

4. Environmental Overview

4.1. Introduction

FAA AC 150/5070-6B, Change 2: *Airport Master Plans* encourages the consideration of environmental factors in airport master planning to “help the sponsor thoroughly evaluate airport development alternatives and to provide information that will help expedite subsequent environmental processing.” Also, FDOT’s 2021–22 *Guidebook for Airport Master Planning* notes that there are different environmental processes for projects that are funded by the FAA or FDOT. However, both agencies recognize that it is not the intent of a master plan to complete the federal and state environmental review processes. Instead, the information should provide a foundation for future environmental clearances and evaluations that may be required.

This chapter provides an overview of known environmental resources that will be considered during the identification and evaluation of development alternatives in this master plan. The environmental resources discussed in this chapter include many of those identified in *FAA Order 5050.4B: National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* and *FAA Order 1050.1F: Environmental Impacts: Policies and Procedures*. In addition to referencing previous studies and data, a site visit was conducted by a field biologist and wetland scientist in August 2023 to verify information documented in the following sections. This overview does not constitute an environmental assessment; instead, it is intended to serve as a basis for preparing NEPA reviews that are required by the FAA for advancing future projects at VRB.

4.2. Air Quality

The federal Clean Air Act, as amended, required the U.S. Environmental Protection Agency (EPA) to establish National Ambient Air Quality Standards (NAAQS) for principal air pollutants considered harmful to public health and the environment. Areas where the NAAQS are not met are designated as “nonattainment.” Indian River County is classified as “attainment” for all criteria air pollutants listed in the NAAQS. Emission sources at VRB, which are typical of airports, include aircraft engines, ground support equipment, auxiliary power units, motor vehicles, the temporary use of construction equipment, and various stationary sources, such as generators.

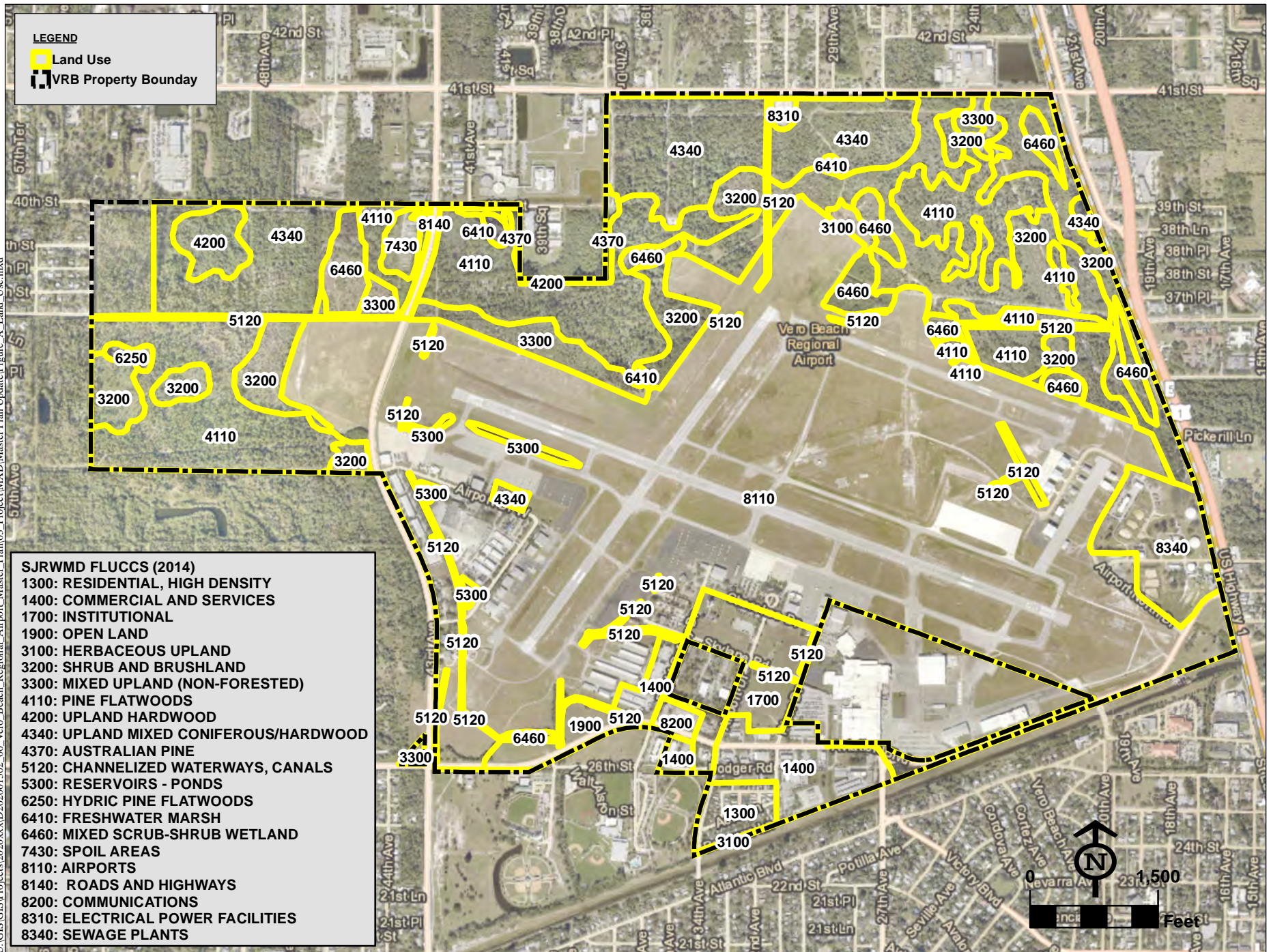
The existing and projected activity for VRB, in conjunction with Indian River County’s attainment status, indicates that continued operation of the airport is not likely to substantially affect air quality, exceed thresholds that require detailed air quality analyses, or require conformance with a state implementation plan. Any future airport projects that require NEPA review will consider the project’s effect on air quality. Certain projects and tenant activities, such as operating paint booths, must comply with applicable federal, state, and local regulations and permitting requirements.

4.3. Biological Resources

Biotic Communities and Vegetation

VRB covers approximately 1,650 acres. The land use and cover types have been mapped for VRB using the St. Johns River Water Management District (SJRWMD) Florida Land Use, Cover, and Forms Classifications Systems (FLUCCS) data for Indian River County. The FLUCCS communities are listed in **Table 4.1** and depicted on **Figure 4.1**.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA 2023, SJRWMD 2014, Hanson 2023, ESA 2023

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FIGURE 4.1
 LAND USE

TABLE 4.1: FLORIDA LAND USE, COVER AND FORMS CLASSIFICATION SYSTEMS (FLUCCS) COMMUNITIES AT VRB

Land Use Code	Description
1300	Residential, High-Density
1400	Commercial and Services
1700	Institutional
1900	Open Land
3100	Herbaceous Upland Nonforested
3200	Shrub and Brushland
3300	Mixed Upland Nonforested
4110	Pine Flatwoods
4200	Upland Hardwood
4340	Upland Mixed Coniferous/Hardwood
4370	Australian Pine
5120	Channelized Waterways, Canals
5300	Reservoirs – Ponds
6250	Hydric Pine Flatwoods
6410	Freshwater Marshes
6460	Mixed Scrub-Shrub Wetland
7430	Spoil Areas
8110	Airports
8140	Roads and Highways
8200	Communications
8310	Electrical Power Facilities
8340	Wastewater Treatment/Sewage Plants

Sources: SJRWMD 2014 and ESA 2023.

Potential impacts to biotic communities are regulated by a variety of agencies at the federal, state, and local level, depending on the project type and resource affected. In Indian River County, local agencies support development review, but federal and state agencies maintain jurisdiction over the resource categories discussed in this section.

Wildlife, Listed Species, and Essential Fish Habitat

Wildlife Hazard Management

An FAA-compliant wildlife hazard assessment (WHA) was completed in 2014, and a wildlife hazard management plan (WHMP) was approved by the FAA in October 2015. A habitat conservation plan was completed in 2016 to satisfy the permitting requirements for the implementation of the WHMP. The WHMP was updated after the most recent FAA wildlife inspection was completed in December 2019. As detailed in the WHMP, current management and future airport improvements should be designed to minimize wildlife hazards to the greatest extent possible.

Listed Species

In addition to assessing impacts under NEPA, airport improvement projects are subject to other federal and state laws associated with wildlife and protected species. Most notable is the federal Endangered Species Act, which protects and recovers imperiled species and the habitats on which they depend. The FAA and/or other federal agencies that may be involved with airport improvement projects at VRB are required to determine if their action(s) would affect listed species.

Depending on the potentially impacted habitat or species affected, coordination with the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) fisheries, and/or the Florida Fish and Wildlife Conservation Commission (FFWCC) may be required. In cases in which wetlands are also impacted, this coordination typically occurs in conjunction with the wetland permitting process.

A review of publicly available resources, such as the Florida Natural Areas Inventory (FNAI) and previous environmental studies, including the WHA and WHMP, identified the VRB property and surrounding area as potentially having suitable habitat for federal- and state-listed wildlife. **Table 4.2** provides the listed species for which suitable habitat may exist or for which there is a possibility of occurrence on or adjacent to the airfield.



TABLE 4.2: FEDERAL- AND STATE-LISTED WILDLIFE SPECIES IN THE VICINITY OF VRB

Common Name	Scientific Name	USFWS/NOAA Listings	FFWCC Listings
Fish			
Opossum pipefish	Microphis branchyurus	SC	
Mangrove Rivulus	Rivulus marmoratus	SC	
Reptiles			
American alligator	Alligator mississippiensis	T(S/A)	T(S/A)
American crocodile	Crocodylus acutus	T	T
Eastern indigo snake	Drymarchon couperi	T	T
Gopher tortoise	Gopherus polyphemus		T
Pine snake	Pituophis melanoleucus		T
Birds			
Florida scrub jay	Aphelocoma coerulescens	T	T
Burrowing owl	Athene cunicularia	T	T
Audubon’s crested caracara	Polyborus plancus audubonii	T	T
Red-cockaded woodpecker	Dryobates borealis	E	T
Little blue heron	Egretta caerulea		T
Reddish egret	Egretta refescens		T
Tricolored heron	Egretta tricolor		T
American oystercatcher	Haematopus palliatus		T
Bald eagle	Haliaeetus leucocephalus	*	*
Eastern black rail	Laterallus jamaicensis spp. Jamaicensis	T	T
Wood stork	Mycteria americana	T	T
Snail kite	Rostrhamus sociabilis	E	E
Black skimmer	Rynchops niger		T
Least tern	Sternula antillarum		T
Mammals			
Florida panther	Puma concolor coryi		E E
Southeastern beach mouse	Peromyscus polionotus niveiventris	T	T

This information is provided as a guide to project planning and is not a substitute for site-specific surveys. Such surveys may be needed to assess species' presence or absence, as well as the extent of project effects on listed species and/or designated critical habitat.

E = endangered; T = threatened; SC/SSC = species of special concern; C = candidate for list at the federal level by USFWS; T(S/A) = threatened (similarity of appearance) to American crocodile - Crocodylus acutus

*Federal protection under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act

Candidate species receive no statutory protection under the Endangered Species Act. The FWS encourages cooperative conservation efforts for these species because they are, by definition, species that may warrant future protection under the EPA.

Sources: USFWS, FFWCC, and FNAI, accessed August 2023.

While the biologic resources reviewed indicate that VRB is in an area that has the potential for the occurrence of wildlife listed in Table 5.2, VRB does not contain habitat that would support a majority of these species. The following specific-species surveys, monitoring, consultation, and/or permitting guidelines, established by the FFWCC and/or USFWS, should be considered for airport projects within the property limits: eastern indigo snake, gopher tortoise, American bald eagle, red-cockaded woodpecker, Florida scrub jay, Audubon's crested caracara, burrowing owl, wood stork, and the West Indian manatee (potential adjacent stormwater impacts). Further, it should be noted that all construction projects that require clearing large areas should be stabilized as quickly as possible to avoid leaving large, cleared areas for an extended duration to prevent attracting nesting shorebirds.

Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801, et seq.) reflects the secretary of commerce and National Marine Fisheries Service's (NMFS) authority and responsibilities for the protection of essential fishery habitat. The act specifies that "each federal agency shall consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act." Essential fish habitat is defined by the act as "... those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 'Waters' include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include areas historically used by fish. 'Substrate' includes sediment, hard bottom, structures underlying the waters, and any associated biological communities. 'Necessary' means the habitat required to support a sustainable fishery and the managed species contribution to a healthy ecosystem. 'Spawning, breeding, feeding, or growth to maturity' covers all habitat types used by a species throughout its life cycle," according to Public Law 94-265, as amended by the Magnuson-Stevens act. Only species managed under a federal fishery management plan are covered.

The NMFS, also known as NOAA Fisheries, reviews potential impacts to marine listed species and coordinates for projects that may affect EFH. There are four required components of an EFH consultation: Notification, EFH assessment, NMFS EFH conservation recommendations, and U.S. Army Corps of Engineers (USACE) response. VRB is within the area of NOAA Fisheries' Southeast Regional Office.

Typically, EFH assessments are conducted where projects have the potential to affect identified resources, mostly in-water activities or activities that could affect coastal vegetation or substrate. For VRB, EFH consultation may be required for projects that discharge into adjacent drainage ditches that lead to the Indian River. This would potentially include any projects where stormwater improvements require altering conveyances or structures that discharges to the Indian River. Further, critical habitat for the West Indian manatee occurs within the main relief canal, 0.1 miles southeast of VRB and east of the U.S. 1 intersection, and the Indian River 1.6 miles east of VRB.

4.4. Department of Transportation Act: Section 4(f) and Other Environmentally Sensitive Public Lands

Section 4(f) of the Department of Transportation Act of 1966, recodified and renumbered as Section 303(c) of U.S. Code Title 49, states that the transportation secretary “may approve a transportation program or project ... requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance (as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site) only if-

- (1) there is no prudent and feasible alternative to using that land; and
- (2) the program or project includes all possible planning to minimize harm to the park, recreation area, wildlife and waterfowl refuge, or historic site resulting from the use.”

At this time, there are two recreational areas and 40 historical resources, as listed on the National Register of Historic Places and the Florida Master Site File, adjacent to or within 500 feet of the airport. The Section 4(f) recreational areas are the Troy Moody Park and the Indian River Citrus Museum, 0.4 miles and 0.6 miles, respectively, southeast of VRB. The historical resources are discussed in Section 4.6 the Florida Master Site File report in **Appendix F**. There are no wildlife and waterfowl refuges on or in the immediate vicinity of VRB. The Indian River, approximately 1.6 miles east of VRB, and the main relief canal (east of U.S. 1), 0.1 mile southeast of VRB, are the closest features designated as critical habitat, specifically for the West Indian manatee.

4.5. Hazardous Materials and Waste Management

Hazardous Materials

Federal, state, and local laws regulate hazardous materials use, storage, transport, or disposal. Major laws and issue areas include:

- Resource Conservation and Recovery Act (RCRA) – hazardous waste management
- Federal Hazardous and Solid Waste Amendments – hazardous waste management
- Comprehensive Environmental Response, Compensation, and Liability Act – cleanup of contamination
- Superfund Amendments and Reauthorization Act (SARA) – cleanup of contamination
- Emergency Planning and Community Right-to-Know Act (SARA Title III) – business inventories and emergency response planning

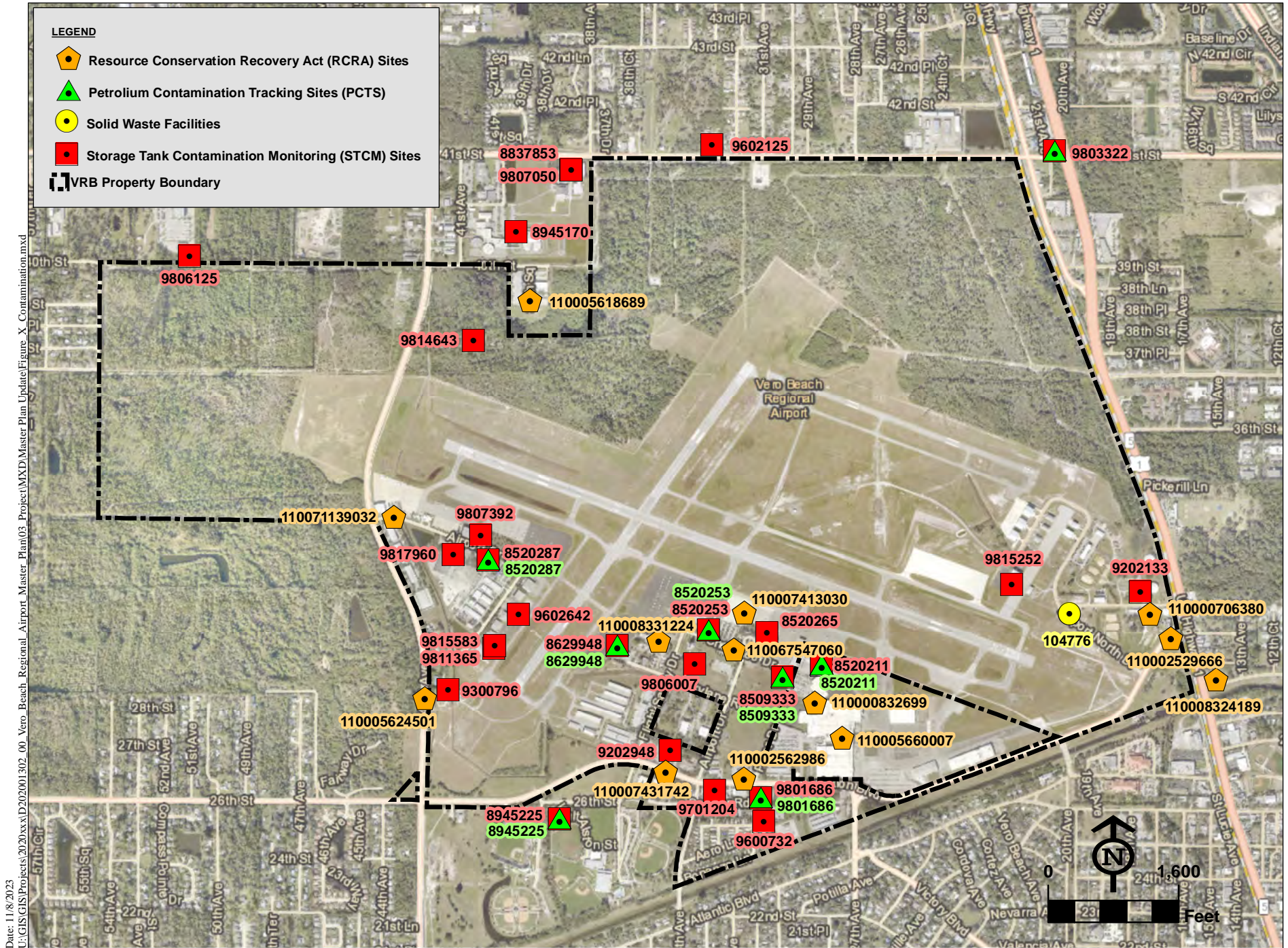
According to the Florida Department of Environmental Protection (FDEP) online RCRA database, OCULUS, there are 21 sites listed that contain/contained fuel storage tanks. In addition, there are 12 sites that store, generate, transport, treat, and dispose of hazardous waste, as well as six listed as waste cleanup sites. These sites include on-airport as well as any immediately adjacent to airport property to document the potential for future contamination resettlement. These are listed in **Table 4.3** and shown on **Figure 4.2**. The table also details that nine sites have been closed or are no longer generating waste and seven facilities with storage tanks have been closed or are “not active,” as reported by FDEP. No other outstanding contamination issues were noted.

TABLE 4.3: STORAGE, WASTE GENERATION, AND REMEDIATION FACILITIES WITHIN VRB

Facility ID	Name	Comment	Compliance
Storage Tank Contamination Monitoring Sites			
9817960	VRB – Offsite Tennant	No Reports Found	NOT ACTIVE
9815583	Corporate Air Inc.	Petroleum Storage	In Compliance/Closed – NOT ACTIVE
9815252	Davis Property	Petroleum Storage	In Compliance
9814643	Indian River County West Airport Water Treatment Facility	Muriatic Acid Storage	In Compliance
9811365	Continental Jet Aviation Inc.	Petroleum Storage	In Compliance
9801686	Former Vero Beach NAS Site #1	Petroleum Storage	In Compliance/Closed – NOT ACTIVE
9807392	Paris Air Inc.	Petroleum Storage	In Compliance
9806125	Indian River County Fleet Management Complex	Petroleum Storage	FDEP Inspection Compliance Follow-up 2023
9806007	Vero Beach Airport Traffic Control Tower	Petroleum Storage	In Compliance
9701204	Chevron – Airport	Petroleum Storage	In Compliance
9602642	Corporate Aircraft Service	Petroleum Storage	In Compliance
9600073	C&D Auto	Petroleum Storage	In Compliance
9300796	Indian River County Fire Station 3	Tank Closure/Monitoring and Assessment	In Compliance/Closed – NOT ACTIVE
9202133	Vero Beach Water Treatment Facility	Misc Water Treatment Agent Storage	FDEP Inspection Required
9202948	Southern Bell – VRBHFLTC	Petroleum Storage	In Compliance/Closed – NOT ACTIVE
8629948	Pro-Flight of Vero Inc.	Tank Closure/Assessment	In Compliance/Closed – NOT ACTIVE
8520287	City of Vero Beach Public Works	Petroleum Storage	In Compliance
8520211	New Piper Aircraft Inc.	Petroleum Storage	Current Compliance Letter Not Found
8520265	Vero Beach Airport	Petroleum/Tank Closure	In Compliance/Closed – NOT ACTIVE
8520253	Skyborne Airline Academy	Petroleum Storage	In Compliance
8509333	Vero Beach Airport Services	Petroleum Storage	In Compliance
RCRA Sites			
110071139032/FL R000221465	Girard Equipment Inc.	Individual Generator	In Compliance
110008331224/FL D134336734	Chautauqua Airlines	Small Generator	NOT ACTIVE
110008324189/FL D984243063	Hill Jones Inc.	No Reports Found	No Reports Found

110007431742/FL D982153710	Bell South Communications Inc.	Individual Generator	In Compliance
110007413030/FL D981467236	Contract Application Inc.	Small Generator	NOT ACTIVE
110006754706/FL R000217927	TSA/Vero Beach Municipal Airport	No Reports Found	No Reports Found
110005660007/FL R000062083	MC Miller Company Inc.	Facility Closed	In Compliance/Closed – NOT ACTIVE
110005624501/FL D984258046	Vero Beach Fire Department 3	Small Generator	NOT ACTIVE
110002529666/FL D032823213	Riverfront Groves Inc.	Facility Removed – No Reports Found	NOT ACTIVE
110000832699/FL R000217927	Piper Aircraft Inc.	No Reports Found	No Reports Found
110000706380/FL R000140087	City of Vero Beach Water Treatment Plant	No Reports Found	No Reports Found
Solid Waste Facilities			
104776	City of Vero Beach Water Treatment Plant	Disaster Debris Management Area – Closed	In Compliance
Petroleum Contamination Tracking Sites (PCTS)			
9801686	Former Vero Beach NAS Site 1	Petroleum – Wells Tested Below Detection Limits	In Compliance/Wells Closed – NOT ACTIVE
8629948	Pro-Flight of Vero Inc.	Petroleum – Tank Closure – No Additional Actions	In Compliance/Closed – NOT ACTIVE
8520287	City of Vero Beach Public Works	Petroleum	In Compliance
8520253	Skyborne Airline Academy	Petroleum – No Testing Required	In Compliance
8520211	New Piper Aircraft Inc.	Petroleum/Chlorinated Solvent – Well Testing – Superfund Site	No Reports Found
8509333	Vero Beach Airport Services	Petroleum – No Testing Required	In Compliance

Source: FDEP OCULUS, accessed August 2023.



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Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA 2023, FDEP 2022, 2023, Hanson 2023, ESA 2023

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FIGURE 4.2
 HAZARDOUS MATERIALS AND CONTAMINATION MONITORING SITES

Waste Management

Per FAA Order 5100.38D, master plans funded with AIP dollars must address issues related to the airport's recycling, reuse, and waste reduction programs. This includes:

- Reviewing waste management contracts
- Assessing the feasibility of solid waste recycling at the airport
- Identifying operations and maintenance requirements
- Identifying the potential for cost savings or generation of revenue
- Minimizing the generation of waste at the airport

The recycling, reuse, and waste reduction plan includes a review of the waste management and recycling throughout the airfield facilities. This was primarily achieved by surveying and interviewing the different airport tenants to understand their practices and programs. A number of potential initiatives were identified to advance VRB's recycling and waste reduction efforts. The complete plan is included as **Appendix G**.

4.6. Historical, Archaeological, and Cultural Resources

Laws and regulations require that possible effects on historic, archaeological, and cultural resources be considered during the planning and execution of federally funded projects. The primary laws that pertain to the treatment of historic, architectural, archaeological, and cultural resources during environmental analyses are the National Historic Preservation Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act. Historic, architectural, archaeological, and cultural resources may include archaeological sites, buildings, structures, objects, districts, works of art, architecture, and natural features that were important in past human events. They may consist of physical remains and may include areas where significant human events occurred, even though evidence of the events no longer exist.

A review of the EPA's NEPAassist database and the Florida Master Site File indicates that 40 historical/cultural resources are identified on or within 500 feet of VRB (**Appendix F**). Of these 40 resources, 15 Florida structures, three resource groups, and five Florida sites are on or directly adjacent to the airport boundary (see **Table 4.4**). Of these, one resource group (IR01619) and two Florida sites (IR00001 and IR00009) are on VRB property. It should be noted that IR01619, identified as Indian River Farms Company Canal – 37th is an upland cut canal in the northwestern portion of VRB that is not eligible for historical listing. However, the two Florida sites (IR00001 and IR00009) in the southeast portion of VRB are eligible for historical listing because human remains may be present. Further historical and cultural evaluations would be required for potential development within the southeastern portion of VRB.

TABLE 4.4: DEPARTMENT OF HISTORICAL RESOURCES GENERATED HISTORICAL/CULTURAL RESOURCES LOCATED ON OR DIRECTLY ADJACENT TO VRB

Resource Site ID	Resource Name	Address	SHPO Evaluation
Florida Structures			
IR00207	4135 28th Avenue	Vero Beach	None Identified
IR00239	1911 38th Place	Vero Beach	None Identified
IR00248	3890 41st Street	Vero Beach	None Identified
IR00753	1345 32nd Street	Vero Beach	None Identified
IR00761	1355 33rd Street	Vero Beach	None Identified
IR00762	1365 33rd Street	Vero Beach	None Identified
IR00763	1366 33rd Street	Vero Beach	None Identified
IR00764	1376 33rd Street	Vero Beach	None Identified
IR00765	1375 33rd Street	Vero Beach	None Identified
IR00766	1394 33rd Street	Vero Beach	None Identified
IR01146	Mt. Zion Baptist Church	18th Ave., Vero Beach	Not Eligible
IR01572	3882 Old Dixie Highway	Vero Beach	Not Eligible
IR01574	Kool Cuts	4306 Old Dixie Hwy., Vero Beach	Not Eligible
IR01735	4004 43rd Avenue	Vero Beach	None Identified
IR01736	4024 43rd Avenue	Vero Beach	None Identified
Resource Groups			
IR01148	Indian River Farms Main Canal	Vero Beach	Not Eligible
IR01619	Indian River Farms Company Canal – 37 th	VRB	Not Eligible
IR01723	Dodgertown	Vero Beach	None Identified
Florida Sites			
IR00001	Vero Man	VRB	Eligible
IR00009	Vero Locality	VRB	Eligible
IR01497	Florida East Coast Railroad	Vero Beach	None Identified
IR01519	Dixie Highway	Sebastian	Eligible
IR01579	Gifford Glass Scatter	Gifford	Insufficient Info

Abbreviation: SHPO – state historic preservation officer

Source: Florida Division of Historical Resources, requested August 2023.

4.7. Energy Supply and Natural Resources

Florida Power & Light Co. (FPL) is the electric power supplier to VRB and has a supply network capable of serving existing and prospective tenants at the airport. Proposed airport improvement projects would likely require lighting; power for specialized equipment, tools, and processes; office equipment; and air conditioning. Local power utility requirements would primarily include electric service. Overall, based on discussions with airport management, there is sufficient capacity to accommodate the projects envisioned in this master plan of a similar nature to existing operations. If new technology operations, such as electric aircraft, are established at VRB, VRB should work with FPL to ensure sufficient capacity is available.

4.8. Water Resources

Prior environmental studies, permit actions, reports, GIS data, and other available information were reviewed to determine the extent of water resources on airport property. The USACE, FDEP, SJRWMD and the Indian River Farms Water Control District, a political subdivision of the state of Florida, have jurisdiction over these resources at VRB.

Wetlands

VRB is within the Central Indian River Lagoon Watershed. Jurisdictional wetlands have been identified within the airport property limits. **Figure 4.3** depicts general areas identified as wetlands and/or surface waters at VRB. However, field reviews/wetland delineations should be conducted in the naturally occurring areas of the airport property prior to clearing and permitting activities to identify the wetland extent and quality. Although VRB property limits do not abut the Indian River, discharge from the airport flows through stormwater conveyances to large stormwater features outside the airport property, then directly into the Indian River. Water quality impacts to the Indian River and any other surface water features (e.g., stormwater ditches) will require some level of NEPA review and permitting for advancing future projects.

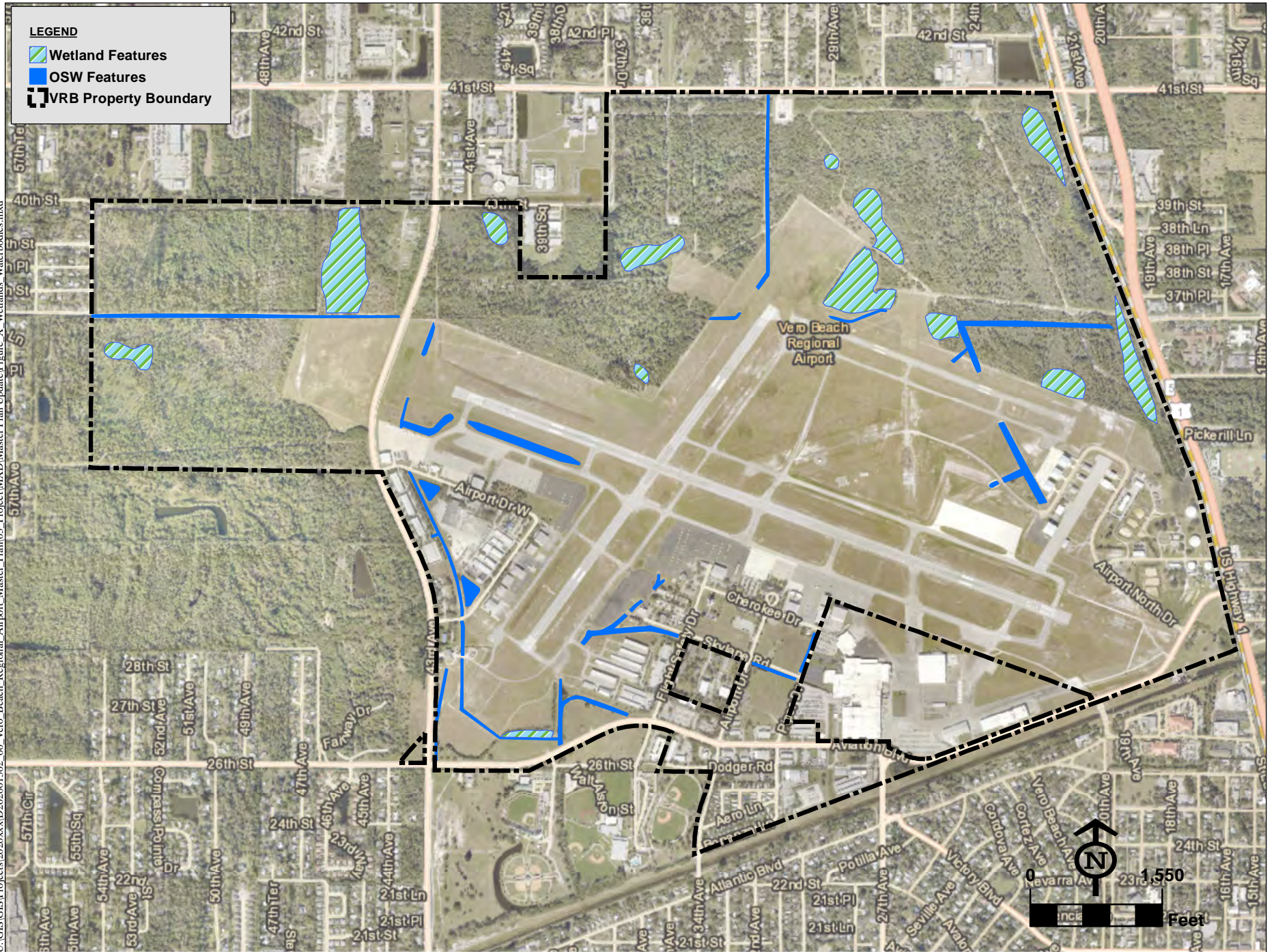
Potential impacts to on-site wetland resources can be offset through the purchase of credits at an agency-approved mitigation bank with service areas covering the airport, such as the Basin 22 Wetland Mitigation Bank. Mitigation through a bank is consistent with the hierarchy of mitigation preference established by the USACE in its 2008 Mitigation Rule, and it is compatible with the airport and FAA's goal of reducing wildlife hazards at the airport.

Other Surface Waters

VRB maintains a large network of stormwater drainage features throughout the airport property that largely flow south toward the main relief canal along the airport's southern property limit. A majority of these features are identified as conveyances, which ultimately discharge to the Indian River. These drainage structures are maintained to reduce wildlife hazards on airport property. In addition, the airport operates under stormwater management permits and implements pollution prevention plans and best management practices. Permitting will be required if a proposed project at VRB is determined to impact these facilities. VRB is in the process of preparing a stormwater master plan that will include long-term management for surface waters. It will be coordinated with the recommended developments in this airport master plan.

National Pollutant Discharge Elimination System (NPDES) regulations serve to protect water quality. In Florida, the NPDES permit program is administered by the FDEP. An NPDES Generic Permit for construction will be required for projects at VRB that disturb more than one acre. As previously mentioned, a portion of the main relief canal along the southern limits of VRB is designated as critical habitat for the Western Indian manatee. Therefore, additional drainage and NPDES concerns may need to be addressed during the permitting process for project implementation.

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Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA 2023, SJRWMD 2016, Hanson 2023, ESA 2023

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FIGURE 4.3
WETLANDS AND WATERBODIES

Floodplains

Executive Order 11988: Floodplain Management, directs federal agencies “to take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains.” *Department of Transportation Order 5650.2: Floodplain Management and Protection* and FAA orders 5050.4B and 1050.1F contain policies and procedures for implementing the executive order and evaluating potential floodplain impacts. Agencies are required to make a finding that there is no practicable alternative before taking action that would encroach a floodplain based on a 100-year flood.

The Federal Emergency Management Agency (FEMA) identifies flood hazard areas that are depicted on Flood Insurance Rate Maps (FIRMs). A floodplain is defined as the lowlands and relatively flat areas adjoining inland and coastal waters, including flood-prone areas of offshore islands that are, at a minimum, prone to the 100-year flood. The 100-year floodplain is considered the base floodplain.

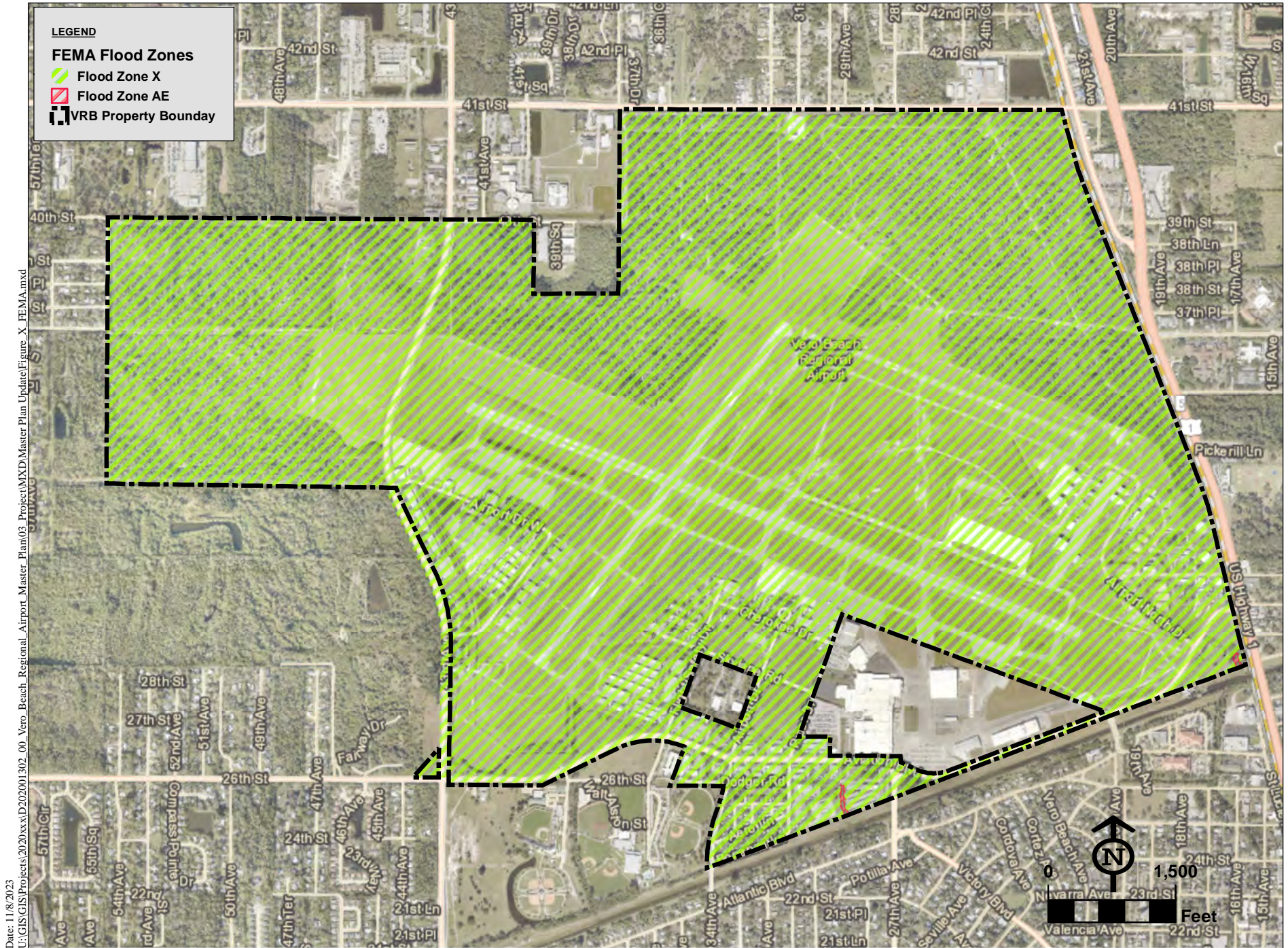
The most recent FIRMs, published in December 2022, were adopted by Indian River County January 26, 2023. **Figure 4.4** depicts the updated FIRMs for the area surrounding VRB.

The majority of the airport property is identified as Zone X, which includes moderate risk areas. Zone X areas that are identified as moderate have a 0.2% probability of flooding every year, also known as the 500-year floodplain. Two small areas along the southern property limits were identified as Zone AE. Zone AE is a special flood hazard area with a 1% annual flood risk. No base flood elevations or base flood depths are shown within these zones. While flood insurance is not typically required by regulation for Zone X, additional flood insurance will be required for projects in Zone AE.

4.9. Construction Impacts

Construction impacts are generally short-term and would vary, depending on which projects are implemented. The construction required for any proposed improvement could potentially impact air quality, surface transportation, water quality, and noise by using heavy equipment and by using vehicles to transport construction workers to and from the project sites.

For water quality, each project must adhere to the applicable stormwater pollution prevention plan maintained by VRB. Projects would also require notification or permitting through the FDEP in compliance with the NPDES program. In Florida, this program is delegated to the state and does not require additional authorization through the EPA. This process includes developing and adhering to best management practices for preventing or reducing the release of pollutants from a construction site. The construction impacts would be evaluated as part of the required NEPA analysis, prior to constructing any of the proposed improvement projects.



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Source: Esri, DigitalGlobe, GeoEye, Earthstar, USDA 2023, FEMA 2022, Hanson 2023, ESA 2023

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FIGURE 4.4
 FEMA FLOOD ZONES

4.10. Noise

This study did not include the development of new day-night average sound level (DNL) noise contours. However, the 65 DNL contours, shown on the land use plan in the 2016 ALP drawing set, are within VRB property and demonstrated no incompatible land uses. Since the time that the ALP was prepared, operations at VRB saw a significant decline due to a variety of factors. Even though operations today include more regular operations by commercial passenger operators, it is reasonable to assume that there are no incompatible land uses with respect to noise exposure. These contours were used recently in an environmental document because they are still considered to represent the noise conditions at the airport today.

4.11. Types of Environmental Reviews

Federal Reviews

The FAA is responsible for ensuring compliance with NEPA with respect to actions at federally obligated airports. The processing of AIP grant applications and ALP approvals are two types of “federal actions” commonly undertaken by the FAA in support of airport improvement projects that require environmental review under NEPA. While NEPA requires varying levels of interagency coordination, developing environmental documents under NEPA does not exempt airport projects from compliance with other federal environmental laws (e.g., Endangered Species Act) or state and local environmental regulations.

The process for on-airport development requiring NEPA changed when Congress passed the FAA Reauthorization Act of 2018. Section 163 of the act modified the scope of federal actions that trigger NEPA. Specifically, Section 163(d) narrowed the scope of ALP modifications considered formal actions within the regulatory authority of the FAA. Sections 163(a-c) define other factors related to how the land was acquired and whether a release of the land from aeronautical use is required as a federal action. In short, all on-airport projects are now subject to a Section 163 review by the FAA Orlando Airports District Office before initiating the NEPA process. Depending on the type of project, the FAA Section 163 review could result in a categorical exclusion (CatEx) with a release of the airport sponsor from federal obligations, a CatEx or environmental assessment (EA) for the aeronautical elements, or a combination of the two. Depending on the scope and magnitude of a project, NEPA may require an environmental impact statement (EIS).

For projects that involve a federal action, not exempted under Section 163, and requiring an environmental review under NEPA, there are three types of documentation summarized in **Table 4.5**. CatEx and EA documents are typically prepared by the airport sponsor and, if the documentation meets FAA requirements, they are accepted by the FAA and become federal documents. EIS documents are prepared by the FAA. Every future project recommended as part of this master plan is subject to the appropriate level of environmental review when a project is ready to implement. It should be acknowledged that most airport actions require some level of NEPA review, and a project does not need to be federally funded to require NEPA compliance.

TABLE 4.5: TYPES OF FAA NEPA REVIEW DOCUMENTATION (NOT SPECIFIC TO VRB)

<p>CatEx</p>	<p>The FAA has identified certain actions that may be categorically excluded from a more detailed environmental review. However, extraordinary circumstances, such as wetland impacts, may preclude CatEx. A CatEx requires reviewing the impacts and completing the forms provided by the FAA. In some cases, documentation and agency coordination may be necessary to address extraordinary circumstances (see <i>FAA SOP 5.1: CATEX Determinations</i>). CatExs that may apply to future airport development projects at VRB are summarized below (emphasis added). See FAA orders 1050.1F and 5050.4B for more detailed descriptions of these and other categorically excluded actions that may apply to development projects.</p> <ol style="list-style-type: none"> 1. Access and service road construction that does not reduce the level of service on local traffic systems below acceptable levels 2. Construction, repair, reconstruction, resurfacing, extending, strengthening, or widening a taxiway, apron, loading ramp, or runway safety area; or reconstruction, resurfacing, extension, strengthening, or widening of a runway — provided the action would not result in significant erosion or sedimentation and will not result in a significant noise increase over noise-sensitive areas or result in significant impacts to air quality 3. Construction or limited expansion of accessory on-site structures, including storage buildings, garages, hangars, T-hangars, small parking areas, signs, fences, and other essentially similar minor development items 4. Construction or expansion of facilities, such as terminal and parking facilities or cargo buildings, or facilities for nonaeronautical uses that do not substantially expand those facilities. 5. Demolition and removal of FAA or non-FAA on-airport buildings and structures, provided no hazardous substances or contaminated equipment are on the site of the facility; does not apply to historic structures 6. Placing fill into previously excavated land with material compatible with the natural features of the site, provided the land is not delineated as a wetland; or minor dredging or filling of wetlands or navigable waters for any categorically excluded action, provided the fill is of material compatible with the natural features of the site and the dredging and filling qualifies for a USACE nationwide or a regional general permit 7. Grading land, removing obstructions to air navigation, or erosion control measures, provided those activities occur on and only affect airport property 8. Topping or trimming trees to meet 14 CFR Part 77 standards for removing obstructions, which can adversely affect navigable airspace
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EA	<p>An EA is prepared for proposed actions with expected minor or uncertain environmental impact potential. An EA requires analysis and documentation similar to that of an EIS, but with somewhat less detail and coordination. The FAA will review the EA and decide to issue a finding of no significant impact (FONSI) or prepare an EIS. Future airport development projects and actions that may require an EA are summarized below (emphasis added). See FAA orders 1050.1F and 5050.4B for more information.</p> <ol style="list-style-type: none"> 1. Runway extensions due to possible wetland impacts, potential off-airport impacts related to aircraft noise, and potential impacts to affect listed species habitat 2. Taxiway construction due to possible wetland impacts and potential to affect listed species habitat 3. Aircraft parking apron, hangar and structures, and/or access road projects that may not qualify for a CatEx due to extraordinary circumstances (e.g., wetland impacts may not qualify for a nationwide or regional general permit) 4. Approval of operation specifications or amendments that may significantly change the character of the operational environment of an airport 5. New air traffic control procedures (e.g., instrument approach procedures, departure procedures, en-route procedures) and modifications to approved procedures that routinely route aircraft over noise-sensitive areas at less than 3,000 feet above ground level
EIS	<p>An EIS is prepared for major federal actions, which are expected or known to significantly affect the quality of the human environment.</p>

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State Reviews

For projects that require NEPA compliance, state environmental reviews typically initiate with the Florida State Clearinghouse, which is administered by FDEP. A primary function of the Florida State Clearinghouse is to serve as the state’s single point of contact for the receipt of federal activities that require interagency review, which includes activities subject to consistency review under the Florida Coastal Management Program. Upon completion of their review, the clearinghouse will typically issue a letter summarizing any potential concerns or inconsistencies regarding the proposed activity. The clearance letter will include information on obtaining necessary state permits and will inform the applicant if there is a need to submit additional information to a state agency for review. When NEPA compliance is not required, direct coordination with the relevant state regulatory agencies may still be required. Information related to the specific agencies and coordination and/or permits required is discussed in each of the individual resource sections in this chapter.

4.12. Summary

The information provided in this chapter will be used to evaluate the different improvement options considered for the airport. The level of environmental review required for a recommended alternative will be included in the overall development program to facilitate the timely advancement of future projects.

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