



## **APPENDIX B**

### **NATURAL FEATURES INVENTORY**



### **Environmental Existing Conditions**

The following sections provide a summary of the literature review and preliminary environmental overview of the existing natural features on airport property.

#### **Water Quality**

The United States Army Corps of Engineers (USACE), the Florida Department of Environmental Protection (FDEP), and the Water Management Districts have jurisdiction over and regulate activities that alter the landscape and disrupt water flow to wetland areas and surface waters through the Environmental Resource Permitting (ERP) Program in Florida. The program forwards permit applications to other state and federal agencies including the Florida Fish and Wildlife Conservation Commission (FFWCC) and the United States Fish and Wildlife Service (USFWS). In Brevard County, the St. Johns River Water Management District (SJRWMD) is the permitting authority that administers the ERP program.

Permitting requirements for construction that exceed one acre is specified by the National Pollutant Discharge Elimination System (NPDES) regulations and administered by the FDEP. Therefore, proposed improvement projects at Merritt Island Airport that exceed this threshold would require an NPDES permit and a state Environmental Resource Permit prior to construction of projects that would impact jurisdictional wetlands and surface waters. As part of the permitting requirements, stormwater runoff must be treated prior to waterbody discharge.

The FDEP, Division of Water Resource Management (DWRM), monitors water quality statewide along with the administration of various programs to protect Florida's drinking water, groundwater, and surface waters. DWRM monitors 29 surface water basins within the State. Merritt Island Airport is located in the North Indian River Lagoon Planning Unit within the Indian River Lagoon Basin. Stormwater leaving the Airport flows into the Banana River located directly east of the airport which flows into the Atlantic Ocean.

#### **Historical, Architectural, Archaeological, and Cultural Resources**

The Department of State, Division of Historical Resources is responsible for promoting historical, archaeological, museum, and folk culture resources in Florida.

A review of archaeological and historical literature and records pertaining to the airport area was not conducted.

#### **Biotic Communities**

The USFWS and FFWCC have authority under the Endangered Species Act of 1973 (ESA) to provide comments and recommendations concerning vegetation and wildlife resources. The Brevard County Natural Resource Department may also make recommendations on preserving natural areas through the land development review process.



The SJRWMD classified the existing land use and cover in Brevard County according to the Florida Land Use, Cover, and Forms Classification System (FLUCFCS) (**Figure B-1**). Based on the electronic data obtained from SJRWMD, COI consists of the following communities:

- FLUCFCS Code 1400 – Commercial and services;
- FLUCFCS Code 1700 – Institutional;
- FLUCFCS Code 1900 – Open land;
- FLUCFCS Code 4340 – Upland mixed coniferous/hardwood;
- FLUCFCS Code 5300 – Reservoirs - pits, retention ponds, dams;
- FLUCFCS Code 6170 – Mixed wetland hardwoods;
- FLUCFCS Code 6460 – Mixed scrub-shrub wetland; and,
- FLUCFCS Code 8110 – Airports.

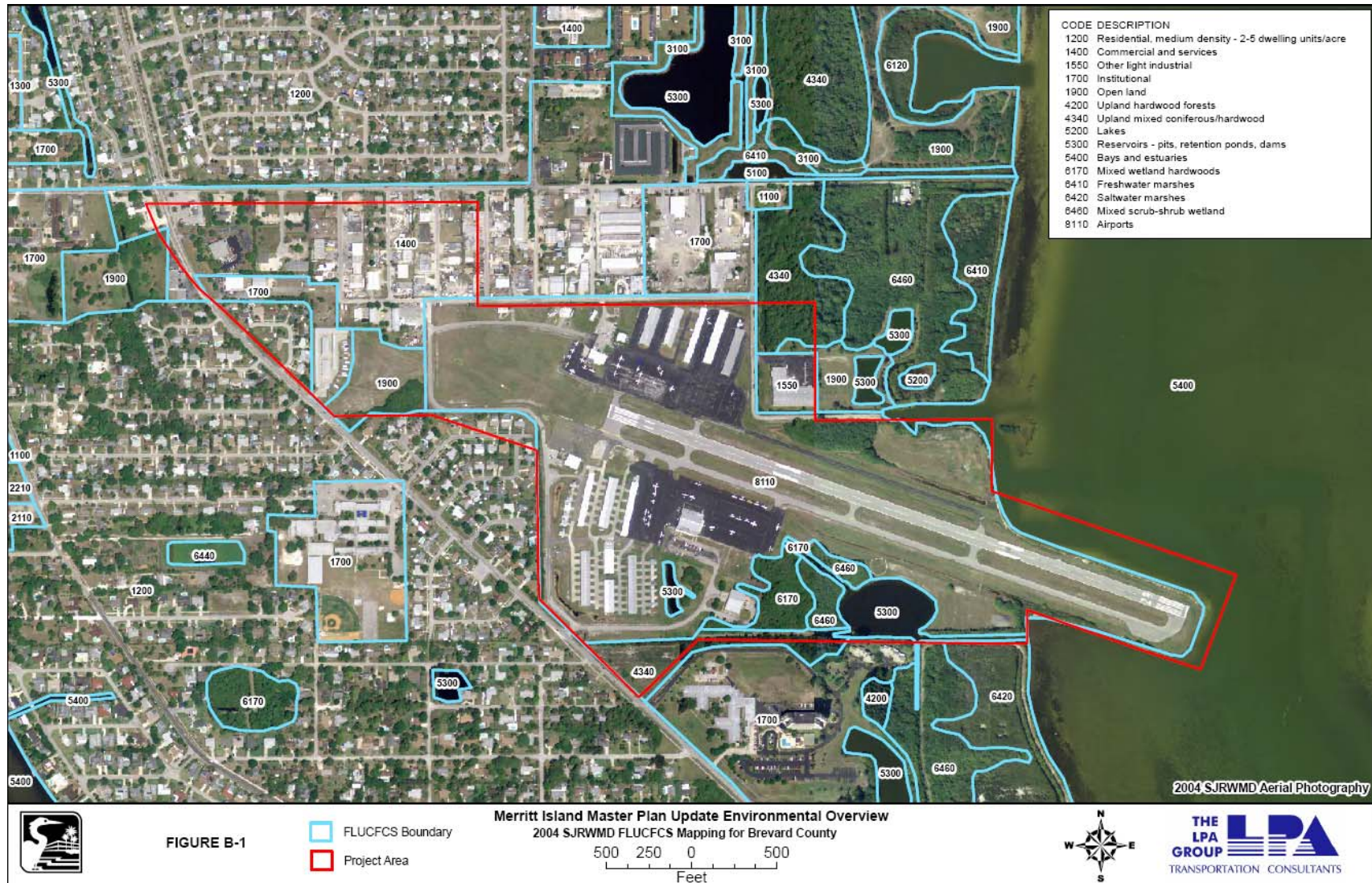
### Endangered and Threatened Species

The ESA of 1973, as amended, requires federal agencies, in consultation with and assisted by the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat of such species. Section 7 of the Act implies that if actions will affect protected species or their habitat then consultation with the USFWS is necessary. The FFWCC also requires consultation for any impacts that may affect state listed threatened and endangered species.

Based on a review of Florida Natural Areas Inventory (FNAI) element occurrence data, no state or federally listed plant or animal species are documented to occur within the immediate vicinity of the Airport. Therefore, the site has low potential for containing suitable habitat for utilization by state and/or federally protected plant or animal species.

Listed flora and fauna that may potentially occur at the Airport can be found in **Table B-1**.

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**Table B-1**  
**Potentially Occurring Floral and Faunal Species in Brevard County**

COMMON NAME	SCIENTIFIC NAME	FFWCC	USFWS
<b>Birds</b>			
pipin plover	<i>Charadrius melodus</i>	T	T
snowy plover	<i>Charadrius alexandrinus</i>	T	
American oystercatcher	<i>Haematopus palliatus</i>	SSC	
brown pelican	<i>Pelecanus occidentalis</i>	SSC	
black skimmer	<i>Rynchops niger</i>	SSC	
least tern	<i>Sterna antillarum</i>	T	
limpkin	<i>Aramus guarauna</i>	SSC	
reddish egret	<i>Egretta rufescens</i>	SSC	
snowy egret	<i>Egretta thula</i>	SSC	
little blue heron	<i>Egretta caerulea</i>	SSC	
tricolored heron	<i>Egretta tricolor</i>	SSC	
white ibis	<i>Eudocimus albus</i>	SSC	
Florida sandhill crane	<i>Grus canadensis pratensis</i>	T	
wood stork	<i>Mycteria americana</i>	E	E
roseate spoonbill	<i>Platalea ajaja</i>	SSC	
burrowing owl (Florida burrowing owl)	<i>Athene cunicularia (Athene cunicularia floridana)</i>	SSC	
bald eagle	<i>Haliaeetus leucocephalus</i>	T	T
osprey	<i>Pandion haliaetus</i>	SSC	
Florida scrub jay	<i>Aphelocoma coerulescens</i>	T	T

**NOTES:**

FFWCC = Florida Fish and Wildlife Conservation Commission

USFWS = United States Fish and Wildlife Service

E = Endangered

T = Threatened

SSC = Species of Special Concern

SOURCE: Florida's Endangered Species, Threatened Species, and Species of Special Concern (FFWCC, January 2004)



**Table B-1 cont.**  
**Potentially Occurring Floral and Faunal Species in Brevard County**

COMMON NAME	SCIENTIFIC NAME	FFWCC	USFWS
<b>Reptiles</b>			
American alligator	<i>Alligator mississippiensis</i>	SSC	T
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
red rat snake	<i>Elaphe guttata</i>	SSC	
Atlantic salt marsh water snake	<i>Nerodia clarkii taeniata</i>	T	T
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	SSC	
short-tailed snake	<i>Stilosoma extenuatum</i>	T	
Florida brown snake	<i>Storeria dekayi victa</i>	T	
Florida ribbon snake	<i>Thamnophis sauritus sackeni</i>	T	
bluetail mole skink	<i>Eumeces egregius lividus</i>	T	T
gopher tortoise	<i>Gopherus polyphemus</i>	SSC	
loggerhead seaturtle	<i>Caretta caretta</i>	T	T
green seaturtle	<i>Chelonia mydas</i>	E	E & T
leatherback seaturtle	<i>Dermochelys coriacea</i>	E	E
hawksbill seaturtle	<i>Eretmochelys imbricata</i>	E	E
Kemp's ridley seaturtle	<i>Lepidochelys kempii</i>	E	E
<b>Mammals</b>			
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	SSC	
Florida mouse	<i>Peromyscus floridanus</i>	SSC	
Florida saltmarsh vole	<i>Microtus pennsylvanicus dukecampbelli</i>	E	E
Sherman's short-tailed shrew	<i>Blarina carolinensis [=brevicauda] shermani</i>	SSC	
Florida manatee (West Indian manatee)	<i>Trichechus manatus latirostris</i> ( <i>Trichechus manatus</i> )	E	E

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Table B-1 cont.  
Potentially Occurring Floral and Faunal Species in Brevard County

COMMON NAME	SCIENTIFIC NAME	FFWCC	USFWS
<b>Plants</b>			
sea lavender	<i>Argusia gnaphalodes</i>	-	E
Curtiss' sandgrass	<i>Calamovilfa curtissii</i>	-	T
sand butterfly pea	<i>Centrosema arenicola</i>	-	E
Sand-dune spurge	<i>Chamaesyce cumulicola</i>	-	E
Large-flowered rosemary	<i>Conradina grandiflora</i>	-	T
hay scented fern	<i>Dennstaedtia bipinnata</i>	-	E
Titusville balm	<i>Dicerandra thinicola</i>	-	E
coastal vervain	<i>Glandularia maritima</i>	-	E
Tampa vervain	<i>Glandularia tampensis</i>	-	E
Johnson's seagrass	<i>Halophila johnsonii</i>	T	-
Simpson's prickly apple	<i>Harrisia simpsonii</i>	-	E
Atlantic Coast Florida lantana	<i>Lantana depressa</i> var. <i>floridana</i>	-	E
nodding pinweed	<i>Lechea cernua</i>	-	T
pine pinweed	<i>Lechea divaricata</i>	-	E
celestial lily	<i>Nemastylis floridana</i>	-	E
Florida beargrass	<i>Nolina atopocarpa</i>	-	T
Hand fern	<i>Ophioglossum palmatum</i>	-	E
Yellow hibiscus	<i>Pavonia spinifex</i>	-	-
terrestrial peperomia	<i>Peperomia humilis</i>	-	E
Giant orchid	<i>Pteroglossaspis ecristata</i>	-	T
Coastal joary-pea	<i>Tephrosia angustissima</i> var. <i>curtissii</i>	-	E
Carter's warea	<i>Warea carteri</i>	E	E
rain lily	<i>Zephyranthes simpsonii</i>	-	T

## NOTES:

FFWCC = Florida Fish and Wildlife Conservation Commission

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Additional data obtained from FWC, including American bald eagle (*Haliaeetus leucocephalus*) nest location data (2003), wading bird colony location data (1999), and wood stork (*Mycteria americana*) colony location (1999) data, indicate that no nesting areas occur in the immediate vicinity of the Airport. The closest bald eagle's nest is located approximately 1.25 miles south (**Figure B-2**), the closest wood stork colony is located over 25 miles to the south, and the closest wading bird colony is located approximately 0.25 mile to the north (**Figure B-2**) of the Airport.

The Airport is located adjacent to areas that may be identified as essential fish habitat (EFH) by the National Oceanic and Atmospheric Administration (NOAA). Impacts to these areas will require coordination with NOAA. According to 2005 SJRWMD seagrass data (**Figure B-3**), seagrasses are located on the intercoastal waterway directly adjacent to the property. Data from the FWC regarding West Indian manatee (*Trichechus manatus*) mortality (2008) and sea turtle strandings (2004) is also provided in **Figure B-4**.

### Wetlands

The USACE, the FDEP, and the Water Management Districts have jurisdiction over and regulate activities that alter the landscape and disrupt water flow to wetland areas and surface waters through the ERP Program in Florida. The SJRWMD has jurisdiction over Brevard County. Impacts to areas claimed as jurisdictional by these regulatory agencies will require mitigation.

Information from the National Resource Conservation Service (NRCS) Soil Survey of Brevard County (**Figure B-5**) in conjunction with the available electronic FLUCFCS data (**Figure B-1**) and data from the National Wetlands Inventory (NWI) were used to make a preliminary assessment of the possible jurisdictional wetlands and surface waters located within Airport property. The potential communities according to FLUCFCS and NWI classification system are:

#### *FLUCFCS*

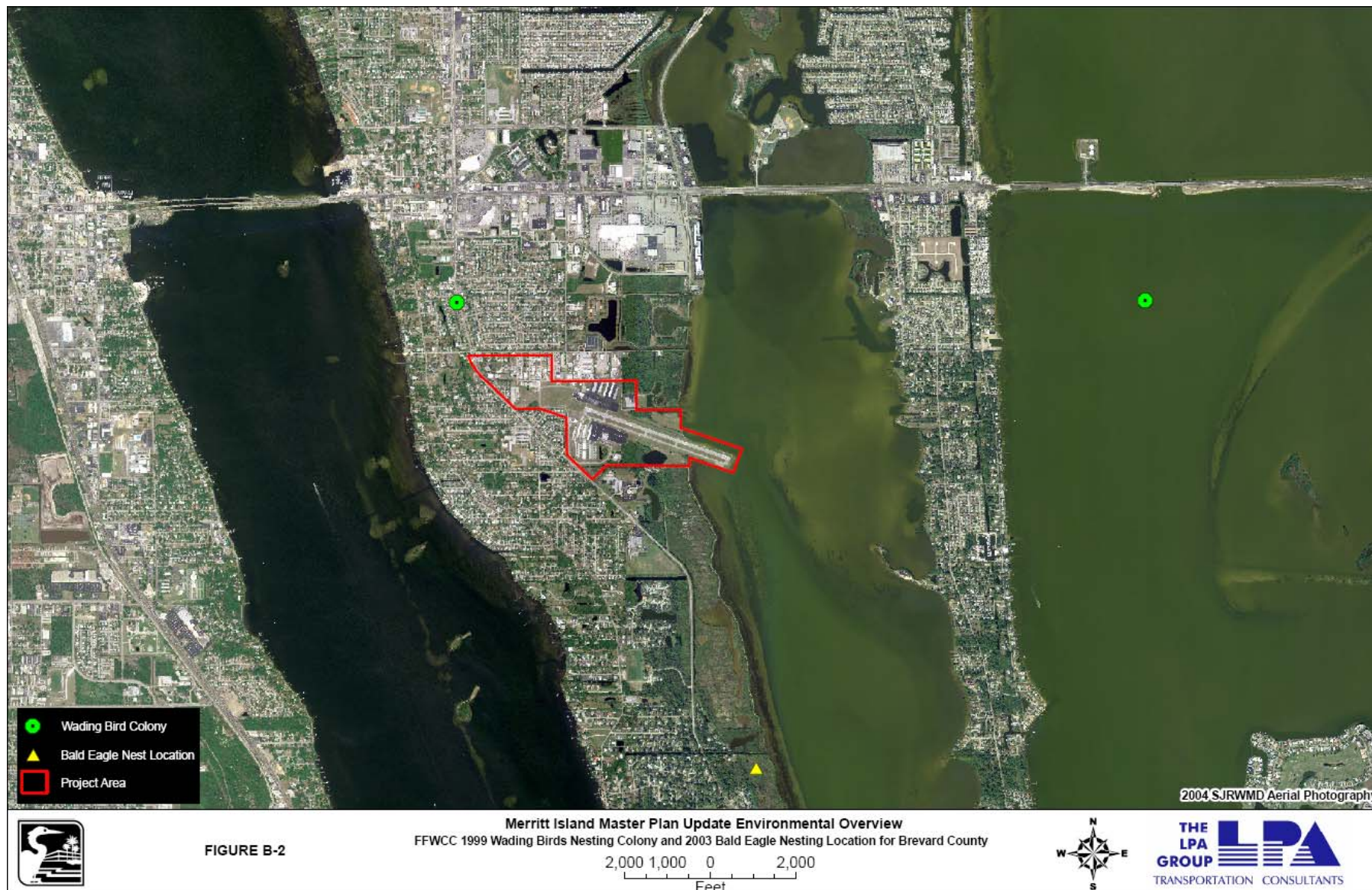
- FLUCFCS Code 5300 – Reservoirs - pits, retention ponds, dams;
- FLUCFCS Code 6170 – Mixed wetland hardwoods; and,
- FLUCFCS Code 6460 – Mixed scrub-shrub wetland.

#### *NWI*

- PFO1C – Palustrine, forested, broad-leaved deciduous, seasonally flooded; and,
- PFO7C – Palustrine, forested, evergreen, seasonally flooded.



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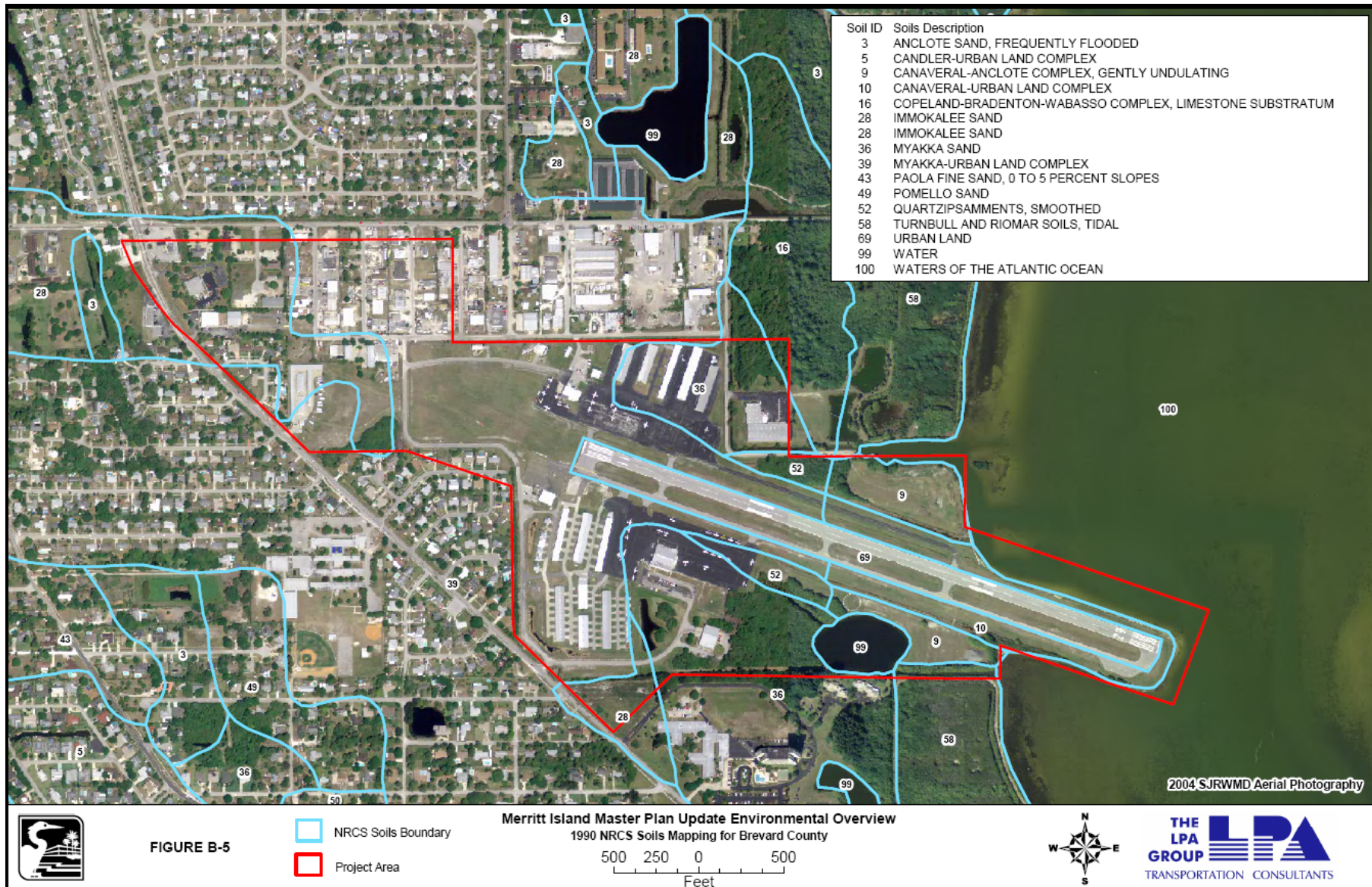








# Merritt Island Airport Master Plan Update





# Merritt Island Airport

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A formal delineation is necessary to determine the extent of federal and state jurisdictional wetlands and surface waters within Airport property.

Development within areas defined by the FDEP as state owned sovereign submerged lands will require permission and coordination with the FDEP – Division of State Lands.

### **Floodplains**

The Federal Emergency Management Agency (FEMA) has produced Flood Insurance Rate Maps (FIRM) for communities participating in the National Flood Insurance Program. The FIRMs detail the 100-year and 500-year base flood elevations (**Figure B-6**). The State of Florida administers and requires compensation for floodplain impacts through the ERP process. Merritt Island Airport is within the SJRWMD's jurisdiction.

A review of FEMA's FIRMs indicates that portions of the Merritt Island Airport property area are within the FEMA designated 100-year floodplain. The eastern side of the Airport property is located within Zone AE, which is defined as an area subject to inundation by the 1-percent-annual chance flood event determined by detailed methods for which the base flood elevation has been determined. The base flood elevation line of this portion of 100-year floodplain is at approximately 47.5 feet above sea level, referenced to the National Geodetic Vertical Datum of 1929. The remainder of the Airport is not within the 100-year floodplain (**Figure B-6**).

Construction activities proposed at the Airport that are located within the areas designated as Zone AE would be within the FEMA designated 100-year floodplain. Therefore, compensation for impacts to these areas may be required by the SJRWMD.

### **Coastal Zone Management Program**

The Merritt Island Airport is located within the coastal zone management area, which is regulated at the federal level by the NOAA's Office of Ocean and Coastal Resource Management and at the state level by the FDEP. Consistency with the Coastal Zone Management Act of 1972 may be required for new development at the Airport.

### **Farmland**

The NRCS has jurisdiction and should be consulted if farmland is to be converted to non-agricultural use by a federally funded project. The consultation determines whether the farmland is classified as "prime" or "unique." If it is, the Farmland Protection Act requires rating the farmland conversion impacts based upon the length of time farmed, amount of farmland remaining in the area, level of local farm support services, and the level of urban land in the area.

Based on information obtained from the NRCS Soils Survey for Brevard County, there does not appear to be any prime or unique farmland soils located on Airport property, therefore the Airport would not be subject to the conditions of the Farmland Protection Policy Act.