digitally signed by
BLAYLOCK.MICHAEL.A.1061700
630
Date: 2026.04.21 10:42:26 -04'00'

MICHAEL BLAYLOCK, NH-III, DAF
Chief, Environmental Conservation

Attachment(s):

1. Figure 1. Location of the Proposed Action at CCSFS

Figure 1. Location of the Proposed Action at CCSFS





May 22, 2026

Michael Blaylock
Chief, Environmental Conservation
Space Launch Delta 45
1224 Jupiter Street, Mail Stop 9125
Patrick Space Force Base, FL 32925

Re: Environmental Assessment for the Relocation of Military Launch Operations on Cape Canaveral
Space Force Station, Florida

Dear Mr. Blaylock,

The Canaveral Port Authority (CPA) appreciates the opportunity to provide comments regarding the Environmental Assessment (EA) for the proposed Space Launch Complex 51 (SLC-51).

The proposed SLC-51 site would be located approximately two (2) miles from Port Canaveral's federal channel and harbor entrance, making it the closest active launch facility to the Port. Due to this proximity and the nature of launch operations anticipated at this site, CPA has concerns regarding potential impacts to vessel traffic entering and departing Port Canaveral. Launch-related safety or exclusion zones may temporarily or intermittently restrict navigation, which could affect commercial, cruise, and military operations critical to the Port's mission.

Additionally, the proposed site is in close proximity to the Canaveral Sand Bypass (CSB) Project borrow area, which is used for periodic beach renourishment south of the federal channel, along Cape Canaveral and Cocoa Beach. This proposed SLC-51 area is also within the CSB shoreline physical monitoring zone. The CSB is a federally authorized and U.S. Army Corps of Engineers (USACE)-administered project that must be executed approximately every six (6) years within a four- to six-month window. The project involves significant marine construction activity, including dredging operations adjacent to the shoreline, the installation of land-based, floating, and submerged pipelines, heavy equipment operations on the beach, and frequent crew vessel movements.

Given the proximity of SLC-51 to this borrow area, CPA is concerned that the development and operation of the launch complex could limit future flexibility in managing the CSB project. Specifically, the presence of SLC-51 may constrain any potential northward expansion of the borrow area, potentially to within approximately 2,000 feet of its current boundary if restrictions are imposed. While no such expansion is currently planned, shoreline conditions north of the existing borrow area are known to accumulate large quantities of beach quality sand sediment and may represent a viable future source of material should USACE determine a need to increase the bypass quantity from 210,000 to 250,000 cubic yards annually and utilize for beach renourishment projects along other regional federal shorelines.



Furthermore, operational uncertainties associated with SLC-51—particularly the timing and frequency of launch-related restrictions—may pose challenges for coordinating dredging or construction activities. For example, it may not be feasible to advertise or conduct borrow area construction work that could fall within a restricted zone if launch schedules are variable or not well-defined. While routine physical shoreline monitoring may be able to continue during periods when the launch facility is inactive, access limitations during active operations could still present complications.

Accordingly, CPA requests clarification regarding whether restrictions associated with SLC-51 would be permanent or only in effect during active launch operations. Clear guidance on this matter will be essential to ensure that port operations, navigation safety, and federally mandated shoreline management activities can be effectively planned and executed.

The Canaveral Port Authority looks forward to continued coordination to ensure that the proposed project proceeds in a manner that minimizes impacts to navigation, port operations, and critical coastal infrastructure programs.

Sincerely,

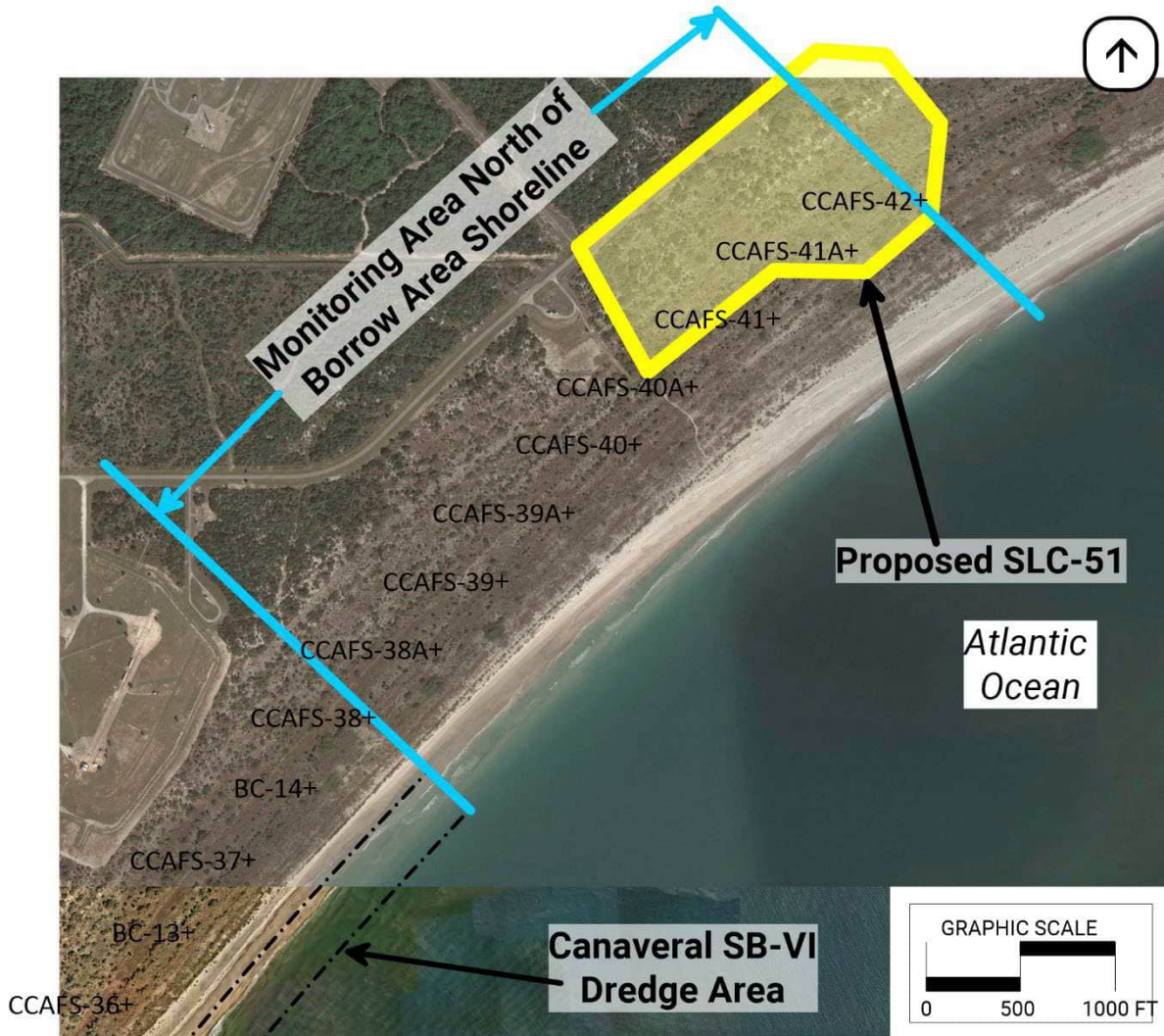
CANAVERAL PORT AUTHORITY

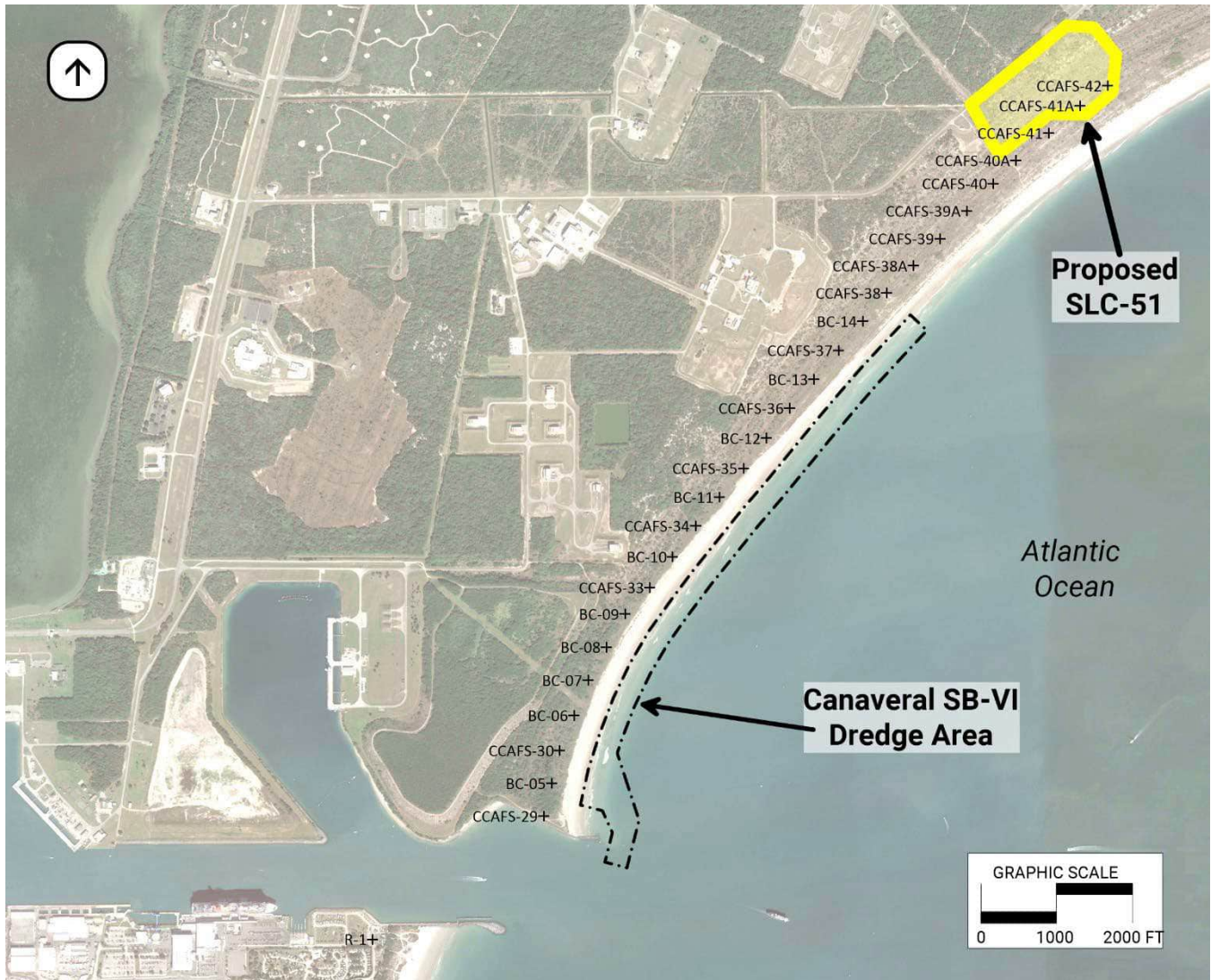
A handwritten signature in blue ink, appearing to read 'John Murray', is positioned above a blue horizontal line.

John Murray (May 22, 2026 08:36:32 EDT)

Captain John Murray
Chief Executive Officer

ATTACHMENTS: SB Borrow Area vs SLC-51
Port Canaveral and SB Borrow Area vs SLC-51







BOARD OF COUNTY COMMISSIONERS

Natural Resources Management Department

2725 Judge Fran Jamieson Way
Building A, Room 219
Viera, Florida 32940

June 1, 2026

Michael Blaylock
Chief, Environmental Conservation
Space Launch Delta 45
1224 Jupiter Street, Mail Stop 9125
Patrick Space Force Base, FL 32925

RE: Comment on Environmental Assessment for the Relocation of Military Launch Operations on
Cape Canaveral Space Force Station, Florida

Dear Mr. Blaylock,

The Brevard County Natural Resources Management Department appreciates the opportunity to provide input regarding the Environmental Assessment (EA) for the proposed Space Launch Complex 51 (SLC-51).

The proposed site for SLC-51 is in very close proximity to the Canaveral Sand Bypass (CSB) Project area and overlaps within the CSB shoreline physical monitoring zone. This is a federally authorized project executed by the U.S. Army Corps of Engineers (Corps) to mitigate ongoing erosion on the ~15 miles of shoreline south of the federal channel, including Patrick Space Force Base (PSFB). Renourishment of the North Reach shoreline from the CSB project feeds sand onto PSFB's shoreline, which experiences 50-66K cy of erosion annually, and helps protect the Space Force's upland assets.

The proposed site is approximately 2000ft north of the nearshore borrow area where dredging operations occur, involving significant construction activity including miles of pipeline (on land, floating, and submerged), heavy equipment on the beach, and frequent vessel movement. The project must be executed by the Corps approximately every 6 years, within an environmental window of 4-6 months.

Given the proximity of the proposed SLC-51 site to this borrow area, our concern is the uncertainty of launch-related operations and restrictions causing complications during dredging or construction activities and challenges to complete the required physical shoreline monitoring, leading to the project being paused or postponed. The proposed site would also restrict expansion of the northern boundary of the borrow area which may be necessary to access beach quality sand for future projects.

Accordingly, Brevard County requests clarification regarding whether restrictions associated with SLC-51 would impact federally mandated shoreline management activities and if so, guidance on how this project can be effectively planned and executed within these restrictions.

Thank you,

Mike McGarry
Assistant Director
Natural Resources Management Department
2725 Judge Jamieson Way; A-219
Viera, FL 32940

cc:

Jessica Stuczynski
45 CES/CEIE
1224 Jupiter Street, Mail Stop 9125
Patrick Space Force Base, FL 32925

Merope Moonstone
Coastal Environmental Scientist
Natural Resources Management Department
2725 Judge Jamieson Way; A-219
Viera, FL 32940

Attachment:

Figure 1. Map showing proposed site for SLC-51, the Canaveral SB-VI Dredge Area, and the monitoring shoreline.

ATTACHMENT

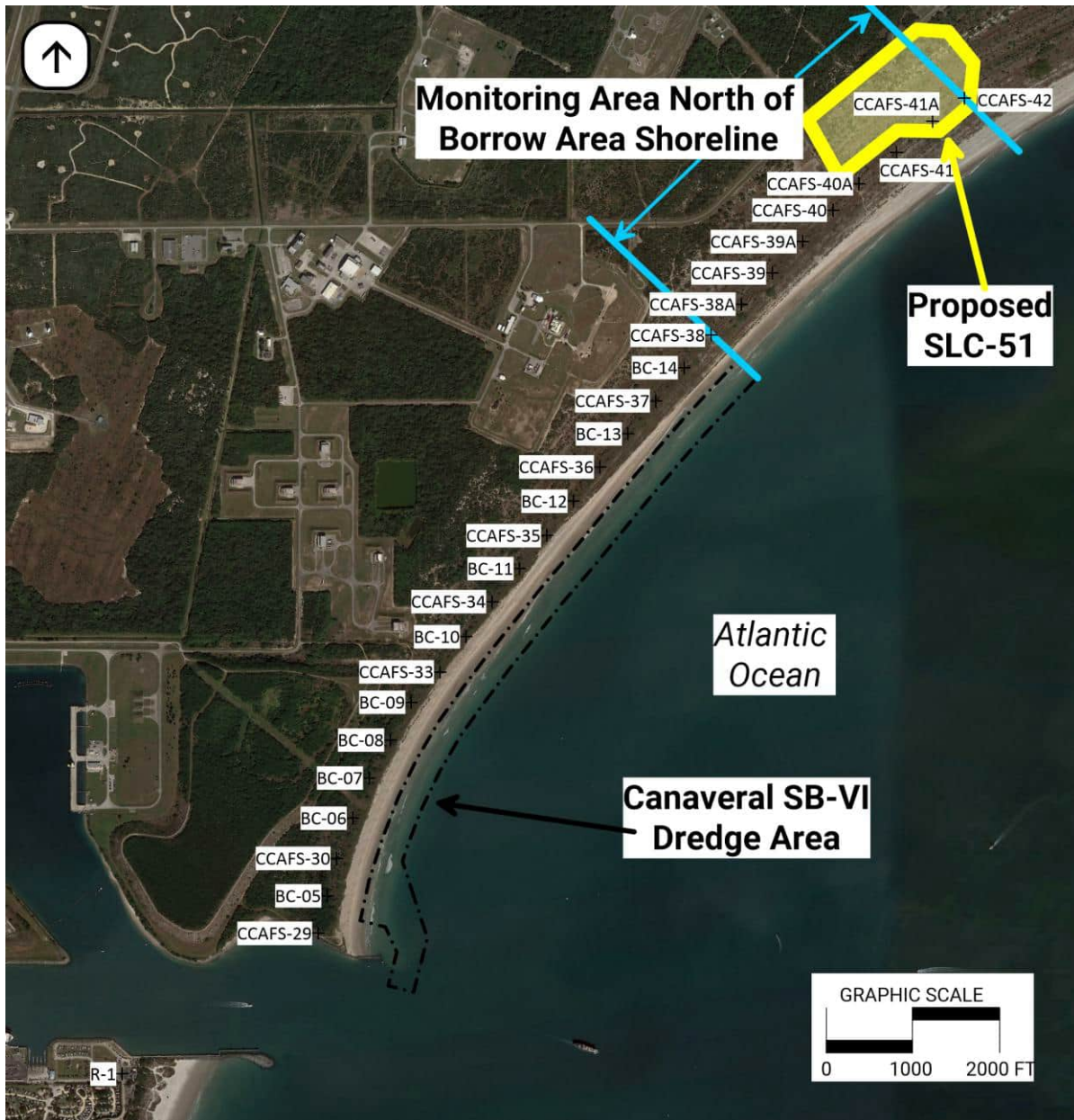


Figure 1. Map showing proposed site for SLC-51, the Canaveral SB-VI Dredge Area, and the monitoring shoreline.

From: Ren, Christopher S CIV USARMY CESAJ (USA) <Christopher.S.Ren2@usace.army.mil>

Sent: Monday, May 11, 2026 1:21 PM

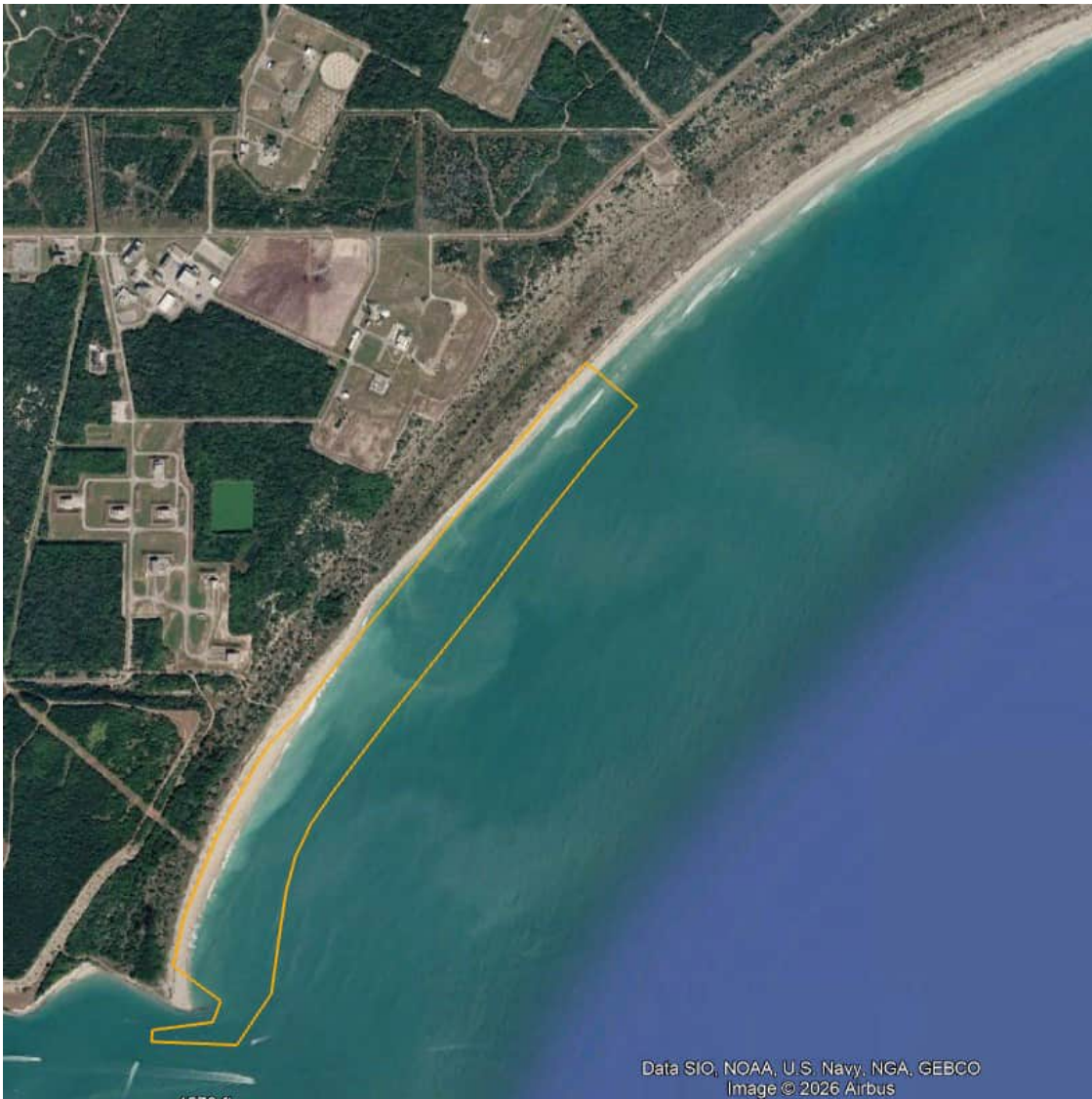
To: SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; LABOY, FRANCES E CIV USSF USSPACECOM 45 CES/CEZL <frances.laboy@usspacecom.mil>; GILROY, DENNIS E CTR USSF SSC CLOIS/ASRCC <dennis.gilroy.ctr@spaceforce.mil>; BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; LUEK, MARC S CIV USAF SSC SLD 45/SEL <marc.luek.2@spaceforce.mil>; HAGGERTY, JAMES P CIV USSF SSC 45 CES/45 CES/CEZL <james.haggerty.1@spaceforce.mil>; JONES, GREGORY C CIV USSF SSC 1 ROPS/DOS <gregory.jones.74@spaceforce.mil>; CADDEN, PETER J CIV USSF SSC SLD 45/SELF <peter.cadden@spaceforce.mil>; SUHANI, LULUES CIV USSF SSC SLD 45/SELR <lulues.suhani@spaceforce.mil>

Subject: RE: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

Good afternoon SLD-45,

On behalf of the USACE Jacksonville District, I'd like to request that the Canaveral Harbor Sand Bypass project (a part of the Federally authorized Civil Works project at Canaveral Harbor) be considered during planning for SLC-51 operations. I noticed its proposed location is relatively close to the project's dredge area (appears to be <0.5 miles from the northern extend of the dredge area), which could affect our ability to execute the project.

Not an environmental related question, and maybe too early to know, but are there potential BDA/FCA/FHA and NOTMAR/RSA/MSA configurations available for SLC-51? My concern is how they would/could overlap with our dredge area (roughly outlined in orange below). The next scheduled bypassing event wouldn't be until ~2031 +/- a year subject to Federal funding, so not an immediate concern but something we would have to plan for.



Thank you
Chris

V/r

Christopher S. Ren, PMP

Senior Project Manager
Water Resources Branch
Jacksonville District, US Army Corps of Engineers

Office: (904) 570-4519

Mobile: (904) 613-3081

Email: christopher.ren@usace.army.mil

From: SLD45 Environmental Conservation <45ces.ceie.envconservworkflow@spaceforce.mil>

Sent: Thursday, April 23, 2026 7:00 AM

Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>; SLD45 Environmental Conservation

<45CES.CEIE.EnvConservWorkflow@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE

<jessica.stuczynski@spaceforce.mil>

Subject: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

CAUTION - EXTERNAL NON-CPA EMAIL

Good morning,

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

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We welcome your input on any issues or concerns that you believe should be considered in this analysis. Please submit comments within 30 days of receiving this notification using the contact information provided in the attached letter.

The DOPAA is available upon request.

v/r

Jessica Stuczynski
NEPA Program Manager, PSFB
45 CES/CEIE

From: Long, Eva (FAA) <Eva.Long@faa.gov>

Sent: Friday, May 29, 2026 8:40 AM

To: SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>; BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; GINIEWSKI, PATRICK S CIV USAF SSC 45 CES/CD <patrick.giniewski@spaceforce.mil>; KING, JERRY CIV USSF SSC SLD 45/XP <jerry.king.7@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>

Cc: Zee, Stacey (FAA) <Stacey.Zee@faa.gov>; Grey, Leslie (FAA) <leslie.grey@faa.gov>; Hanson, Amy (FAA) <Amy.Hanson@faa.gov>

Subject: [Non-DoD Source] RE: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

Mike, Jess, Taylor, Megan: Thank you for the call yesterday. The FAA submits the following comments for consideration:

- Pg 1-1, line 46 to pg 1-2, line 4: Suggest changing “which had been used by Space Florida as a Federal Aviation Administration (FAA)-licensed multi-user commercial launch site” to “which had been licensed to Space Florida by the Federal Aviation Administration (FAA) as a multi-user commercial launch site.” Suggest clarifying that Space FL commercial operations are no longer taking place at SLC-46 due to termination of their real property agreement so that the No Action alternative clearly does not include those activities (pg 2-5, lines 12+).
- Pg 1-3, lines 32+: This states the Proposed Action as “relocating SLC-46 launch operations to another location within CCSFS.” Although the rest of the paragraph and document focuses on JFC and Trident operations, suggest clarifying that the relocation of launch operations from SLC-46 does not include allowing commercial operations or transferring Space FL’s commercial launch site operator license to SLC-51. Also suggest adding a sentence or footnote that states something like “Any reallocation of SLC-46 to a different operator would be subject to separate NEPA documentation.”
- After re-looking at the DOPAA, the reference in Section 1.1.3 should be sufficient to cover a tiering reference to the Trident EA for flight corridors.

Also, you mentioned on the call that you were going to try to send us information on the termination of the Space FL real property agreement at SLC-46. I talked to the FAA Branch Chief who handles site licenses, and she said that would be helpful for us to receive because we don’t have any documentation to terminate Space Florida’s site license, and it’s still active.

Let me know if you have any questions about our comments.



Eva M. Long
Environmental Protection Specialist
Federal Aviation Administration
Office of Commercial Space Transportation
U.S. Department of Transportation
eva.long@faa.gov

From: SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>
Sent: Tuesday, May 19, 2026 11:53 AM
To: Long, Eva (FAA) <Eva.Long@faa.gov>; SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>
Cc: STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; Zee, Stacey (FAA) <Stacey.Zee@faa.gov>; Grey, Leslie (FAA) <leslie.grey@faa.gov>; BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; GINIEWSKI, PATRICK S CIV USAF SSC 45 CES/CD <patrick.giniewski@spaceforce.mil>; KING, JERRY CIV USSF SSC SLD 45/XP <jerry.king.7@spaceforce.mil>
Subject: RE: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

Some people who received this message don't often get email from 45ces.ceie.envconservworkflow@spaceforce.mil. [Learn why this is important](#)

CAUTION: This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Good morning FAA team,

Thank you for reaching out. Our legal team has not yet completed its review of the EA, and technical edits are still underway; however, I am able to provide the stabilized DOPAA at this time (see attached). Once the legal review is finalized it will immediately move forward for public release. Given the expedited timeline for this effort, I'm not certain that receiving the document only 2–3 days prior to public release would provide meaningful additional review time. As a key stakeholder, you will be notified once the public release occurs via email.

If you have any specific concerns after reviewing the DOPAA, we would be glad to meet with you to discuss them at your earliest convenience.

v/r

Taylor Janise
SLD 45 NEPA Lead
45 CES/CEIE
CP: 979-429-1221

From: Long, Eva (FAA) <Eva.Long@faa.gov>
Sent: Thursday, May 14, 2026 12:27 PM
To: SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>
Cc: STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>; Zee, Stacey (FAA) <Stacey.Zee@faa.gov>; Grey, Leslie (FAA) <leslie.grey@faa.gov>
Subject: [Non-DoD Source] RE: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

Due to the existing Federal Aviation Administration (FAA) vertical launch site license at SLC-46 and our agency's role in effecting airspace closures, the FAA requests to participate in the review of the draft EA before its release to the public (or, if there is no public review of the draft EA, before its finalization).

Ms. Leslie Grey and I will be your points of contacts for FAA.

Thank you.



Eva M. Long
Environmental Protection Specialist
Federal Aviation Administration
Office of Commercial Space Transportation
U.S. Department of Transportation
eva.long@faa.gov

From: SLD45 Environmental Conservation <45ces.ceie.envconservworkflow@spaceforce.mil>
Sent: Thursday, April 23, 2026 7:00 AM
Cc: JANISE, TAYLOR M CIV USSF HQSF 45 CES/CEIE-C <taylor.janise.1@spaceforce.mil>; BLAYLOCK, MICHAEL A CIV USSF HQSF 45 CES/CEIE <michael.blaylock.4@spaceforce.mil>; NICELY, MEGAN E CIV USSF SSC 45 CES/CEIE-C <megan.nicely.1@spaceforce.mil>; SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>; STUCZYNSKI, JESSICA L CIV USSF SSC 45 CES/CEIE <jessica.stuczynski@spaceforce.mil>
Subject: Request for Input on Environmental Assessment for the Relocation of Military Launch Operation, CCSFS

Some people who received this message don't often get email from 45ces.ceie.envconservworkflow@spaceforce.mil. [Learn why this is important](#)

CAUTION: This email originated from outside of the Federal Aviation Administration (FAA). Do not click on links or open attachments unless you recognize the sender and know the content is safe.

Good morning,

The Department of the Air Force (DAF) is preparing an Environmental Assessment (EA) to evaluate the potential environmental impacts associated with the relocation of military launch operations from Space Launch Complex (SLC)-46 to another location within the Cape Canaveral Space Force Station (CCSFS). The U.S. Space Force (USSF) Space Launch Delta (SLD) 45 manages the CCSFS and is the proponent of this action.

The Proposed Action is to build a new launch complex, SLC-51, at CCSFS located approximately 2.5 miles southwest of SLC-46, just southeast of Pier Road. The Proposed Action would include the complete construction of new infrastructure, utilities, and structures. The Proposed Action construction area is defined as approximately 50 acres and includes the area of direct impacts along with a buffer to encompass minor design refinements.

We welcome your input on any issues or concerns that you believe should be considered in this analysis. Please submit comments within 30 days of receiving this notification using the contact information provided in the attached letter.

The DOPAA is available upon request.

v/r

Jessica Stuczynski
NEPA Program Manager, PSFB
45 CES/CEIE



East Central Florida Regional Planning Council

455 N. Garland Avenue, Orlando, FL 32801 Suite 414
Phone 407.245.0300 • www.ecfrpc.org

Tara McCue, AICP
Executive Director

April 29, 2026

Jessica Stuczynski
45 CES/CEIE
1224 Jupiter Street, Mail Stop 9125
Patrick Space Force Base, FL 32925

Re: Environmental Analysis, Replacement of SLC-46 by SLC-51

Dear Ms. Stuczynski,

I have reviewed the map submitted to the East Central Florida Regional Planning Council (ECFRP) for the planned relocation of Space Launch Complex 46 (SLC-46) to its new location as SLC- 51. The letter from the U.S. Space Force Space Launch Delta 45 (SLD-45) calls for the construction of the new SLC-51 on a $\pm$ 50-acre site southeast of Pier Road, which is located $\pm$ 2.5 miles southwest of the original SLC 45 (see Figure 1). Other than a general description of its new name and general location and size, no other site plan was provided for the proposed space launch complex.

The ECFRPC has examined this site and the proposed development for any environmental impacts using our best available mapping sources and finds no such environmental impacts. One non-environmental impact that should be considered are the sound and vibration impacts from SLC-51 which might be experienced at Port Canaveral and the adjacent City of Cape Canaveral.

The ECFRPC looks forward to the addition of this new space launch complex as a way to better serve the nation's defense needs at the Canaveral Space Force Station. If we can be of any further assistance, please feel free to contact me by phone at (407) 245-0300, Ext. 301, or by e-mail at jpatterson@ecfrpc.org.

Sincerely,

John F. Patterson, AICP
Planner III

Executive Committee

Chair

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County Commissioner
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Figure 1. Location of the Proposed Action at CCSFS



Executive Committee

Chair Julian Green City Commissioner City of Wildwood	Vice Chair Peggy Choudhry County Commissioner Osceola County	Secretary Mindy Gibson City Councilmember City of Satellite Beach	Treasurer Doug Shields County Commissioner Lake County	Immediate Past Chair Amy Lockhart County Commissioner Seminole County	Member at Large Craig Curry County Commissioner Marion County	Member at Large Jake Johansson County Councilmember Volusia County
---	--	---	--	---	---	--



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, JACKSONVILLE DISTRICT
701 SAN MARCO BOULEVARD
JACKSONVILLE, FLORIDA 32207

May 20, 2026

Colonel Brian L. Chatman
Commander
Space Launch Delta 45
1303 Edward White Street, Bldg 402
Patrick Space Force Base, FL 32925

Dear Colonel Chatman:

The Jacksonville District, U.S. Army Corps of Engineers (Corps) is providing input to the Space Launch Delta 45 letter dated April 21, 2026 on the Environmental Assessment for the Relocation of Military Launch Operations on Cape Canaveral Space Force Station, Florida.

The Corps is responsible for executing the Canaveral Harbor Sand Bypass Project, along with various other critical Federal navigation and maintenance projects at Canaveral Harbor, Florida. These projects routinely involve dredging material from the near shore immediately north of the inlet along the Cape Canaveral Space Force Station shoreline for the purposes of channel maintenance and beach nourishment.

Upon reviewing the letter, it appears the proposed Space Launch Complex (SLC)-51 would be near our primary dredge area. We are concerned that hazard areas and access restrictions associated with launches and operations could significantly affect the Corps' ability to execute these projects. The Jacksonville District fully supports the expansion of our nation's launch capabilities; however, it is essential that our dredging and harbor maintenance project remain unhindered as much as possible to ensure the continued safety and economic viability of the Port.

I appreciate all the support your staff has provided my staff during execution the most recent iteration of the Canaveral Sand Bypass project in 2025. I request that your team actively considers these ongoing and future Corps projects during the planning and operational design of SLC-51 to establish deconfliction procedures.

The point of contact at the Jacksonville District for this is the Project Manager, Mr. Christopher Ren, at (904) 570-4519 or by email at christopher.ren@usace.army.mil.

Sincerely,

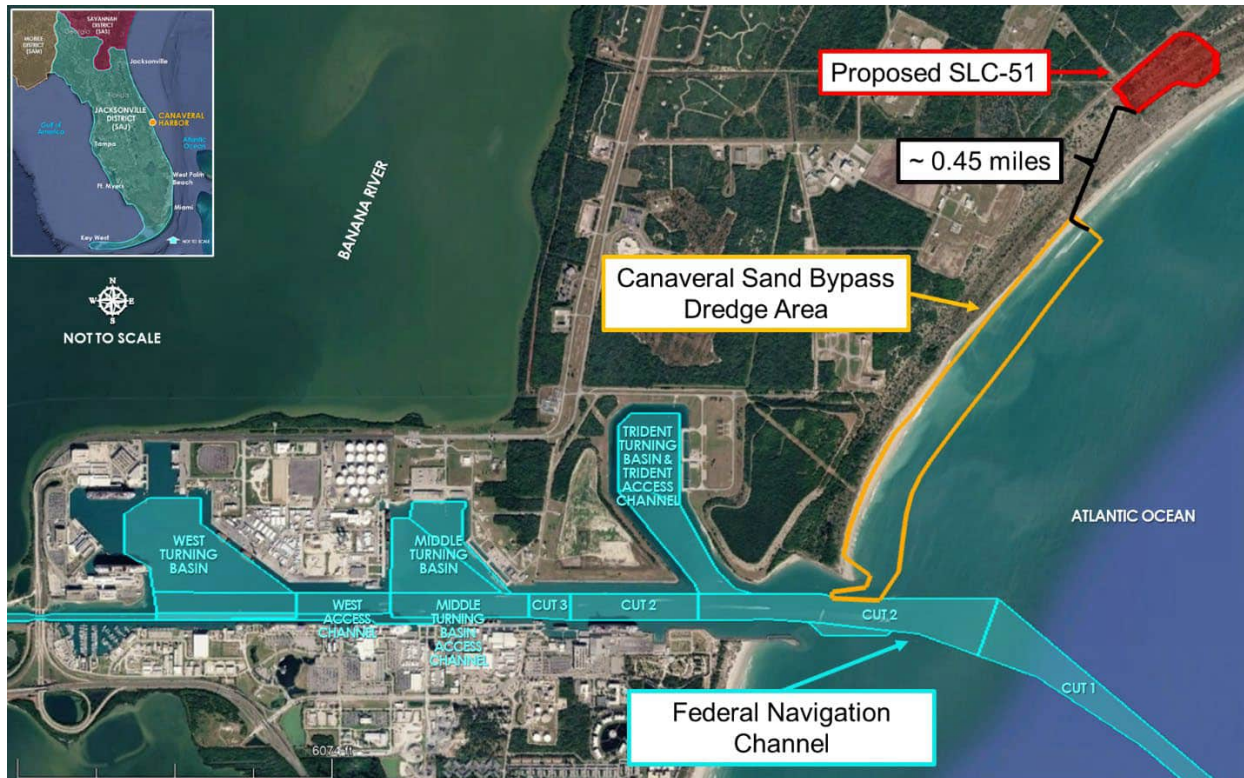


Digitally signed by
BOWMAN.BRANDON.L.10335166
02
Date: 2026.05.20 16:40:50 -04'00'

Brandon L. Bowman
Colonel, U.S. Army
District Commander

Enclosure

Figure 1. Location of Corps projects and the Proposed Action at CCSFS





Florida Fish and Wildlife Conservation Commission

Commissioners
Rodney Barreto
Chairman
Coral Gables

Steven Hudson
Vice Chairman
Fort Lauderdale

Preston Farrior
Tampa

Joshua Kellam
Palm Beach Gardens

Gary Lester
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Albert Maury
Coral Gables

Sonya Rood
St. Augustine

Office of the
Executive Director
Roger A. Young
Executive Director

Charles "Rett" Boyd
Assistant Executive Director

George Warthen
Chief Conservation Officer

Jessica Crawford
Chief of Staff

850-487-3796
850-921-5786 FAX

*Managing fish and wildlife
resources for their long-term
well-being and the benefit
of people.*

620 South Meridian Street
Tallahassee, Florida
32399-1600
Voice: 850-488-4676

Hearing/speech-impaired:
800-955-8771 (T)
800-955-8770 (V)

MyFWC.com

May 22, 2026

Lindsay Weaver
Florida State Clearinghouse
Florida Department of Environmental Protection
300 Commonwealth Boulevard, M.S. 47
Tallahassee, FL 32399-2400
State.Clearinghouse@dep.state.fl.us

Re: Relocation of Military Launch Operations from Space Launch Complex - 46 to Space Launch Complex - 51 at Cape Canaveral Space Force Station, Scoping for Environmental Assessment (FL202604230764), Brevard County

Dear Ms. Weaver:

Florida Fish and Wildlife Conservation Commission (FWC) staff reviewed the above-referenced project and provides the following comments and recommendations for consideration in accordance with Chapter 379, Florida Statutes, and pursuant to the federal National Environmental Policy Act (NEPA), the federal Coastal Zone Management Act, and the State of Florida Coastal Management Program.

Project Description

The Department of the Air Force (DAF) is preparing an Environmental Assessment to assess the potential environmental impacts associated with the construction of a new Space Launch Complex (SLC), SLC-51, for military launch operations at Cape Canaveral Space Force Station (CCSFS). The facility will be located approximately 1.6 miles east of Samuel C. Phillips Parkway, on the southeast side of Pier Road, 2.5 miles southwest of the existing SLC-46. The proposed project site contains approximately 50 acres of coastal strand.

FWC staff participated in the 2025 five-year review of the Integrated Natural Resources Management Plan (INRMP) for Space Launch Delta 45 (SLD 45), which includes CCSFS, in August 2025 and coordinated directly with SLD 45 staff regarding wildlife resources on the base. Some of the recommendations below are informed by the INRMP.

Potentially Affected Resources

Wildlife surveys of select species are conducted annually as part of the INRMP, but information on wildlife potential for the proposed project site has not yet been provided. FWC staff conducted a geographic information system (GIS) analysis of the project area and found the project is located near, within, or adjacent to:

- U.S. Fish and Wildlife Service (USFWS) Consultation Area for the Audubon's crested caracara (*Caracara plancus audubonii*, Federally Threatened [FT]) and the Florida scrub-jay (*Aphelocoma coerulescens*, FT)
- Potential habitat for the following federally and state-listed species:
 - Eastern indigo snake (*Drymarchon couperi*, FT)
 - Florida pine snake (*Pituophis melanoleucus mugitus*, State Threatened [ST])
 - Gopher tortoise (*Gopherus polyphemus*, ST)
 - Green sea turtle (*Chelonia mydas*, FT)

- Hawksbill sea turtle (*Eretmochelys imbricata*, Federally Endangered [FE])
 - Kemp's Ridley sea turtle (*Lepidochelys kempii*, FE)
 - Least tern (*Sternula antillarum*, ST)
 - Leatherback sea turtle (*Dermochelys coriacea*, FE)
 - Loggerhead sea turtle (*Caretta caretta*, FT)
 - North Atlantic right whale (*Eubalaena glacialis*, FE)
 - Rufa red knot (*Calidris canutus rufa*, FT)
 - Smalltooth sawfish (*Pristis pectinata*, FE)
 - Southeastern beach mouse (*Peromyscus polionotus niveiventris*, FT)
 - Tricolored bat (*Perimyotis subflavus*, Proposed FE)
 - West Indian Manatee (*Trichechus manatus*, FT)
 - Wood stork (*Mycteria americana*)
- Existing Conservation Lands: Merritt Island National Wildlife Refuge (USFWS)

Comments and Recommendations

Gopher Tortoise

The gopher tortoise is present on all SLD 45 properties including CCSFS, and the project area may have potential habitat for the gopher tortoise. Gopher tortoise populations are managed on SLD 45 properties under the *Candidate Conservation Agreement for the Gopher Tortoise, Eastern Population (November 1, 2008)* (CCA). According to the CCA gopher tortoises are relocated within SLD 45 when projects impact burrows, and annual reports are submitted detailing habitat management. Habitat management efforts include mechanical and herbicide treatment of overgrown plants and prescribed fire as well as removal of nonnative and nuisance wildlife. According to the *Gopher Tortoise Conservation Action Report* (April 2025) SLD 45 staff are currently researching offsite translocation options as CCSFS is approaching carrying capacity and have met with FWC staff to discuss options. If additional assistance is needed for gopher tortoise, please contact Conor Walsh by phone at (352) 620-7732 or at Conor.Walsh@MyFWC.com.

Florida Pine Snake

Florida pine snakes are listed in the DAF 2025 INRMP as occurring at CCSFS and suitable habitat may also occur on the project site. Florida pine snakes are naturally secretive in nature and can spend up to 80 percent of their time in underground refuges like stump holes, gopher tortoise burrows, and the burrows of nine-banded armadillos and mice. This species is often associated with southeastern pocket gophers (*Geomys pinetis*); however, they can persist and thrive in areas without this species. Florida pine snakes are active from March through October but show the greatest activity in May, June, July, and October when they move more frequently and travel farther distances. Florida pine snakes are sensitive to habitat fragmentation and often negatively impacted by roadways. Additional information can be found in the *Species Conservation Measures and Permitting Guidelines for the Florida Pine Snake* (<https://myfwc.com/media/25003/floridapinesnakegl.pdf>). If a Florida pine snake is observed during construction, FWC staff recommends that work activities cease and the snake be allowed to leave on its own accord, or that the snake is relocated following criteria included in the Guidelines. It would also contribute to FWC's research efforts if sightings could be reported to the staff member at the close of this letter, preferably with a photograph and GPS coordinates.

Imperiled Beach Nesting Birds

While the existing conditions onsite likely do not support least tern or other imperiled beach nesting bird (IBNB) nesting activity, clearing associated with construction may create conditions conducive for nesting. Additionally, least terns are identified as occurring on CCSFS by the 2025 INRMP. Cleared sites such as areas that have undergone surface scraping may attract ground nesting species such as least terns or other IBNBs during nesting season. IBNB nests have been documented on a variety of disturbed sites, including construction sites. Least terns and other IBNBs deposit their eggs in shallow “nest scrapes” they dig in sand, shell, gravel, or similar substrates. Egg-laying for least terns usually begins between April 1 and early May. Colonies may range in size from a few breeding pairs to many hundreds. FWC staff recommends the following measures to reduce nesting potential during construction:

- Conduct clearing, grading, and construction activities outside of the breeding season (generally April 1 through September 1) if feasible, or,
- If these activities occur during the breeding season clear and grade the site only when ready to build.

Avoid leaving cleared or graded areas with little to no activity for extended periods. Least terns may lay eggs within just a few days of digging nest scrapes. If nesting is observed, FWC staff are available to discuss necessary nest buffers and alternative avoidance and minimization measures. The *Species Conservation Measures and Permitting Guidelines for American Oystercatcher, Snowy Plover, Black Skimmer, and Least Tern* (<https://myfwc.com/media/29766/ibnb-guidelines.pdf>) can be referenced for additional biological information, measures for avoiding impacts, and conservation practices.

Rare Snake Sightings

The current distribution of eastern indigo snake, short-tailed snake (*Lampropeltis extenuata*, ST), kingsnakes (*Lampropeltis meansi*, *L. getula*, *L. getula floridana*, *L. rhombomaculata*, and *L. occipitolineata*), Florida pine snake, southern hognose snake (*Heterodon simus*), and rainbow snake (*Farancia erytrogramma*) is not well documented. These snakes spend much of their time underground, which makes them difficult to detect and survey. FWC staff encourages reporting any sightings of these species to the FWC Rare Snake Sightings webpage (<https://app.myfwc.com/fwri/raresnakes/UserHome.aspx>), as this information can help fill important data gaps and support ongoing research and conservation efforts.

Federal Species

This site may also contain habitat suitable for the federally listed species identified above. FWC staff recommends coordination with the USFWS Florida Ecological Services Office (ESO) as necessary for information regarding potential impacts to these species. The USFWS ESO can be contacted at FW4FLESRegs@fws.gov.

FWC staff appreciates the opportunity to provide input on this project. For specific technical questions regarding the content of this letter, please contact Melissa Lannan at (850) 274-3039 or by email at Melissa.Lannan@MyFWC.com. All other inquiries may be sent to ConservationPlanningServices@MyFWC.com.

Sincerely,

A handwritten signature in black ink that reads "Josh Cucinella". The signature is fluid and cursive, with the first name "Josh" and last name "Cucinella" clearly legible.

Josh Cucinella
Land Use Planning Program Administrator
Office of Conservation Planning Services

jc/ml

Relocation of Military Launch Operations from SLC-46 to SLC-51 - NEPA Scoping_65243_05222026

cc: Jessica Stuczynski, 45 CES/CEIE, 45CES.CEIE.EnvConservWorkflow@spaceforce.mil

[Non-DoD Source] State Clearinghouse Letter for FL202604230764 - NEPA Scoping Comments on the Environmental Assessment for the Relocation of Military Launch Operations from Space Launch Complex (SLC)-46 to a Proposed New Launch Complex, SLC-51, Within ...

From State_Clearinghouse <State.Clearinghouse@FloridaDEP.gov>

Date Thu 5/21/2026 5:49 PM

To SLD45 Environmental Conservation <45CES.CEIE.EnvConservWorkflow@spaceforce.mil>

Cc State_Clearinghouse <State.Clearinghouse@FloridaDEP.gov>

May 21, 2026

Jessica Stuczynski
45 CES/CEIE
1224 Jupiter Street, M.S. 9125
Patrick Space Force Base, Florida 32925

RE: Department of the Air Force, United States Space Force - NEPA Scoping Comments on the Environmental Assessment for the Relocation of Military Launch Operations from Space Launch Complex (SLC)-46 to a Proposed New Launch Complex, SLC-51, Within the Cape Canaveral Space Force Station (CCSFS), Brevard County, Florida
SAI # FL202604230764

Dear Jessica:

The Florida State Clearinghouse has coordinated the review of the proposal under the following authorities: Presidential Executive Order 12372; § 403.061(43), Florida Statutes (F.S.); the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347, as amended.

Staff of the Florida Department of Environmental Protection (FDEP) have reviewed the proposal and offer the following comments: The proposed project will require FDEP Industrial Wastewater Permitting, Domestic Wastewater Collection/Transmission System Permitting, and Drinking Water Main Extension Permitting. The proposed project may also require ERP and Dewatering permitting.

The Florida State Historic Preservation Officer reviewed the proposal and noted that BR2087 is within the given project APE and is eligible for the *National Register of Historic Places*.

The proposal was also routed to the Florida Fish and Wildlife Conservation Commission for review; however, no comments were received by the State Clearinghouse at the time of this letter. If additional comments are received at a later date, they will be forwarded to your office.

Thank you for the opportunity to review. If you have any questions or need further assistance, please do not hesitate to contact me at (850) 717-9037.

Respectfully,

Lindsay Weaver



Lindsay Weaver

Florida State Clearinghouse

Office of Intergovernmental Programs

Florida Department of Environmental Protection

State.Clearinghouse@FloridaDEP.gov

Office: 850-717-9037

 [Dep Customer Survey.](#)

APPENDIX D

ACAM Level II Analysis



Subj: ACAM Level II Analysis for Relocation of Military Launch Operations on Cape Canaveral Space Force Station

WSP USA Inc. (WSP) is pleased to present the Air Conformity Applicability Model (ACAM) prepared for the Relocation of Military Launch Operations on Cape Canaveral Space Force Station (CCSFS) Project ("Project"), located in CCSFS in Brevard County, Florida (enclosed).

The ACAM analysis evaluates potential air quality impacts associated with construction activities for the development of SLC-51 in accordance with the U.S. Air Force (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*. Construction activities were defined at a level appropriate to support screening-level emissions estimates consistent with ACAM methodologies, which evaluate mobile and nonroad equipment emissions under conservative assumptions representing peak construction conditions. Data inputs for the ACAM analysis were developed utilizing the 90 percent construction design parameters available at the time of analysis.

Results from the analysis conclude that no estimated annual net emissions associated with the Project are above the insignificance indicators for impacts to local air quality. The Project will not cause or contribute to an exceedance of one or more National Ambient Air Quality Standards (NAAQS) and will have an insignificant impact on air quality. Based on the attainment status of the Project location (CCSFS), General Conformity Requirements are not applicable for this Project. It was determined that no further air quality assessment is needed at this time.

CLOSING

WSP appreciates the opportunity to provide this analysis in support of the SLC-51 Project. If you have any questions regarding these findings, or would like to discuss them further, please do not hesitate to contact me at Angela.Ryan@WSP.com or via telephone at (727) 947-8098.

Sincerely,

WSP USA Inc.

A handwritten signature in blue ink, appearing to read 'Angela Ryan', is positioned above the typed name.

Angela Ryan
Technical Director
Angela.Ryan@wsp.com

AIR CONFORMITY APPLICABILITY MODEL REPORT

RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Department of the Air Force's (DAF'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 DAFF Manual 32-7002, *Environmental Compliance and Pollution Prevention*; the *Environmental Impact Analysis Process* (EIAP, 32 CFR 989); the *General Conformity Rule* (GCR, 40 CFR 93, Subpart B); and the *DAF 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: CAPE CANAVERAL AFS
State: Florida
County(s): Brevard
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Space Launch Complex (SLC)-51

c. Project Number/s (if applicable):

d. Projected Action Start Date: 1 / 2027

e. Action Description:

Construction of launch pad and associated operations including a complex support building, Petroleum, Oil and Lubricants (POL) building, ordinance test shed, guard house, area crew storage building and electrical equipment shed.

f. Point of Contact:

Name: Alice Lovegrove
Title: SVP
Organization: WSP
Email: alice.lovegrove@wsp.com
Phone Number: 212-465-5374

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" (cCba.e., 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 *DAF Air Emissions Guide for Air Force Stationary Sources*, the *DAF Air Emissions Guide for Air Force Mobile Sources*, and the *DAF 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" (cCba.e., 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

AIR CONFORMITY APPLICABILITY MODEL REPORT

RECORD OF AIR ANALYSIS (ROAA)

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:

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.339	250	No
NOx	2.901	250	No
CO	3.561	250	No
SOx	0.007	250	No
PM 10	70.211	250	No
PM 2.5	0.106	250	No
Pb	0.000	25	No
NH3	0.011	250	No

2028

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.010	250	No
NOx	0.079	250	No
CO	0.129	250	No
SOx	0.000	250	No
PM 10	0.003	250	No
PM 2.5	0.003	250	No
Pb	0.000	25	No
NH3	0.000	250	No

2029 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	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.

AIR CONFORMITY APPLICABILITY MODEL REPORT RECORD OF AIR ANALYSIS (ROAA)

Alice Lovegrove, SVP

Aug 06 2026

Name, Title

Date

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: CAPE CANAVERAL AFS
State: Florida
County(s): Brevard
Regulatory Area(s): NOT IN A REGULATORY AREA

- **Action Title:** Space Launch Complex (SLC)-51

- **Project Number/s (if applicable):**

- **Projected Action Start Date:** 1 / 2027

- Action Purpose and Need:

Calculate construction emissions for the proposed new launch pad complex SLC-51 at Cape Canaveral Space Force Station (SFS).

- Action Description:

Construction of launch pad and associated operations including a complex support building, Petroleum, Oil and Lubricants (POL) building, ordinance test shed, guard house, area crew storage building and electrical equipment shed.

- Point of Contact

Name: Alice Lovegrove
Title: SVP
Organization: WSP
Email: alice.lovegrove@wsp.com
Phone Number: 212-465-5374

Report generated with ACAM version: 5.0.24a

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Construction of Launch Pad and Associated supporting structures

Emission factors and air emission estimating methods come from the United States Department of the Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Department of the 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: Brevard
Regulatory Area(s): NOT IN A REGULATORY AREA

- **Activity Title:** Construction of Launch Pad and Associated supporting structures

- Activity Description:

Grading of 1,754,457 sf.
Trenching of 4,544 sf including packaging pit, erector pit, utility room and flame duct

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A building footprint area of 8,200 sf including a complex support building, POL Building, ordinance test shed, guard house, area crew storage building and electrical equipment shed.

- Activity Start Date

Start Month: 1
Start Month: 2027

- Activity End Date

Indefinite: False
End Month: 2
End Month: 2028

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.348826
SO _x	0.007058
NO _x	2.979911
CO	3.689636

Pollutant	Total Emissions (TONs)
PM 10	70.213898
PM 2.5	0.109173
Pb	0.000000
NH ₃	0.011474

- Global Scale Activity Emissions of Greenhouse Gasses:

Pollutant	Total Emissions (TONs)
CH ₄	0.031124
N ₂ O	0.024232

Pollutant	Total Emissions (TONs)
CO ₂	851.977478
CO ₂ e	859.270325

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 2
Start Quarter: 1
Start Year: 2027

- Phase Duration

Number of Month: 4
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft²): 1754457
Amount of Material to be Hauled On-Site (yd³): 331
Amount of Material to be Hauled Off-Site (yd³): 86514

- 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	2	8

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Scrapers Composite	3	8
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd³): 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	0.37809	0.00542	3.36699	4.21640	0.08879	0.08169
Graders Composite [HP: 148] [LF: 0.41]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.29535	0.00490	2.28401	3.40565	0.12705	0.11688
Other Construction Equipment Composite [HP: 82] [LF: 0.42]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.25231	0.00487	2.49971	3.48392	0.13245	0.12186
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.34288	0.00492	3.09108	2.65644	0.13550	0.12466
Scrapers Composite [HP: 423] [LF: 0.48]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.19058	0.00488	1.60937	1.52212	0.06336	0.05829
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.17717	0.00489	1.80740	3.48712	0.05440	0.05005

- Construction Exhaust Greenhouse Gases Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02383	0.00477	587.39431	589.41010
Graders Composite [HP: 148] [LF: 0.41]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02155	0.00431	531.25291	533.07604
Other Construction Equipment Composite [HP: 82] [LF: 0.42]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02140	0.00428	527.44206	529.25211
Rubber Tired Dozers Composite [HP: 367] [LF: 0.4]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02160	0.00432	532.55942	534.38703
Scrapers Composite [HP: 423] [LF: 0.48]				

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	CH ₄	N ₂ O	CO ₂	CO _{2e}
Emission Factors	0.02145	0.00429	528.70476	530.51914
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH ₄	N ₂ O	CO ₂	CO _{2e}
Emission Factors	0.02148	0.00430	529.61807	531.43559

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	NH ₃
LDGV	0.30250	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

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH ₄	N ₂ O	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

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 (yd³)

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HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)
HC: Average Hauling Truck Capacity (yd³)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)
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: 5
Start Quarter: 1
Start Year: 2027

- Phase Duration

Number of Month: 6
Number of Days: 0

2.2.2 Trenching / Excavating Phase Assumptions

- General Trenching/Excavating Information

Area of Site to be Trenched/Excavated (ft²): 4544
Amount of Material to be Hauled On-Site (yd³): 7927
Amount of Material to be Hauled Off-Site (yd³): 100

- Trenching Default Settings

Default Settings Used: Yes
Average Day(s) worked per week: 5 (default)

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- 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 (yd³): 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	0.37809	0.00542	3.36699	4.21640	0.08879	0.08169
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.43579	0.00542	3.52468	4.59651	0.09918	0.09125
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.17717	0.00489	1.80740	3.48712	0.05440	0.05005

- Construction Exhaust Greenhouse Gasses Pollutant Emission Factors (g/hp-hour) (default)

Excavators Composite [HP: 36] [LF: 0.38]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02383	0.00477	587.39431	589.41010
Other General Industrial Equipmen Composite [HP: 35] [LF: 0.34]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02385	0.00477	587.92708	589.94470
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02148	0.00430	529.61807	531.43559

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	NH ₃
LDGV	0.30250	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

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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

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH ₄	N ₂ O	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

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 (yd³)

HA_{OffSite}: Amount of Material to be Hauled Off-Site (yd³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)

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

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- 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: 2027

- Phase Duration

Number of Month: 14

Number of Days: 0

2.3.2 Building Construction Phase Assumptions

- General Building Construction Information

Building Category: Office or Industrial

Area of Building (ft²): 8200

Height of Building (ft): 20

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	4
Forklifts Composite	2	6
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

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	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	0.19464	0.00487	1.74774	1.62852	0.07179	0.06605
Forklifts Composite [HP: 82] [LF: 0.2]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.22849	0.00487	2.15229	3.56761	0.09240	0.08501
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.17717	0.00489	1.80740	3.48712	0.05440	0.05005

- Construction Exhaust Greenhouse Gases Pollutant Emission Factors (g/hp-hour) (default)

Cranes Composite [HP: 367] [LF: 0.29]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02140	0.00428	527.45492	529.26501
Forklifts Composite [HP: 82] [LF: 0.2]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02138	0.00428	527.06992	528.87869
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02148	0.00430	529.61807	531.43559

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	NH ₃
LDGV	0.30250	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

- Vehicle Exhaust & Worker Trips Greenhouse Gases Emission Factors (grams/mile)

	CH ₄	N ₂ O	CO ₂	CO ₂ e
LDGV	0.01413	0.00493	331.23691	332.93781

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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

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 (ft²)

BH: Height of Building (ft)

(0.42 / 1000): Conversion Factor ft³ to trips (0.42 trip / 1000 ft³)

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)

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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 (ft²)

BH: Height of Building (ft)

(0.38 / 1000): Conversion Factor ft³ to trips (0.38 trip / 1000 ft³)

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

2.4 Paving Phase

2.4.1 Paving Phase Timeline Assumptions

- Phase Start Date

Start Month: 6

Start Quarter: 1

Start Year: 2027

- Phase Duration

Number of Month: 3

Number of Days: 0

2.4.2 Paving Phase Assumptions

- General Paving Information

Paving Area (ft²): 278020

- Paving 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
Cement and Mortar Mixers Composite	4	6
Pavers Composite	1	8
Paving Equipment Composite	2	6
Rollers Composite	2	6
Tractors/Loaders/Backhoes Composite	1	7

- Vehicle Exhaust

Average Hauling Truck Round Trip Commute (mile): 20 (default)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- 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

2.4.3 Paving Phase Emission Factor(s)

- Construction Exhaust Criteria Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.55279	0.00855	4.19775	3.25549	0.16311	0.15007
Pavers Composite [HP: 81] [LF: 0.42]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.22921	0.00486	2.45013	3.43821	0.11941	0.10986
Paving Equipment Composite [HP: 89] [LF: 0.36]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.18341	0.00488	2.01586	3.40316	0.07465	0.06867
Rollers Composite [HP: 36] [LF: 0.38]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.52865	0.00542	3.57666	4.10537	0.14602	0.13434
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]						
	VOC	SO _x	NO _x	CO	PM 10	PM 2.5
Emission Factors	0.17717	0.00489	1.80740	3.48712	0.05440	0.05005

- Construction Exhaust Greenhouse Gases Pollutant Emission Factors (g/hp-hour) (default)

Cement and Mortar Mixers Composite [HP: 10] [LF: 0.56]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02313	0.00463	570.32048	572.27767
Pavers Composite [HP: 81] [LF: 0.42]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02133	0.00427	525.80912	527.61356
Paving Equipment Composite [HP: 89] [LF: 0.36]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02142	0.00428	528.06776	529.87995
Rollers Composite [HP: 36] [LF: 0.38]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02382	0.00476	587.12246	589.13732
Tractors/Loaders/Backhoes Composite [HP: 84] [LF: 0.37]				
	CH ₄	N ₂ O	CO ₂	CO ₂ e
Emission Factors	0.02148	0.00430	529.61807	531.43559

- Vehicle Exhaust & Worker Trips Criteria Pollutant Emission Factors (grams/mile)

	VOC	SO _x	NO _x	CO	PM 10	PM 2.5	NH ₃
LDGV	0.30250	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

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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

- Vehicle Exhaust & Worker Trips Greenhouse Gasses Emission Factors (grams/mile)

	CH ₄	N ₂ O	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

2.4.4 Paving Phase Formula(s)

- Construction Exhaust Emissions per Phase

$$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$$

- 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

$$VMT_{VE} = PA * 0.25 * (1 / 27) * (1 / HC) * HT$$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)

PA: Paving Area (ft²)

0.25: Thickness of Paving Area (ft)

(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd³ / 27 ft³)

HC: Average Hauling Truck Capacity (yd³)

(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd³)

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)

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

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

- Off-Gassing Emissions per Phase

$$VOC_P = (2.62 * PA) / 43560 / 2000$$

VOC_P : Paving VOC Emissions (TONs)

2.62: Emission Factor (lb/acre)

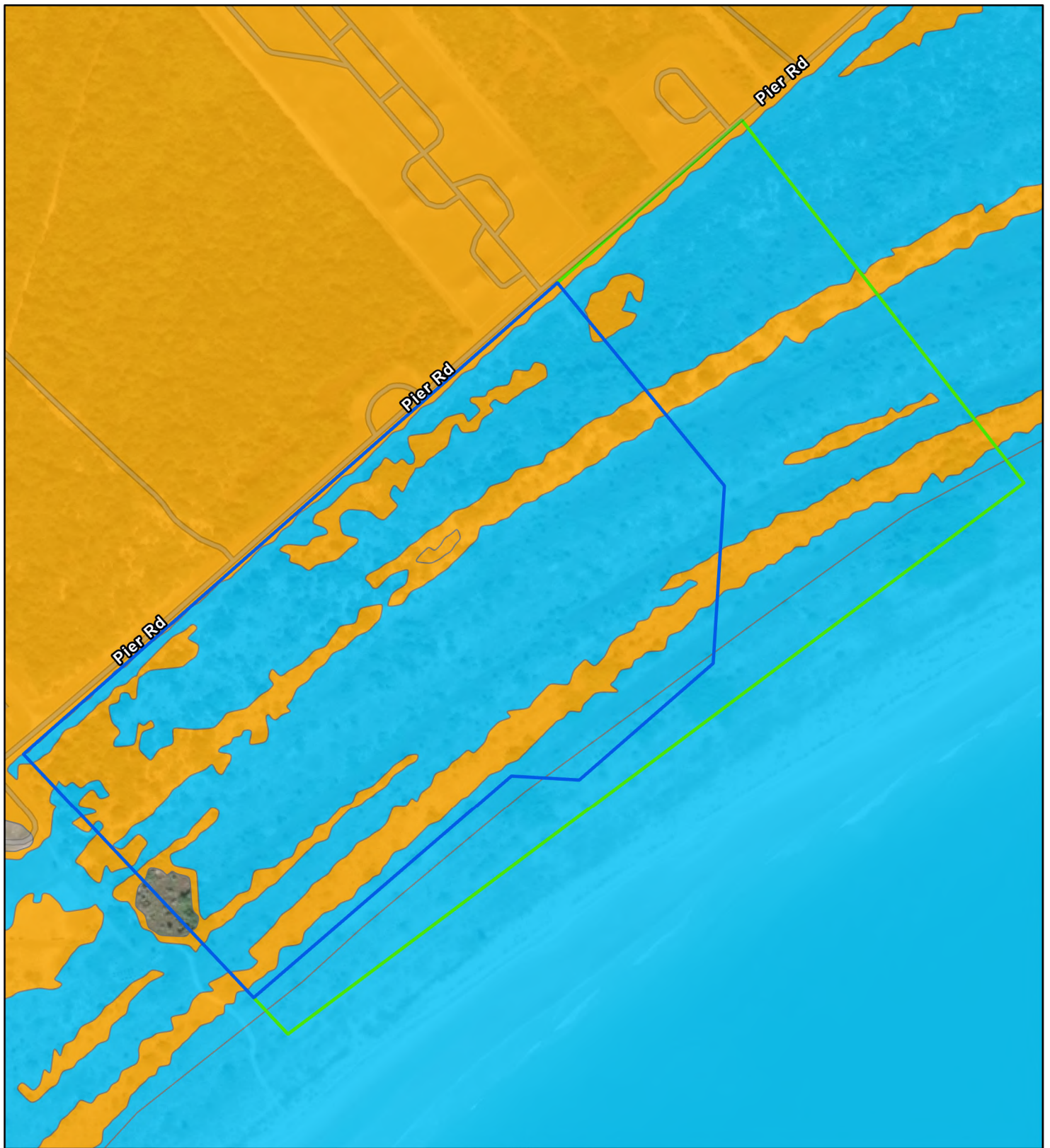
PA: Paving Area (ft²)

43560: Conversion Factor square feet to acre (43560 ft² / acre)² / acre)

2000: Conversion Factor square pounds to TONs (2000 lb / TON)

APPENDIX E

SLC-51 Floodplain Map



LEGEND

- ▬ PROJECT SITE
- ▬ CONSTRUCTION AREA
- FEMA FLOOD ZONES (DEC. 2025)
 - 100-YEAR FLOODPLAIN (ZONE AE - COASTAL FLOODPLAIN, AO - COASTAL FLOODPLAIN, VE - COASTAL FLOODPLAIN)
 - 500-YEAR FLOODPLAIN (ZONE X - 0.2 PCT ANNUAL CHANCE FLOOD HAZARD IN COASTAL ZONE)
 - ZONE X - AREA OF MINIMAL FLOOD HAZARD

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SLC-51 FEMA Floodplain Map

