

## CHAPTER FIVE – ENVIRONMENTAL OVERVIEW

### 5.0 INTRODUCTION

The New Smyrna Beach Municipal Airport is a corporate/general aviation Airport and is an important transportation resource. It is also an industrial and commercial hub for development in Central Florida, Volusia County, and the City of New Smyrna Beach. This chapter of the Master Plan Update for the New Smyrna Beach Municipal Airport will focus on environmental issues and development opportunities.

#### 5.0.1 FEDERAL ENVIRONMENTAL REQUIREMENTS

The primary emphasis of this environmental overview is to present the environmental conditions at the New Smyrna Beach Municipal Airport and use this information to plan for specific projects and environmental issues which may require further study in a federal-level Environmental Assessment, Environmental Impact Statement, or other specialized environmental study. In order to complete this objective and present the environmental overview information in a concise working document, each environmental impact category described in the Federal Aviation Administration (FAA) Order 5050.4A Airport Environmental Handbook was analyzed and the findings presented in this section. Three categories of environmental action relevant to Airport development are outlined in Code 40 of Federal Regulations (CFR), Parts 1500 - 1508. Every project proposed for an Airport will eventually fall into one of the following categories:

#### 5.0.2 CATEGORICAL EXCLUSIONS

FAA Order 5050.4A defines certain Airport development projects as being Categorically Excluded (CATX) from formal environmental study. When a project is identified as a CATX, the proposed Airport development project is allowed to proceed without further environmental review. In Order 5050.4A, Airport development actions normally considered CATX and excluded from environmental review include the following:

- Runway, taxiway, apron, or loading ramp construction or repair work including extension, strengthening, reconstruction, resurfacing, marking, grooving, fillets and jet blast facilities, and new heliports on existing Airports (except where such action would create environmental impacts off Airport property)
- Installation or upgrading of airfield lighting systems, including runway end identifier lights, visual approach aids, beacons, and electrical distribution systems
- Installation of miscellaneous items including segmented circles, wind or landing direction indicators, measuring devices, or fencing
- Construction or expansion of passenger terminal facilities

- Construction, relocation, or repair of entrance and service roads that do not adversely affect the capacity of public roads.
- Grading or removal of obstructions on Airport property and erosion control actions with no off-airport impacts
- Landscaping generally, and landscaping or construction of physical barriers to diminish the impacts of aircraft jet blast and noise
- Projects to carry out noise compatibility programs
- Land acquisition and relocation associated with any of the above items
- Federal release of Airport land
- Removal of displaced thresholds

### 5.0.3 ENVIRONMENTAL ASSESSMENT

An Environmental Assessment (EA) examines potential impacts to determine whether the impacts exceed a predefined threshold of significance or create sufficient controversy to require the FAA to prepare a full Environmental Impact Statement (EIS), or, if the FAA can provide a Finding of No Significant Impact (FONSI). The FAA will either issue a FONSI as a result of the EA review process and the proposed Airport development can proceed, or it will determine that an EIS must be prepared. Actions normally requiring an EA include the following:

- A new Airport location
- A new runway
- A major runway extension
- Runway strengthening that would result in a 1.5 DNL (the average day night sound level) increase in noise impacting a sensitive area within the 65 DNL noise contour
- Construction or relocation of entrance or service road connections to public roads which adversely affect the capacity of such public roads
- Land acquisition associated with any of the above items including land acquisition that would result in the relocation of residential units when there is evidence of insufficient compatible replacement dwellings, major disruptions of business activities, or acquisition which involves lands typically referred to as Section 4(f) properties
- Establishment or relocation of an Instrument Landing System (ILS) or an approach lighting system

- An Airport development action which involves extraordinary circumstances or involves Section 4(f) lands; land areas or structures eligible for or designated as historical, archaeological, architectural, or culturally significant; land acquisition for conversion of farmland; impacts to wetlands, coastal areas, or floodplains; or endangered or threatened species

Additional information on the various EA triggers is defined in FAA Order 5050.4A. However, it is certain that the proposed extension of Runway 11-29 will constitute a “major runway extension” by the FAA. Therefore an EA for this project is included in the Capital Improvement Program.

#### 5.0.4 ENVIRONMENTAL IMPACT STATEMENT

If a proposed development will result in a significant environmental impact, an EIS may be required. An EIS is a thorough review process that provides federal, state, regional, and other local agencies an opportunity to participate on the project as coordinating or commenting agencies. The detail of the EIS is determined by the EA, or during the FAA environmental scoping process. Full evaluation of the proposed project or action, as well as all reasonable and prudent alternatives, must be undertaken. Actions normally requiring an EIS include the following:

- The development of a first time Airport Layout Plan, or Airport location approval for a commercial service Airport in a Standard Metropolitan Statistical Area (SMSA)
- Financial participation in, or Airport layout plan approval of, a new runway capable of handling air carrier aircraft at a commercial service Airport in an SMSA

#### 5.0.5 FEDERAL, STATE, REGIONAL, AND LOCAL ENVIRONMENTAL COORDINATION

In addition to satisfying FAA regulations, proposed Airport development also needs to comply with federal, state, regional, and local environmental and permitting requirements, and will require approval by those agencies. Potential federal, state, regional, and local agencies, other than the FAA, that would be involved in the review process for the New Smyrna Beach Municipal Airport including the following:

- City of New Smyrna Beach
- Florida Department of Transportation
- Florida Department of Environmental Protection - Central District (FDEP)
- United States Fish and Wildlife Service (USFWS)
- U.S. Army Corps of Engineers - Jacksonville District (USACOE)
- Florida Fish and Wildlife Conservation Commission (FFWCC)
- St. Johns River Water Management District (SJRWMD)
- United States Department of the Interior, Bureau of Land Management - Eastern States Office
- United States Department of Agriculture (USDA)
- Florida Department of State - Division of Historical Resources

- United States Environmental Protection Agency
- Federal Emergency Management Agency
- Florida Department of Community Affairs
- Volusia County Metropolitan Planning Organization

Additionally, New Smyrna Beach has a high probability for both historic and archaeological resources. The City of New Smyrna Beach planning office and historic societies have voiced concerns for potential impacts to archaeological and historic resources. A pedestrian survey and preliminary **Cultural Resources Assessment** is a part of this Master Plan Update. A review of documentation located at the Florida Master Site Files section of the State of Florida Division of Historical Resources in January 2004 shows that there are historical and archaeological sites on and near the New Smyrna Beach Municipal Airport. The recommendations for federal and State of Florida coordination are outlined in detail in the **Cultural Resources Assessment** on file with the City of New Smyrna Beach. If any such elements are found at time of construction at the Airport, steps should be taken to protect these findings. Individuals with the City of New Smyrna Beach Development Services, Chief Planner, and historic society representatives have been interviewed for this document (see **Cultural Resources Assessment** and local documentation on file with the City of New Smyrna Beach).

## 5.1 ENVIRONMENTAL ANALYSIS

The New Smyrna Beach Municipal Airport has many positive impacts on the community it serves, including providing both direct and indirect stimuli to the local and regional economy. There is also a potential to have adverse impacts both economic and environmental.

Effective planning that takes advantage of federal, state, and local input can minimize and in many cases mitigate for potential impacts. A primary objective of this environmental overview will be to identify environmental and economic areas of concern and present options to mitigate impact, coordinate growth, and development needs with the City of New Smyrna Beach, Volusia County, the State of Florida, and the FAA.

The environmental overview prepared for the New Smyrna Beach Municipal Airport is not intended or required to meet the level of detail required for an Environmental Assessment (EA) or Environmental Impact Statement (EIS), but will focus intensely on important environmental issues such as jurisdictional wetlands, threatened and endangered species, archaeological and/or historical sites, and hazardous material impacts. These topics will be evaluated both generally in the Master Plan Update and specifically detailed in attachments to this document.

The analysis of possible environmental conditions related to the New Smyrna Beach Municipal Airport Master Plan Update were prepared based on FAA Order 5050.4A and include twenty (20) impact categories, which are as follows:

- Noise
- Compatible Land Use
- Social Impacts
- Induced Socioeconomic Impacts



- Air Quality
- Water Quality
- Department of Transportation Act, Section 4(f) Lands
- Historic, Architectural, Archaeological, and Cultural Resources
- Biotic Communities
- Endangered and Threatened Species of Flora and Fauna
- Wetlands
- Floodplains
- Coastal Zone Management Program
- Coastal Barriers
- Wild and Scenic Rivers
- Prime and Unique Farmland
- Energy Supply and Natural Resources
- Light Emissions
- Solid Waste Impacts
- Construction Impacts

The discussions below are provided to summarize the potential impacts of these environmental categories resulting from the proposed New Smyrna Beach Municipal Airport Master Plan Update. Additional documentation has been used from the 1994 Airport Master Plan Update dated July 1995 by The Airport Technology and Planning Group, Inc., and Bristol, Childs & Associates, Inc. In addition, permits and site reviews completed by Storm L. Richards & Associates, Inc., for 2004 and earlier are also used as reference materials. The following sections are only general in nature and are not intended to provide specific conclusions to any future projects or future Federal requirements.

#### 5.1.1 NOISE

FAA Order 5050.4A provides guidelines to determine if a noise analysis would contribute to this Master Plan Update. Noise is defined as “undesirable sound” and is one of the major concerns of both Airport owners and Airport neighbors. The New Smyrna Beach Municipal Airport is located in an area that has mixed land use with residential communities near the Airport. Various methods (known as noise metrics) have been developed in order to put a quantitative measurement on sound. Aircraft sound levels are measured using the A weighted decibel scale (dBA).

Overall aircraft noise at an Airport is derived as a cumulative measurement over a 24-hour period based on annual traffic activity. These noise measurements are then used to develop average day night sound level (DNL) contours. The DNL contours graphically depict the average noise envelope surrounding the Airport environment. The federal Environmental Protection Agency (EPA) has identified DNL as the most appropriate means of evaluating Airport noise. Most public agencies addressing noise exposure, including the FAA, the Department of Defense (DOD), and the Department of Housing and Urban Development (HUD), have formally adopted the DNL as the standard measure to determine noise impacts. The FAA specifically requires that the DNL be used in describing cumulative noise exposure and in identifying aircraft noise and land use compatibility issues.

DNL sound levels can be measured through noise monitoring or can be calculated through computer noise modeling. Most Airport noise studies utilize computer generated DNL estimates depicted in terms of equal exposure noise contours (similar to contour lines of equal elevation on a topographic map). The computer program used to develop average annual day night aircraft noise contours is the FAA's Integrated Noise Model (INM). These noise contours depict noise impact areas based on input of an Airport's activity levels, fleet mix, day night operations percentage, approach and take off profiles, and flight tracks. The purpose of Airport noise analysis is to examine existing and future noise impacts on the nearby land uses and surrounding community.

Noise control plans have been successfully implemented at both the local and national levels. The FAA has reduced aircraft noise by mandating retirement of aircraft that do not meet established noise reduction standards. At the local level, cities and counties have successfully formulated and implemented land use controls that have reduced the number of incompatible land uses in the vicinity of Airports. Airport operators also have the ability to conduct Federal Aviation Regulations (FAR) Part 150 Noise Compatibility Studies in an effort to quantify and reduce the noise burden on the surrounding community. FAR Part 150 study elements include the following:

- Provisions for the development and submission to the FAA of Noise Exposure Maps (NEMs) and Noise Compatibility Programs (NCP) by Airport owners
- Use of standard noise measurement units, methods, and analytical techniques
- Identification of land uses that are normally compatible or incompatible with various noise levels in the vicinity of an Airport
- Procedures and criteria for approval and disapproval of noise compatibility programs by the FAA

The FAA requires that the NEM show the 65, 70, and 75 DNL contours. Of these categories, the 75 DNL noise contour reflects the most severe impact, while the 65 DNL noise contour reflects the least severe impact. Human tolerance to noise has been determined to be below the 65 DNL, and land areas outside the 65 DNL noise contour are considered to be non noise impacted compatible land uses. At or above the 65 DNL noise contour, measures should be taken to mitigate sound to limit or eliminate interference with human activities. Residential, and some business and commercial, development is not normally compatible within the 65 to 75 DNL noise contour unless sound insulation or other mitigating actions are taken.

The noise analysis for the Airport was prepared utilizing a standard, single-number measurement of community noise exposure, the DNL. The DNL (average day/night sound level) metric identifies a single value of A-weighted sound for a duration of twenty-four (24) hours that includes all of the time-varying sound energy for that period. A 10-dBA penalty is applied to nighttime (10:00 p.m. – 7:00 a.m.) sounds to reflect the increase in perceived sensitivity to noise occurring during sleeping hours.

Aircraft noise impacts were assessed through use of the FAA's INM Version 6.1. The INM produces noise contours, which depict noise impact areas based on input of an Airport's activity levels, fleet mix, approach and takeoff profiles, and flight tracks.

#### 5.1.1.1 Existing Noise Exposure

Based on data provided by Airport management and Airport users, it was estimated that the New Smyrna Beach Municipal Airport experienced 140,554 operations in 2002. Approximately 0.2 percent of these operations were generated by jet aircraft, approximately 1.3 percent by rotorcraft, approximately 1.9 percent of the total operations were generated by turboprop aircraft, approximately 9.4 percent of the total operations were generated by multi engine piston aircraft, and approximately 87.2 percent were attributed to single engine piston aircraft.

Runway use percentages were estimated based on wind data reported by the National Oceanic and Atmospheric Administration (NOAA). The weather reporting station located at Daytona Beach is the closest weather reporting station to New Smyrna Beach. Therefore, wind data from this station was used. Using the wind data and discussions with local FBOs, it was estimated that Runway 11-29 is used approximately 47.5 percent of the time, Runway 02-20 is used approximately 32.5 percent of the time, and Runway 07-25 is used approximately 20 percent of the time. Pattern operations were input in the program, and accounted for approximately 80 percent of single-engine operations. Touch and go operations are not permitted at the Airport. The flight tracks used for the creation of the INM Noise Model are shown in **Drawing 5-2** at the end of this chapter.

Three different DNL levels (60, 65, and 70 DNL) were evaluated in this analysis. The 70 DNL reflects the most severe impact, while the 60 DNL reflects the least severe impact. Existing contours were based on aircraft activity levels for 2002. In the analysis, it was found that the 70 DNL footprint did not extend much beyond the runway paved surfaces. The 65 DNL contour is contained entirely within the Airport property. A large majority of the 60 DNL contour is contained within Airport property. Only a small portion of the 60 DNL extends beyond the Airport property off the approach ends to Runways 02, 20, and 29. **Drawing 5-3** at the end of this Chapter depicts the existing noise contours for the Airport.

#### 5.1.1.2 Future Noise Exposure

Noise contours for the year 2022 were also developed. Year 2022 contours are based on projected activity levels and the future development of the airfield which includes the addition of runway threshold displacements to Runway 11-29, increasing available useable runway.

Aircraft operations at the New Smyrna Beach Municipal Airport are projected to increase to 226,303 by 2022. Annual aircraft operations projected for 2022 were divided by aircraft category. Existing aircraft percent operations we applied to future operations forecasts (0.2 percent for jet aircraft, 1.3 percent for rotorcraft, 1.9 percent for turboprop aircraft, 9.4 percent for multi engine piston aircraft, and 87.2 percent for single engine piston aircraft) as the operational fleet mix is expected to be the same.

The future noise contours were developed using the same runway usage percentages. It was assumed that the Airport's policy on full stop landings (no touch and go activity) would continue. It

was also assumed that 80 percent of future traffic levels would be flight training traffic, the same as the training traffic levels today. It was also assumed that 5 percent of operations would occur at night, again, the same as existing conditions.

**Drawing 5-4** at the end of this Chapter shows future noise contours for the Airport. This analysis found that the 70 DNL noise contours do not extend beyond the basic footprint of the runways. As shown, the future noise contours for the 65 DNL contour are encompassed within the Airport property. The 60 DNL noise contour extends slightly beyond the Airport property at the approach ends of Runways 11, 29, 02, 20, and 25. These contours should be revised as a part of the Runway 11-29 Environmental Assessment. At that time they will benefit from actual project data and Airport Traffic Control Tower (ATCT) activity counts.

### 5.1.2 COMPATIBLE LAND USE

The current land use at and near the New Smyrna Beach Municipal Airport includes industrial, commercial, recreational, and limited residential development. Reference the City of New Smyrna Beach and Volusia County Off Airport Land Use Map, **Drawing 5-1** at the end of this chapter.

Noise contours are used to identify land uses that are typically compatible or incompatible with various levels of noise exposure. *Figure 6 - FAA Compatible Land Uses per DNL Sound Levels* in **Appendix C – Environmental Attachments** provides a detailed listing of land use categories and their respective compatibilities within various DNL contour intervals. As shown, all land uses are generally acceptable outside the 65 DNL noise contour. Residential development is normally not compatible within the 65-75 DNL contours unless soundproofing is incorporated into the structure or the community determines that this type of development is necessary in this noise environment (1994 Airport Master Plan Update for the New Smyrna Beach Municipal Airport dated July 1995 by The Airport Technology and Planning Group, Inc., and Bristol, Childs & Associates, Inc., page 4-11).

The 70 and 65 DNL contours for both existing and future conditions at the Airport are contained on Airport property. Almost all of the existing and future 60 DNL contours are contained within the Airport. The future noise contours; however, show that the 60 DNL contour encompasses a portion of the residential development off the approach end to Runways 11 and 20. The remaining portions of the off-airport 60 DNL contour do not impact residential areas.

In addition to noise compatibility, there are many other significant issues related to establishing and maintaining compatible land uses around an airport. Most can be categorized into airspace protection and public safety. FDOT provides much guidance to Florida communities on the various federal and state regulations associated with land use compatibility. A key element to airspace protection is to maintain and protect the imaginary surfaces defined in Federal Aviation Regulation (FAR) Part 77 “Objects Affecting Navigable Airspace.” These surfaces are addressed in the *Chapter 6 – Airport Plans* and are included as part of the Airport Layout Plan (ALP) drawings. Public safety, while also incorporated into a number of federal requirements, is a key element of Florida Statute Chapter 333, “Airport Zoning.” This statute addresses many of the land use issues for airports as well as information on how to adopt and administer land use controls. Chapter 333 also facilitates the various requirements including ordinances, such as the City of New Smyrna Beach Ordinance 10-95, which addresses the land and height zoning related to the Airport.

Elements of the all applicable federal, state, and local regulations are included throughout this Master Plan study as they relate to proposed projects. The extent and detail of any future impacts will be subject to the specific findings of any future EA or other environmental study.

### 5.1.3 SOCIAL IMPACTS

The New Smyrna Beach Municipal Airport Master Plan Updated has identified major development areas. These areas are mapped and delineated in this plan. The purpose of a social impacts analysis is to determine the effects of Airport development on the human environment and potential community impacts. These social impacts are generally classified and include the following developments:

- Relocation of residences and/or businesses
- Disruption of communities
- Disruption of orderly, planned development
- Alterations in traffic patterns that may permanently or temporarily restrict traditional community access

The proposed Airport development will not require the acquisition of land or homes or businesses. The proposed project does not involve residential or commercial relocation. In addition, no significant changes in current traffic patterns in the community will occur as a result of the proposed development at the Airport. No negative social impacts are anticipated as a result of the development proposed at the New Smyrna Beach Municipal Airport.

### 5.1.4 INDUCED SOCIOECONOMIC IMPACTS

This category refers to the potential for induced or secondary impacts on surrounding communities, such as changes in population and business/economic activity due to the proposed Airport developments. Future airport development is not anticipated to result in significant changes in population or business activity.

No existing businesses are anticipated to be disturbed or relocated. For this reason, it is expected that the proposed projects will not induce any negative socioeconomic impacts. Future expansion of the general aviation facilities has the potential to generate employment, and, therefore is considered a beneficial impact for the community through increased revenue and jobs.

The proposed action is not considered to be capable of producing any negative induced socioeconomic impacts on either the City of New Smyrna or Volusia County since there are no significant impacts in land use or social categories.

### 5.1.5 AIR QUALITY

FAA Order 5050.4A provides guidelines to determine whether an air quality analysis is required for future development. Air quality analysis has been reviewed in previously completed Environmental Assessments for the New Smyrna Beach Municipal Airport and no outstanding environmental air quality issues were defined.



The effects of air pollution, ranging from impaired health to deterioration of structures, are well documented. Historically however, Airports and aircraft emissions constitute only a minor percentage of the air pollutants in the air. Air pollution is generally caused by “stationary” or “point” sources, and Airports are not considered such sources.

No air quality impacts are expected due to proposed landside or airside improvements. Given the Airport’s existing aircraft activity and the forecast of operational activity, additional impacts from aircraft emissions are projected to be minimal. While additional aircraft operations are anticipated at the Airport, the type of aircraft operating at the Airport will remain relatively constant.

Air quality impacts associated with automobile activity will not significantly worsen due to increased traffic and parking lot usage. Concentrations of emissions and their dispersion are not currently a significant problem due to the lack of any barriers preventing emission dispersion. It is anticipated that there will be no negative air quality impacts from either airside or landside operations.

#### 5.1.6 WATER QUALITY

The *Federal Water Pollution Control Act*, as amended by the *Clean Water Act of 1977* (commonly referred to as the *Clean Water Act*), provides the authority to establish water quality standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, issue permits for discharge (Section 402), and for environmental resource permits (previously referred to as dredge and fill permits, Section 404). The improvements in this Master Plan Update must be implemented in conformance with all state water quality standards and federal, state, and local permitting requirements. Stormwater design is determined, to a large extent, by the soils at the New Smyrna Beach Municipal Airport. Soils at the Airport are shown in the Soil Conservation Service (SCS) map of the Airport (see *Figure 7 - Soil Conservation Service Map of the New Smyrna Beach Municipal Airport* in **Appendix C – Environmental Attachments**). In addition, detailed descriptions of each soil type found are also included in **Appendix C – Environmental Attachments**.

Currently the quality of the stormwater runoff at New Smyrna Beach Municipal Airport is excellent. This is especially true since no de-icing fluids are used at the airfield. All new development projects will continue to maintain this quality. This is assured by the fact that all will have the appropriate dry ponds for stormwater treatment and peak flow attenuation in conformance with the requirements of the SJRWMD and other agencies having jurisdiction.

#### 5.1.7 DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(F) LANDS

Section 4(f) of the *Department of the Transportation (DOT) Act* states that the Department secretary shall not approve any project using land that is considered to be of national, or state, or local significance and is included under one or more of the following categories:

- Publicly owned park or recreation area
- Wildlife or waterfowl refuge
- Historic sites

A local/regional recreation facility is located adjacent to and west of the New Smyrna Beach Municipal Airport. This facility includes multiple recreational facilities. The recreational area does not encroach into the Airport and will not be impacted by any future development. There are no Section 4(f) lands required for use under the proposed action. Therefore, for the purpose of this analysis, no impacts are anticipated. It is recommended that all development comply with federal, state, and local guidelines as applicable to publicly owned parks or recreation areas, wildlife or waterfowl refuges, and historic sites.

#### 5.1.8 HISTORIC, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Federally funded projects, State of Florida Department of State, Division of Historical Resources reviewed projects, and local City of New Smyrna Beach historically identified areas may require archaeological and/or historic evaluations. These evaluations are outlined in two federal laws including the following:

- *The National Historic Preservation Act of 1966*

This Act requires an initial review to determine whether properties contained within the *National Register of Historic Places* or properties eligible for inclusion in the Register will be affected by the proposed development.

- *The Archaeological and Historic Preservation Act of 1974*

This *Act* requires a survey, recovery, and preservation of significant historical and prehistorical data that may be destroyed or irreparably lost due to a federal, federally licensed, or federally funded project.

The previous Master Plan Update for the New Smyrna Beach Municipal Airport indicated that there appeared to be no known historic, architectural, archaeological, or cultural resources located in the immediate Airport area. A review of documentation located at the Florida Master Site Files section of the State of Florida Division of Historical Resources in January 2004 shows that there are historical and archaeological sites on and near the New Smyrna Beach Municipal Airport. The recommendations for federal and State of Florida coordination are outlined in detail in the **Cultural Resources Assessment** on file with the City of New Smyrna Beach. If any such elements are found at time of construction at the Airport, steps should be taken to protect these findings.

An earlier review of the New Smyrna Beach Municipal Airport was conducted in December 1993 (see letter dated December 16, 1993, from Laura A. Kammerer in **Appendix C – Environmental Attachments**). The findings of this letter were as follows:

The New Smyrna Beach Municipal Airport was used as a World War II airfield. Therefore, it is the recommendation of this office that a historic structures survey should be performed to determine if any of the original buildings still exist and, if so, to determine their potential eligibility to the National Register either individually or as a district. If such properties do remain at the Airport, the design of any new buildings will need to be sensitive to their historic character.

A pedestrian survey of the Airport was conducted and a **Cultural Resources Assessment** is on file with the City of New Smyrna Beach. The following recommendations are from the 2004 **Cultural Resources Assessment** as well as the letter to Mr. Ronald K. Wilsbach dated September 30, 2003, included in **Appendix C – Environmental Attachments**.

Construction projects funded by the FAA and FDOT will comply with all State of Florida Division of Historical Resources guidelines as outlined including, but not limited to, the following:

- Section 106 of the *National Historic Preservation Act of 1966* (Public Law 89 665), as amended in 1992
- *36 CFR Part 800: Protection of Historic Properties*
- Chapters 267 and 373, *Florida Statutes*, Florida's Coastal Management Program
- State regulations for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places (NHRP)*, or otherwise of historical, architectural, or archaeological value
- *36 CFR Section 60.4*: Potential eligibility for listing on the National Register of Historic Places based on criteria set forth in Section 60.4
- Chapter 872.05, *Florida Statutes*, regarding procedures to deal with unexpected discoveries including the discovery of human remains

Further recommendations include that if significant archaeological and/or historic resources, or human remains, are encountered during the planning or construction of any part of the project, a certified professional archaeologist will be contacted and all findings will be documented to the State of Florida Division of Historical Resources, the State Historic Preservation Officer, and the Compliance Review section.

All documentation and any additional archaeological field activities will be coordinated with the City Manager, the City Planning Office, and appropriate departments and agencies of the City of New Smyrna Beach and the State of Florida Division of Historical Resources.

#### 5.1.9 BIOTIC COMMUNITIES

A partial survey of biotic communities and threatened/endangered species was conducted in February 2003 (this document, **Natural and Biological Features**, is on file with the City of New Smyrna Beach). This report was revised for this Master Plan Update. The Airport was divided into four (4) discrete geographic planning areas including the following:

1. Northeast quadrant
2. Northwest quadrant
3. Southeast quadrant
4. Southwest quadrant

Within each geographic planning area all significant biotic communities were evaluated including potential future development alternatives in the Master Plan Update that may impact existing drainage, isolated wetlands, or which have impacts on protected species. These areas that are considered sensitive have been documented. The New Smyrna Beach Municipal Airport has made efforts to minimize and avoid all sensitive areas and minimize impacts to these areas. A photoinventory of these areas is included (see **Appendix C – Environmental Attachments**). The Soil Conservation Service (SCS) and National Wetlands Inventory (NWI) maps (see *Figure 7 - Soil Conservation Service Map of the New Smyrna Beach Municipal Airport* and *Figure 8 - National Wetlands Inventory Map of the New Smyrna Beach Municipal Airport* in **Appendix C – Environmental Attachments**) show the general area of jurisdictional wetlands on the New Smyrna Beach Municipal Airport. The secure (fenced) area of the Airport has minimal wetlands and it is not anticipated that significant impacts will occur.

The Florida Land Use, Cover, and Forms Classification System (FLUCFCS) definitions of the vegetative community types on the Airport include the following classifications:

#### 190 - Open Land

This category includes undeveloped land within urban areas and inactive land with street patterns but without structures. Open Land normally does not exhibit any structures or any indication of intended use. Often, urban inactive land may be in a transitional state and ultimately will be developed into one of the typical urban land uses although at the time of the inventory the intended use may be impossible to determine from aerial photo interpretation alone.

#### 411 - Pine Flatwoods

These forests are quite common throughout much of Northern and Central Florida. Originally, longleaf pines (*Pinus palustris*) were common on drier sites while slash pines (*Pinus elliottii*), which are less fire resistant, were confined to more moist sites, wildfire being the contributing factor in this distribution. However, fire control and artificial reforestation have extended the range of slash pine into former longleaf sites. The pine flatwoods class is dominated by either slash pine, longleaf pine, or both, and less frequently pond pine (*Pinus serotina*). The common flatwoods understory species include saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*), gallberry (*Ilex glabra*), and a wide variety of herbs and brush.

#### 413 - Sand Pine

This pine community grows on deep, infertile deposits of marine sands and clays. There are two varieties of sand pines (*Pinus clausa*), both occurring in Florida. The Ocala variety of the Peninsula (*Pinus clausa* var. *clausa*) also naturally occurs in South Florida growing in densely stocked, pure, even aged stands. The Choctawhatchee variety of western panhandle Florida (*Pinus clausa* var. *immuginata*) commonly occurs in uneven aged stands invading oak (*Quercus spp.*) communities. A root disease complex gives many sand pine stands a disheveled appearance. Its dark crown coloration distinguishes it from other southern pines.

#### 421 - Xeric Oak

This forest community is similar to and occupies the same sites as the Longleaf Pine/Xeric Oak community except that the pines (*Pinus spp.*), if present, are not the dominant species. In many cases longleaf pine (*Pinus palustris*) may have been present in significant numbers prior to harvesting, but were never regenerated. Species common to this class include sand live oak (*Quercus virginiana* var. *geminata*), bluejack oak (*Quercus incana*), turkey oak (*Quercus laevis*), and sand post oak (*Quercus stellata* var. *margaretta*).

#### 422 - Brazilian Pepper

This exotic, pestilent tree species (*Schinus terebinthifolius*) is found on peninsular Florida from the Tampa Bay area southward. Commonly found on disturbed sites, this native of Brazil is also an aggressive invader of Florida's plant communities. Communities of these small, shrublike trees are often established along borrow pits, levees, dikes, and in old disturbed fields.

#### 510 - Streams and Waterways

This category includes rivers, creeks, canals, and other linear water bodies. Where the water course is interrupted by a control structure, the impounded water area will be placed in the 530 - Reservoirs category. The boundary between streams and lakes, reservoirs, or the ocean is the straight line across the mouth of the stream unless the mouth is more than one mile (1.85 kilometers) wide. In that case, the rule given under 540 - Bays and Estuaries is followed.

#### 610 - Wetland Hardwood Forests

Wetland Hardwood Forests are those wetland areas which meet the crown closure requirements for forestland as outlined under the 400 - Upland Forest Classification <minimum ten percent closure> category. To be included in the Wetland Hardwood Forest category, the stand must be 66 percent or more dominated by wetland hardwood species, either salt or freshwater.

#### 617 - Mixed Wetland Hardwoods

This category is reserved for those wetland hardwood communities which are composed of a large variety of hardwood species tolerant of hydric conditions yet which exhibit an ill-defined mixture of species.

#### 620 - Wetland Coniferous Forests

Wetland Coniferous Forests are wetlands which meet the crown closure requirements for coniferous forests (such as 400 - Upland Forests and 410 - Upland Coniferous Forests) and are the result of natural generation. These communities are commonly found in the interior wetlands in such places as river flood plains, bogs, bayheads, and sloughs.

### 811 - Airports

Airports are transportation facilities used for the movement of people and goods; therefore, they are major influences on land and many land use boundaries are outlined by them. Airport facilities include runways, intervening land, terminals, service buildings, navigational aids, fuel storage, parking lots, and a limited buffer zone.

#### 5.1.10 ENDANGERED AND THREATENED SPECIES OF FLORA AND FAUNA

Federally listed threatened and endangered plant and animal species are protected by the *Endangered Species Act of 1973* which is administered by the U.S. Fish and Wildlife Service (USFWS). State listed animal species are protected under the auspices of the Florida Fish and Wildlife Conservation Commission (FFWCC). State listed plant species are protected by the *Preservation of Native Flora of Florida Act*, which is administered by the Florida Department of Agriculture. Legal protective status of state and federally listed plant and animal species are derived from the *Official Lists of Endangered and Potentially Endangered Fauna and Flora of Florida* published by the Florida Fish and Wildlife Conservation Commission (then known as the Florida Game and Freshwater Fish Commission) in June 1994.

The evaluation of endangered and threatened species of flora and fauna includes an evaluation of Florida Land Use, Cover, and Forms Classification System (FLUCFCS) habitat types as well as soil types. A listing of federal and State of Florida protected species is enumerated in the document **Natural and Biological Features**, on file with the City of New Smyrna Beach, in which a wildlife survey was conducted at the Airport by Storm L. Richards & Associates, Inc., following the recommended guidelines of the Florida Fish and Wildlife Conservation Commission to identify the potential threatened and endangered species. The wildlife survey was completed using the *Wildlife Methodology Guidelines for Section 18.D of the Application for Development Approval*. Certain modifications were also incorporated because of the size of the project.

The vegetation, soil, and topography of the site in its natural conditions were conducive to a number of protected species including the gopher tortoise (*Gopherus polyphemus*), eastern indigo snake (*Drymarchon corais couperi*), Florida pine snake (*Pituophis melanoleucus mugitus*), gopher frog (*Rana areolata aesopus*), sand skink (*Neoseps reynoldsi*), Florida scrub lizard (*Sceloporus woodii*), and Florida mouse (*Peromyscus floridanus*). These protected species likely inhabit the upland areas, which comprise the majority of the site. There was a likelihood of the presence of species including the little blue heron (*Egretta caerulea*), tricolored heron (*Egretta tricolor*), southeastern American kestrel (*Falco sparverius paulus*), Florida sandhill crane (*Grus canadensis pratensis*), wood stork (*Mycteria americana*), osprey (*Pandion haliaetus*), marsh hawk (*Circus cyaneus*), and white ibis (*Eudocimus albus*). Large portions of the area have broadleaved grasses, grape vine (*Vitis spp.*), and low ground cover which are suitable habitat for gopher tortoises (*Gopherus polyphemus*) and commensal species. There are active and inactive gopher tortoise burrows on the site. A full gopher tortoise relocation permit should be secured prior to development in areas where tortoises are located in the development footprint. The possible presence of other commensal species exists to a limited extent.

A listing of occurring or potentially occurring species within the Airport development areas includes, but is not limited to, the following species:

|                        |  |
|------------------------|--|
| Gopher tortoise        | <i>Gopherus polyphemus</i>   |
| Florida scrub jay      | <i>Aphelocoma coerulescens coerulescens</i>                                  |
| Florida pine snake     | <i>Pituophis melanoleucus mugitus</i>  |
| Florida gopher frog    | <i>Rana aareolata aesopus</i>  |
| Great egret            | <i>Casmerodius albus</i>   |
| Florida sandhill crane | <i>Grus canadensis pratensis</i>   |
| Louisiana heron        | <i>Hydranassa tricolor ruficollis</i>  |
| Wood stork             | <i>Mycteria americana</i>  |
| Osprey                 | <i>Pandion haliaetus</i>   |
| Gopher tortoise scarab | <i>Aphodius troglodytes, Copris gopheri, Onthophagus polyphemi polyphemi</i> |
| Spotted turtle         | <i>Clemmys guttata</i>   |
| Eastern indigo snake   | <i>Drymarchon corais couperi</i>   |
| Mole snake             | <i>Lampropeltis calligaster rhombomaculata</i>                               |
| Bald eagle             | <i>Haliaeetus leucocephalus</i>  |
| Little blue heron      | <i>Egretta caerulea</i>  |
| Florida mouse          | <i>Peromyscus floridanus</i>   |

There are no bald eagle (*Haliaeetus leucocephalus*) nests located on the Airport as of review in January 2004 of the Eagle Nest Locator online service provided by the Florida Fish and Wildlife Conservation Commission Wildlife Technology Services. No Florida scrub jay (*Aphelocoma coerulescens coerulescens*) populations have been identified on site or near the subject New Smyrna Beach Municipal Airport. The Airport has been evaluated for Florida scrub jay nests as well as individual birds, with no sightings having been made.

#### 5.1.11 WETLANDS

Wetlands are defined as those areas that are inundated by surface or groundwater with a frequency sufficient to support vegetative or aquatic life that requires saturated or seasonally saturated soil

conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, and similar areas such as sloughs, potholes, wet meadows, river overflows, mud flats, and natural ponds. Wetlands also include estuarine areas, tidal overflows, and shallow lakes and ponds with emergent vegetation.

The National Wetlands Inventory (NWI) classification for the New Smyrna Beach Municipal Airport includes the wetlands that have currently been identified on the NWI map (see *Figure 8 - National Wetlands Inventory Map of the New Smyrna Beach Municipal Airport* in **Appendix C – Environmental Attachments**). As shown, several small wetland areas are located in the northeastern, western, central and western central, and southern portions of the Airport as well as off-site. The map identifies the specific types of wetlands that are located on the Airport. These types of wetlands are abbreviated as follows:

PFO1A

|    |   |            |
|----|---|------------|
| P  | = | Palustrine |
| FO | = | Forested   |
| 1  | = | Persistent |
| A  | = | Temporary  |

PSS/EM1C

|    |   |                    |
|----|---|--------------------|
| P  | = | Palustrine         |
| SS | = | Scrub-Shrub        |
| EM | = | Emergent           |
| 1  | = | Persistent         |
| C  | = | Seasonally Flooded |

PEM1F

|    |   |                         |
|----|---|-------------------------|
| P  | = | Palustrine              |
| EM | = | Emergent                |
| 1  | = | Persistent              |
| F  | = | Semipermanently Flooded |

R2OWHx

|    |   |                           |
|----|---|---------------------------|
| R  | = | Riverine                  |
| 2  | = | Lower Perennial           |
| OW | = | Open Water/Unknown Bottom |
| H  | = | Permanently Flooded       |
| x  | = | Excavated                 |

POWHx

|    |   |                           |
|----|---|---------------------------|
| P  | = | Palustrine                |
| OW | = | Open Water/Unknown Bottom |



|   |   |                     |
|---|---|---------------------|
| H | = | Permanently Flooded |
| x | = | Excavated           |

PAB6F

|    |   |                         |
|----|---|-------------------------|
| P  | = | Palustrine              |
| AB | = | Aquatic Bed             |
| 6  | = | Unknown Surface         |
| F  | = | Semipermanently Flooded |

E2EM1U

|    |   |            |
|----|---|------------|
| E  | = | Estuarine  |
| 2  | = | Intertidal |
| EM | = | Emergent   |
| 1  | = | Persistent |
| U  | = | Unknown    |

The NWI map (see *Figure 8 - National Wetlands Inventory Map of the New Smyrna Beach Municipal Airport* in **Appendix C – Environmental Attachments**) can be used for preliminary information, but must not be relied upon in lieu of field investigations by a qualified environmental specialist, to verify that a particular project does not impact wetlands, or to calculate the extent of impact. Located at the north end of the Airport are PAB6F and PEM1F type wetland areas.

PFO1A wetland areas exist in two different areas on the airfield. One of these areas is located on the west side of Runway 11-29 between Runway end 07 and Runway end 02. The other PFO1A wetland area is located south of Runway 11-29 between Runway 02-20 and the abandoned alignment of Runway 15-33. From this wetland area, an R2OWHx wetland area runs south along the east side of the Airport Industrial Park area. Further south, just north of Industrial Park Boulevard, there is a PSS/EM1C wetland area and a PEM1F wetland area. Another wetland area exists south of Runway end 07, beyond Sunset Drive. This wetland area is characterized as an E2EM1U type.

As development occurs on the airfield, if any development or construction requires the alteration of wetlands or surface waters, an Environmental Resource Permit (ERP) would be required. The ERP application is submitted concurrently to the SJRWMD and to the U.S. Army Corps of Engineers.

A photo inventory of the wetlands is included in **Appendix C – Environmental Attachments**.

Future impacts are anticipated to be minimal because of avoidance and minimization of wetland impacts and New Smyrna Beach Municipal Airport practices. However, any site that has been identified for development that appears to have wetland characteristics (i.e., long term ponding of water, hydric soil, or wetland type vegetation) should be examined by an environmental specialist having expertise in wetland issues.

5.1.12 FLOODPLAINS

Floodplains are defined as lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands. At a minimum, areas that are subject to a one



percent or greater chance of flooding in any given year (100-year flood) are also considered to be floodplain areas.

The June 1992 Flood Insurance Rate Map indicates that the Airport includes areas of Flood Zones A, B, and C. The Flood Zone A designation indicates that the area lies within a 100-year floodplain. Individual project environmental investigations will detail whether or not the project falls within this floodplain.

#### 5.1.13 COASTAL ZONE MANAGEMENT PROGRAM

The *Coastal Zone Management Act of 1972* requires federal agencies to review activities with regard to direct effects to coastal zones. Any activities which directly affect the state coastline are subject to a determination of consistency with Florida's Coastal Zone Management Program. Activities which are likely to require a consistency determination include the following:

- Any project subject to state or federal dredge and fill permitting review
- Any point or non point source discharge to surface waters
- Major industrial expansion or development projects

All projects at the New Smyrna Beach Municipal Airport are within the boundaries of the Coastal Zone Management Program. All federally funded projects will be reviewed by the appropriate federal and State of Florida environmental agencies.

#### 5.1.14 COASTAL BARRIERS

The *Coastal Barriers Resource Act of 1982*, PL 97 - 348 (*CBRA*), prohibits, with some exception, federal financial assistance for the development within the Coastal Barrier Resources System. *CBRA* maps were reviewed to determine potential impacts to coastal barriers due to proposed Airport development. This system includes the undeveloped coastal barrier islands along the Atlantic Coast. No proposed development at the New Smyrna Beach Municipal Airport is contained within this geographic area. Based on this information, no impacts on Coastal Barrier areas will result from the proposed development alternatives of this Master Plan Update.

#### 5.1.15 WILD AND SCENIC RIVERS

The *Wild and Scenic Rivers Act* describes those river areas eligible to be included in and given protection under the Act as free flowing and possessing "outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, and other similar values." According to the Florida Department of Environmental Protection, there are neither national nor state wild and scenic river designations in Volusia County. For this reason, there will be no Airport related impacts to wild and scenic rivers.

#### 5.1.16 PRIME AND UNIQUE FARMLAND

Prime and unique farmland is considered to be available land that is best suited for producing food, feed, forage, and other types of crops. In addition, prime and unique farmland has the soil quality

and moisture supply needed to produce and sustain high yields of crops when treated and managed according to modern farming methods.

Currently, none of the land immediately adjacent to the Airport is currently being used for active crop production. In addition, the Pomona Palmetto soil types surrounding the Airport are not considered as prime and unique. For these reasons, no adverse impacts to prime and unique farmland are expected.

#### 5.1.17 ENERGY SUPPLY AND NATURAL RESOURCES

In terms of Airport development, there are typically two areas of concern with regard to energy supply and natural resources:

- Stationary consumers
- Mobile consumers

Stationary consumers include facilities in a fixed location and can be further categorized into landside consumers and airside consumers. The two primary landside consumers include fixed base operator (FBO) buildings and general aviation hangars. Runway, taxiway, and lighted navigational aids are the primary airside energy consumers. It is anticipated that increases in energy consumption due to the FBOs, general aviation hangars, and airfield lighting will not adversely affect the area's local energy supply.

Mobile consumers include moving consumers such as aircraft and automobiles. At an Airport, aircraft are the primary users of fuel. Since the forecasts indicate an increase in activity during the planning period, additional fuel will be consumed. It is anticipated that the local consumption of aviation fuel will not have an adverse local or regional impact on carbon fuel production.

#### 5.1.18 LIGHT EMISSIONS

Light emissions which may create an annoyance to residents in the vicinity of the Airport must be taken into account. As part of the recommended Airport development plan, runway and taxiway lighting will be installed.

Currently, annoyance from the Airport's existing light emissions is minimal. Additional airfield lighting is also expected to have minimal light emission impacts. Due to the relatively low intensity of runway, taxiway, and apron lighting, additional light emissions created by these airfield lights will not be significant and are not expected to cause annoyance. Runway lighting for nighttime operations at the Airport are typically activated by radio by the approaching pilot, and only remain on for 15 minutes after being activated. This minimizes the impact from Airport lighting. Apron floodlighting will use shielded fixtures designed to direct light toward the pavement surfaces and minimize stray light.

#### 5.1.19 SOLID WASTE IMPACTS

Solid waste is typically affected by terminal development rather than airfield development. Projects which relate only to airfield development (runways, taxiways, etc.) do not normally result in any

---

direct impact to solid waste collection, control, or disposal other than that associated with the construction itself.

Preliminary review indicates that the proposed airfield developments will not significantly change the methods used for solid waste disposal at the Airport. The expansion of the FBOs and general aviation hangars however, will increase solid waste production. The additional waste generated due to the expansion of such facilities will be accommodated by the existing refuse disposal system.

#### 5.1.20 CONSTRUCTION IMPACTS

Construction activities generate noise, dust, air emissions, and erosion which impact the surrounding environment to some extent.

Heavy construction equipment will generate noise. However, it is expected that this noise will occur only during the daylight hours. Noise is an expected short-term by-product of construction and will not produce any permanent, ongoing impacts.

Construction activity will produce emissions from vehicles and equipment. A temporary increase in emissions will occur due to the presence of constantly running internal combustion engines. Such emissions are typically minor; however, and will not pose any significant or lasting negative impacts.

Some erosion and subsequent sedimentation in the vicinity of the proposed projects may likely occur due to the amount of earthwork involved. Erosion control measures required by the State of Florida DEP, Water Management District, and those outlined in FAA Advisory Circular 150/5370-7 should be incorporated into project plans and specifications.

Construction impacts such as noise, dust, air emissions, and erosion generated by construction activities associated with the proposed project are anticipated to be minimal and are not long-term impacts on the environment. Measures for limiting construction impacts described in FAA Advisory Circular 150/5370-10A, Standards for Specifying Construction of Airports (Item P-156) should be followed during construction.

#### 5.1.21 OTHER CONSIDERATIONS

A detailed review for potential hazardous material has been completed along with review of the Environmental Data Resources, Inc., database audit on the area (in **Phase One (1) Environmental Assessment**, on file with the City of New Smyrna Beach). There does not appear to be any indication of significant existing hazardous material on the subject site based on the findings of the Environmental Data Resources, Inc., database audit, and appraisal of the site by a Certified Environmental Professional/Florida Environmental Auditor. There are petroleum products and petroleum storage facilities located on and near the New Smyrna Beach Municipal Airport. There are also industrial sites located on and near the Airport. It is not anticipated that these facilities pose significant environmental risks to the Airport (see **Phase One (1) Environmental Assessment**, on file with the City of New Smyrna Beach).

## 5.2 ENVIRONMENTAL OVERVIEW SUMMARY

This environmental overview has not identified any major impacts that would be associated with the proposed Airport development plan recommended by this Master Plan. If future development of the Airport requires an EA, each of the categories above will be investigated in more detail.