



U.S. Department
of Transportation
**Federal Aviation
Administration**

Department of Transportation
Federal Aviation Administration
Orlando Airports District Office
Orlando, Florida

**FINDING OF NO SIGNIFICANT IMPACT
AND
RECORD OF DECISION**

**Environmental Assessment for
On-Airport Access Road & Utilities Extension
at
Cecil Airport (VQQ)**

Jacksonville, Florida

August 21, 2023

BACKGROUND: Cecil Airport (VQQ) is owned and operated by the Jacksonville Aviation Authority (Authority or Airport Sponsor) and the airport supports a range of aviation services and activities. VQQ is a General Aviation (GA) airport and is located on approximately 6,000 contiguous acres of land north of the Duval County/Clay County line in northeast Florida, and approximately 15 miles southwest of downtown Jacksonville. The Airport has four runways, with the longest runway, Runway 18L/36R, is 12,503 feet long. VQQ accommodates all general aviation aircraft and large military and commercial jet aircraft. The Airport has a variety of aviation-related tenants whose services and activities include aircraft flight testing, aircraft maintenance and overhaul, flight instruction, regular military exercises, and emergency staging during natural disasters. In addition, VQQ is also an FAA-licensed spaceport.

The Authority proposes to improve and extend Approach Road, and associated utilities, from approximately 103rd street south to the existing spaceport facilities.

The FAA's Federal Action is to approve the release of the Sponsor's federal obligations along the approach road and utility corridor as the property was conveyed to the Jacksonville Port Authority by the Secretary of the Navy (surplus property) on September 29, 1999. The release, referred to as the FAA Proposed Action in the EA, is subject to review under the *National Environmental Policy Act of 1969* (NEPA). Accordingly, an EA was prepared by the Airport Sponsor for the FAA's use in complying with the requirements of NEPA, Council on Environmental Quality (CEQ) regulations implementing NEPA, FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *NEPA Implementing Instructions for Airport Actions*. Several Proposed Project components do not require Federal action; however, they depend on the portions of the project requiring FAA approval to be constructed or operated as planned and are, therefore, included in the analysis.

This Finding of No Significant Impact (FONSI) and Record of Decision (ROD) provides the FAA's environmental determination, approval, and conditions for agency actions necessary to implement the Proposed Action. This FONSI/ROD is based on information and analyses contained in the *Environmental Assessment for On-Airport Access Road and Utilities Corridor Extension at Cecil Airport (VQQ)*, which is incorporated by reference, and other related documents available to the Agency. The ROD is issued in accordance with CEQ regulations at 40 CFR §1505.2.

PROPOSED DEVELOPMENT PROJECT: The Proposed Project is the construction and operation of both improved and new roadway pavement that would extend Approach Road, and associated utilities, south to the spaceport. Construction would start about 2,300 feet south of 103rd Street. All project components would be constructed on airport property. Construction activities associated with the Proposed Project are anticipated to begin in 2023 and be completed in 2024.

Specifically, the Proposed Project includes the following elements:

- Reconstruct approximately 3,600 feet of existing Approach Road
- Construct approximately 4,450 feet of new roadway from the wastewater pump station to the spaceport hangar.
- Approximately 3,950-foot extension of the water utility line to the spaceport hangar
- Approximately 3,950 feet of new gravity sanitary line, a new sanitary force main, and an electrical duct bank.
- Four stormwater ponds totaling approximately 3.7 acres.
- Approximately 20 acres of site clearing and grading, including 18.42 acres of wetlands and 16 acres of Zone AE floodplain.

Valid U.S. Army Corps of Engineers (USACE) permits authorize the use of the on-Airport Cecil Mitigation Area to offset wetland impacts at the Airport. Mitigation for the estimated 18.42 acres of impact is proposed to be accomplished through the preservation of uplands and wetlands within the permitted Mitigation Area. This mitigation has been previously deemed regionally significant.

The floodplain impacts are unavoidable. No practical alternatives avoid floodplain impacts; however, the proposed access road was realigned to avoid additional floodway impacts south of the east-west section. Mitigation is required to minimize the impacts of the Proposed Project on the existing floodplain boundaries and flood elevations. Mitigation measures to offset the floodplain impacts include a combination of providing compensatory floodwater storage volume and equivalent flow conveyance via bridge or culvert.

FAA PROPOSED ACTION: The Airport Sponsor's Proposed Project is described above and in Section 2.2.2 of the EA represents the Airport Sponsor's intended development at the airport. FAA has determined that we have approval to grant a release of the property from federal obligations.

REQUESTED FEDERAL ACTION: The requested Federal actions associated with the proposed development project include the following:

1. Release of federal obligations on land previously transferred to VQQ for aeronautical purposes which will no longer be used for aeronautical purposes.

PURPOSE AND NEED: Section 1.2 of the EA describes the purpose of and need for the Proposed Project, as identified by the Airport Sponsor. For a commercial space transportation operator to access the current spaceport facilities from 103rd Street, they must travel approximately 2.5 miles via the existing network of roads, originally developed by the U.S. Navy, along the east side of the property. It is challenging for tenants to access the spaceport hangar and its facilities because they are transporting large equipment on semi-trucks that are not supported by this existing road network and which have been insufficiently maintained. Therefore, the semi-trucks must traverse the Airport Operations Area (AOA) movement area to access the spaceport. This requires them to communicate with and be under the control of the ATCT staff. Combining semi-trucks and other vehicle traffic with aircraft operations causes a safety concern for aviation tenants and pilots using the airfield. Recent inspections have shown that the existing network of on-Airport access roads has continued to deteriorate. The access roads are narrow and overgrown with vegetation. The road conditions have potholes, inadequate cross-sections, reduced load limits, and poor pavement conditions.

The existing roadway system cannot structurally support semi-trucks used by commercial space transportation operators. The narrow roads do not provide the necessary clearance or turning radii for the design vehicles. In addition, the existing roads lack basic safety signage and signalization. There are no existing utilities along these access roads for streetlights, pavement markings, or street signs to direct drivers.

Finally, the existing spaceport hangar does not have access to a water supply for its fire suppression system. According to the City of Jacksonville Fire Marshall's Office, the closest fire hydrant is approximately 5,000 feet from the spaceport hangar. Without a fire suppression system, the Authority can only use the spaceport hangar for aircraft storage. The Authority has a City of Jacksonville fire code variance that states the spaceport hangar must maintain two compressed air portable foam dispensing fire suppression carts. However, without a working fire suppression system, they are unable to provide space operators the opportunity to operate safely from Cecil Spaceport.

ALTERNATIVES: Chapter 2 of the EA evaluated a range of reasonable alternatives to the Proposed Project, including the No-Action Alternative. The alternatives evaluation process for the Proposed Project consists of two components. First, alternatives are

evaluated against whether they would meet the specified purpose of and need for the Proposed Project. Second, alternatives fully achieving the purpose and need were then evaluated for specific environmental consequences, including wetland and floodplain impacts, and practicability, including spaceport accessibility during construction, overall roadway length, and construction duration. All alternatives are summarized below, and all build alternatives meet the purpose and need.

Alternative 1 is to construct approximately 12,900 LF of new on-Airport access road and utility corridor from 103rd Street to the spaceport hangar. Alternative 1 would start along 103rd Street about 3,000 feet east of the existing Approach Road. Stormwater ponds along the 12,900-foot alignment would also be constructed to capture rainfall runoff. The Alternative 1 alignment requires 16 acres of clearing and grading of undeveloped land. It contains 0.63 acres of Zone AE floodplain and no wetlands. Floodplain and wetland encroachment is significantly lower with this Alternative compared to others available. However, due to the substantially longer roadway, it would take much longer to complete and not meet the Sponsor's schedule. Due to this alternative's length of the roadway and utility corridor and the inability to remain on schedule, this alternative is not considered feasible and practicable. Therefore, Alternative 1 was eliminated from further consideration in the EA.

Alternative 2 is the longest roadway alignment of all the alternatives. This alternative includes constructing approximately 14,200 LF of new on-Airport access road and utility corridor from 103rd Street to the spaceport hangar. Like Alternative 1, Alternative 2 would start along 103rd Street about 3,000 feet east of the existing Approach Road. Additionally, this alternative includes a 4,400-foot roadway section in an east-west alignment to connect the existing wastewater pump station to the spaceport. Stormwater ponds along the 14,200-foot alignment would also be constructed to capture rainfall runoff. The Alternative 2 alignment requires 20 acres of clearing and grading of undeveloped land, including 3.95 acres of wetlands and 3.64 acres of Zone AE floodplain. Floodplain and wetland encroachment is lower with this alternative compared to the Proposed Project; however, it would take much longer to complete and not meet the Sponsor's schedule due to the substantially longer roadway. Due to this alternative's length of the roadway and utility corridor and the inability to remain on schedule, this alternative is not considered feasible and practicable. Therefore, Alternative 2 was eliminated from further consideration in the EA.

Alternative 3 includes construction of an 11,000 LF rehabilitated access road and utility infrastructure corridor. This alternative would also include widening the existing road corridor to 24 feet and increasing the radii at all corners to accommodate semi-truck traffic. Alternative 3 would include a 9,000-foot adjacent utility corridor to connect the site of the existing wastewater pump station to the spaceport. Stormwater ponds and ditches along the 11,000-foot alignment would also be constructed to capture rainfall runoff. The Alternative 3 alignment requires 14 acres of clearing and grading of undeveloped land, including 0.29 acres of wetlands and 2.36 acres of Zone AE floodplain. Floodplain and

wetland encroachment is lower with this alternative compared to the Proposed Project; however, Alternative 3 would not maintain current access to the spaceport during construction would exceed the Sponsor's construction schedule. Due to this alternative's length of the roadway and utility corridor, inability to maintain current access to the spaceport, and inability to achieve the construction deadline, this alternative is not considered feasible and practicable. Therefore, Alternative 3 is eliminated from further consideration in this EA.

No-Action Alternative – Under the No-Action Alternative, the Proposed Project would not be implemented. The Authority would continue to maintain and operate the airport in its present state and the environmental effects associated with the Proposed Project would not occur. Although the No-Action Alternative would not satisfy the purpose of and need for the Proposed Project, it was retained for further detailed evaluation in the EA in accordance with NEPA and CEQ regulations.

ENVIRONMENTAL IMPACTS: The No-Action Alternative and FAA Proposed Action were evaluated for potential impacts on the environmental resource categories identified in FAA Order 1050.1F. The Affected Environment and Environmental Consequences section of the EA (Chapter 3 of the EA) provides a description of existing conditions and an analysis of direct, indirect, and cumulative impacts.

As noted previously, the environmental effects of the FAA Proposed Action and the dependent project components associated with the Federal action were examined in the EA. Under the No-Action Alternative, the FAA Proposed Action and the overall Proposed Project would not be implemented, and the environmental impacts associated with the proposed facility and infrastructure improvements would not occur.

Air Quality – The airport is in an area designated by the EPA as attainment/unclassifiable with respect to all current National Ambient Air Quality Standards (NAAQS). Accordingly, the General Conformity Regulations do not apply to the Proposed Project, and a detailed analysis and Conformity Determination were not required. No increased surface transportation or increased aircraft operations are expected because of the Proposed Project. Any impacts resulting from the spaceport being used by a future tenant will be assessed under a separate, future NEPA document. Therefore, no significant air quality impacts are anticipated.

Biological Resources (including Fish, Wildlife, and Plants) – The Proposed Project is a roadway right-of-way that totals 44 acres. The right-of-way is comprised of three upland vegetative community types, three wetland community types, and two built/developed land cover types. Table 3-1 in the EA summarizes the acreage of each land use/vegetative cover type within the study area, but the dominant habitats include coniferous pine plantation and wetland forested mixed.

The types of plant communities and habitats on the project site are common to the area and region. As described in the EA and further discussed below, the Proposed Project would have no effect on the Florida pine snake, little blue heron, tricolored heron, bald eagle, Southeastern American kestrel, frosted flatwoods salamander, or gopher tortoise. The Proposed Project may affect, but is not likely to adversely affect, the Eastern indigo snake and Wood stork.

Federally-Listed Species – The eastern indigo snake, frosted flatwoods salamander, and wood stork has the potential to exist within the Direct Study Area (Figure 3-1 of the EA). However, there is not suitable habitat for the salamander within the project site. Based on the lack of suitable habitat and absence of designated critical habitat, the Proposed Project is expected to have no effect on the frosted flatwoods salamander. The eastern indigo snake can use gopher tortoise burrows for shelter. Given the presence of gopher tortoise burrows within or near the Proposed Project site, there is a potential for this species to occur; however, the probability of occurrence is considered low. Using the *Eastern Indigo Snake Programmatic Effect Determination Key*¹ (Appendix B in the EA), it is anticipated that this project may affect, but not likely to adversely affect the eastern indigo snake.

The wood stork depends on wetland habitat for foraging and nesting. It frequently utilizes areas containing woody vegetation over standing water, preferably in cypress trees or mangroves. USFWS designates Core Foraging Areas (CFAs) for each documented wood stork colony by region. All wetlands and waterways within the 13-mile radius may be considered Suitable Foraging Habitat (SFH) for wood storks. The study area is not located in the CFA of an active wood stork colony. The wetlands and surface waters in the project area, while not located within a CFA, still represent suitable habitat for this species and therefore may be classified as SFH. Using the USACE/FWS *Effect Determination Key for the Wood Stork in Central and North Peninsular Florida*² (2008) it is anticipated that this project may affect, but not likely to adversely affect the wood stork.

While no longer considered a listed species under the ESA, the bald eagle is afforded protection under the Bald and Golden Eagle Protection Act (BGEPA) of 1940 and the Migratory Bird Treaty Act of 1918 (MBTA). The USFWS defines two buffer zones from the central location of a nest that regulates activity restrictions based on their distance, the primary and secondary zones. The primary activity zone is 330 feet, and the secondary activity zone is 660 feet from the central location of the nest. Generally, if work is proposed

¹ This Key was written for the U.S. Army Corp of Engineers (USACE) and approved by the USFWS North Florida and South Florida Field Offices on January 25, 2010. The field studies supporting the EA contain all the pertinent information that led to a finding of *Not Likely to Adversely Affect* (NLAA) the indigo snake and the Key states, "If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary."

² This Key was written for the U.S. Army Corp of Engineers (USACE) and approved by the USFWS North Florida and South Florida Field Offices on January 25, 2010. The field studies supporting the EA contain all the pertinent information that led to a finding of *Not Likely to Adversely Affect* (NLAA) the wood stork and the Key states, "If the use of this Key results in a determination of NLAA, the Service concurs with this determination and no additional correspondence will be necessary."

within 660 feet of the nest, restrictions may be applicable. No documented eagle nests occur within 660 feet of the study areas. The nearest bald eagle nest is approximately 7 miles southwest of the study areas.

State-Listed Species – The gopher tortoise, Florida pine snake, little blue heron, tricolored heron, and southeastern American kestrel, have the potential to exist within the Direct Study Area (Figure 3-1 of the EA). Because suitable habitat is marginal at best, the Proposed Project is not likely to affect the Florida pine snake. Foraging habitat suitable for the state-listed wading bird species, Little blue heron, and tri-colored heron, is present; however, these avian species are highly mobile. If any individuals are present during construction, they would leave the area if disturbed. There is no suitable nesting habitat within the Direct Study Area for these state-listed avian species. Moderate forage habitat for the Southeastern American kestrel is present in the Direct Study Area; however, this species is also highly mobile and would leave the area if disturbed. Based on the lack of overall suitable habitat, the Proposed Project is expected to have no effect on state-listed species.

A gopher tortoise survey was conducted in June 2022. Suitable habitat is present within the Proposed Project site. One potentially occupied burrow was found within 25 feet of the Direct Study Area. The Proposed Project may affect, but is not likely to adversely affect, the gopher tortoise. In accordance with the Florida Fish and Wildlife Conservation Commission (FWC) *Gopher Tortoise Permitting Guidelines*, a gopher tortoise relocation permit will be needed to excavate or trap all burrows occurring on and within 25 feet of the construction site or areas where there may be site preparation activities. All active and inactive burrows will be excavated, and tortoises captured, or all tortoises will be trapped via approved methods, as outlined in the *Permitting Guidelines*. Individuals will either be relocated to suitable habitat onsite (outside the Direct Study Area) or to an external suitable site depending on number of tortoises captured and density of current population determined after additional surveys. A gopher tortoise survey is only valid for 90 days, so another 100 percent survey is required before relocation efforts begin (prior to construction).

Conservation Measures – As discussed in the EA, the Sponsor is required to implement certain conservation measures. These measures are discussed in Section 3.2.2.3 of the EA and are summarized below:

1. Prior to and during construction, the Sponsor will be required to implement USFWS Standard Protection Measures for the Eastern Indigo Snake.
2. Prior to construction, the Sponsor will re-survey appropriate habitats within the development area to confirm the presence or absence of gopher tortoise burrows. All potentially occupied burrows will be excavated, and tortoises will be relocated after obtaining applicable FWC permits.

3. Additional measures to prevent impacts on the eastern indigo snake, gopher tortoise, and Florida pine snake include establishing a protective 25-foot buffer around existing gopher tortoise burrows outside the project area, avoiding impacts to snakes occupying gopher tortoise burrows and suitable habitat outside the project area, and allowing individual snakes encountered to move away from the project area without interference. Clearing activities will cease until encountered snakes are outside of the project area.

Through on-site surveys, available habitat analysis, and the use of *Effects Determination Keys* for federally listed species, the FAA determined the Proposed Action and overall Proposed Project would not have a significant impact on biological resources, including natural habitats, common species of wildlife, and protected species.

Climate – Using fossil fuel-powered machinery during the construction of the Proposed Project would emit Greenhouse Gases (GHGs), such as CO₂. These temporary emissions would occur during construction activities (less than 1 year). There would be no increase in employees at the spaceport as a direct result of this project and, therefore, no increase in vehicle related GHG emissions in the region. The vehicles using the new Approach Road are already using and accessing the Airport via a separate, less ideal route.

The FAA has not established significance thresholds for aviation GHG emissions, nor has the agency identified specific factors to consider in making a significance determination for GHG emissions. Consequently, there is currently no quantitative or qualitative basis for comparison for the GHG emissions. GHG emissions associated with the FAA Proposed Action and the overall Proposed Project are not anticipated to have a significant effect on climate or climate change.

Coastal Resources – The entire state of Florida is located within a coastal zone. The Florida Department of Environmental Protection (FDEP), Office of Intergovernmental Programs, Florida State Clearinghouse (FSC) coordinates the review of Federal actions in the State of Florida for consistency with the Florida Coastal Management Program (FCMP). The study areas are not within the Coastal Barrier Resources System (CBRS) as delineated by the USFWS Official CBRS maps.

The Proposed Project would not affect coastal resources, create plans to direct future agency actions, propose rulemaking that alters the use of the coastal zone in a way that is inconsistent with the FCMP, or involve Outer Continental Shelf leases. The Florida Department of State had no objections to the Proposed Project based on the minimal project impacts, and, therefore, it is consistent with the FCMP.

DOT Act, Section 4(f) Resources – The nearest eligible 4(f) resource is POW/MIA Memorial Park located 1.25 miles west of the Direct Study Area. The Proposed Project would neither directly nor indirectly impact the use of 4(f) resources. No culturally significant resources that could be eligible for protection under Section 4(f) are present in the EA study areas.

Farmlands – The FAA Proposed Action and overall Proposed Project would not affect any farmland or soils considered to be prime, unique, or of statewide or local importance.

Hazardous Materials, Solid Waste, and Pollution Prevention – Based on review of environmental records, there are no hazardous waste facilities within the study areas. The nearest facility (registry id 110033147093, Jacksonville NAS-Cecil Depot) is located about one mile northwest of the study areas. Therefore, the study areas do not contain any known hazardous material, hazardous waste, or hazardous substance sites.

Construction activities would generate construction and demolition debris. Land clearing and grading activities associated with the Proposed Project will generate vegetation and substrate debris that could potentially be recycled. Clearing debris that cannot be recycled would be disposed of at Trail Ridge Landfill, approximately 15 miles northwest of the airport.

The Proposed Project construction is expected to generate solid waste associated with land clearing/grading and roadway paving. The use of fuel and other regulated substances such as lubricants and cleaning solvents that are necessary for routine operations at the Airport will continue independent of the Proposed Project. The Authority has a National Pollutant Discharge Elimination System (NPDES) permit for industrial activities at the Airport. This permit requires the Authority to maintain a Storm Water Pollution Prevention Plan (SWPPP) and Spill Prevention, Control and Countermeasure (SPCC) plan for the Airport property. The Authority has various plans and procedures to address potential spills at the Airport. These include measures to minimize the impacts of potentially contaminated stormwater on receiving bodies.

The Proposed Project would not generate a considerable amount of hazardous materials or solid waste. Much of the land clearing and construction waste generated will be recycled; however, some wastes may be diverted to permitted landfills with adequate capacity. The Proposed Project would not enable new activity types and would not result in new types of solid waste generated or hazardous materials in use at VQQ. Based on the analysis in the EA, no significant impacts related to hazardous materials, solid wastes, and pollution are anticipated.

Historical, Architectural, Archeological and Cultural Resources – There are no resources listed on the National Register of Historic Places (NRHP) within the EA's Study Areas. The nearest National Register-listed resource is the William Clarke Estate, located 11.5 miles southeast of the study areas. The closest Florida historical marker, the Fort Heilman historical marker, is located about 10 miles south of the study areas. There are no standing structures with the APE, and this was confirmed by field investigations. A query of the Florida Master Site File (FMSF) database identified no historic resources within or nearby the study areas.

In August 1995, a Cultural Resource Assessment was conducted for the entire Airport property as part of the Cecil Field Navy Base closure and transfer of the property to the

Jacksonville Port Authority. An *archaeological sensitivity assessment* was included in the overall Assessment and contained background research and a field investigation to identify any potential archaeological sensitive areas at the Airport. The Assessment concluded that there were no known archaeological sites existing at the Airport. Although historically sensitive areas were identified within the Airport property, none of these historically sensitive areas are within the study areas. Based on the previous research conducted, the FAA Proposed Action and overall Proposed Project would not affect historic architectural, archaeological, and cultural resources.

Land Use – The Proposed Project would occur entirely on airport property. The City of Jacksonville classifies the existing land use as mixed use. The Proposed Project would be consistent with future Airport plans and would not cause any land use incompatibilities or inconsistencies with off-Airport local land use plans.

Natural Resources and Energy Supply – Construction of the project would require using aggregate, sub-base materials, paving materials, and utility cables. Construction of the Proposed Project would also result in temporary increased usage of energy supplies. Trucks and construction equipment would consume fuels as needed for construction purposes. However, it would not create a demand for construction materials that would be in short supply, produce scarcity of high-commodity resources, or deplete rare or valuable sources of raw materials unique to the area. Operationally, the Proposed Project would create additional demand for water supply and electricity at VQQ. The Proposed Project's utility corridor includes a water main, sanitary gravity sewer, sanitary force main, and new sanitary pump station, and an electrical duct bank for JEA electric service. These additional services would result in a slight increase in water and electrical utilities consumed by the Airport. The increase in energy and wastewater needs will not exceed available supplies. The implementation of the Proposed Project is not expected to exceed current or future energy supplies. Based on the analysis in the EA, the FAA Proposed Action and overall Proposed Project would not have a significant impact on natural resource or energy supplies.

Noise and Noise-Compatible Land Use – Construction noise would temporarily increase sound levels in the immediate vicinity of the construction and land clearing activities. Land clearing and grading operations are the noisiest, with such equipment generating noise levels as high as 70 to 95 dB within 50 feet of their operation. The distance between the Direct Study Area and the nearest noise sensitive site, a residential development, is greater than one mile. The potential noise impact associated with the operation of machinery on-site would be temporary and can be reduced using construction timing and staging. To further minimize noise impacts, construction equipment would be maintained to meet manufacturers' operating specifications. In addition, contractors will follow all local land development codes and noise ordinances during construction of the Proposed Project. No changes to airport operational conditions or existing flight procedures at VQQ were proposed as part of the Proposed Project. Therefore, there is no significant noise impacts to not-compatible land uses because of the Proposed Project.

Socioeconomics, Environmental Justice, And Children’s Environmental Health and Safety Risks –The Proposed Project occurs entirely on airport property and would not result in the acquisition or relocation of any residences, schools, childcare centers, or other similar facilities. No schools or childcare facilities are in areas that would be affected by the Proposed Project. Based on the analysis in the EA, the FAA Proposed Action and overall Proposed Project would not result in any significant socioeconomic, Environmental Justice, and children’s health and safety risk impacts.

Impacts to surface transportation along 103rd Street and other surrounding roads are not expected. The Proposed Project would not change the number of operator vehicles traveling to or from the spaceport. The Proposed Project would not increase spaceport employees or the use of the spaceport at this time. Any impacts resulting from the spaceport being used by a future tenant will be assessed under a separate, future NEPA document. Therefore, the Proposed Project would not cause significant adverse impacts to surface transportation.

Visual Effects Including Light Emissions – The study areas are about ¾-mile south of 103rd Street. Due to existing dense vegetation and Airport structures, persons traveling along 103rd Street do not have a direct line of sight to the study areas during construction. The Proposed Project requires new overhead lighting on the entire road length once operational. Lighting will be directional and focused on vehicle movement areas. The existing vegetative buffers and distance to residential land uses surrounding the Airport property would reduce the possibility of light emissions. Therefore, the construction and operation of the Proposed Project would not result in a visual effect or additional light emissions that could create an annoyance or interfere with normal activities.

Water Resources (including Wetlands, Floodplains, Surface Waters, Groundwater, and Wild and Scenic Rivers)

Wetlands – Under the Clean Water Act, the U.S. Army Corps of Engineers (USACE) has the authority to regulate activities in waters of the U.S., including qualifying wetland areas. Approximately 19 acres of wetlands and about 0.3 acre of surface waters are within the study areas. Wetlands within the study areas drain into Sal Taylor Creek, which flows south into Black Creek, and ultimately into the St Johns River (Section 3.6.1.3 and Appendix B in the EA). Wetland types in the study areas include Wetland Forested Mixed, Vegetated Non-forested Wetlands, and Upland Cut Ditches. *Wetland Forested Mixed* wetlands represent a majority of wetland habitat present within the study areas. These wetland systems are mature, relatively undisturbed, and moderate to high in quality. At this time, it is assumed that all jurisdictional wetlands (18.42 acres) within the Proposed Project footprint would be affected (Figure 3-7 in the EA). As part of this EA process, a study of a range of reasonable alternatives, including different alignments for this roadway, was performed. No practicable alternative avoiding wetland impacts was identified.

All wetlands within the Direct and Indirect Study Areas are included within active and existing permits for both the USACE and St. Johns River Water Management District

(SJRWMD). Both permits authorize the use of the Cecil Mitigation Area to offset wetland impacts at Cecil Airport. Sufficient mitigation exists within the Cecil Mitigation Area to offset wetland impacts for both the SJRWMD and USACE.

Floodplains – Floodplains are lowland areas that are susceptible to flooding. A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) shows that approximately 16 acres of Zone AE Special Flood Hazard Area (SFHA) and 0.3 acre of Zone AE Regulatory Floodway will be directly affected by the Proposed Project. As part of this EA process, a study of a range of reasonable alternatives, including different alignments for this roadway, was performed. No practicable alternative avoiding floodplain impacts was identified.

Based on FEMA and NEPA guidance and DOT Order 5650.2, floodplain impacts were evaluated to determine the magnitude and potential effects of 100-year floodplain encroachment. The floodplain analysis in the EA (Appendix C) concluded that the Proposed Project would result in a minor increase in the 100-year flood elevation within allowable local requirements and a change in flood boundaries only on Airport property immediately following construction. Additionally, compensatory floodwater storage and equivalent flow conveyance via bridges or culverts would mitigate the impacts on the natural and beneficial floodplain values. Drainage system improvements would be designed to properly convey and store the stormwater associated with the new roadway. The improvements would be designed so the Proposed Project would not be expected to impede floodwater flows during major storm events. With these improvements, the Proposed Project is not expected to result in a measurable increase in flood elevation. The floodplain analysis in the EA showed that the rise remains within the banks of the existing channel upstream of the floodway culvert and does not encroach on existing structures within the study areas.

Additionally, the City of Jacksonville requires equivalent compensation for the fill placed in the floodplain to offset impacts. The Proposed Project incorporates floodplain compensation areas upstream and downstream of the east-west section to mitigate floodplain fill. The compensation areas were incorporated into the SWMM analysis. The Proposed Project would place approximately 50,000 cubic yards (CY) of fill in the floodplain. Due to the potential impact the Proposed Project would have on a floodway, a Conditional Letter of Map Revision (CLOMR) is being obtained concurrently through FEMA and the permit coordination is ongoing at the time of this FONSI.

The Proposed Project's floodplain encroachment would not cause loss of human life, and it would not cause future damage that could be substantially costly or widespread, including loss of a vital transportation facility. The encroachment would not have a notable adverse impact on natural and beneficial floodplain values. As a result, the Proposed Project does not exceed thresholds established for significant floodplain impacts. Therefore, the Proposed Project would not cause significant adverse impacts to floodplains.

Surface Waters and Groundwater – The Proposed Project would affect approximately 0.35 acre of surface waters. Approximately 0.09 acres of on-site surface waters would be regraded to improve stormwater conveyance and tie into the Proposed Project. The remaining 0.26 acres of surface water impacts would be culverted to maintain flow to Sal Taylor Creek. The Proposed Project stormwater system consists of swales and pipes for conveyance and stormwater management facilities to meet water quality and quantity requirements. Stormwater runoff would drain by sheet flow to swales and inlets, then be conveyed to four dry retention ponds and ultimately discharged to Sal Taylor Creek and its tributaries. The general drainage patterns of the direct study area would remain unchanged from the existing conditions. The treatment provided by the approved stormwater management facilities would protect the quality of surface water bodies and public drinking water supply and sustain federal, state, local, or tribal water quality standards.

The Proposed Project has the potential to exceed applicable water quality standards during construction. However, project specific BMPs and maintaining compliance with applicable permit requirements would minimize potential water quality impacts. As a result of these control measures, significant and long-term water quality impacts resulting from construction activities associated with the Proposed Project are not anticipated.

There is a possibility of the release of contaminants to groundwater during construction. However, project specific BMPs and Stormwater Pollution Prevention Plans (SWPPPs) to be designed for the Proposed Project would prevent or minimize the potential release of contaminants into groundwater. The BMPs and SWPPPs would require measures to prevent spills, offer swift response to accidental spills, and define acceptable on-site storage of fuel and lubricants. Given the availability of regionally accepted BMPs and the design of project-specific plans, the Proposed Project would not have a substantial impact on groundwater resources.

Based on the analysis in the EA, the Proposed Project is not likely to contaminate surface waters or aquifers used for public drinking water supply such that public health may be adversely affected. It will not adversely affect natural and beneficial surface water or groundwater resource values to a degree that substantially diminishes or destroys such values. Therefore, the Proposed Project would not significantly impact surface water or groundwater resources.

Wild and Scenic Rivers – The closest river designated under the National Wild and Scenic River System is the Wekiva River, located approximately 60 miles southeast of the study areas. The construction and operation of the Proposed Project would not affect wild and scenic rivers.

Cumulative Impacts – The past, present, and future cumulative projects identified in Section 3.7 of the EA have generated, or are anticipated to generate, low to moderate environmental impacts. The projects are subject to different environmental regulatory programs, some of which require mitigation to reduce impacts below levels considered

significant. The impacts associated with the Proposed Action, when considered in addition to other cumulative projects, are not expected to exceed thresholds that would indicate a significant impact.

OTHER FEDERAL, STATE, AND LOCAL ACTIONS AND PERMITS:

The Jacksonville Aviation Authority is required to obtain all permits and regulatory approvals necessary to implement the FAA Proposed Action and overall Proposed Project. The permits identified in the EA are listed below.

- St. Johns River Water Management District – Environmental Resource Permit
- Federal Emergency Management Agency – Conditional Letter of Map Revision (CLOMR)
- Florida Department of Environmental Protection – NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities & State 404 Individual Permit
- Florida Fish and Wildlife Conservation Commission – 10 or Fewer Burrows Permit
- City of Jacksonville – Local building and construction permits

CONSISTENCY WITH APPROVED PLANS OR LAWS: The FAA Proposed Action and overall Proposed Project is consistent with local plans and ordinances, as well as applicable plans, laws, and administrative environmental determinations of Federal, State, and local agencies. Federal, State, and local agencies (including the area’s regional planning agency) were notified of the Proposed Project during the public comment period of the EA. No objections or concerns regarding consistency with plans or laws were raised.

MITIGATION MEASURES: Mitigation for the Proposed Action is described more fully in the following sections of the EA: Section 3.2.2 for impacts to protected species, Section 3.6.2.2, and Appendix C for impacts to floodplains and wetlands. Mitigation to reduce impacts below a level indicating a significant impact under NEPA is not required. The EA also describes voluntary mitigation measures and Best Management Practices that the Authority and County can employ to ensure impacts are avoided or minimized.

PUBLIC INVOLVEMENT: Notification letters were sent to select Federal, State, and local agencies to inform them of the proposed Approach Road and preparation of the EA. This included submitting the proposed project to the Florida State Clearinghouse for coordinated state agency review.

The Draft EA was made available for review by the public, government agencies, and interested parties. The Draft EA was available online at the airport’s website for viewing and download. Copies of the Draft EA were also available at Cecil Airport’s administrative office, JAA’s administrative offices, and the Jacksonville Public Library Argyle Branch. A Notice of Availability (NOA) of the Draft EA was published in *The Florida Times-Union*

newspaper on May 24, 2023, and June 7, 2023. The comment period on the Draft EA opened on May 24, 2023, and closed on June 24, 2023. In addition, there was an option for commenters to request a public hearing in the NOA. No comments on the Draft EA or requests for a public hearing were received from Federal, State, or local agencies or the public.

FEDERAL FINDING OF NO SIGNIFICANT IMPACT: After careful and thorough consideration of the facts contained herein, the undersigned finds that the proposed Federal action is consistent with existing national environmental policies and objectives as set forth in Section 101 of NEPA and other applicable environmental requirements and will not significantly affect the quality of the human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of NEPA.

APPROVED: **BARTHOLOMEW
VERNACE**  Digitally signed by
BARTHOLOMEW VERNACE
Date: 2023.08.21 08:33:20 -04'00'

Bart Vernace, Manager, Orlando Airports District Office

DATE: August 21, 2023


DISAPPROVED: _____

DATE: _____

RECORD OF DECISION AND ORDER

I have carefully considered the FAA's statutory mandate to ensure the safe and efficient use of the national airspace system as well as the other aeronautical goals and objectives discussed in the EA. My review of the EA and determination regarding issuance of the FONSI included evaluation of the purpose and need that this proposed action would serve, the alternate means of achieving the purpose and need, the environmental impacts associated with these alternatives, and any mitigation necessary to preserve and enhance the human, cultural, and natural environment.

Under the authority delegated to me by the FAA Administrator, I find the FAA Proposed Action described in the attached EA is reasonably supported. I, therefore, direct that action be taken to carry forward the necessary agency actions discussed in the attached EA and FONSI.

APPROVED: **BARTHOLOMEW
VERNACE**  Digitally signed by
BARTHOLOMEW VERNACE
Date: 2023.08.21 08:34:00 -04'00'

Bart Vernace, Manager, Orlando Airports District Office

DATE: August 21, 2023

DISAPPROVED: _____

DATE: _____

Judicial Review

This Record of Decision (ROD) represents the FAA's final decision and approval for the actions identified in the EA and constitutes a final order of the FAA Administrator subject to review by the Courts of Appeal of the United States in accordance with the provisions of 49 U.S.C. § 46110.

FINAL

***ENVIRONMENTAL ASSESSMENT
FOR ON-AIRPORT ACCESS ROAD AND UTILITIES
CORRIDOR EXTENSION AT
CECIL AIRPORT (VQQ)
JACKSONVILLE, DUVAL COUNTY, FLORIDA***

Prepared for:
Jacksonville Aviation Authority

and

U.S. Department of Transportation
Federal Aviation Administration
As lead Federal Agency pursuant to the National Environmental Policy Act of 1969

Prepared by:
RS&H, Inc

August 21, 2023

This environmental assessment becomes a federal document when evaluated, signed, and dated by the responsible FAA official.

BARTHOLOMEW
VERNACE

Digitally signed by
BARTHOLOMEW VERNACE
Date: 2023.08.21 13:47:53 -04'00'

(Responsible FAA Official)

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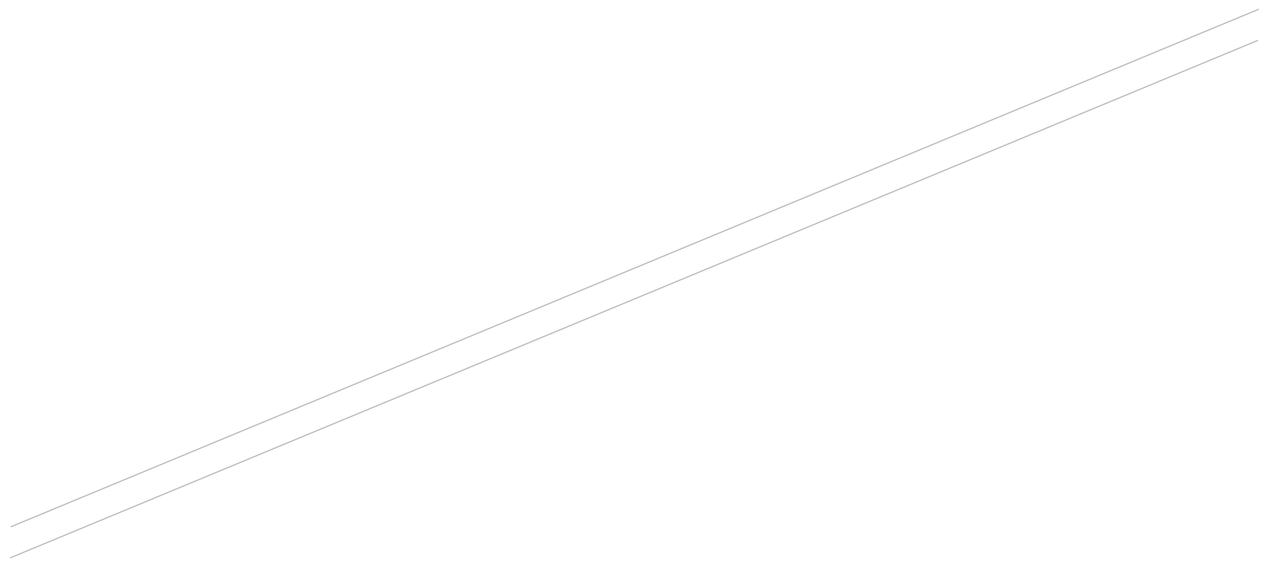
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1

*INTRODUCTION /
PURPOSE AND NEED*



The Jacksonville Aviation Authority (Authority) has a need to provide access to suitable facilities for commercial space transportation operators at Cecil Airport (Airport or VQQ). In November 2021, a grant provided through the Florida Job Growth Grant Fund, Space Florida, and the Florida Department of Transportation (FDOT) was awarded by the Governor of Florida to the Authority for the construction of an access road and utilities to the existing spaceport facilities at VQQ. The grant funding provides commercial space operators with improved access to and safer operations within the spaceport facilities. It ultimately promotes commercial space operations at the spaceport facilities. The Governor’s funding must be fully allocated by June 2024.

With an FAA-licensed spaceport (Launch Site Operator License #09-012) at VQQ, the Authority is following the statutory direction from Congress under the U.S. Commercial Space Launch Act, 51 U.S.C 50901(b), to “facilitate the strengthening and expansion of the United States space transportation infrastructure, including the enhancement of United States launch sites and launch-site support facilities, and development of reentry sites, with Government, State, and private sector involvement, to support the full range of United States space-related activities.”

The following sections characterize VQQ and describes the organization of this Environmental Assessment (EA). This chapter also serves to introduce the purpose of the project and describe why the project is needed at the Airport.

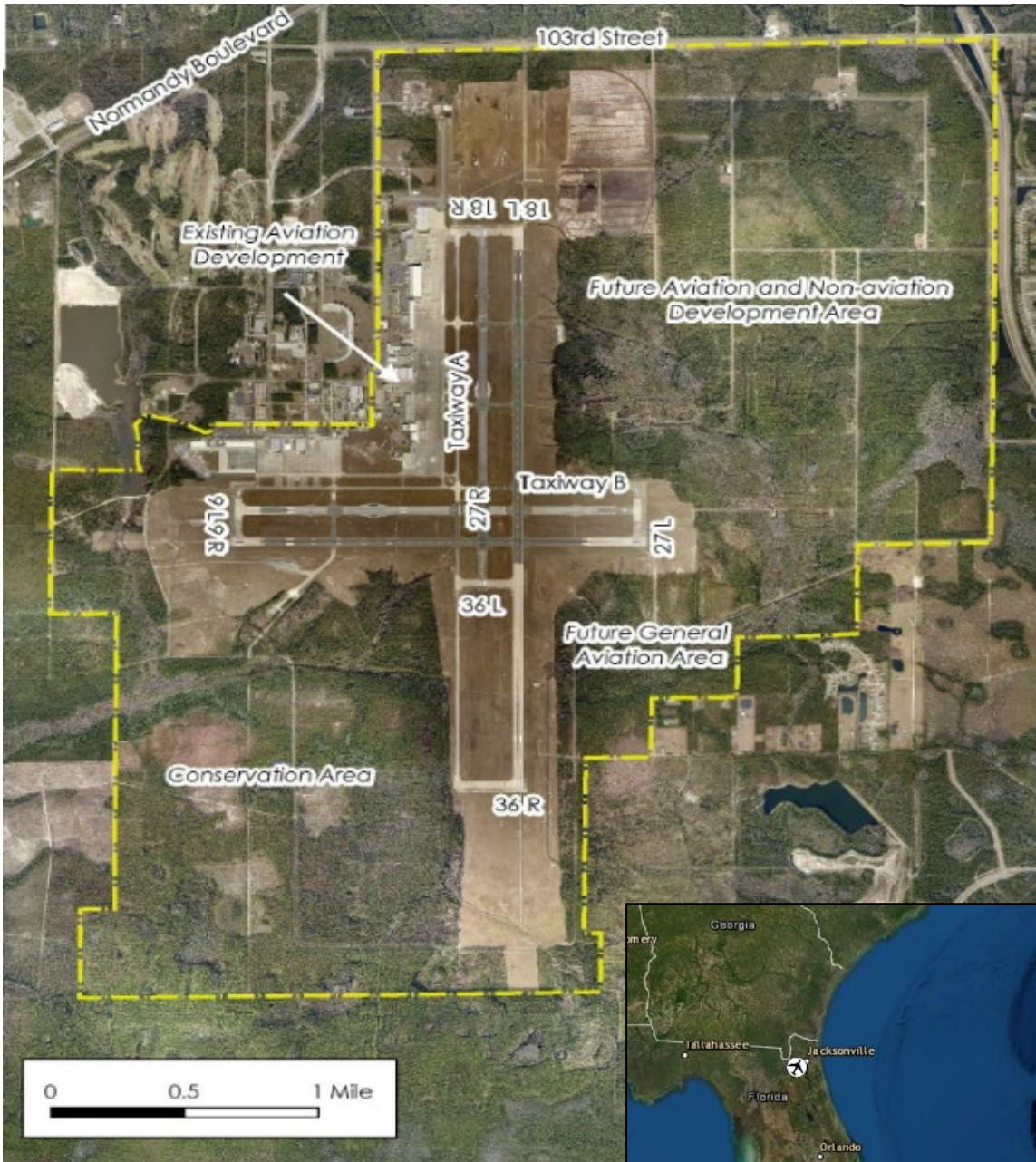
1.1 AIRPORT OVERVIEW

Cecil Airport opened as a military airfield (Cecil Field) to train and serve as a home base for U.S. Navy and Army aviators during World War II. It continued in a military role until 1999, when it was transferred to the Authority. Subsequently, the Authority changed the airport’s name to Cecil Airport and continues to manage it along with three other public-use airports in the Jacksonville area (JAA, Master Plan Update for Cecil Field, 2008).

Cecil Airport is about 6,000 acres located in Duval County, about 15 miles southwest of downtown Jacksonville (see **Figure 1-1**). The Airport has four runways, with the longest runway, Runway 18L/36R, measuring 12,503 feet (see **Figure 1-1**). **Table 1-1** shows data for Airport’s runways. The Airport can accommodate all general aviation aircraft and large military and commercial jet aircraft (FDOT, 2022).

The Airport is a vital component of the region’s economy. The Airport boasts an exceptional geographic location in northeast Florida that offers easy access to major highways (e.g., Interstate 10 and Interstate 95). The Airport helps move the state and local economy by creating jobs, supporting business growth, and connecting markets around the world. The Airport’s economic impact supports 11,000 jobs which provides \$694 million in personal income, and its total economic output is approximately \$2.84 billion. The operation of the Airport is important in providing continued economic benefits to Duval County, the northeast Florida region, and the State (FDOT, 2021).

FIGURE 1-1: LOCATION MAP



Sources: ESRI, 2021; RS&H, 2021

This figure is not to scale and is for graphic purposes only

Legend

 Airport Location



TABLE 1-1: RUNWAY DATA

Runway Characteristic	18L / 36R	18R / 36L	9R / 27L	9L / 27R
Runway Length	12,503	8,002	8,003	4,439
Runway Width	200	200	200	200
Runway Edge Lighting	High Intensity		High Intensity	
Surface	Asphalt/Concrete			
Visual Slope Indicator	4-Light PAPI on left	None	4-Light PAPI on left	None
Approach Lights	None / MALSR	None	MALSR / None	None
Touchdown Point	Yes, no lights			
Runway End Identifier Lights	Yes / No	None	No / Yes	None

Source: (AirNav, 2022)

Notes: MALSR – Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
PAPI – Precision Path Indicator Lights

Aircraft operations at the Airport include corporate/business, general aviation, charter, flight training, recreational, and military flights. **Table 1-2** shows the Airport’s historical and forecast itinerant, local, and total operations from 2019 to 2027. The Airport is also an FAA-licensed horizontal launch commercial spaceport (Launch Site Operator License #09-012), providing the essential infrastructure for space-related businesses (FDOT, 2019).

TABLE 1-2: FAA TERMINAL AREA FORECAST FOR THE AIRPORT’S OPERATIONS

Year	Itinerant Operations	Local Operations	Total Operations	Based Aircraft
2019	31,394	62,006	93,400	84
2020	28,432	55,560	83,992	84
2021	31,284	55,958	87,242	84
2022	31,390	56,362	87,752	84
2023	31,497	56,772	88,269	84
2024	31,603	57,188	88,791	84
2025	31,710	57,611	89,321	84
2026	31,768	58,040	89,808	84
2027	31,827	58,475	90,302	84

Source: (FAA, 2022)

The Airport is recognized for its ability to support aircraft flight testing. It is established as an emergency staging area during natural disasters. The Airport and its facilities provide for military exercises, routinely hosts squadrons on training missions, and supports various general aviation and industrial activities.

Table 1-3 lists the Airport’s major tenants.

TABLE 1-3: MAJOR AIRPORT TENANTS

Tenant	Description
Flightstar Aircraft Services	Maintenance, repair, and overhaul of various types of heavy aircraft.
The Boeing Company	Modification of aircraft for the U.S. Navy and Marine Corps.
LSI	Provides computer-based simulation and training support to the Department of Defense and the commercial aviation industry.
Florida Army National Guard - Army Aviation Support Facility	CH-47 Chinooks, UH-60 Blackhawks, and OH-58 Kiowas helicopters are aiding the Guard's mission.
U.S. Coast Guard Helicopter Interdiction Tactical Squadron	Coast Guard's armed aviation unit was developed in 1998 to counter seaborne drug trafficking.
Naval Air Systems Command (NAVAIR)	Overhaul, repair, and modify aircraft, engines, avionics, and aeronautical components and maintenance of Boeing F-18s.
Florida State College at Jacksonville	FAA-certified Part 147 program where students train to become Airframe and Powerplant mechanics.
Million Air	Fixed-Based Operator.
U.S. Customs and Border Patrol	A detachment of P-3 surveillance and interdiction aircraft.

Source: (JAA, 2022)

1.2 PURPOSE AND NEED

The purpose and need provides the foundation for identifying intended results or benefits and future conditions. In addition, the purpose and need defines the range of reasonable alternatives to a proposed action.

The following sections describe the purpose and need for the Proposed Project (described in **Chapter 2**) in accordance with FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*.

1.2.1 Need

Cecil Airport served as a Naval Air Station from 1943 through 1999. As a Naval Air Station, the U.S. Navy developed a road network on the east side of the airfield to access storage bunkers. After the U.S. Navy transferred the property to the City of Jacksonville in 1999, the eastside network of access roads was sporadically maintained. For a commercial space transportation operator to access the current spaceport facilities from 103rd Street, they must travel approximately 2.5 miles via this original network of roads. It is challenging for tenants to access the spaceport hangar and its facilities because they are transporting large equipment on semi-trucks that are not supported by the existing road network. Therefore, the semi-trucks must traverse the Airport Operations Area (AOA) movement area to access the spaceport. This requires them to communicate with and be under the control of the ATCT staff. Combining semi-trucks and other vehicle traffic with aircraft operations causes a safety concern for aviation tenants and pilots using the airfield. Recent inspections have shown that the existing network of on-Airport access roads has continued to deteriorate. The access roads are narrow and overgrown with vegetation. The road conditions have potholes, inadequate cross-sections, reduced load limits, and poor pavement conditions (see **Figure 1-2**).

FIGURE 1-2: EXISTING EASTSIDE AIRPORT ACCESS ROAD CONDITIONS



Source: ERS, 2022.

The existing roadway system cannot structurally support semi-trucks used by commercial space transportation operators. The narrow roads do not provide the necessary clearance or turning radii for the design vehicles. As previously stated, this requires semi-trucks or other large vehicles to cross the airfield to gain access to the spaceport facilities, which is a safety concern. In addition, the existing roads lack basic safety signage and signalization. There are no existing utilities along these access roads for streetlights, pavement markings, or street signs to direct drivers.

Finally, the existing spaceport hangar does not have access to a water supply for its fire suppression system. According to the City of Jacksonville Fire Marshall's Office, the closest fire hydrant is approximately 5,000 feet from the spaceport hangar. Without a fire suppression system, the Authority can only use the spaceport hangar for aircraft storage. The Authority has a City of Jacksonville fire code variance that states the spaceport hangar must maintain two compressed air portable foam dispensing fire suppression carts. However, without a working fire suppression system, the Authority is unable to provide space operators the opportunity to operate safely from Cecil Spaceport.

Generating revenue from a leased spaceport hangar would help the Airport to become more self-sufficient and support its statutory responsibilities. Grant Assurance 24 requires that an airport sponsor (i.e., the Authority) maintain a fee and rental structure for the facilities and services at the Airport to be as self-sustaining as possible. The Airport is a vital component of the local economy, and the Authority supports the aviation and commercial space transportation industries.

1.2.2 Purpose

The purpose of the Proposed Project (see *Chapter 2*) is to ensure continued safe airport operations by providing reliable vehicular access to the established spaceport facilities and preventing large trucks from crossing the airfield. In addition, the project's purpose is to connect a water supply utility line to the spaceport hangar for the fire suppression system, to remove the City's variance, and provide commercial space operators the ability to safely use the spaceport hangar.

1.3 AGENCY AND PUBLIC INVOLVEMENT

An early notification letter announcing the project was distributed to various federal, state, and local agencies on May 20, 2022. The early notification letter was initiated to:

- » provide the agencies with information about the project;
- » inform the agencies who may have an interest in the project;
- » inform the agencies whom the project may affect;
- » obtain feedback from those agencies about the project; and
- » provide the agencies with an opportunity for early comments.

The early notification letter is in *Appendix A*, along with a list of the agencies contacted.

1.4 OTHER ENVIRONMENTAL REQUIREMENTS

Table 1-4 summarizes environmental permits and other requirements that may be necessary.

TABLE 1-4: ENVIRONMENTAL PERMITS AND OTHER REQUIREMENTS

Permit / Requirement	Agency
FEMA Conditional Letter of Map Revision (CLOMR)	Federal Emergency Management Agency
Individual Environmental Resource Permit	St. Johns River Water Management District
Gopher Tortoise Relocation Permit	Florida Fish and Wildlife Conservation Commission
Civil Review Plan	City of Jacksonville
National Pollutant Discharge Elimination System (NPDES) Construction Generic Permit (CGP)	Florida Department of Environmental Protection
State 404 Individual Permit	Florida Department of Environmental Protection
Site Work Permit	City of Jacksonville

Source: RS&H, 2022.

1.5 FEDERAL ACTION

The federal action, which is the approval of an updated Airport Layout Plan (ALP), for this EA is the release of obligations to change the land use of this corridor from aeronautical to non-aeronautical. While the road and utilities are not part of the federal action, they depend upon the federal action and therefore are considered in the analyses. The federal action is also to ensure that the project does not adversely affect the safety, utility, or efficiency of the Airport. Pursuant to 49 U.S.C. § 47107(a)(16), the FAA Administrator (under authority delegated from the Secretary of Transportation) must approve any revisions or modifications to an ALP before a revision or modification takes effect.

1.6 DOCUMENT ORGANIZATION

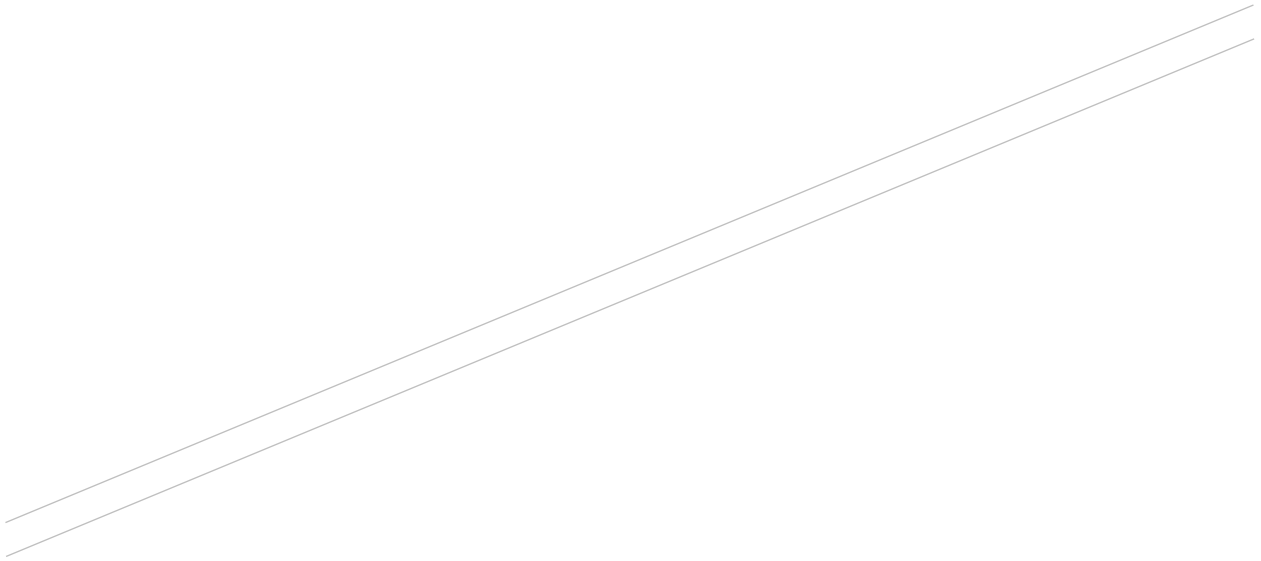
This EA is structured to follow the document format described in FAA Orders 1050.1F and 5050.4B. In addition, this document follows the 2020 Council on Environmental Quality (CEQ) National Environmental Policy Act Implementing Regulations regarding an EA not exceeding 75 pages¹, not including appendices. (CEQ, 2020). **Table 1-5** lists the EA's chapters and describes the information contained within each.

¹ "Page" means 500 words and does not include explanatory maps, diagrams, graphs, tables, and other means of graphically displaying quantitative or geospatial information.

TABLE 1-5: DOCUMENT ORGANIZATION

Chapter	Description
Chapter 1: Introduction / Purpose and Need	This chapter provides an overview of the Airport and discusses the purpose and need of the project.
Chapter 2: Proposed Project / Alternatives	This chapter presents a description of the No Action Alternative, Proposed Project, and a description of each of the alternatives considered in this EA.
Chapter 3: Affected Environment / Environmental Consequences	This chapter presents an overview of the existing environment in the EA's study areas. It also describes the project's effects on each environmental resource identified in the FAA Order 5050.4B.
Chapter 4: List of Preparers	This chapter lists the FAA, Authority, Airport, and consulting associates who researched, wrote, reviewed, and documented the EA
Chapter 5: References	This chapter identifies the reference materials used to prepare the EA.
Appendices	The appendices present relevant material, exhibits, and technical reports developed to prepare the EA.

Source: RS&H, 2022.



2

ALTERNATIVES



This chapter describes the alternatives and summarizes the screening process and evaluation criteria used to identify, compare, and evaluate the alternatives. Council on Environmental Quality (CEQ) regulations (Title 40 Code of Federal Regulations [C.F.R.] Section 1502.14) regarding the implementation of the National Environmental Policy Act (NEPA) require that federal agencies perform the following tasks:

- » Rigorously explore and objectively evaluate all reasonable alternatives and, for alternatives which were eliminated from detailed study, briefly discuss the reasons for elimination;
- » Devote substantial treatment to each alternative considered in detail, including the Proposed Action, so that reviewers may evaluate their comparative merits;
- » Include reasonable alternatives not within the jurisdiction of the lead agency; and
- » Include the alternative of No Action.

As stated in FAA Order 5050.4B, paragraph 706 (d)(7), an alternative can be eliminated from further consideration when the alternative has been judged “not reasonable.” Whether a proposed alternative is reasonable depends, in large part, upon the extent to which it meets the purpose and need for the Proposed Action (FAA Order 1050.1F, paragraph 7-1.1[e]). As discussed above, 40 C.F.R. 502.14(c)[2020] requires the evaluation of the No Action alternative regardless of whether it meets the stated purpose and need or is reasonable to implement.

2.1 OVERVIEW OF THE ALTERNATIVES SCREENING PROCESS

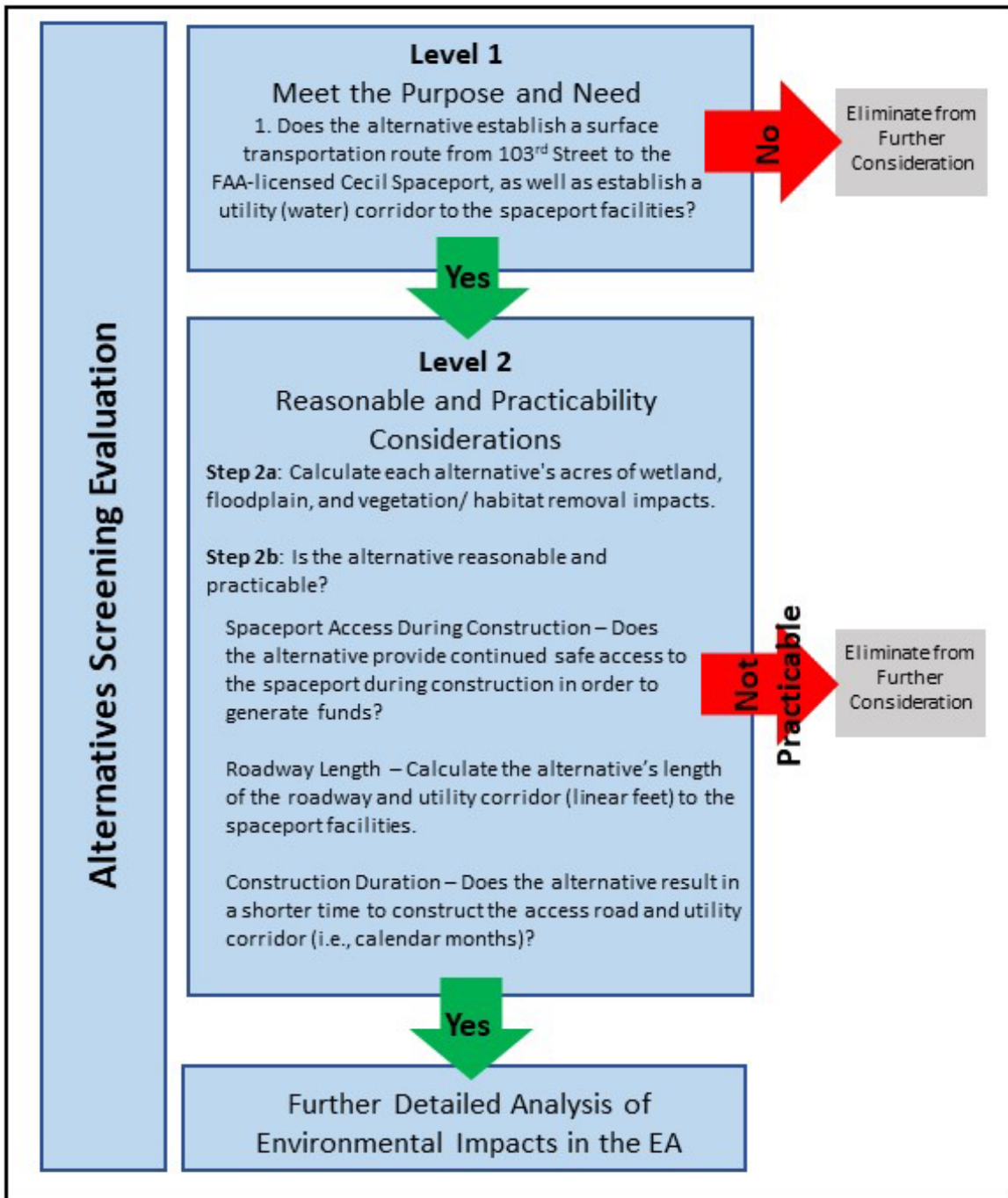
The alternatives evaluation involves a two-level screening process. *Figure 2-1* depicts this screening process. The first level addresses whether the alternatives meet the purpose and need for the Proposed Action as identified in *Chapter 1*, Purpose and Need. The second level is to determine whether each alternative was practicable and reasonable regarding comparative safety, environmental, or economic consequences.² The second level of evaluation is a 2-step process. Step 2a compares each alternative’s potential acreage impacts to wetlands, floodplains, and vegetation/habitat removal. Step 2b evaluates whether the alternative is reasonable and practicable. Step 2b compares each alternative’s ability to provide continued safe access to the spaceport, the linear feet of roadway/utility corridor length, and the ability to meet the construction duration. Alternatives that did not meet the evaluation criteria established at levels one or two were eliminated from further consideration and were not subject to a detailed analysis of environmental impacts in this EA.

2.1.1 Level 1: Meet the Purpose and Need

The first level of this evaluation focused on whether an alternative met the purpose and need of the Proposed Project as described in *Chapter 1*. The alternative must establish a surface transportation route for large semi-trucks from 103rd Street to the spaceport without crossing the airfield. In addition, the alternative must establish a utility (water) infrastructure corridor to the spaceport facility for the fire suppression system, which would remove the City’s fire code variance, provide commercial space operators the ability to safely operate out of the spaceport hangar, and generate funding (through a lease agreement) for the Authority.

² CEQ. (2022, April 20). 87 Federal Register 23458

FIGURE 2-1 ALTERNATIVES SCREENING PROCESS



Source: RS&H, 2022



Alternatives not meeting the purpose and need criteria were eliminated from further consideration. To determine whether the alternative meets the purpose and need for the Proposed Project, the following evaluation criteria are employed.

Evaluation Criteria:

- » ***Meets the purpose and need*** - the alternative must establish a safe surface transportation route to the FAA-licensed spaceport facilities to avoid crossing the airfield with large semi-trucks. The alternative must also provide a water supply utility (water) corridor for the spaceport hangar's fire suppression system and remove the City's fire code variance.

2.1.2 Level 2: Reasonable and Practicability Considerations

The second level of this evaluation is a 2-step process focusing on whether the alternative is technically feasible and practicable in terms of comparative safety, policy, environmental, social, or environmental consequences.

Step 2a: What are the potential wetland, floodplain, and vegetation removal acreages of each alternative?

Wetland and floodplain impacts are unavoidable, given the location of Cecil Spaceport relative to 103rd Street. Executive Order (EO) 11990, Protection of Wetlands, states that federal agencies (e.g., the FAA) should avoid, to the greatest extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and should avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Impacts should only be allowed if there is no practicable alternative to a proposed action and when a proposed action includes all practicable measures to minimize harm to wetlands. EO 11988, Floodplain Management, requires federal agencies to avoid, to the greatest extent possible, the long- and short-term adverse effects associated with the use and/or modification of the 100-year floodplain and to avoid direct or indirect development in the floodplain wherever there is a practicable alternative.

The potential wetland, 100-year floodplain, and vegetation/habitat removal acreages of the on-Airport access road development alternatives were calculated.

Step 2b: Is the alternative reasonable and practicable?

To determine whether the alternative is reasonable and practicable, the following Step 2b evaluation criteria were employed.

Spaceport Access During Construction - Each alternative was evaluated for the spaceport operators' ability to safely access the spaceport during construction. Providing continued access to the spaceport during construction is important to maintain the operator's safe access to/from the facility. Providing continued safe access to the spaceport includes not crossing the airfield to access the spaceport during construction. If the alternative requires operators to cross the airfield during construction, then the alternative is not maintaining a safe surface transportation route to the FAA-licensed spaceport facilities. Also, restricting a spaceport operator's access during construction would impede the

Authority's use of the spaceport hangar as an aircraft storage facility and not generate funds for the Authority.

Roadway Length - Each alternative's length of an access road and utility corridor were calculated and compared. The shorter the roadway/utility corridor (linear feet) to the spaceport facilities, the more reasonable and practicable the alternative. A shorter roadway/utility corridor would reduce access road materials (e.g., stabilization, base course, structural course/asphalt), utility conduits, and fewer stormwater ponds needed to construct the alternative.

Construction Duration - The Proposed Project and alternatives construction durations were also considered. The shorter time to construct the access road and utility corridor (i.e., calendar months), the more reasonable and practicable the alternative because the Florida Department of Economic Opportunity grant stipulates the alternative must be operational by June 2024.

If the Level 2 analysis describes an alternative as not reasonable and practicable, it was not carried forward for further environmental consideration in this EA.

2.2 ALTERNATIVES CONSIDERED AND EVALUATED

This EA identified four alternatives, not including the Proposed Project: a No Action Alternative and three build alternatives. The following sections describe and evaluate the No Action Alternative, Proposed Project, and alternatives.

2.2.1 No Action Alternative

Under the No Action Alternative, the project (i.e., a new access road and utility corridor extension) would not be constructed. This alternative would not involve airside, landside, or surface transportation improvements beyond those already programmed or that the Airport will undertake for safety, security, or maintenance reasons.

The No Action Alternative would not satisfy the Purpose and Need for the project because it would not provide improved and safer access to the spaceport. Although the No Action Alternative does not meet the criteria associated in Step 1 of the screening process, it is being retained for environmental baseline comparative purposes and to fulfill CEQ regulations (40 CFR Part 1502) implementing NEPA, and to comply with FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*. The No Action Alternative, required by 40 CFR 1502.14(d), serves as a baseline to compare the impacts of any reasonable alternatives considered.

2.2.2 Proposed Project

The Proposed Project is the construction and operation of improved and new two-lane public access road that would extend Approach Road south to the spaceport. Approximately 3,600 feet of existing Approach Road would be reconstructed. Construction would start about 2,300 feet south of 103rd Street to the site of the existing lift station, as this would be the shortest route for utility infrastructure and connection to the existing pump station with minimal disturbance outside of the Proposed Project limits. The Proposed Project would construct 4,450 feet of new roadway from the lift station area to the

spaceport hangar. This alternative includes a 4,000-foot extension of the water utility line from the existing lift station to the spaceport hangar and a new gravity sanitary line, sanitary force main, and electrical duct bank. The 4,000 foot long gravity sanitary line gravity feeds into the proposed pump station. This pumps to the existing pump station, then out to 103rd street to JEA's mainline wastewater system. Due to the elevation of the roadway, the 1,400 foot long sanitary force main connects the proposed lift station to the existing lift station. The 4,500 foot long electrical duct bank would be used to power the proposed lift station and provide streetlights and power to the spaceport development area. Four stormwater ponds totaling approximately 3.7 acres capturing rainfall runoff would also be constructed. The proposed layout of the Proposed Project is shown in *Figure 2-2*.

The Proposed Project would meet the Level 1 Purpose and Need criteria by establishing a surface transportation route from 103rd Street to the spaceport. This alternative would allow an operator's large semi-trucks to avoid crossing the airfield. This alternative would also provide a utility water supply to the spaceport hangar. Since the Proposed Project met the Level 1 Purpose and Need criteria, it was carried to Level 2 analysis.

The Proposed Project would affect approximately 20 acres of vegetation/habitat, approximately 18 acres of wetland, and approximately 16 acres of Zone AE floodplain. The Proposed Project would maintain current access to the spaceport during construction.

Following standard roadway engineering practices, the Proposed Project would be constructed in 14 months and completed prior to the June 30, 2024 grant deadline.³ The construction time includes designing the roadway, clearing vegetation, roadway fill, paving the road, constructing stormwater ponds, and completing the utility (water) infrastructure corridor to the spaceport hangar. Compared to the other alternatives, the Proposed Project would have the least amount of roadway and the shortest construction duration. The Proposed Project meets the Level 2 criteria as reasonable and practicable and therefore retained for further evaluation in this EA.

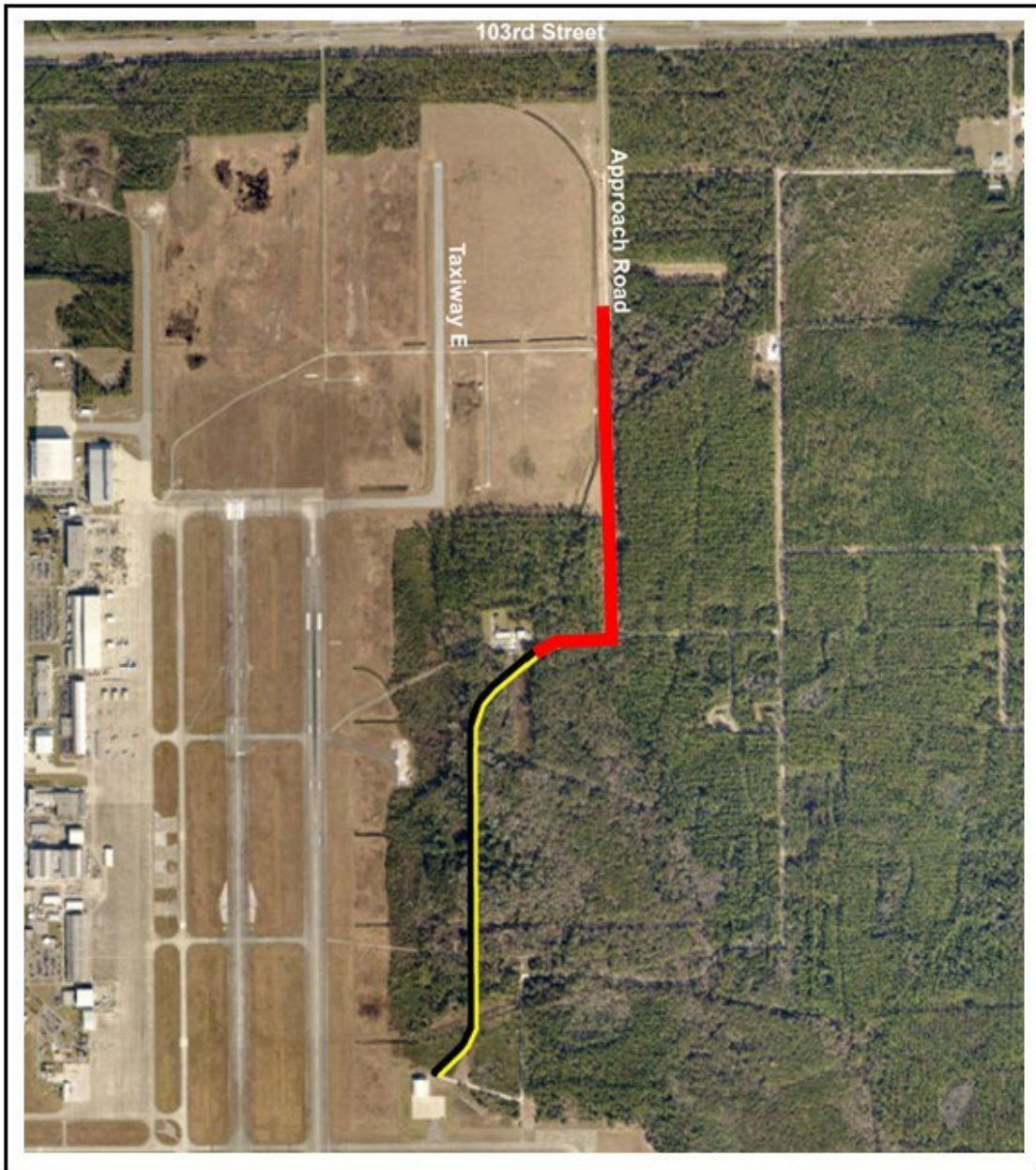
2.2.3 Alternative 1

As shown in *Figure 2-3*, Alternative 1 includes a 12,900-foot-long new on-Airport access road and utility corridor from 103rd Street to the spaceport hangar. The Alternative 1 new access road entrance along 103rd Street is about 3,000 feet east of the existing Approach Road. Alternative 1 requires construction of the utility corridor from the spaceport to 103rd Street because there is no reasonable connection point to the existing lift station. Stormwater ponds totaling approximately 10.6 acres along the 12,900-foot alignment would also be constructed to capture rainfall runoff.

Alternative 1 would meet the Level 1 Purpose and Need by establishing a surface transportation route from 103rd Street to the spaceport. This alternative would allow an operator's large semi-trucks to avoid crossing the airfield. This alternative would also provide a utility water supply to the spaceport hangar. Since Alternative 1 met the Level 1 Purpose and Need criteria, it was carried to Level 2 analysis.

³ For all alternatives, time has been incorporated into the estimated construction schedules due to the expectation that existing unsuitable materials within the roadway section would be substantial and need to be removed and replaced with approved fill material.

FIGURE 2-2: PROPOSED PROJECT



Source: ESRI, 2022. RS&H, 2022

Not to scale and for graphic purposes only.

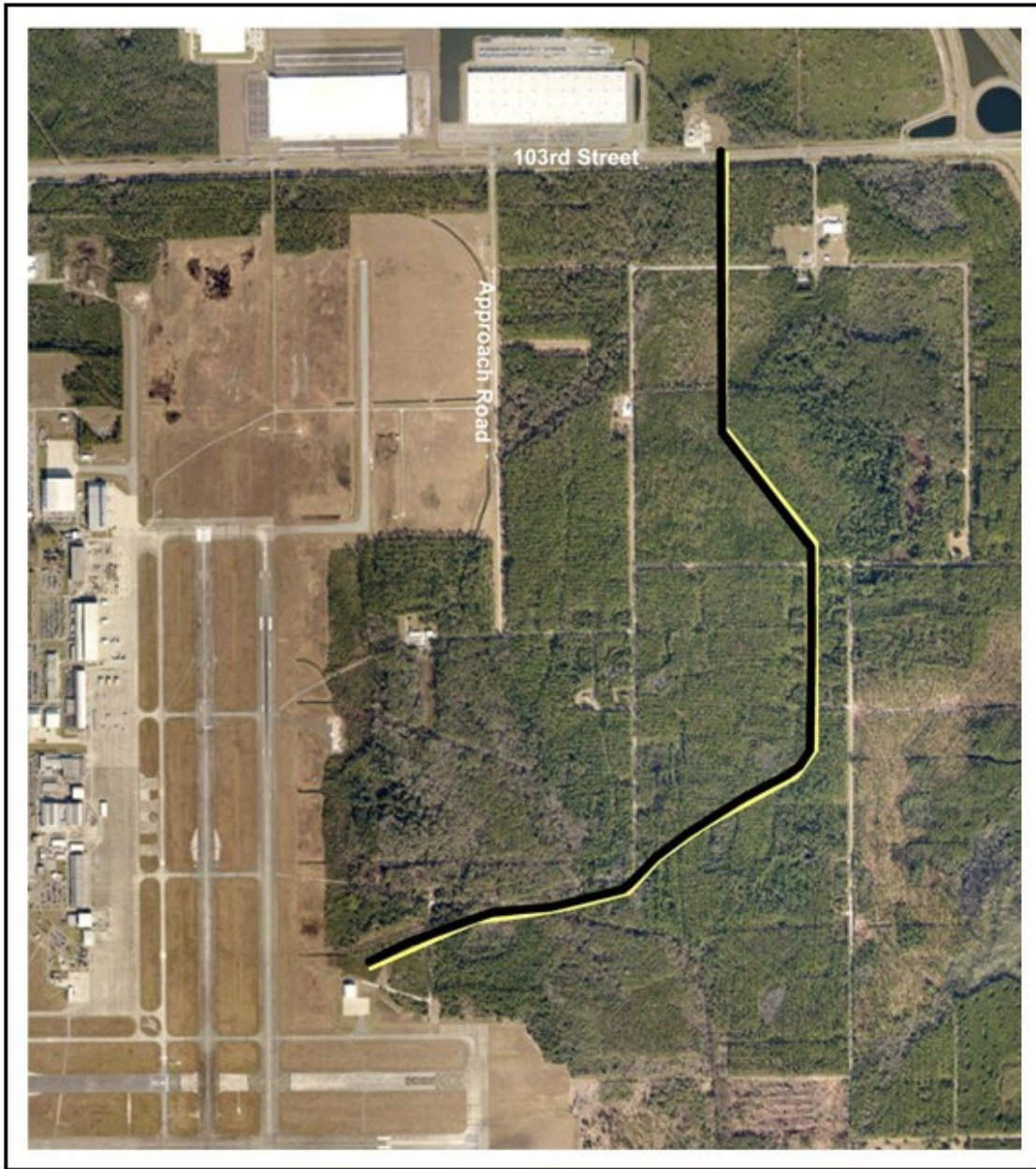


Legend

-  Approach Road Rehabilitation
-  New Approach Road
-  Utility Corridor



FIGURE 2-3: ALTERNATIVE 1



Source: ESRI, 2022. RS&H, 2022

Not to scale and for graphic purposes only.

Legend

-  New Approach Road
-  Utility Corridor



Alternative 1 would affect approximately 16 acres of vegetation/habitat and approximately 0.63 acre of a Zone AE floodplain. This alternative would not have any effect on wetlands. Alternative 1 would maintain current access to the spaceport during construction. Following standard roadway engineering practices, Alternative 1 would take approximately 24 months to complete. Compared to the Proposed Project, this additional construction time is due to designing the roadway and utility corridor, additional roadway fill, paving the road, and completing the utility corridor. Alternative 1 would exceed the June 2024 grant deadline by 10 months (April 2025). Due to this alternative's length of the roadway and utility corridor and the inability to achieve the June 2024 construction deadline, this alternative is not considered feasible and practicable. Therefore, Alternative 1 does not meet the Level 2 criteria and is eliminated from further consideration.

2.2.4 Alternative 2

As shown in **Figure 2-4**, Alternative 2 is the longest alignment and includes a 14,200 LF new access road and utility corridor from 103rd Street to the spaceport. Alternative 2 would include the construction of a new access road entrance along 103rd Street about 3,000 feet east of Approach Road and would use the same path and utility corridor lengths as the Proposed Project. Stormwater ponds totaling approximately 11.7 acres along the 14,200-foot alignment would also be constructed to capture rainfall runoff.

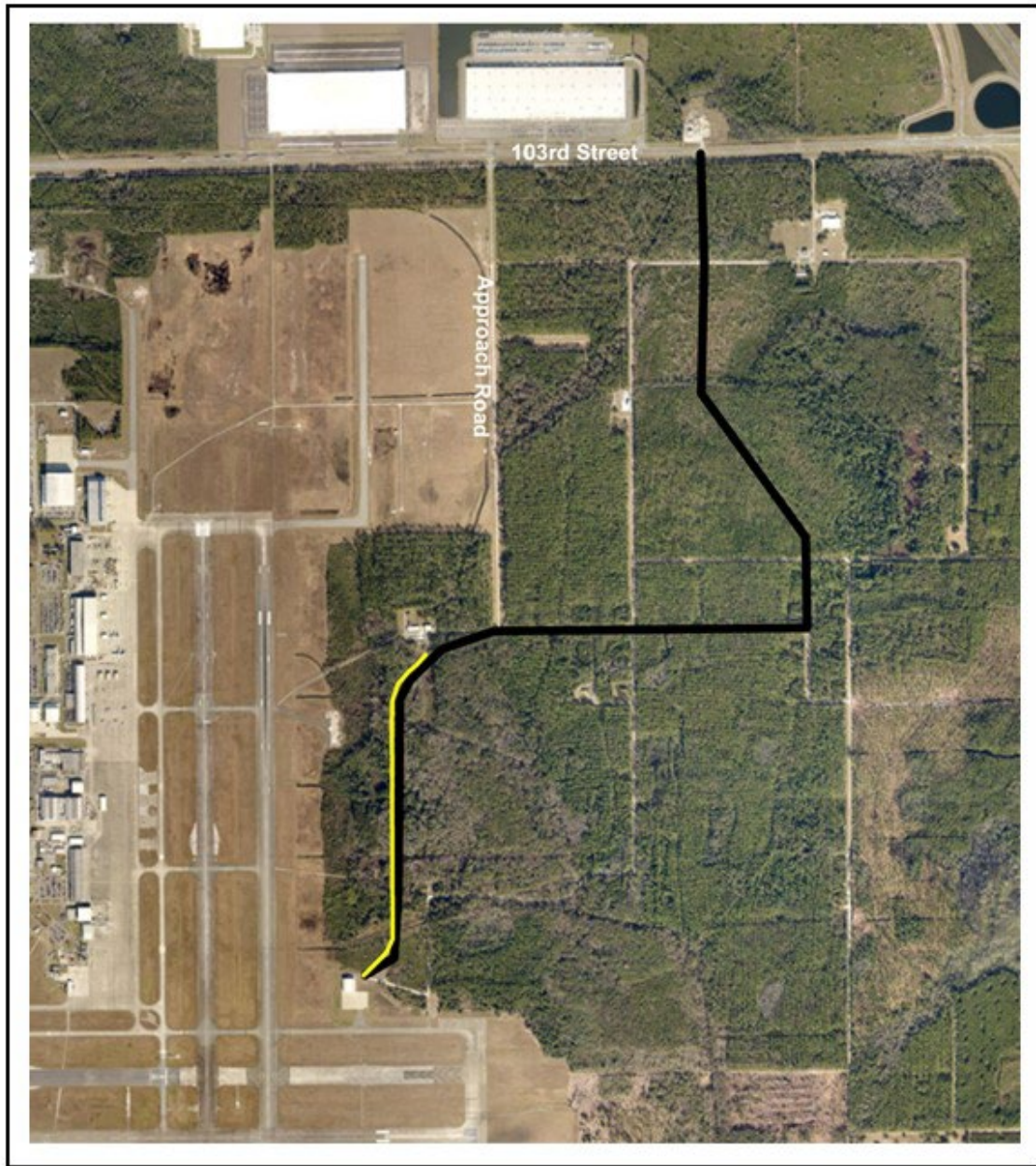
Alternative 2 would meet the Level 1 Purpose and Need by establishing a surface transportation route from 103rd Street to the spaceport. This alternative would allow an operator's large semi-trucks to avoid crossing the airfield. This alternative would also provide a utility water supply to the spaceport hangar.

Alternative 2 would affect approximately 20 acres of vegetation/habitat, 3.95 acres of wetlands, and 3.64 acres of the Zone AE 100-year floodplain. Alternative 2 would maintain current access to the spaceport during construction. Following standard roadway engineering practices, Alternative 2 could be constructed in 20 months. Compared to the Proposed Project, this additional construction time is due to designing the roadway and utility corridor, additional clearing, roadway fill, paving the road, and completing the utility corridor. Alternative 2 would exceed the June 2024 grant deadline by 6 months (December 2024). Due to this alternative's length of the roadway and utility corridor and the inability to achieve the June 2024 construction deadline, this alternative is not considered reasonable and practicable. Therefore, Alternative 2 does not meet the Level 2 criteria and is eliminated from further consideration in this EA.

2.2.5 Alternative 3

Figure 2-5 shows Alternative 3 includes an 11,000 LF rehabilitated on-Airport access road and utility infrastructure corridor. This alternative would also widen the road to 24 feet and increase the radii at all corners to accommodate truck traffic. Alternative 3 would include a 9,000-foot adjacent utility corridor to connect the site of the existing lift station to the spaceport. This alternative has a much larger road path between the existing lift station and the spaceport, therefore, the utility corridor is required to be longer to connect the spaceport to the existing pump station. Stormwater ponds totaling approximately 9.1 acres and ditches along the 11,000-foot alignment would also be constructed to capture rainfall runoff.

FIGURE 2-4: ALTERNATIVE 2



Source: ESRI, 2022. RS&H, 2022

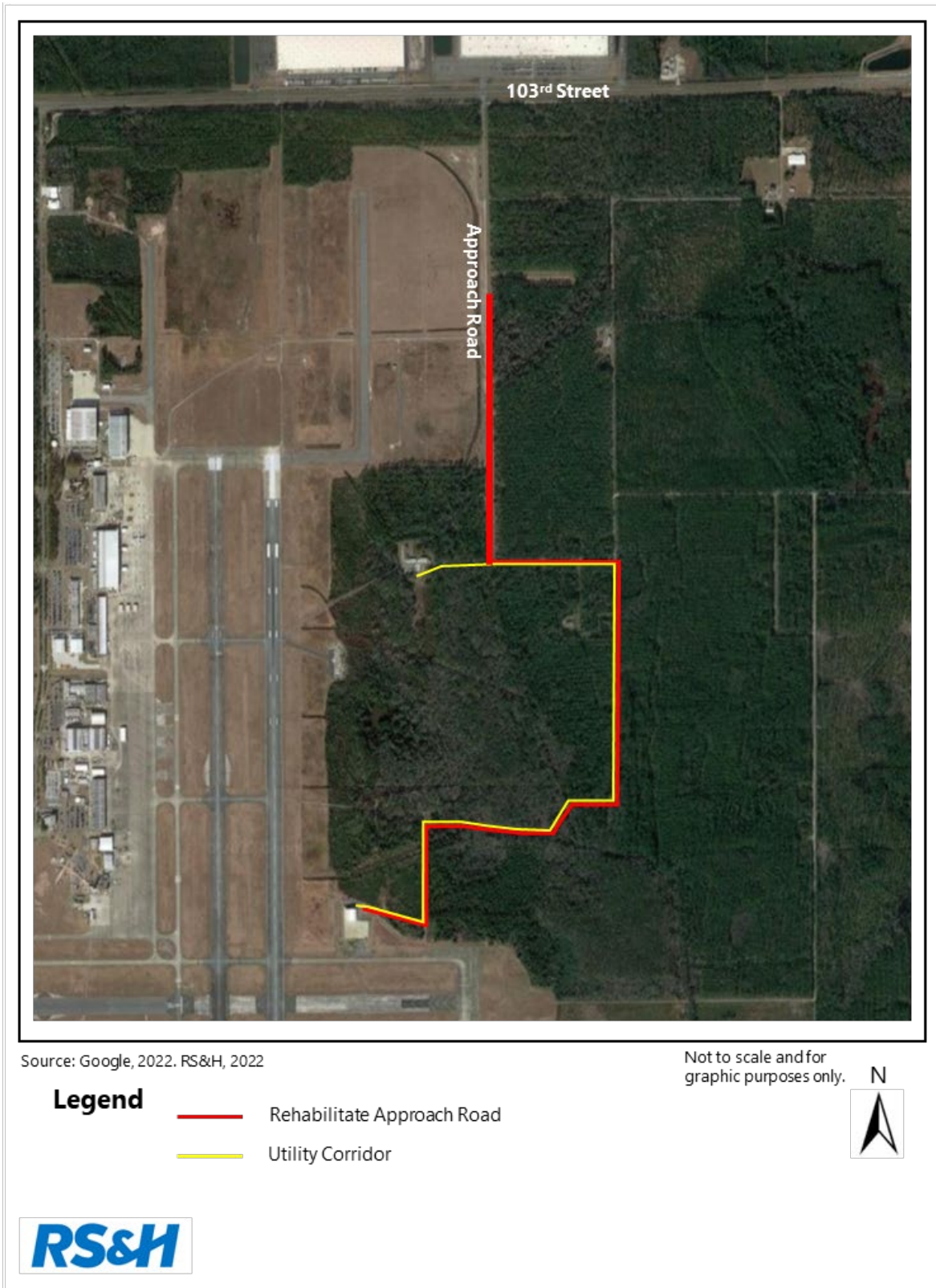
Not to scale and for graphic purposes only.

Legend

- New Approach Road
- Utility Corridor



FIGURE 2-5: ALTERNATIVE 3



Alternative 3 would meet the Level 1 Purpose and Need by establishing a surface transportation route from 103rd Street to the spaceport. This alternative would allow an operator's large semi-trucks to avoid crossing the airfield. This alternative would also provide a utility water supply to the spaceport hangar.

Alternative 3 would affect approximately 14 acres of vegetation/habitat, 0.29 acre of wetlands, and 2.36 acres of the Zone AE 100-year floodplain. Alternative 3 would not maintain current access to the spaceport during construction. Following standard roadway engineering practices, Alternative 3 could be constructed in 18 months. Compared to the Proposed Project, this additional construction time is due to designing the roadway and utility corridor, additional clearing, roadway fill, paving the road, and completing the utility corridor. Alternative 3 would exceed the June 2024 grant deadline by 4 months (September 2024). Due to this alternative's length of the roadway and utility corridor, inability to maintain current access to the spaceport, and inability to achieve the June 2024 construction deadline, this alternative is not considered feasible and practicable. Therefore, Alternative 3 would not meet Level 2 criteria and is eliminated from further consideration in this EA.

2.2.6 Alternatives Evaluation Summary

Table 2-1 summarizes the alternatives evaluation results and identifies the alternatives retained for further environmental analysis in **Chapter 3**.

TABLE 2-1: ALTERNATIVES EVALUATION SUMMARY

Criteria	No Action Alternative	Proposed Project	Alternative 1	Alternative 2	Alternative 3
Level 1: Purpose and Need					
<i>Does the Alternative Satisfy the Purpose and Need?</i>	N/A ¹	Yes	Yes	Yes	Yes
Level 2: Reasonable and Practicability Considerations					
Step 2a: What are the potential wetland, floodplain, and vegetation/habitat removal acreages?					
Vegetation Removal (acres)	0	20	16	20	14
Wetland Impacts (acres)	0	18.42	0	3.95	0.29
Floodplain Impacts (acres)	0	16	0.63	3.65	2.36
Step 2b: Is the alternative reasonable and practicable?					
Retains current access to the spaceport during construction	N/A	Yes	Yes	Yes	No
Length of roadway (in linear feet)	0	4,450	12,900	14,200	11,000
Length of utility corridor (in linear feet)	0	3,950	12,900	3,950	9,000
Construction Duration (months)	0	14	24	20	18
Meets the Grant Deadline	No	Yes	No	No	No
Is the alternative reasonable and practicable?	Yes¹	Yes	No	No	No
KEY					
Meets Screening Criteria					
Does Not Meet Screening Criteria					

Note: ¹ No Action Alternative for environmental baseline comparative purposes, to fulfill CEQ regulations (40 CFR Part 1502) implementing NEPA, and to comply with FAA Order 1050.1F, Environmental Impacts: Policies and Procedures, and FAA Order 5050.4B, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions.
Source: RS&H, 2022



3

*AFFECTED ENVIRONMENT AND
ENVIRONMENTAL CONSEQUENCES*



RS&H

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

As per the Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) Implementing Regulations 40 CFR Parts 1500 – 1508, dated 2020, FAA Orders 1050.1F *Environmental Impacts: Policies and Procedures*, and 5050.4B *National Environmental Policy Act Implementing Instructions for Airport Actions*, this chapter describes the existing environmental condition (i.e., Affected Environment) as well as environmental resources that the Proposed Project or its reasonable alternatives may affect compared to a No Action Alternative (i.e., Environmental Consequences).

Study areas were established for this Environmental Assessment (EA) to identify the environmental characteristics that may be directly or indirectly affected by the construction and operation of the Proposed Project. **Figure 3-1** shows the Direct and Indirect study areas. The Direct Study Area is where the Proposed Project's ground-disturbing activities and immediate impacts would occur. The Indirect Study Area is comprised of the area adjacent to the Direct Study Area that has the potential to have secondary effects on wetlands and floodplains.

The environmental analyses in this chapter are consistent with FAA Orders 1050.1F and 5050.4B and discloses the potential impacts for the projected future conditions in 2024. The EA uses 2024 as a basis for analysis because 2024 is the projected opening year for the Proposed Project.

To evaluate potential impacts, the analyses in this chapter overlay the components of the Proposed Project and No Action Alternative onto the conditions within the study areas (see **Figure 3-1**) for each environmental impact category presented. All environmental resources categories described in the FAA Orders 1050.1F and 5050.4B Desk References have been assessed for potential impacts.

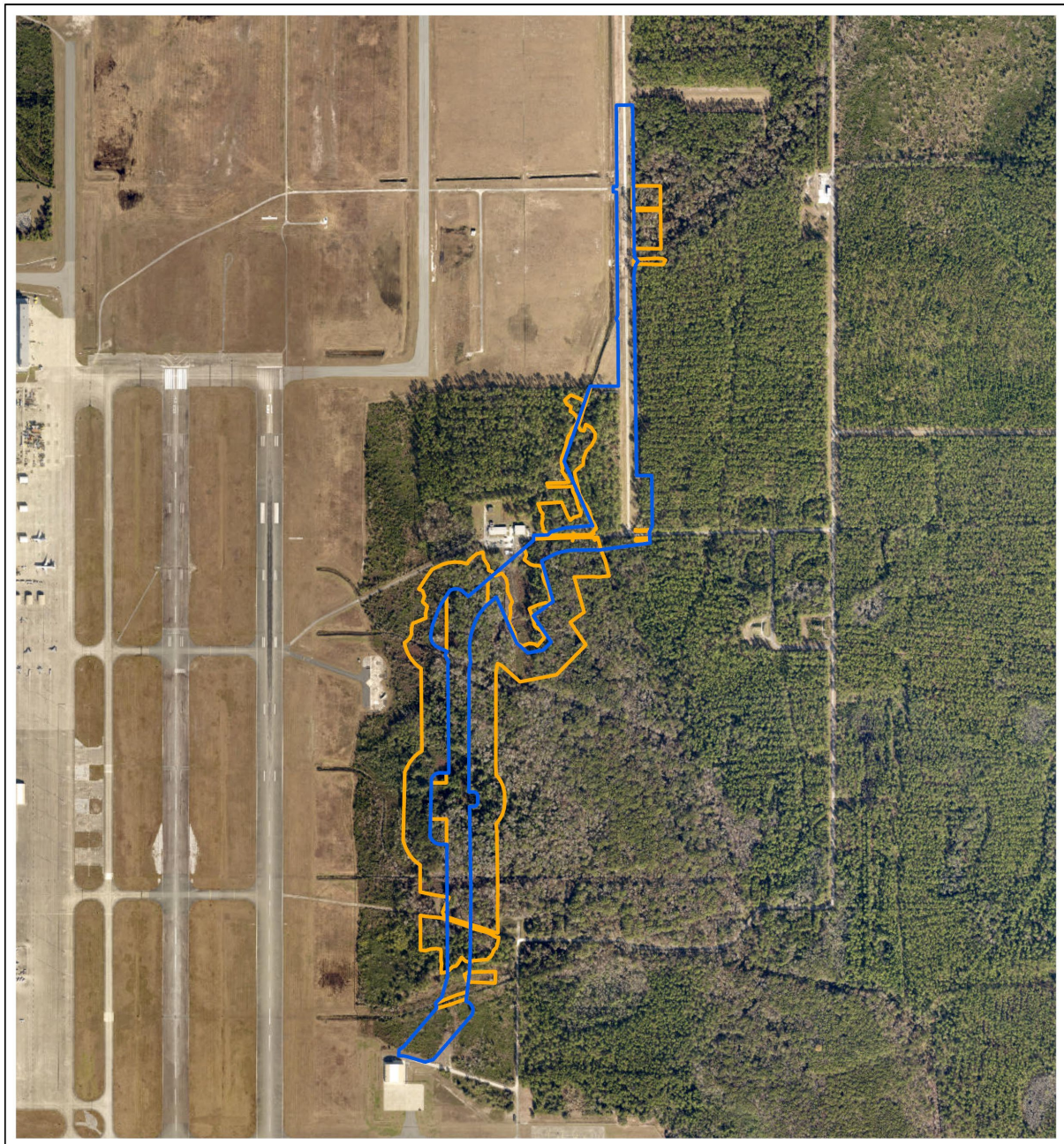
The environmental resource categories analyzed in detail for the study year 2024 are listed below:

- » Biological Resources (**Section 3.2**)
- » Coastal Resources (**Section 3.3**)
- » Hazardous Materials, Solid Waste, and Pollution Prevention (**Section 3.4**)
- » Natural Resources and Energy Supply (**Section 3.5**)
- » Water Resources – Surface Water, Floodplains, and Wetlands (**Section 3.6**)

The following environmental resources are described to disclose the Proposed Project's absence of impacts compared to a No Action Alternative and are not further described in this EA.

- » **Air Quality** – The USEPA has classifications for areas regarding their ability or inability to meet the National Ambient Air Quality Standards (NAAQS). Attainment areas are geographic areas where concentrations of the criteria pollutants are below (i.e., within) the NAAQS. The USEPA has identified the following six criteria air pollutants for which NAAQS are applicable: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), particulate matter (PM₁₀ and PM_{2.5}), and sulfur dioxide (SO₂). USEPA calls these pollutants "criteria" air pollutants because it regulates them by developing human health-based and/or environmentally based criteria (science-based guidelines) for setting permissible levels (USEPA, 2020). The study areas are in Duval County, which is in "attainment" for all NAAQS pollutants (US EPA, 2022).

FIGURE 3-1: STUDY AREAS



Sources: ESRI 2023; RS&H 2023.

0 500 1,000 Feet

Legend

- Direct Study Area
- Indirect Study Area



3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Compared to the No Action Alternative, the Proposed Project would not increase spaceport employees, the use of the spaceport, and would not induce any additional surface transportation and associated air quality emissions impacts at this time. Additionally, the existing spaceport operator tenant's air quality was evaluated in the FAA-approved Cecil Launch Site Operator License EA. Any impacts resulting from the spaceport being used by a future tenant will be assessed under a separate, future NEPA document. The air quality evaluation in the Launch Site Operator EA determined that spaceport operations at the Airport would have a negligible impact on the area's air quality, would not cause or contribute to violations of the NAAQS or Florida Air Quality Standards, and would not create any measurable changes in the global environment.⁴ Therefore, the Proposed Project would not result in a significant air quality effect.

- » **Climate** - Greenhouse gases (GHG) trap heat in the earth's atmosphere. Both naturally occurring and man-made GHGs primarily include water vapor, carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Activities that require fuel or power are the primary stationary sources of GHGs at airports. Using fossil fuel-powered machinery during the construction of the Proposed Project would emit GHGs such as CO₂. These temporary emissions would only occur during construction activities (less than 1 year). There would be no increase in employees at the spaceport as a direct result of this project and, therefore, no increase in vehicle-related GHG emissions in the region. The vehicles using the new Approach Road are already using and accessing the Airport via a separate, less ideal route. Therefore, the Proposed Project would not have a significant effect on GHGs and the global climate.
- » **Department of Transportation (DOT), Section 4(f) Resources** – There are no DOT Section 4(f) resources within the study areas. Six Section 4(f) resources are in the vicinity of the Airport:
 - Cecil Field Conservation Corridor, 2.5 miles northwest of the Direct Study Area;
 - Branan Field Wildlife and Environmental Area, 1.5 miles south of the Direct Study Area;
 - Jennings State Forest, 5 miles southwest of the Direct Study Area;
 - Sal Taylor Creek Preserve, 2.5 miles west of the Direct Study Area;
 - Lake Fretwell Park, 1.5 miles west of the Direct Study Area; and
 - POW/MIA Memorial Park, 1.25 miles west of the Direct Study Area.

The Proposed Project is entirely on Airport property and would not result in physical or constructive use impacts of a DOT Section 4(f) resource; therefore, the Proposed Project would not have a direct impact or indirect impact (constructive use) on a DOT Section 4(f) resource.

- » **Farmlands** – According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), soil types within the study areas are not classified as prime farmland or farmland of statewide importance, and this area is not currently used to cultivate crops (NRCS, 2022). The Proposed Project would not affect prime, unique, or state-significant farmland soil types.

⁴ Cecil Field Final Environmental Assessment for Jacksonville Aviation Authority Launch Site Operator License. July 2009. Chapter 4.1 Climate and Air Quality, Subsection 4.1.1.3.2 Conclusion.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

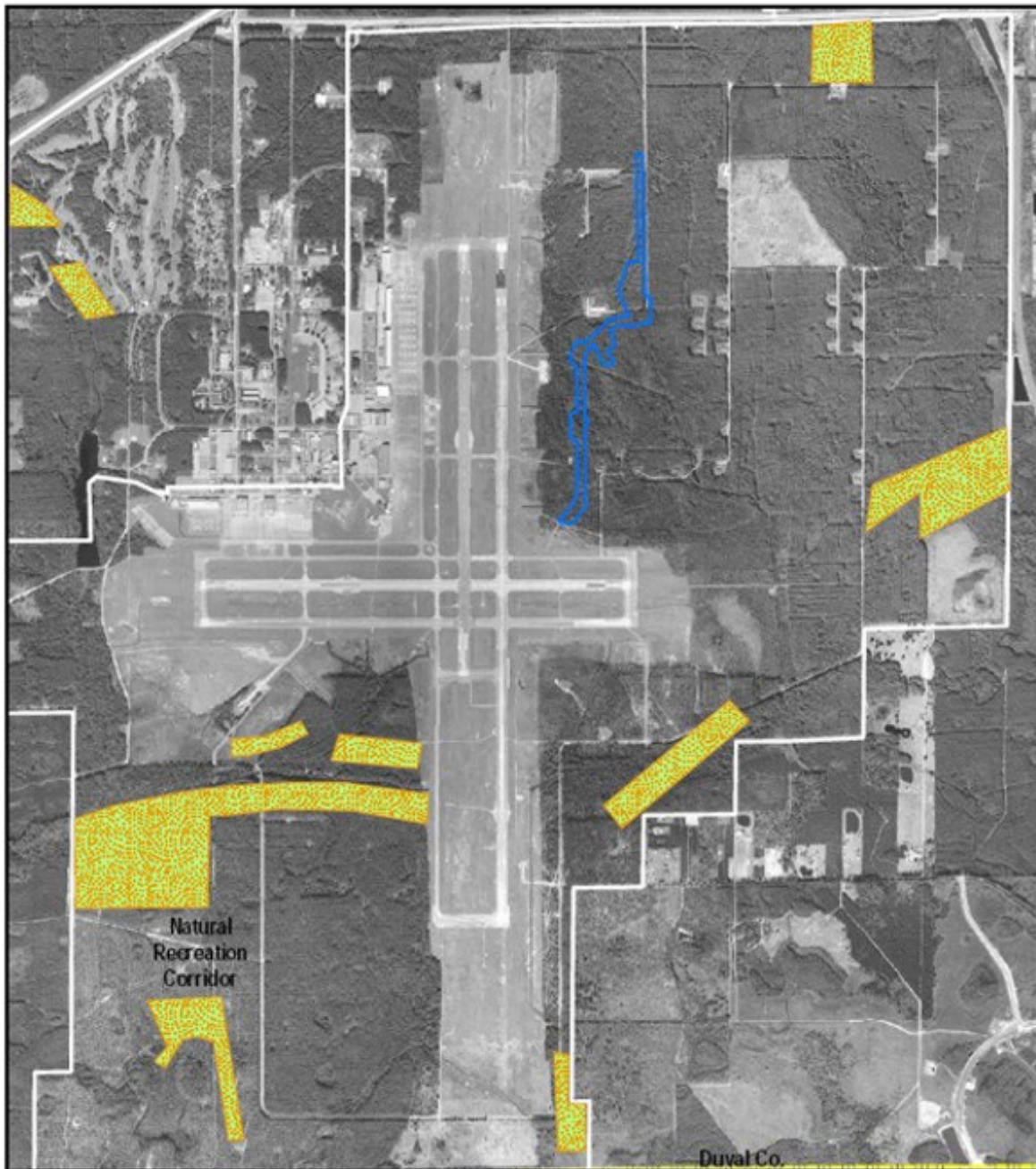
- » **Historical, Architectural, Archaeological, and Cultural Resources** – In August 1995, a cultural resource assessment survey (CRAS) for the Airport property was administered and submitted to the Florida Division of Historical Resources (DHR). The CRAS included an *archaeological sensitivity assessment* which contained background research and a field investigation to identify any potential archaeological sensitive areas at the Airport. It was concluded that there were no known archaeological sites existing at the Airport. **Figure 3-2** shows the historic archaeological sensitive areas on Airport property. None of these historically sensitive areas are within the study areas. A desktop search on the EPA's NEPAassist mapping tool identifies no National Register of Historic Places (NRHP) listed resources within or nearby the study areas. The closest resource is the William Clarke Estate, located 11.5 miles southeast of the study areas. The closest Florida historical marker, the Fort Heilman historical marker, is located about 10 miles south of the study areas. Therefore, The Proposed Project would not affect any historic archaeological resources.

A query of the Florida Master Site File (FMSF) database identified no historic resources within or nearby the study areas. Therefore, the Proposed Project would not impact any historic architectural resources.

- » **Land Use** – According to Duval County, existing land use in the study areas is classified as multi use (City of Jacksonville, 2022). The construction of the Proposed Project would occur entirely on Airport property and would be compatible with the existing Airport environment. The Proposed Project would be consistent with future Airport plans and would not cause any land use incompatibilities or inconsistencies with off-Airport local land use plans. In addition, the Proposed Project would not create a new wildlife attractant or create an obstruction to navigation airspace per 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*. The Proposed Project would not significantly affect other resources that could indirectly affect land use (e.g., the Proposed Project would not disrupt communities, affect DOT Section 4(f) resources, etc.). Therefore, the Proposed Project would not change the land use in or around the study areas, and significant land use impacts would not occur with the implementation of the Proposed Project.



Noise and Noise-Compatible Land Use – The Proposed Project would not result in an operational noise increase. Construction of the Proposed Project would result in a temporary increase in the ambient noise levels near ground-disturbing activities. Earthwork and site preparation would cause temporary noise generation, and the noise level would vary depending on the nature of construction activities and the type/ model of equipment in use. The nearest residential area is Bent Creek, which is approximately 1.35 miles due east of the Direct Study Area. The potential noise impact associated with the operation of machinery on-site can be reduced using construction timing and staging. To further minimize noise impacts, construction equipment would be maintained to meet manufacturers' operating specifications. In addition, contractors will follow all local land development codes and noise ordinances during construction of the Proposed Project. Given the distance of the nearest residential areas, and the aforementioned best management practices, temporary noise generated during construction would not significantly affect noise-sensitive land uses (i.e., residential areas).

FIGURE 3-2: HISTORIC ARCHAEOLOGICAL SENSITIVE SITES WITHIN AIRPORT PROPERTY



Source: JAA, 2008; RS&H, 2022

Legend

-  Historically Sensitive Areas
-  Area of Potential Effects (APE)



3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

- » **Socioeconomics, Environmental Justice, and Children’s Health and Safety Risks** – Construction and operation of the Proposed Project would occur entirely on Airport and would not require the relocation of residents or businesses. There are no residents within or nearby the study areas that would be directly or indirectly affected by the construction or operation of the Proposed Project. The Proposed Project would not change the number of operator vehicles traveling to or from the spaceport; therefore, surface transportation impacts would not occur.

Employment resulting from the construction of the Proposed Project would benefit the community but would be temporary and last only for the duration of construction.

Additionally, the Proposed Project would occur entirely on Airport property and not within or nearby any neighborhoods or minority and low-income communities that could be disproportionately affected. The Proposed Project is for safety and would not increase surface transportation or changes at the Airport. Additionally, existing spaceport operator tenants’ transportation impacts were evaluated in the FAA-approved Cecil Launch Site Operator License EA. The transportation evaluation determined that the transportation network to, from, and on the Airport would not be disrupted because launches would be infrequent, and shipments of materials would comply with Federal and State of Florida highway standards.⁵

The Proposed Project would not significantly affect surrounding communities and would not increase the exposure of environmental contaminants to children in the surrounding community. Bishop John Snyder High School is the closest school, about 2 miles north of the study areas. Therefore, the Proposed Project would not affect children’s environmental health and safety risks.

- » **Visual Effects** – The study areas are about ¾-mile south of 103rd Street. Due to existing dense vegetation and Airport structures, persons traveling along 103rd Street do not have a direct line of sight to the study areas. Construction activity is likely to occur during the daytime. Temporary exterior lighting may also be installed at construction staging areas and project work sites when the sun goes down early and comes up late in the winter months. Additionally, a vegetative buffer and existing Airport development separates nearby land uses from the Airport, preventing a direct line-of-sight to the Proposed Project.

Operation of the Proposed Project would require new overhead lighting on the entire road length for safety and security reasons. Illumination would be directional and focused lighting on vehicle movement areas. The existing vegetative buffers and distance to residential land uses surrounding the Airport property would reduce the possibility of light emissions.

Therefore, the construction and operation of the Proposed Project would not result in a visual effect or additional light emissions that could create an annoyance or interfere with normal activities.

- » **Water Resources (Groundwater and Wild and Scenic Rivers)** - Groundwater units below the Airport include the surficial aquifer system, the intermediate aquifer system, and the Floridian

⁵ Cecil Field Final Environmental Assessment for Jacksonville Aviation Authority Launch Site Operator License. July 2009. Chapter 4.23 Transportation, Subsection 4.23.1.2 Conclusion.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

aquifer system. The surficial aquifer system is approximately 10 to 100 feet (ft) thick. Local recharge to the surficial aquifer system occurs from surface water infiltration in the undeveloped wooded areas of the Airport. The surficial aquifer system is underlain by the intermediate aquifer system, which occurs at depths of 60 to 110 ft below ground surface (BGS) around the Airport. The intermediate aquifer system is underlain by the thick limestone layers of the Floridan aquifer system, the principal source of groundwater derived for public drinking water in most of northern peninsular Florida. The top of the limestone of the Floridan aquifer system is encountered at a depth of 260 ft BGS and reaches a depth of more than 600 ft BGS in Duval County (USGS, 1994). Principal recharge to the Floridan aquifer system occurs in the lakes region of southwestern Clay County, eastern Bradford County, and western Alachua County, where the confining beds are either thin or missing (U.S. Navy, 1998). The closest sole source aquifer to the study areas is the Volusia-Floridan Aquifer, located more than 50 miles south of the study areas near Palatka, Florida (USEPA, 2021). The depth of construction and operation of the Proposed Project would not affect the aquifer system. Compared to the No Action Alternative, the Proposed Project would not exceed federal, state, local, or tribal ground water quality standards. In addition, the Proposed Project would not contaminate an aquifer used for public water supply.

The closest river designated under the National Wild and Scenic River System is the Wekiva River, located approximately 60 miles southeast of the study areas (USFWS, 2021). Duval County has no National Rivers Inventory (NRI) segments (NPS, 2021). The construction and operation of the Proposed Project would not affect wild and scenic rivers.

3.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, the construction and operation of the proposed extended access road and utilities would not occur. Future development at the Airport would be subject to review under NEPA and is not assumed under the No Action Alternative. The affected environment of the study areas under the No Action Alternative would not differ from existing conditions.

Because there would be no anticipated construction or change in Airport facilities under the No Action Alternative, no impacts would be expected to occur related to Air Quality; Biological Resources; Climate; Coastal Resources; DOT Section 4(f) Resources; Hazardous Materials, Solid Waste, and Pollution Prevention; Historical, Architectural, Archaeological, and Cultural Resources; Land Use; Natural Resources and Energy Supply; Noise and Noise-Compatible Land Use; Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks; Visual Effects; or Water Resources in the study areas or vicinity of the Airport.

3.2 BIOLOGICAL RESOURCES

This section describes the existing characteristics of the environment within the study areas and the potential environmental consequences of the Proposed Project with regard to biological resources.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Biological resources are valued for their intrinsic, aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. Typical categories of biological resources include terrestrial and aquatic plant and animal species, game and non-game species, special status species (state or federally listed threatened or endangered species, marine mammals, or species of concern, such as species proposed for listing or migratory birds), and environmentally sensitive or critical habitats.

Section 7(a)(2) of the Endangered Species Act (ESA) requires that each federal agency, in consultation with the U.S. Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS), ensures that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

3.2.1 Affected Environment

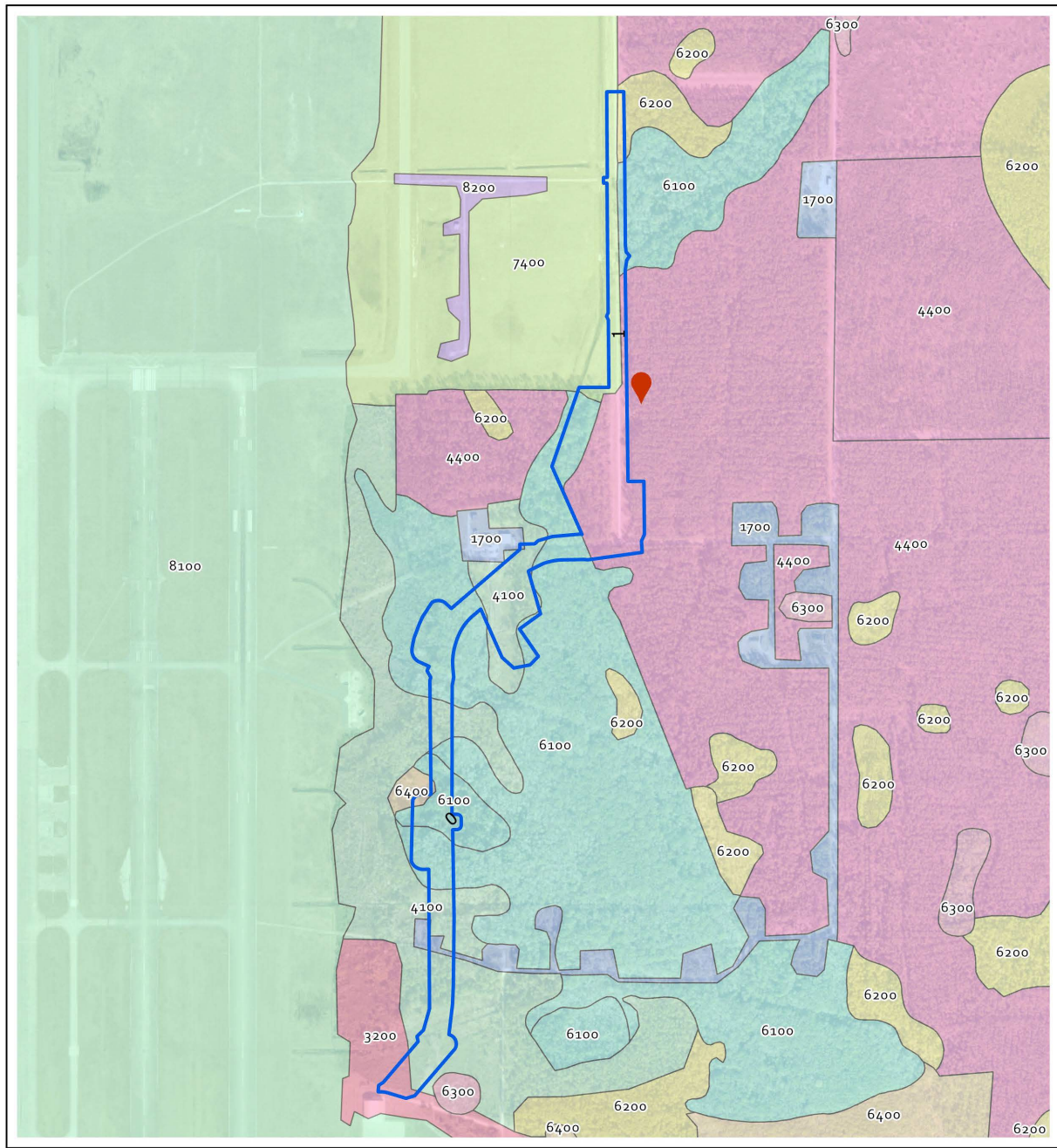
Literature reviews, agency database searches, and field surveys of potential habitat areas were conducted to identify listed species potentially found within the study areas. The Soil Survey of the City of Jacksonville, Duval County, Florida, recent aerial photographs, Geographic Information System (GIS) Land Cover and Land Use data, and field reconnaissance were used to determine habitat types within and adjacent to the study areas (see *Figure 3-3* for the Florida Land Use Cover and Forms Classification System [FLUCFCS] and Wetlands maps of the study areas). *Table 3-1* summarizes the community types within the Direct Study Area.

TABLE 3-1 SUMMARY OF VEGETATIVE COMMUNITY TYPES PRESENT IN THE DIRECT STUDY AREA

Community Types	FLUCFCS Code	Acreages (ac. ±)
Scrub and Brushland	320	5.72
Pine Flatwoods	411	0.41
Coniferous Plantation	441	9.36
Upland Cut Ditches	511	0.35
Wetland Forested Mixed	630	18.21
Vegetated Non-Forested Wetlands	640	0.04
Airports	811	0.16
Roads and Highways	814	9.51
TOTAL	-	43.76
Source: Environmental Resource Solutions, A Division of SES Energy Services LLC Technical Memorandum		

The assessment of listed species began with the identification of suitable habitat. A field investigation was conducted on June 8, 2022. The survey was conducted by a qualified biologist using visual and aural methods. Listed wildlife species were identified by burrows, scat, shed skins, tracks, sightings, and/or their distinctive calls. The probability of occurrence of each species is discussed below. See *Appendix B* for the full *Threatened and Endangered Species Technical Report*.

FIGURE 3-3: FLORIDA LAND USE COVER AND FORMS CLASSIFICATION & WETLANDS



Sources: FDEP 2023; ESRI 2023; RS&H 2023.

- Legend**
- Direct Study Area
 - 4100, Upland Coniferous Forests
 - 6400, Vegetated Non-Forested Wetlands
 - Approximate Observed Gopher Tortoise Burrow
 - 4400, Tree Plantations
 - 7400, Disturbed Lands
 - 1700, Institutional
 - 6100, Wetland Hardwood Forests
 - 8100, Transportation
 - 3200, Shrub and Brushland
 - 6200, Wetland Coniferous Forests
 - 8200, Communications
 - 6300, Wetland Forested Mixed



3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

While there were no federally listed species encountered during the field investigation, the study areas have the potential for the following listed species to occur: Frosted Flatwoods Salamander, Gopher Tortoise, Eastern Indigo Snake, Florida Pine Snake, Little Blue Heron, Tri-colored Heron, Southeastern American Kestrel, Wood Stork, and the Bald Eagle. These species are described below.

Frosted Flatwoods Salamander (*Ambystoma cingulatum*) – The frosted flatwoods salamander is federally listed as a threatened species. This species typically resides in fire-maintained slash and longleaf pine flatwoods with wiregrass undercover and little to no subcanopy that typically include scattered depressional wetlands. This species is highly sensitive to disturbance and habitat quality and therefore has been given a low probability of occurrence in the study areas due to the surrounding development, past and/or present silviculture activities, and infrequent fire maintenance. This project would have no effect on the frosted flatwoods salamander.

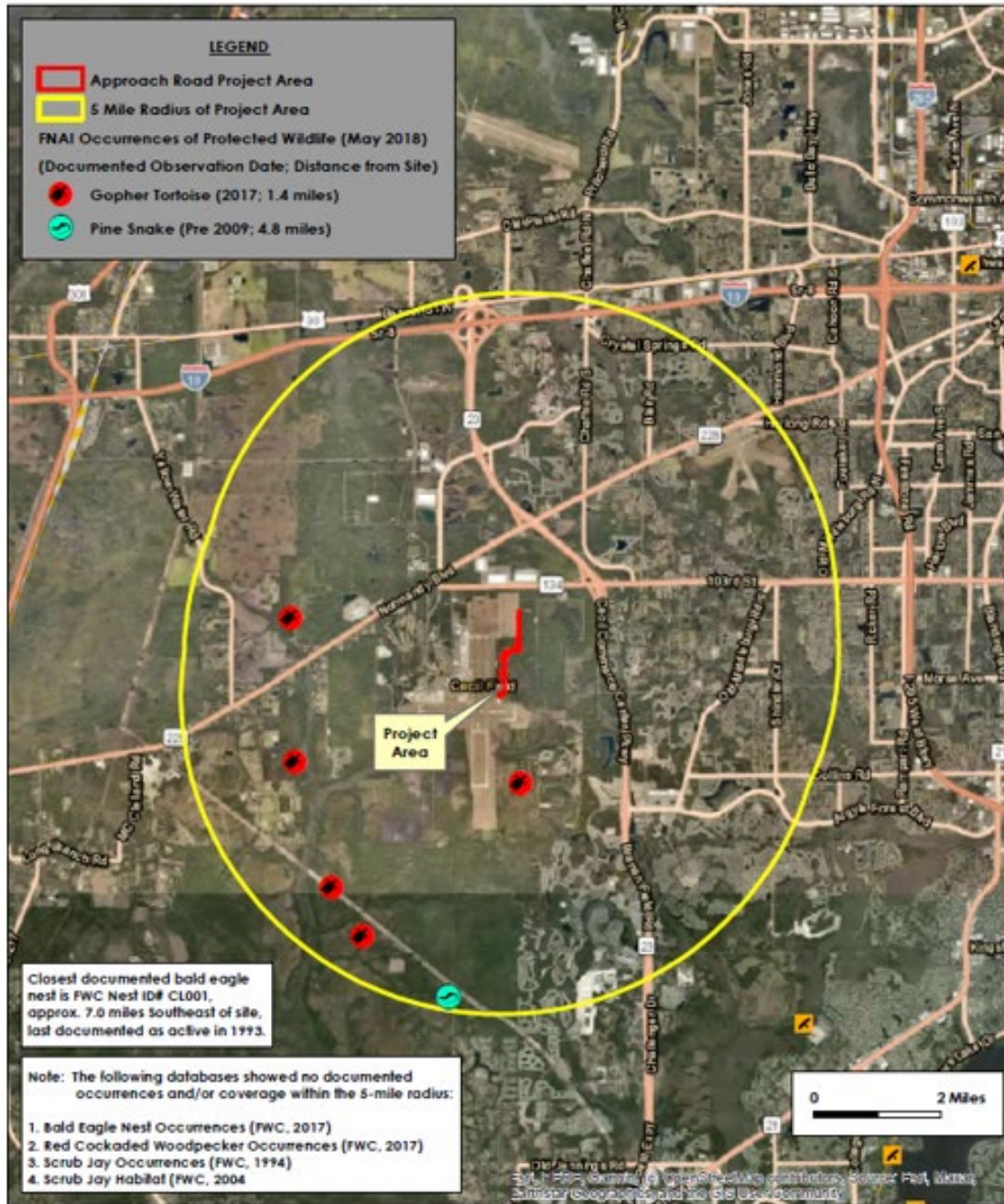
Gopher Tortoise (*Gopherus polyphemus*) – The gopher tortoise is state-listed as a threatened species and is a candidate for federal listing. The study areas were inspected for the presence of gopher tortoises. No gopher tortoises were found within the study areas. One potentially occupied gopher tortoise burrow was observed within 25 feet of the study areas (see **Figure 3-3** and **Figure 3-4**).

While only one burrow was identified during the field investigation, it is important to note that a 100% burrow survey was not completed. A 100% survey of all affected potential gopher tortoise habitat would be required within 90 days before the start of construction, and all affected gopher tortoises would be relocated in accordance with Fish and Wildlife Conservation Commission (FWC) regulations.

Eastern Indigo Snake (*Drymarchon corais couperi*) – The eastern indigo snake is a federally-threatened species that is linked to low moisture (xeric) habitats and gopher tortoise burrows. While indigo snakes use gopher tortoise burrows for refuge, they forage within a variety of upland and wetland habitats. No xeric habitat was identified in the study areas; however, one potentially occupied gopher tortoise burrow was observed during the field investigation 25 feet outside of the study areas. Because of the presence of potentially occupied gopher tortoise burrows, the eastern indigo snake has been given a low probability of occurrence because there are no burrows within the study areas.

Florida Pine Snake (*Pituophis melanoleucus mugitus*) – Similar to the indigo snake, the state-threatened Florida pine snake is associated with xeric habitats and the presence of gopher tortoise burrows. This species is found throughout Florida, with preferred habitats including longleaf pine woodlands, xerophytic oak woodlands, sand pine scrub, pine flatwoods on well-drained soils, and old fields on former sandhill sites. The Pine snake avoids hammocks and forests that have a thick canopy. On-site habitat is marginal, but due to the presence of a potentially occupied gopher tortoise burrow 25 feet outside of the study areas and well-drained habitat, this species has been given a low probability of occurrence. The Proposed Project is not likely to affect the Florida Pine Snake (see **Figure 3-4**).

FIGURE 3-4: PROTECTED WILDLIFE WITHIN 5 MILES OF THE STUDY AREAS



Source: ERS, 2022



3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Little Blue Heron (*Egretta caerulea*) and **Tricolored Heron** (*Egretta tricolor*) – both species are state-listed as threatened. The little blue heron and tricolored heron have a moderate probability of occurrence because of the presence of on-site wetlands that provide potential foraging habitats during periods of inundation. These species are unlikely to use these areas for nesting due to adjacent development and lack of suitable nesting trees over water. Typically, these species nest in colonies, which are tracked and documented by USFWS. The nearest documented wading bird rookery is approximately 7.3 miles southeast of the study areas and was last documented as active in the 1980s FWC survey. These species were not observed during the field investigation.

Southeastern American Kestrel (*Falco sparverius paulus*) – This state-listed species is the smallest falcon species in the United States and is known for its unique coloration. The kestrel is a highly mobile species. This species has the potential to be present due to the habitat within the study areas but was not observed during the field investigation.

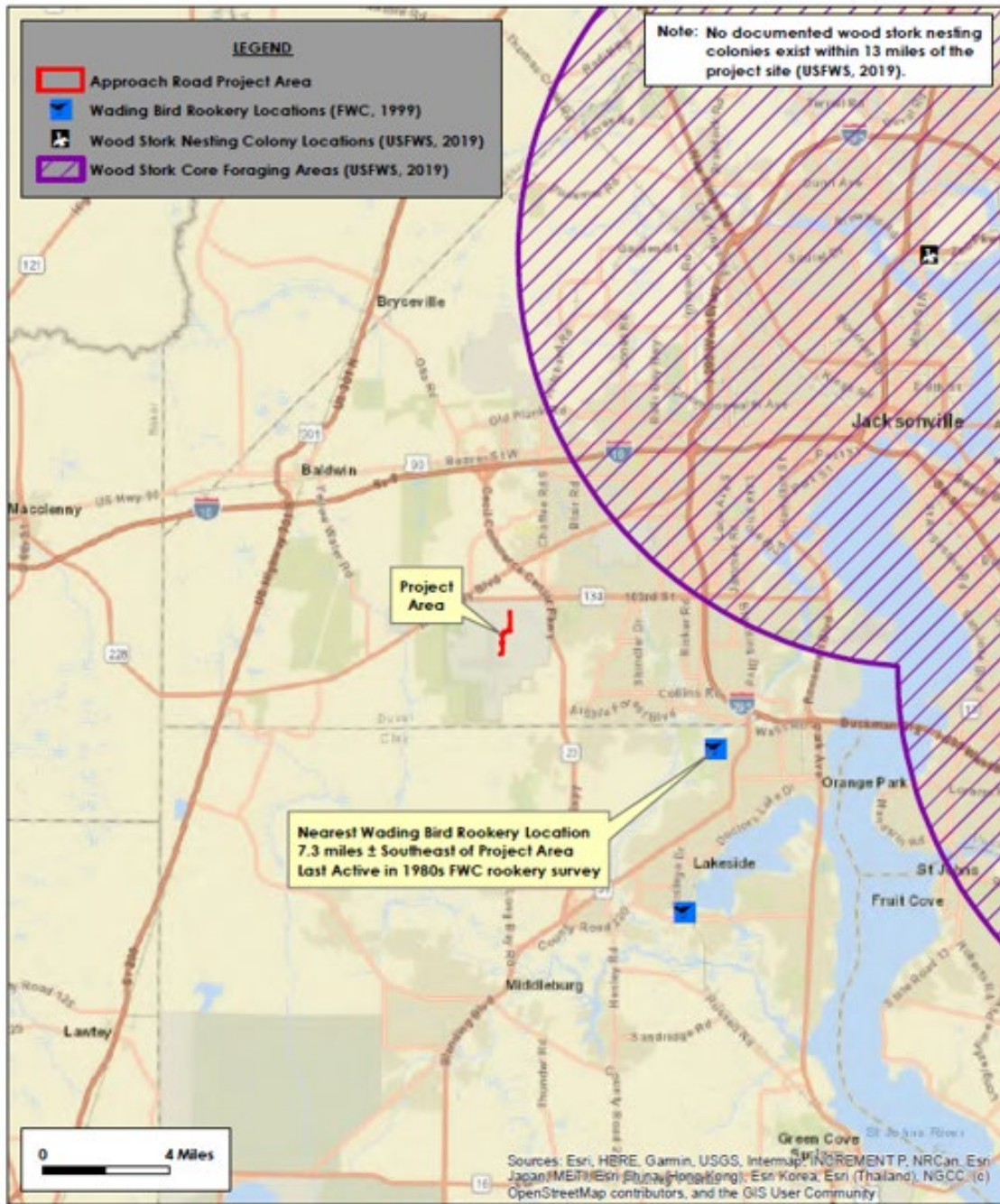
Wood Stork (*Mycteria americana*) – The wood stork, federally listed as threatened, is a wetland-dependent wading bird. FWS designates Core Foraging Areas (CFAs) for each documented wood stork colony by region. Duval County is within the North Florida region, which defines each CFA as a 13-mile radius surrounding the colony location. All wetlands and waterways within the 13-mile radius may be considered Suitable Foraging Habitat (SFH) for wood storks.

As shown in **Figure 3-5**, the study areas are not in the CFA of an active wood stork colony. No wood storks were observed during field investigation; therefore, this species has been given a low probability of occurrence. The wetlands and surface waters in the study areas, while not within a CFA, are suitable habitats for this species and, therefore, may be classified as SFH.

Bald Eagle (*Haliaeetus leucocephalus*) - While no longer considered a listed species under the ESA, the bald eagle is afforded protection under the Bald and Golden Eagle Protection Act (BGEPA) of 1940 and the Migratory Bird Treaty Act of 1918 (MBTA), as amended. In Florida, there are over 1,000 documented nesting pairs of bald eagles. Although the bald eagle has been delisted, restrictions regarding work around their nests are still in place. These restrictions vary based on the time of year and distance from the nest.

The USFWS Florida Ecological Services Field Office in Jacksonville define two buffer zones from the central location of a nest that regulates activity restrictions based on their distance, the primary and secondary zones. The primary activity zone is 330 feet, and the secondary activity zone is 660 feet from the central location of the nest. Generally, if work is proposed within 660 feet of the nest, restrictions may be applicable. No documented eagle nests occur within 660 feet of the study areas. The nearest bald eagle nest is approximately 7 miles southwest of the study areas.

FIGURE 3-5: WOOD STORKS AND WADING BIRDS NEAR THE STUDY AREAS



Source: ERS, 2022



3.2.2 Environmental Consequences

This section describes the significance threshold(s) pertaining to biological resources and the potential effects the Proposed Project would have on biological resources compared to the No Action Alternative.

3.2.2.1 Significance Threshold

FAA Order 1050.1F, Exhibit 4-1, provides the FAA's significance threshold for biological resources, which states that a significance impact would occur if "The USFWS or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat."

3.2.2.2 Proposed Project

Because suitable habitat is marginal at best, the Proposed Project is not likely to affect the Florida pine snake. Foraging habitat suitable for the state-listed wading bird species, Little blue heron and tri-colored heron, is present; however, these avian species are highly mobile. If any individuals are present during construction, they would leave the area if disturbed. There is no suitable nesting habitat within the Direct Study Area for these state-listed avian species. The nearest known Bald Eagle nest is seven miles southwest of the Direct Study Area; therefore, this species would not be affected by the Proposed Project. Moderate forage habitat for the Southeastern American kestrel is present in the Direct Study Area; however, this species is also highly mobile and would leave the area if disturbed. For these reasons, no state-listed species are expected to be adversely affected by the Proposed Project. Approximately 35 acres of clearing and grubbing would occur within the Direct Study Area. Species specific construction conditions and/or surveys would be conducted, if required, prior to site disturbance. Continued agency coordination would occur during permitting to address the final determination of impacts, implementation of protection measures, and mitigation if necessary. For further biological resources information, see **Appendix B**.

The Proposed Project "may affect, but is not likely to adversely affect," the three federally listed species (frosted flatwood salamander, eastern indigo snake, and wood stork).

Frosted Flatwood Salamander – The species typically resides in fire-maintained slash and longleaf pine flatwoods with wiregrass groundcover and little to no subcanopy that typically includes scattered depressional wetlands. This species is highly sensitive to disturbance and habitat quality and has been given a low probability of occurrence in the study areas due to the surrounding development, past silviculture activities, and infrequent fire maintenance.

Gopher Tortoise - The gopher tortoise is state listed as a threatened species and is a candidate for federal listing. One gopher tortoise potentially occupies a burrow observed within 25 feet of the Direct Study Area (i.e., construction limits). Per FWC guidelines, all potentially occupied burrows within 25 feet of construction should be permitted for relocation. While one burrow was identified during the field survey, it is important to note that a 100% burrow survey was not completed. A 100% survey of all affected potential gopher tortoise habitat would be required within 90 days of construction, and all affected gopher tortoises would be relocated in accordance with Fish and Wildlife Conservation

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Commission (FWC) regulations. If fewer than 10 burrows are identified during the 100% survey, a *10 or Fewer Burrows Permit* from FWC would be required. If more than 10 burrows are identified, then a *Conservation Permit* would be required from the FWC. All excavated tortoises would be relocated to an FWC-approved Long Term Protected Recipient Site. The JAA owns and operates the Cecil Field Gopher Tortoise Recipient Site. As of March 2023, there is current capacity available within the Cecil Field Gopher Tortoise Recipient Site to accommodate up to 80 relocated gopher tortoises.

Eastern Indigo Snake - In 2002, the USACE determined that development at Cecil Commerce Center “may affect, not likely to adversely affect” the eastern indigo snake. As a result, Section 7 Endangered Species Act consultation was initiated. The U.S. Fish and Wildlife Service (USFWS) concurred with the “may affect, not likely to adversely affect” determination and further determined that incidental take of the species was possible with future development. As a result, USFWS prepared a biological opinion (BO) including all areas proposed for development at Cecil Commerce Center, including Cecil Airport. USFWS determined that incidental take would likely occur within all development areas of Cecil Airport (including the area of the Proposed Project). However, USFWS found that such a take would not jeopardize the long-term survival of the eastern indigo snake. The BO requires implementing standard protection measures for each construction project to minimize effects on the endangered species.

Although there is an existing BO for the eastern indigo snake, the USFWS’ *Eastern Indigo Snake Programmatic Effect Determination Key* (updated August 2017) was utilized to evaluate the Proposed Project. The Proposed Project’s potential effect on this species is as follows:

- A. Proposed Project is not located in open water or salt marsh.
- B. Permit will be conditioned for using the Service’s Standard Protection Measures For The Eastern Indigo Snake during site preparation and project construction.
- C. The Proposed Project would affect less than 25 acres of eastern indigo snake habitat (e.g., sandhill, scrub, pine flatwoods, pine rocklands, scrubby flatwoods, high pine, dry prairie, coastal prairie, mangrove swamps, tropical hardwood hammocks, hydric hammocks, edges of freshwater marshes, agricultural fields [including sugar cane fields and active, inactive, or abandon citrus groves], and coastal dunes).
- D. The study areas have known holes, cavities, active or inactive gopher tortoise burrows, or other underground refugia where a snake could be buried, trapped, and/or injured during project activities.
- E. Any permit would be conditioned such that all gopher tortoise burrows, active or inactive, would be excavated prior to site manipulation in the vicinity of the burrow. If an eastern indigo snake is encountered, the snake must be allowed to vacate the area prior to additional site manipulation in the vicinity. Any permit would also be conditioned such that holes, cavities, and snake refugia other than gopher tortoise burrows would be inspected each morning before planned site manipulation of a particular area, and, if occupied by an eastern indigo snake, no work would commence until the snake has vacated the vicinity of the proposed work.

The implementation of USFWS Standard Protection Measures for the Eastern Indigo Snake during project construction and the excavation of any affected active or inactive gopher tortoise burrows, in

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accordance with FWC and USFWS requirements, leads to a “may affect, not likely to adversely affect” determination for this species.

Wood Stork – The loss of wood stork habitat would be minimized to the maximum extent practicable. Any required wetland mitigation would offset the loss of any on-site wood stork foraging habitat.

The Proposed Project’s potential effect on wood storks was evaluated using the USACE/USFWS Effect Determination Key for the Wood Stork in Central and North Peninsular Florida (2008). This key is used to help determine the potential of the “may effect” or “no effect” impact a Proposed Project would have on the species.

- A. Project more than 2,500 feet from a colony site. (May cause effects).
- B. Project impacts SFH. (No effect).
- C. Project impacts to SFH are greater than or equal to 0.5 acre. (Likely to adversely affect).
- D. Project impacts to SFH are within the CFA of a colony site, or wood storks have been documented foraging on a project site outside the CFA. (Likely to adversely affect).
- E. Project provides SFH compensation within the Service Area of a Service-approved wetland mitigation bank or wood stork conservation bank, preferably within the CFA, or consists of SFH compensation within the CFA consisting of enhancement, restoration, or creation in a project-phased approach that provides an amount of habitat and foraging function equivalent to that of impacted SFH (see Wood Stork Foraging Habitat Assessment Procedure for guidance), is not contrary to the Service’s Habitat Management Guidelines For The Wood Stork In The Southeast Region and in accordance with the CWA section 404(b)(1) guidelines (Not likely to adversely affect).

The Proposed Project would affect more than 0.5 acre of on-site wetland and surface water and wetland mitigation would be provided (see **Section 3.6** for further details). Therefore, with the implementation of wetland mitigation, the loss of wood stork habitat would be minimized to the maximum extent practicable. Any required wetland mitigation would offset the loss of any on-site wood stork foraging habitat. As a result, the Proposed Project “may affect, not likely to adversely affect,” the wood stork. Any mitigation for unavoidable wetland impacts would likely satisfy mitigation requirements for the loss of and potential SFH. Specific potential wetland and surface water mitigation requirements are discussed in **Section 3.6**.

3.2.2.3 Mitigation, Avoidance, or Minimization Measures

A complete survey of all affected potential gopher tortoise habitat would be conducted within 90 days of construction, and all affected gopher tortoises would be relocated in accordance with the Fish and Wildlife Conservation Commission (FWC) regulations.

Prior to starting construction activities, a plan to educate all construction workers about the protected Eastern Indigo snake would be developed. The plan would require all construction personnel to attend briefings that would instruct personnel about ways to protect the snake. In addition, posters containing snake protection information would be posted throughout the construction site. Within 60 days of clearing activities, the Incidental Take permit, issued in 2002 requires submitting an Eastern Indigo snake

monitoring report to the USFWS' North Florida field office. This report must be submitted, even if eastern indigo snakes were not observed. During construction, the USFWS *Standard Protection Measures for the Eastern Indigo Snake, as amended* would be implemented, and any affected active and inactive gopher tortoise burrows would be excavated in accordance with FWC and USFWS requirements.

Continued agency coordination would occur during permitting to address the final determination of impacts, implementation of species-specific protection measures, and mitigation, if necessary. Should any listed species be observed on-site, all appropriate agencies would be contacted, and avoidance actions would be implemented. No additional mitigation to offset impacts to listed species is expected to be necessary.

3.3 COASTAL RESOURCES

This section describes the existing characteristics of the environment within the study areas and the potential environmental consequences of the Proposed Project regarding coastal resources.

3.3.1 Affected Environment

The entire state of Florida is located within a coastal zone (FDEP, 2022). The Florida Department of Environmental Protection (FDEP), Office of Intergovernmental Programs, Florida State Clearinghouse (FSC) coordinates the review of Federal actions in the State of Florida for consistency with the Florida Coastal Management Program (FCMP).

The study areas are not within the Coastal Barrier Resources System (CBRS) as delineated by the USFWS Official CBRS maps (USFWS, 2022).

3.3.2 Environmental Consequences

This section describes the significance threshold(s) pertaining to coastal resources and the potential effects the Proposed Project would have on coastal resources compared to the No Action Alternative.

3.3.2.1 Significance Threshold

FAA Order 1050.1F does not define a significance threshold for coastal resources; however, it does provide factors to consider in evaluating the context and intensity of potential environmental impacts to coastal resources. These include when the action would have the potential to:

- » Be inconsistent with the relevant state coastal zone management plan(s);
- » Impact a coastal barrier resource system unit (and the degree to which the resource would be affected);
- » Pose an impact to coral reef ecosystems (and the degree to which the ecosystem would be affected);
- » Cause an unacceptable risk to human safety or property; or
- » Cause adverse impacts to the coastal environment that cannot be satisfactorily mitigated.

3.3.2.2 Environmental Consequences

The Proposed Project would not affect coastal resources, create plans to direct future agency actions, propose rulemaking that alters the use of the coastal zone in a way that is inconsistent with the FCMP, or involve Outer Continental Shelf leases.

Based on the information submitted and minimal project impacts, the Florida Department of State had no objections to the Proposed Project, and, therefore, it is consistent with the FCMP (see **Appendix A**). The State of Florida's final concurrence with the Proposed Project consistency with FCMP would be determined during the environmental permitting process, in accordance with Section 373.428, Florida Statutes.

3.4.2.3 Mitigation, Avoidance, or Minimization Measures

As previously described, the Proposed Project is consistent with the FCMP, provided that all applicable permits and approvals listed under the enforceable policies of the FCMP are obtained prior to implementing the Proposed Project. The Authority would ensure that the Proposed Project is constructed and operated in accordance with all applicable federal, state, and local laws and regulations

3.4 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

This section describes the existing characteristics of the environment within the study areas and the potential environmental consequences of the Proposed Project regarding hazardous materials, solid waste, and pollution prevention.

3.4.1 Affected Environment

3.4.1.1 Hazardous materials

The FDEP, USEPA, and the Department of the Navy signed a Federal Facilities Agreement for NAS Cecil Field in 1990. The agreement ensures that appropriate cleanup and corrective actions are developed and implemented to protect public health, welfare, and the environment (USEPA, 2022).

According to the USEPA online resources (e.g., NEPAassist and EnviroAtlas), there are no hazardous waste facilities within the study areas. The nearest facility (registry id 110033147093, Jacksonville NAS-Cecil Depot) is located at 6206 Aviation Avenue, about 1-mile northwest of the study areas (USEPA, EnviroAtlas, 2022). Therefore, the study areas do not contain any known hazardous material, hazardous waste, or hazardous substance sites.

The Authority has existing policies and procedures for handling, disposing of, and cleaning up hazardous materials, chemicals, and other substances, including jet fuel. These policies and procedures are outlined in the Cecil Airport Emergency Response Plan. The Authority developed a Spill Response Procedure to supplement the Airport Emergency Response Plan and Spill Prevention, Control and Countermeasure (SPCC) Plan and establish the roles and responsibilities for spill response on Airport property.

3.4.1.2 Solid Waste

The City of Jacksonville Solid Waste Division manages solid waste at the Airport. The City of Jacksonville's landfill is the Trail Ridge Landfill, approximately 15 miles northwest of the Airport. The landfill receives approximately 2,500 to 3,000 tons of waste daily and is estimated to have a useful life until 2047 (WasteManagement, 2022).

3.4.1.3 Pollution Prevention

The Authority has a National Pollutant Discharge Elimination System (NPDES) permit for industrial activities at the Airport. This permit requires the Authority to maintain a Storm Water Pollution Prevention Plan (SWPPP) and SPCC plan for the Airport property. The Authority has various plans and procedures to address potential spills at the Airport. These include measures to minimize the impacts of potentially contaminated stormwater on receiving bodies.

3.4.2 Environmental Consequences

This section describes the significance threshold(s) pertaining to hazardous materials, solid waste, and pollution prevention compared to the No Action Alternative.

3.4.2.1 Significance Threshold

FAA Order 1050.1F does not define a significance threshold for hazardous materials, solid waste, and pollution prevention; however, it does provide several factors to consider in evaluating the context and intensity of potential environmental impacts. FAA Order 1050.1F, Exhibit 4-1 states that these include when the action would have the potential to:

- » Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- » Involve a contaminated site (including but not limited to a site listed on the National Priorities List). Contaminated sites may encompass relatively large areas. However, not all of the grounds within the boundaries of a contaminated site are contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site. An EIS is not necessarily required. Paragraph 6-2.3.a of [FAA Order 1050.1F] allows for mitigating impacts below significant levels (e.g., modifying an action to site it on non-contaminated grounds within a contaminated site). Therefore, if appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts;
- » Produce an appreciably different quantity or type of hazardous waste;
- » Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- » Adversely affect human health and the environment.

3.4.2.2 Environmental Consequences

The construction and operation of the Proposed Project would have an effect on hazardous materials, solid waste, and pollution prevention.

Hazardous Materials - Construction of the Proposed Project would result in a temporary increase of on-Airport hazardous material storage. This would predominately occur in the form of diesel fuel, which is necessary to operate construction equipment. The selected contractor would manage hazardous materials from construction activities per existing Airport regulations and standard operating procedures (SOPs).

Compared to the No Action Alternative, the operation of the Proposed Project would not change the type or quantity of hazardous materials used or stored at the Airport. All existing hazardous materials would continue to be used and stored per federal, state, and local rules and regulations. Therefore, compared to the No Action Alternative, the construction and operation of the Proposed Project would not significantly affect hazardous materials.

Solid Waste - Construction activities would temporarily increase the amount of solid waste in the form of construction waste (e.g., clearing of vegetation, road construction). The selected construction contractor would manage solid waste from construction activities per existing Airport regulations and SOPs. Compared to the No Action Alternative, construction of the Proposed Project would not significantly affect solid waste or the capacity of area landfills.

There is no expected increase in employees at the Airport or additional operational solid waste production. The Proposed Project would not change the landscape maintenance needs of the Airport or the use of pesticides or herbicides for landscape maintenance during construction or operation. The Trail Ridge Landfill has sufficient capacity to meet the solid waste needs of the Proposed Project. In addition, the Proposed Project would not affect Trail Ridge Landfill's expected capacity.

Pollution Prevention - The Authority's NPDES permit would be updated to include the Proposed Project. The Authority would also update its SWPPP and SPCC for the Airport property, including the Proposed Project. The Authority's updating of plans and procedures would address potential spills at the Airport and minimize the impacts of potentially contaminating stormwater on receiving bodies.

Overall, the Proposed Project, compared to the No Action Alternative, would not significantly affect hazardous materials, solid waste, or pollution prevention at the Airport.

3.5 NATURAL RESOURCES AND ENERGY SUPPLY

This section describes the existing characteristics of the environment within the study areas and the potential environmental consequences of the Proposed Project regarding natural resources and energy supply.

3.5.1 Affected Environment

Consumable materials are regularly used to maintain the Airport's various airside and landside facilities and services. Those materials may include asphalt, concrete, aggregate for sub-base materials, various metals associated with such maintenance, and fuels associated with the operation of aircraft and vehicles.

Electrical power is necessary to keep the Airport operational and safe. Electricity is provided to the Airport by Jacksonville Electric Authority (JEA). The Airport has access to an excess of 2,600 megawatts of electric capacity. Water and sewer services are also provided to the Airport through JEA. TECO Peoples Gas System provides natural gas to the Airport and the surrounding areas.

3.5.2 Environmental Consequences

This section describes the significance threshold(s) pertaining to natural resources and energy supply and the potential effects the Proposed Project would have on natural resources and energy supply compared to the No Action Alternative.

3.5.2.1 Significance Threshold

FAA Order 1050.1F does not define a significance threshold for natural resources and energy supply; however, it does provide a factor to consider in evaluating the context and intensity of potential environmental impacts. Potentially significant effects could occur if the action has the potential to cause demand to exceed available or future supplies of these resources, which include fuel, construction material, and electrical power.

Available industry information related to sustainable design and sustainable practices was reviewed to describe measures to reduce the potential landside development demands on natural resources and energy supplies. These useful references, recognized by the FAA are:

- » Airports Cooperative Research Program (ACRP) Synthesis 10, Airport Sustainability Practices
- » Sustainable Aviation Guidance Alliance (SAGA) Database

3.5.2.2 Environmental Consequences

Construction of the Proposed Project would result in temporary increased usage of natural resources. Construction activities associated with the Proposed Project include using aggregate, sub-base materials, paving materials, and utility cables. Construction of the Proposed Project would not require large volumes of natural resources that are rare or in short supply. Construction of the Proposed Project would also result in temporary increased usage of energy supplies. Trucks and construction equipment would consume fuels as needed for construction purposes. These energy sources are not rare or in short supply.

Operation of the Proposed Project would slightly increase the use of natural resources at the Airport in the form of water supply and electricity. The Proposed Project would not strain the availability of resources for the surrounding area. The Proposed Project's utility corridor includes a water main, sanitary gravity sewer, sanitary force main, and new sanitary pump station, and an electrical duct bank for JEA electric service; these additional services would result in a slight increase in water and electrical utilities consumed by the Airport. The natural resources required to construct the Proposed Project are not rare or in short supply. For those reasons, the Proposed Project, when compared with the No Action Alternative, would not have a significant effect on natural resources.

When compared to the No Action Alternative, the Proposed Project would increase the overall energy requirements of the Airport in 2024. Utilities would be extended to serve the existing spaceport facilities. The operation of the Proposed Project (i.e., streetlights) is expected to be well within the supply capabilities of JEA. The Proposed Project would not have a significant effect on energy supplies.

3.6 WATER RESOURCES

This section describes the existing characteristics of the environment within the study areas and the potential environmental consequences of the Proposed Project regarding water resources, including floodplains, groundwater, surface waters, and wetlands.

3.6.1 Affected Environment

3.6.1.1 Floodplains

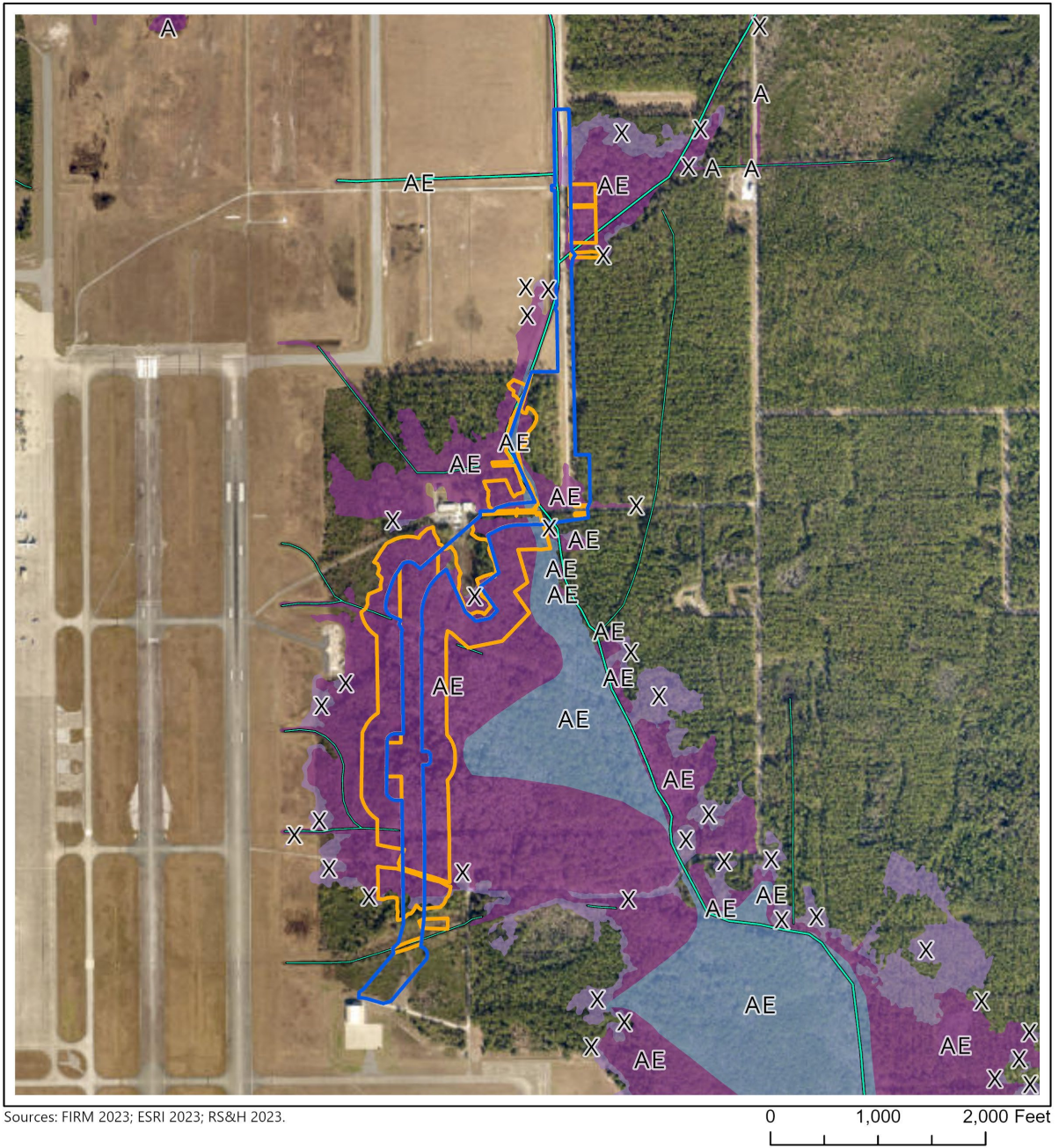
Floodplains are low-lying or flat areas adjoining waters classified based on their annual chance of occurrence. The 1% annual chance flood hazard, also referred to as the base flood or 100-year flood event, has a 1% chance of being equaled or exceeded in any given year. The floodplain associated with the base flood, also referred to as the 100-year floodplain, is classified as either Zone AE with Base Flood Elevations (BFEs) or Zone A without. The Federal Emergency Management Agency (FEMA) defines a “regulatory floodway” as “the channel of a river or other watercourse and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height” (FEMA, 2021). If a project is located within the floodplain, USDOT Order 5650.2, “Floodplain Management and Protection,” requires a detailed analysis of the floodplain impacts, including risk to, or resulting from, the action impacts on natural and beneficial floodplain values, the degree to which the action provides direct or indirect support for development, and measures to minimize, restore, or preserve the natural and beneficial floodplain values.

According to FEMA, the study areas are within the Flood Insurance Rate Map (FIRM) 12031C0505H (FEMA FIRM, 2023). The Proposed Project encroaches about 16 acres on the existing 1% Annual Chance Flood Hazard Zone AE and Regulatory Floodway as determined by the FIRM and geospatial overlay of floodplain boundaries and Proposed Project limits. The City of Jacksonville (COJ) has jurisdiction over the floodplain in the vicinity of the Proposed Project. The BFEs for the study areas, referenced to the North American Vertical Datum of 1988 (NAVD88), range from 73 feet at the northern limit to 62 feet at the southern limit. **Figure 3-6** shows the location of the 100-year floodplain and floodway relative to the study areas. The Proposed Project is exempt from SJRWMD floodplain criteria due to the upstream contributing watershed being less than 5 square miles.

3.6.1.2 Surface Waters

Most surface water in Duval County comes from rainfall, except for a small amount of inflow from Baker County, west of Duval County. The study areas are in the St. Johns River Basin. From west to east, streams near the study areas include Yellow Water Creek, Rowel Creek, and Sal Taylor Creek.

FIGURE 3-6: FLOODPLAINS



Legend

- Direct Study Area
- Indirect Study Area
- Sal Taylor Creek
- 1% Annual Chance Flood Hazard (Zone AE)
- 0.2% Annual Chance Flood Hazard (Zone X)
- Regulatory Floodway (Zone AE)



Drainage at the Airport consists of sheet flow across areas of low topographic relief combined with low-order streams and canals. Existing drainage conditions for the study areas consist of terrain sloping from north to south toward existing ditches and tributaries that connect to Sal Taylor Creek. Sal Taylor Creek runs north to south along the existing road and crosses under the existing road at the east-west section via an existing culvert. The southern part of the study areas is comprised of mostly floodplain area with three major conveyance ditches discharging stormwater from the airfield pipes to Sal Taylor Creek. 0.35 acre of surface waters are found within the Direct Study Area. Sal Taylor Creek then flows south and west into Yellow Water Creek, which flows southward and joins Black Creek approximately 1.5 miles south of the Airport boundary. No drainage from the Airport flows into Outstanding Florida Waters or Outstanding Natural Resource Waters, as designated under the Clean Water Act. As described previously, the Authority has an NPDES permit for industrial activities at the Airport. This permit requires the Authority to maintain its SWPPP and SPCC plan for the Airport property.

3.6.1.3 Wetlands

The CWA defines wetlands as “...those areas that are inundated or saturated by surface 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.” *Table 3-2* describes wetland characteristics.

TABLE 3-2: WETLAND CHARACTERISTICS

Characteristic	Description
Water	Presence of water at or near the ground surface for a part of the year
Hydrophytic Plants	A preponderance of plants adapted to wet conditions
Hydric Soils	Soil developed under wet conditions

Source: ERS, 2022.

Wetlands within the study areas were identified and classified using definitions and guidelines in the FDOT’s FLUCFCS Handbook (1999) and the Cowardin System (1979). The United States Army Corp of Engineers (USACE) Wetland Delineation Manual (1987) and its regional supplements, the Florida Wetlands Delineation Manual (Gilbert, et al., 1995), and several field guides aided in the identification of wetlands. The attributes of the three parameters of vegetative composition, hydrologic regime, and soil classification are used to determine the presence and type of wetland system. A field investigation of the study areas was completed in June 2022.

The boundaries of jurisdictional wetlands within the study areas were previously delineated following Chapter 62-340, Florida Administrative Code (F.A.C.), and the USACE 1987 Manual and its subsequent addendums. The St. Johns River Water Management District (SJRWMD) issued a Jurisdictional Determination (JDS) validating all on-site wetlands and surface water boundaries on May 27, 2020 (SJRWMD Permit No. 70452-112). This JDS will expire on May 27, 2025.

Wetland types in the study areas include Wetland Forested Mixed, Vegetated Non-forested Wetlands, and Upland Cut Ditch. Wetland Forested Mixed wetlands represent a majority of wetland habitat

present within the study areas. Observed canopy species include laurel oak, water oak, tuliptree, swamp tupelo, American hornbeam, and sweetbay magnolia. Subcanopy species include cabbage palm, swamp bay, myrtle lead holly, Virginia willow, highbrush blueberry, wax myrtle, and fetterbush. Groundcover primarily consists of cinnamon fern, royal fern, netted chain fern, Virginia chain fern, beak sedges, and caric sedges. These wetland systems are mature, relatively undisturbed, and moderate to high in quality. A very small inclusion of Vegetated Non-forested Wetlands habitat is located in the southeast corner of the study areas. Observed species include redroot, shore rush, bunched beak sedge, and maidencane. Upland Cut Ditches are stormwater features that extend through the study areas. Swales were observed along either side of the access road throughout the study areas. All ditches and swales convey stormwater away from the airfield and associated roads. As shown previously in **Figure 3-3**, about 19 acres of wetlands and about 0.3 acre of surface waters are within the study areas. Wetlands within the study areas drain into Sal Taylor Creek, which flows south into Black Creek, and ultimately into the St Johns River. See **Appendix B** for further details.

3.6.2 Environmental Consequences

This section describes the significance threshold(s) pertaining to floodplains, surface water, and wetlands and the potential effects the Proposed Project would have on these water resources compared to the No Action Alternative.

3.6.2.1 Significant Thresholds

Floodplains - Executive Order (EO) 11988, *Floodplain Management*, establishes a policy to avoid construction within a 100-year floodplain where practicable and where avoidance is not practicable to ensure the construction design minimizes potential harm to or within the floodplain. DOT Order 5650.2, *Floodplain Management and Protection*, and FAA Orders 1050.1F and 5050.4B contain policies and procedures for implementing EO 11988 and evaluating potential floodplain impacts. FAA Order 1050.1F, Exhibit 4-1 defines the FAA's significance threshold for floodplains: "The action would cause notable adverse impacts on natural and beneficial floodplain values." As defined in DOT Order 5650.2, a significant floodplain encroachment is an action that would involve at least one of the following:

- » high probability of loss of life;
- » substantial cost or damage, including interruption of aircraft service or loss of a vital transportation facility; or
- » cause adverse impacts on natural and beneficial floodplain values.

Surface Water - FAA Order 1050.1F, Exhibit 4-1, defines the FAA's significance threshold for surface waters, which states, The action would:

- » Exceed water quality standards established by Federal, state, local, and tribal regulatory agencies;
- » Be inconsistent with applicable state wetland strategies; or
- » Contaminate public drinking water supply such that public health may be adversely affected.

Wetlands - FAA Order 1050.1F, Exhibit 4-1, defines the FAA's significance threshold for wetlands, which states, "The action would:

- » Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;
- » Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;
- » Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety, or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public);
- » Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;
- » Promote development of secondary activities or services that would cause the circumstances listed above to occur; or 6. Be inconsistent with applicable state wetland strategies.
- » Be inconsistent with applicable state wetland strategies."

3.6.2.2 Environmental Consequences

Floodplains - Approximately 0.3 acre of the floodway and 16 acres of the 100-year floodplain would be directly affected by the placement of fill with the Proposed Project (see *Figure 3-6*). Placing fill in the 100-year floodplain could adversely affect the floodplain's natural and beneficial values resulting in loss of storage during the base flood, raising the BFE, and causing flooding to areas outside the floodplain.

In compliance with Executive Order 11988, USDOT Order 5650.2, and FAA Orders 1050.1F and 5050.4B, a floodplain analysis was conducted to model the Proposed Project's impacts. The analysis was conducted using the EPA Storm Water Management Model (SWMM) as required by the City of Jacksonville.

The SWMM analysis included incorporating the increased impervious surface of the Proposed Project to size culverts and mitigation areas to minimize impacts to the floodplains to the extent practicable. The floodplain analysis SWMM model input and results are included in sub-Appendix F of this EA's Appendix C.

The floodplain analysis concluded that the Proposed Project would result in a minor increase in the 100-year flood elevation within allowable local requirements and a change in flood boundaries only on Airport property immediately following construction. Additionally, compensatory storage and conveyance would mitigate the impacts on the natural and beneficial floodplain values. The minor increase in the 100-year flood elevation would not result in a high probability of loss of life, substantial costs or damages (including the interruption of aircraft service or loss of a vital transportation facility), or cause adverse impacts on natural and beneficial floodplain values (see *Appendix C*).

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Mitigation, Avoidance, or Minimization Measures - The floodplain impacts are unavoidable. No practical alternatives avoid floodplain impacts, as discussed in Chapter 2. The proposed access road was realigned to avoid additional floodway impacts south of the east-west section. The City of Jacksonville does not require roadways to be elevated above the BFE; however, the roadway elevations were set at approximately the BFE as a safety measure to allow access to and from the Airport during a major storm event. Mitigation is required to minimize the impacts of the Proposed Project on the existing floodplain boundaries and flood elevations. Potential mitigation measures to offset the floodplain impacts include a combination of providing compensatory floodwater storage volume and equivalent flow conveyance via bridge or culvert. The City of Jacksonville requires equivalent compensation for fill places within the 100-year floodplain. The Proposed Project would place approximately 50,000 cubic yards (CY) of fill in the floodplain. Due to the low elevation of the existing site and wetlands, the seasonal high groundwater table (SHGWT) is located at or above grade along much of the proposed roadway in the floodplain.

To minimize the impacts of filling the floodplain, various drainage culvert sizes were assessed during the floodplain analysis to meet the City of Jacksonville's requirements for flood elevation rise. The City of Jacksonville allows a 1-foot rise at the upstream culvert face and a 0.1-foot rise 500 feet upstream of the culvert. The floodplain analysis showed that the rise remains within the banks of the existing channel upstream of the floodway culvert and does not encroach on existing structures within the study areas.

Additionally, the City of Jacksonville requires equivalent compensation for the fill placed in the floodplain to offset impacts. The Proposed Project incorporates floodplain compensation areas upstream and downstream of the east-west section to mitigate floodplain fill. The compensation areas were incorporated into the SWMM analysis. The Proposed Project would place approximately 50,000 cubic yards (CY) of fill in the floodplain. Due to the low elevation of the study areas and wetlands, the seasonal high groundwater table (SHGWT) is located at or above grade along much of the proposed roadway in the floodplain.

Due to the potential impact the Proposed Project would have on a floodway, a Conditional Letter of Map Revision (CLOMR) is being obtained concurrently through FEMA. The floodplain SWMM analysis and design plans were submitted to FEMA, and the permit coordination is ongoing at the time of this EA. The project is being permitted under FEMA Case No. 23-04-0050R.

Surface Water - Surface waters within the study areas are associated with on-site access roads and airfield discharge used for stormwater conveyance to Sal Taylor Creek. The Proposed Project would affect approximately 0.35 acre of surface waters, as shown in **Appendix B**. Based on preliminary design information, approximately 0.09 acre of on-site surface waters would be regraded to improve on-site stormwater conveyance and tie into the Proposed Project. The remaining 0.26 acres of surface water impacts would be culverted to maintain flow to Sal Taylor Creek. Three new culvert crossings, one double 43-inch by 68-inch elliptical pipe and two double 6-foot by 6-foot box culverts, would be required to convey discharge from the airfield outfalls through the Proposed Project. Two additional barrels and a length extension to 150 feet would be required for the existing floodway crossing widening in the east-west section of the road.

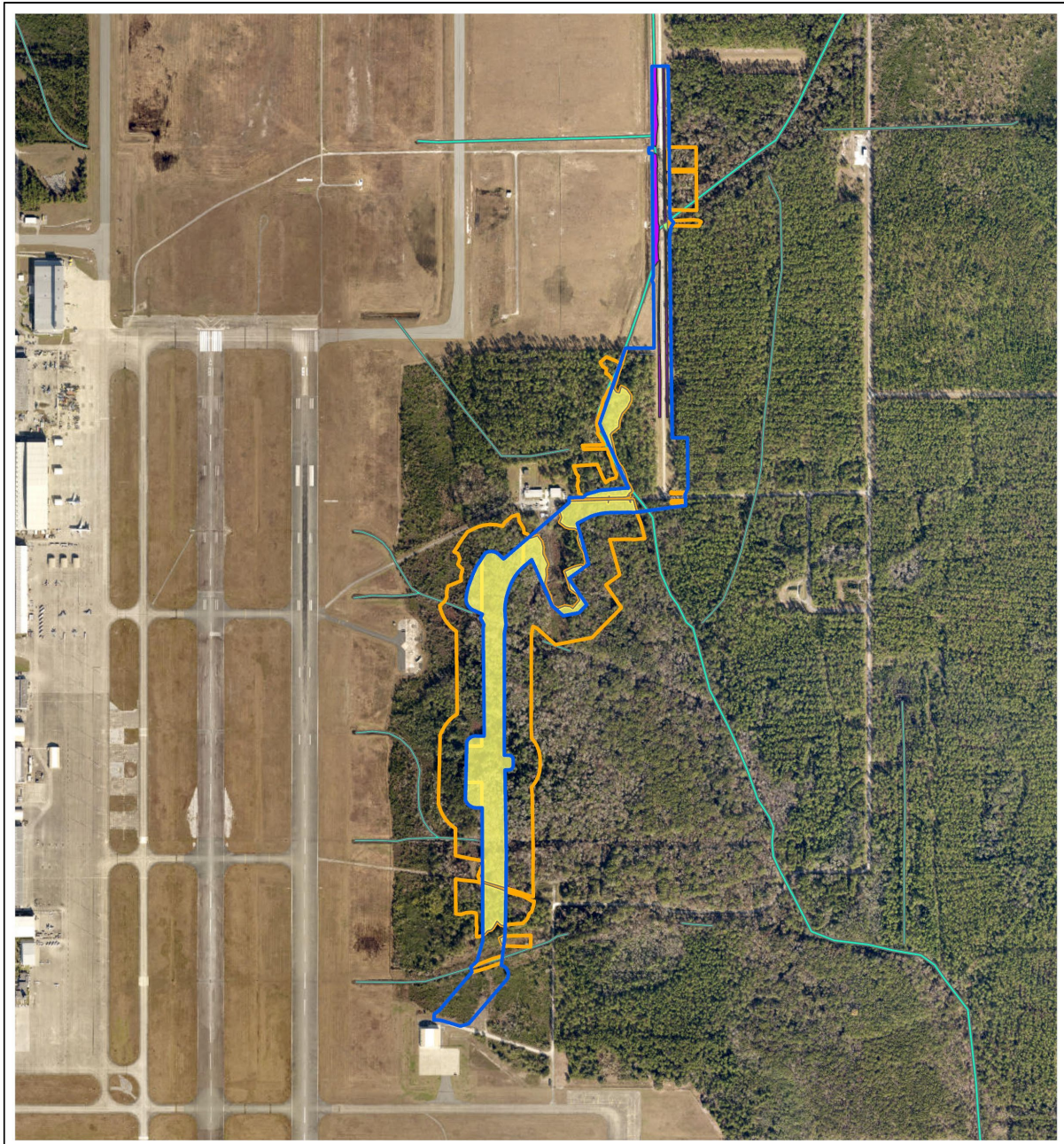
3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The Proposed Project stormwater system consists of swales and pipes for conveyance and stormwater management facilities to meet water quality and quantity requirements. Stormwater runoff would drain by sheet flow to swales and inlets, then be conveyed to four dry retention ponds and ultimately discharged to Sal Taylor Creek and its tributaries. The general drainage patterns of the direct study area would remain unchanged from the existing conditions. The treatment provided by the approved stormwater management facilities would protect the quality of surface water bodies and public drinking water supply and sustain federal, state, local, or tribal water quality standards.

Mitigation, Avoidance, or Minimization Measures - Within the Direct Study Area, 0.26 acre of surface water affected by the Proposed Project was previously permitted under previous projects (SJRWMD Permit No. 70452-57, -92, and -96). Previously permitted impacts to surface waters have been completed, and mitigation provided. Of the 0.35 acre of surface waters, 0.32 acre of surface waters within the study areas (see **Figure 3-7**) are upland-cut ditches. Local and state agencies no longer require mitigation for surface water impacts to upland cut ditches; therefore, no additional mitigation is required for surface water impacts. There are 0.3 acre of surface water located within Sal Taylor Creek, and this impact is associated with the floodplain compensation grading and does include the placement of fill or a culvert within the creek. Ditches and other surface water habitats are often replaced, relocated, or expanded as part of airport development, thereby maintaining the functions performed by these surface waters (stormwater conveyance, wood stork foraging habitat, etc.). The Proposed Project includes open channel ditches with catch basins and culverts to direct water to required stormwater ponds and to prevent water from collecting and remaining in the ditches. This would not change the structure of the open air ditch, but convey water beneath the ditch into stormwater ponds. The Proposed Project incorporates Best Management Practices (BMPs) to help reduce post-construction runoff and pollutant transport. Silt fences and inlet filters would help reduce sediment transport to the surrounding wetlands and floodplains, as well as keep the area untouched. To ensure the inlet filters perform as intended, any sediment accumulated during construction should be removed to ensure proper capacity.

To obtain the required SJRWMD permit, the Proposed Project's design, mitigation, and BMPs would meet strict standards to protect all applicable water quality standards. The Proposed Project stormwater treatment and attenuation would be achieved through dry retention facilities. This meets requirements in the SJRWMD Environmental Resource Permit (ERP) Applicant's Handbook and FAA design criteria. As recommended in FAA Advisory Circular (AC) 150/5200-33C, the Proposed Project would remove all standing water it causes on or near the airfield within 48 hours of a design rainfall event by using the underdrains in the dry retention ponds. Thus, the stormwater facilities would not be a wildlife hazard attractant. The stormwater detention would protect downstream properties by detaining project-related runoff to existing conditions for up to the 25-year rainfall event and providing some attenuation for events exceeding the 25-year rainfall event. The infiltration provided by the dry-retention treatment would protect the quality of surface water bodies and public drinking water supply and sustain federal, state, local, or tribal water quality standards.

FIGURE 3-7: WETLANDS



Sources: ERS 2023; ESRI 2023; RS&H 2023.

0 500 1,000 Feet

Legend

- Direct Study Area
- Indirect Study Area
- Upland Cut Ditches
- Wetlands
- Wetland Fill Impacts
- Sal Taylor Creek



3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Wetlands - The construction of the Proposed Project would affect 18.42 acres of wetlands. The wetland types affected are vegetated non-forested wetlands, and wetland forested mixed (see **Figure 3-7** for further details). See **Appendix B** for further details.

Cecil Field Naval Air Station was closed under the federal Defense Base Realignment and Closure Act of 1993. Projects are permitted on an as needed basis by SJRWMD and the U.S. Army Corps of Engineers (USACE) to address redevelopment of the approximately 17,000 acres within the Cecil Field boundary.

The study areas are located within the boundary of the SJRWMD Conceptual Permit # 4-031-70452-1, issued on November 1, 2001. The conceptual permit authorized the impact of approximately 497 acres of wetland habitat. The City of Jacksonville and the Jacksonville Port Authority were co-applicants for the issued conceptual permit. Subsequently, permit responsibility was transferred to the Jacksonville Economic Development Commission (JEDC) and the JAA. The originally issued conceptual permit also identified a mitigation plan to offset conceptual impacts in the form of a large mitigation corridor. Mitigation ratios were approved as part of the mitigation plan. Through a subsequent memorandum of agreement, the JEDC and JAA each allocated portions of the mitigation area to offset future wetland impacts.

Permit modification #4-031-70452-55 consisted of the conceptual approval to affect approximately 106 acres of wetlands in areas controlled by JAA. To mitigate the impact of the 105.86 acres± of wetland impact, the JAA proposed preserving approximately 1,363 acres of upland and wetland habitat and creating approximately 27 acres of wetland habitat. To date, JAA has used approximately 118 acres of wetland preservation and 220.24 acres of upland preservation. Therefore, JAA possesses approximately 1,054 acres of upland and wetland preservation and 28.68 acres± of wetland creation available to offset impacts associated with the Proposed Project. While the limits of the Proposed Project are included in the overall conceptual boundary, on-site wetlands were not approved for impact. Therefore, it is anticipated that the mitigation area may be used to offset incurred impact, but conceptually approved mitigation ratios within the mitigation area may need to be revisited. Permit # 4-031-70452-55 expires on April 27, 2032.

USACE permit SAJ-2008-1502 (SP-BAL) authorized 152.32 acres of wetland impacts to construct aircraft hangars, taxiway extensions, maintenance facilities, and aviation-related support facilities. Proposed impact areas associated with the Proposed Project are on wetland impact maps Sheet B and C of the USACE permit. According to JAA's records, sufficient mitigation remains within the mitigation area permitted by SAJ-2003-1935 (IP-BAL) to offset wetland impacts incurred by the Proposed Project. Permit #SAJ-2003-1935 (IP-BAL) expires September 15, 2023, while permit SAJ-2008-1502 (SP-BAL) expires September 22, 2023. The USACE stated in a January 19, 2023, email to Walt Esser, that they would consider these project impacts covered under existing active permits and requests a minor modification for authorization of project impacts. Plan set drawings of the Proposed Project, a SJRWMD permit, UMAM sheets, and the associated mitigation ledger would be provided to the USACE to complete permitting. No state 404 authorization is required as a valid USACE permit covers the project area. A minor modification would be required in order to provide USACE with a project-specific mitigation plan.

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Mitigation, Avoidance, or Minimization Measures - All wetlands within the Direct and Indirect Study Areas are part of a valid Formal Wetlands Determination issued on September 27, 2019 (Permit No. 70452.108) by the SJRWMD. Valid USACE permits (Permit # SAJ-2008-1502 (SP-BAL) and Permit # SAJ-2003-1935 (IP-BAL)) authorize the use of the Cecil Mitigation Area to offset wetland impacts at Cecil Airport.

Avoidance and Minimization - At this time, it is assumed that all jurisdictional wetlands within the Proposed Project footprint would be affected. Avoidance and minimization of wetland impacts would be considered further to the maximum extent practicable throughout the design and construction phases.

Conceptual Wetland Mitigation - Wetland impacts resulting from the construction of the Proposed Project would be mitigated according to Section 373.4137, Florida Statute (F.S.), to satisfy all mitigation requirements of Part IV of Chapter 373, F.S., and 33 U.S.C. §1344. All wetlands that may be affected by the Proposed Project are jurisdictional and would require freshwater wetland functional gain units to offset impacts. It is estimated that 15.03 units of functional gain would be required to offset wetland impacts that may be incurred by the Proposed Project. The precise amount and type of mitigation required would be identified and negotiated with all applicable regulatory agencies when the Proposed Project enters the design and permitting phases.

Mitigation for the estimated 18.42 acres of impact is proposed to be accomplished through the preservation of uplands and wetlands within the JAA-owned portion of Cecil Commerce Center Conservation Corridor. This mitigation has been previously deemed regionally significant. Per the conceptual permit, ratios determine the amount of preservation required for any project proposing to use the conservation corridor as mitigation. Conceptually approved mitigation ratios are 30:1 for wetland preservation and 10:1 for upland preservation. Secondary impacts are assessed on a project-by-project basis. Proposed mitigation would be provided by recording a conservation easement over approximately 264.01± acres of upland habitat and 58.71± acres of wetland habitat. A management plan would be a component of the conservation easement, ensuring the mitigation area provides appropriate functions in perpetuity. The proposed conservation easement is adjacent to previously recorded easements and would amplify the value of the overall conservation corridor. The habitat configuration to be placed under conservation easement would be finalized through permitting.

Permits - The regulatory agencies exerting jurisdiction over potentially affected wetlands would require permits for unavoidable impacts. The Proposed Project is expected to require an Individual Environmental Resource Permit from SJRWMD and a minor modification from USACE to identify the project-specific mitigation plan.

All on-site wetlands are part of a valid Formal Wetlands Determination issued on September 27, 2019 (permit No. 70452.108) by the SJRWMD. A valid USACE (Permit No. SAJ- 2008-1502 (SP- BAL)) depicts the Proposed Project impacts. USACE permit SAJ-2003-1935 (IP-BAL) authorizes using the Cecil Mitigation Area to offset wetland impacts at Cecil Airport. According to JAA records, sufficient mitigation remains within the mitigation area permitted by SAJ-2003-1938 (IP-BAL).

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

As a valid permit exists for the study areas and the Proposed Project, additional Section 404 permits will not be required. As stated, USACE would require a minor modification to the existing permit to identify project-specific mitigation. Required documentation includes plan sets, a SJRWMD permit, UMAM sheets and the associated mitigation ledger.

JAA possesses approximately 1,054 acres of upland and wetland preservation and 28.68 acres of wetland creation available to offset impacts associated with the Proposed Project. While the study areas are included in the overall conceptual boundary, on-site wetlands were not approved for impact. Therefore, it is anticipated that the mitigation area may be used to offset incurred impact, but conceptually approved mitigation ratios within the mitigation area may need to be revised. Permit No. 4-031-70452-55 expires on April 27, 2032.

In December 2020, FDEP assumed regulatory responsibility over the waters of the United States (WOTUS) under only Section 404 of the Clean Water Act. USACE retained jurisdiction over all WOTUS deemed jurisdictional under the Rivers and Harbors Act of 1899. The assumption of jurisdiction is outlined in Chapter 62-331, F.A.C., and the operating agreement between FDEP and USEPA. Project-specific permitting responsibility is based on the location of impacts as they pertain to FDEP-assumed or USACE-retained waters. The permitting of any project that involves impacts to a USACE-retained wetland or water would be administered by USACE, while any project that only involves impacts to FDEP-assumed wetlands would be administered by FDEP.

Pursuant to 40 CFR parts 122 and 124, any project that clears one or more acres of land will require a National Pollutant Discharge Elimination System (NPDES) permit from the FDEP. In association with this permit, a Stormwater Pollution Prevention Plan (SWPPP), implemented during the construction of the Proposed Project, would also be required. The primary functions of the NPDES requirements are to ensure that sediment and erosion are controlled during the construction of the Proposed Project. These permits require adherence to BMPs to ensure compliance.

3.7 CUMULATIVE IMPACTS

The CEQ regulations require the analysis and disclosure of the project's potential cumulative effects (40CFR § 1508.25(a)(2) and (3)). This disclosure informs the public if the project, when considered with other past, present, and reasonably foreseeable future actions, would contribute to significant environmental effects.

Cumulative effects are only possible for those resources that the Proposed Project would affect, specifically: biological resources, coastal resources, hazardous materials, natural resources, and water resources, including surface waters, floodplains, and wetlands. The Proposed Project would not cause cumulative effects to resources that the Proposed Project would not affect. Each past, present, and reasonably foreseeable future action was cumulatively analyzed for its potential to affect the same environmental resources affected by the Proposed Project.

This section describes the cumulative projects, significance threshold(s) pertaining to cumulative effects, and the potential for the Proposed Project to contribute to potentially significant cumulative impacts when considered with those of other past, present, and reasonably foreseeable future actions.

3.7.1.1 Cumulative Projects

These are construction projects that have occurred in the past (2018-2021), present (2022-early 2023), and future (late 2023-2028) at the Airport.

Past (2018-2021)

- » Construction of a fabric spaceport hangar in the northeast quadrant of the Airport. The hangar opened in 2018 for reusable launch vehicle (RLV) storage, assembly, and processing.
- » Construction of the Jacksonville Fire Rescue Station #73 in the northwest quadrant of the Airport. This facility opened in June 2019 and reduced response times in the area by over 50 percent.
- » Construction of a Wayfair Distribution center in the northeast quadrant of the Airport. This facility is about 1 million square feet and opened in June 2020.
- » Rehabilitation of Runway 18L/36R in 2020.
- » Construction of the new Air Traffic Control Tower at the Airport opened in 2021. The new tower is 162 feet tall and includes a mission control center to support future horizontal launch operations.

Present (2022-2023)

- » Construction of a new hangar in the northwest quadrant of the Airport. This facility will be about 39,000 square feet and leased to ManTech Advanced Systems International Inc., which supports the U.S. Navy's Maritime Patrol and Reconnaissance Airport Program. The hangar will also have an outdoor apron of about 81,000 square feet.
- » Rehabilitation of Runway 18R/36L.
- » Improvements to Approach Road in the northeast quadrant of the Airport. This roadway will provide access to the existing spaceport facilities.

Future (2023-2028)

- » Construction of a new Boeing Facility hangar in the northwest quadrant of the Airport. This facility would be about 362,000 square feet, including hangar, office, and support shops. The facility would provide maintenance, repair, and overhaul (MRO) services for the U.S. Navy and Marine Corps. Boeing expects the facility to be operational in 2024.

3.7.1.2 Significance Threshold

The thresholds of significance in FAA Order 1050.1F, Exhibit 4-1 for each resource category apply to cumulative as well as direct and indirect impacts.

3.7.1.3 Environmental Consequences

No Action Alternative - The No Action Alternative has no effects that could contribute to potentially significant cumulative impacts.

Proposed Project - Implementation of the Proposed Project would not cause environmental effects related to Climate; Department of Transportation Act, Section 4(f) and 6(f); Farmlands; Historical, Architectural, Archaeological, and Cultural Resources; Land Use; Noise and Compatible Land Use; Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks; and Visual Effects, therefore, significant cumulative effects would not occur.

Biological Resources - Past, present, and reasonably foreseeable future actions, and the Proposed Project could affect biological resources. Cumulatively, the projects identified in **Section 3.7.1.1** are not expected to cause significant effects to biological resources. Given the potential effects of the Proposed Project described in **Section 3.2**, the Proposed Project, in addition to past, present, and reasonably foreseeable future actions, is not anticipated to cause significant effects to biological resources.

Coastal Resources - Past, present, and reasonably foreseeable future actions, and the Proposed Project could affect coastal resources. Cumulatively, the projects identified in **Section 3.7.1.1** are not expected to cause significant effects to coastal resources. Given the potential effects of the Proposed Project described in **Section 3.2**, the Proposed Project, in addition to past, present, and reasonably foreseeable future actions, is not anticipated to cause significant effects to coastal resources.

Hazardous Materials, Solid Waste, and Pollution Prevention - A review of available information for past and present projects did not reveal any significant effects to hazardous materials and solid waste. Reasonably foreseeable future projects could potentially include facilities that store or handle the waste. However, those projects would be required to follow federal, state, and local rules and regulations regarding the handling, storage, and use of hazardous materials. Additionally, projects at the Airport have been and/or would be included under the Airport’s NPDES permit for the Airport. The Airport would amend, if needed, the procedures for managing solid waste at the Airport should the amount of solid waste generated exceed what can currently be managed. For those reasons, the Proposed Project, in addition to past, present, and reasonably foreseeable future actions, is not anticipated to cause a significant cumulative effect to hazardous materials, solid waste, or pollution prevention.

Natural Resources and Energy Supply - The past, present, and reasonably foreseeable future projects and the Proposed Project could cause an increase in the use of natural resources and energy demand. However, the projects identified in **Section 3.7.1.1** and the Proposed Project do not require the use of unusual materials or materials that are in short supply. Additionally, the utility provider for the area is expected to have sufficient capacity to handle the increase in energy supply.

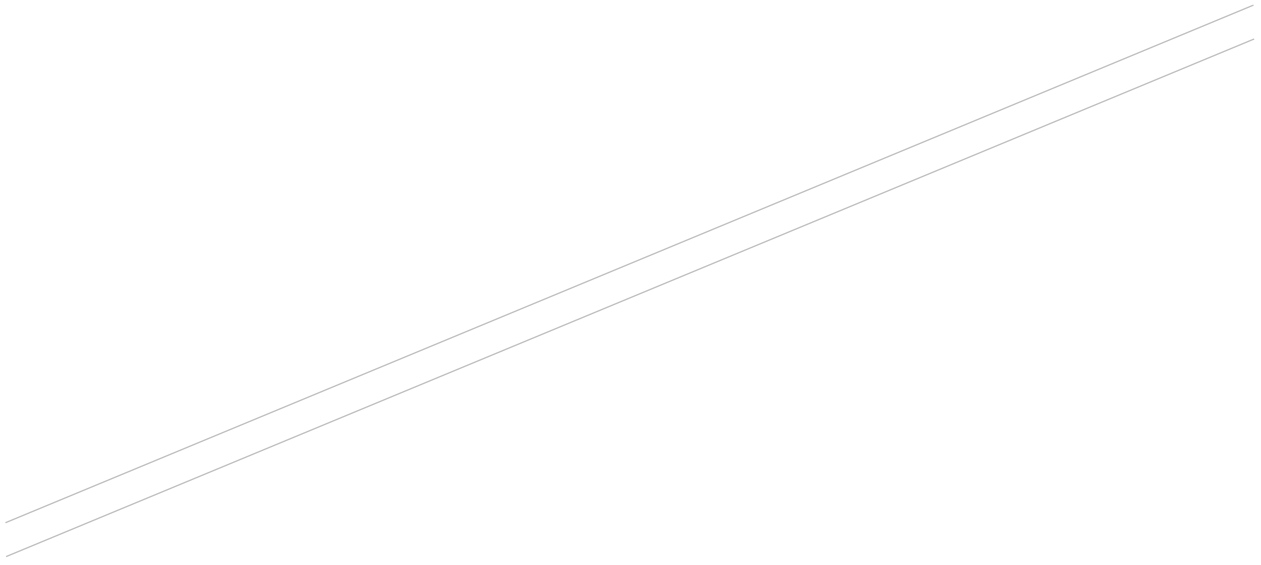
Water Resources - The past, present, and reasonably foreseeable future projects and the Proposed Project could affect wetlands, floodplains, and surface water. Existing permits exist from both SJRWMD and USACE that include the study areas. Elimination and reduction of wetland impacts has

3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

been an integral part of all environmental planning efforts. The regionally-significant conservation corridor was established to offset impacts associated with future development actions at Cecil Airport. Perpetual conservation easements are placed over critical upland and wetland habitats within the corridor to offset impacts to wetlands and surface waters that require mitigation. The easements ensure the long-term protection of habitat with regional significance.

With regard to wetlands and floodplains, the past, present, and reasonably foreseeable future projects have or could have wetland and/or floodplain impacts. On-Airport projects require the Authority to obtain any necessary permits from the appropriate state and/or federal agency (e.g., USACE, FDEP, FEMA) before the start of ground-disturbing activities. In some instances, mitigation would be necessary to account for the permanent loss of wetland habitat or floodplains. If mitigation is not required (e.g., if wetland/floodplain impacts are below the mitigation threshold established by the overseeing agency such as USACE, FDEP, or FEMA), the selected construction contractor would be required to adhere to permit provisions to further minimize potential impacts. Similarly, off Airport projects undertaken by the City or County would require wetland and/or floodplain permits and/or mitigation for wetland and/or floodplain impacts. For the reasons described in this paragraph, the Proposed Project would not cause a significant cumulative effect on wetlands or floodplains when considered in conjunction with other actions.

With regard to surface water, each project that has or would disturb over one acre of land would require a NPDES construction permit. In addition, various water quality standards and regulations implemented at the federal and state levels require development to address the increase in impervious surface and potential pollutants in subsequent stormwater runoff. Compliance with permit requirements would preclude potentially significant impacts to surface water. For the reasons described in this paragraph, the Proposed Project, when considered in conjunction with past, present, and reasonably foreseeable future projects, would not cause a significant cumulative effect to surface water.



AGENCY AND PUBLIC INVOLVEMENT



The EA coordination process described in this chapter provides interested agencies and the public the opportunity to comment on the potential effects of the construction and operation of the Proposed Project.

As NEPA and FAA Order 1050.1F require, a public involvement process was conducted. This process provides the opportunity for public and agency input regarding the Proposed Project analyzed in this EA. The public and agency involvement process included:

- » Provide information about the Proposed Project's purpose and need and the alternatives the EA discusses.
- » Obtain feedback about the above information from the public and agencies interested in and affected by the Proposed Project.
- » Inform those interested that the EA provides a full and fair discussion of project-related environmental effects.
- » Provide timely public notices to the interested parties so they may submit comments and participate in public open meetings concerning the Proposed Action.
- » Record comments received from interested parties.

4.1 PUBLIC INVOLVEMENT AND AGENCY COORDINATION APPROACH AND PROCESS

Pertinent federal statutes, regulations, executive orders, and guidance are considered when conducting the public involvement process. **Table 4-1** lists the agencies coordinated with regarding the Proposed Project and provided the opportunity to comment (see **Appendix A**). The agency comments received in response to the initial coordination letters are reflected in the application sections of **Chapter 3** (Affected Environment and Environmental Consequences). Copies of the agency response letters are included in **Appendix A**.

4.2 DISTRIBUTION OF DRAFT EA

The Authority published a notice of availability for the Draft EA in the legal classified section of the Florida Times-Union Newspaper on May 24th and June 7th, 2023 (See **Appendix A**). The Draft EA was made available for a 30-day review (30-days after the notice of availability advertisement) at the Airport's administrative office during normal business hours, on the Airport's projects website (<https://flyjacksonville.com/content2015.aspx?id=543>), and at a local library (see **Table 4-2**).

Electronic copies were sent to agencies who requested a copy of the Draft EA for review. **Table 4-3** lists the agencies that were sent a copy of the Draft EA.

4.3 DRAFT EA AGENCY AND PUBLIC COMMENTS

During the Draft EA comment period (May 24 – June 24, 2023), no agency or public comments were received.

TABLE 4-1: INITIAL AGENCY COORDINATION

Agency	Coordination Method	Date Initiated
Florida Department of Environmental Protection State Clearinghouse	Email	May 2022
Florida State Historic Preservation Office	Email	May 2022
Cecil Commerce Center	Email	May 2022
Florida State Clearinghouse	Email	May 2022
City of Jacksonville Development Services	Email	May 2022
City of Jacksonville Planning and Development	Email	May 2022
St. Johns River Water Management District	Email	May 2022
U.S. Army Corps of Engineers	Email	May 2022
U.S. Environmental Protection Agency	Email	May 2022

Source: RS&H, 2022

TABLE 4-2: DRAFT EA AVAILABLE LOCATIONS

Location Name	Address
Jacksonville Aviation Authority	14201 Pecan Park Road Jacksonville, FL 32218
Cecil Airport	13365 Simpson way Jacksonville, FL 32221
Jacksonville Public Library (Argyle Branch)	7972 Old Middleburg Road South Jacksonville, FL 32222

Note: The Draft EA was also available on the Cecil Airport webpage: <https://flyjacksonville.com/content2015.aspx?id=543>

Source: RS&H, 2022

TABLE 4-3: DRAFT EA DISTRIBUTION

Agency	Draft EA Format
Federal Aviation Administration	Electronic
U.S. Fish and Wildlife Service	Electronic
U.S. Environmental Protection Agency	Electronic
U.S. Army Corps of Engineers	Electronic
St. Johns Water Management District	Electronic
Florida Department of Environmental Protection State Clearinghouse	Electronic
Florida State Historic Preservation Office ¹	Electronic
City of Jacksonville (COJ) – Planning and Development	Electronic
COJ – Development Services Division	Electronic
Cecil Commerce Center	Electronic

Notes – ¹ – FAA coordinated the Draft EA with the SHPO.

Source: RS&H, 2022



5

LIST OF PREPARERS



5.1 PRINCIPAL PREPARERS

This section lists the EA's principal preparers, including JAA, RS&H, Inc., and SES Energy Services, LLC representatives.

5.1.1 Jacksonville Aviation Authority

Lauren Scott, A.A.E, ACE

Position: Senior Manager of Aviation Planning

Ashley Shorter

Position: Planning & Grants Administrator

5.1.2 RS&H Inc.

David Alberts

Position: Project Manager, Senior Environmental Planner

Education: B.S. Geography

Experience: Mr. Alberts has 24 years of NEPA-related experience. He is the RS&H Team Project Manager and is responsible for the sub-consultant management and the technical NEPA documentation and quality assurance of the NEPA analysis in the EA.

Dave Full, AICP

Position: Vice President, Aviation Environmental Planning Service Group

Education: M.A. Urban Planning; B.A. Urban Planning

Experience: Mr. Full has 36 years of experience. He is responsible for the independent quality assurance of the NEPA analysis in the EA.

Monica Hamblin

Position: Aviation Environmental Specialist

Education: B.S. Interdisciplinary Studies- Environmental Science

Experience: Ms. Hamblin has 4 years of experience in the environmental field. She assists with data collection, technical writing, and exhibit production.

Steven Wilson

Position: Aviation Water Resources Engineer

Education: M.E. Environmental Engineering Services; B.S. Civil Engineering

Experience: Mr. Wilson has 6 years of experience in the water resource field. He is responsible for the Floodplains section of the EA.

Andy Samberg

Position: Project Manager, Aviation Engineer

Education: B.S. Civil Engineering

Experience: Mr. Samberg has 9 years of Aviation Project Management and Airfield Design experience. He is the RS&H Team Airfield Design Project Manager. He is responsible for designing the proposed roadway and utility corridor extension and coordinating with the Jacksonville Aviation Authority along with subconsultant management.

5.1.3 Environmental Resource Solutions

Gabrielle (Gabby) Allerton

Position: Technical Writer, Environmental Scientist

Education: B.S. Environmental Science

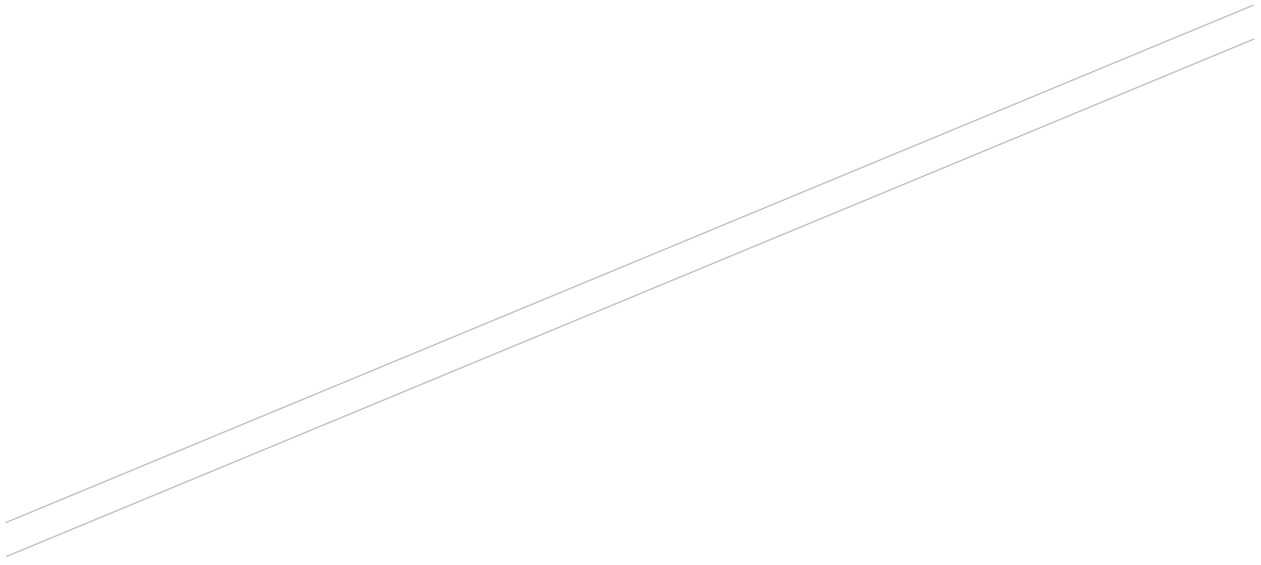
Experience: Ms. Allerton has completed multiple EA and CATEX NEPA Documents throughout her career. She is the ERS Technical writer and field leader. She is responsible for completing this EA's biological and natural resource assessments, including all associated fieldwork, appendices, and attachments.

Walt Esser

Position: Senior Environmental Scientist/FAA Qualified Airport Wildlife Biologist

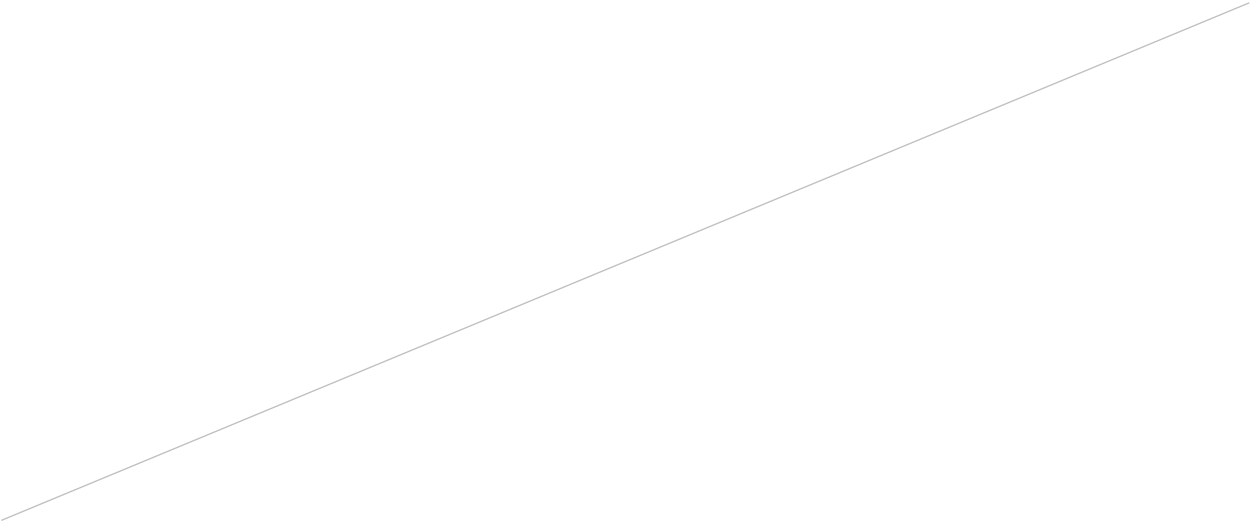
Education: B.S. Coastal Biology

Experience: Mr. Esser has over 10 years of experience conducting biological and wetlands surveys. His responsibilities include permitting, managing, and monitoring mitigation banks, conducting wildlife hazard assessments, wetland surveys, threatened and endangered species surveys, and water quality analysis.



6

REFERENCES



References

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