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OCF Ocala International Airport

Airport Master Plan Update

Prepared for
Ocala International -
Jim Taylor Field

Final Report
May 2014

RS&H

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EXECUTIVE SUMMARY

A master plan is a comprehensive study of an airport that provides a clear and concise planning guide for future development. The Master Plan is the airport's strategy for future development. It provides the framework for development to satisfy the needs of the airport and the community while balancing environmental and socioeconomic impacts. The Master Plan also ensures airport development is compatible with local, regional, and state plans as well as federal regulations.

The future development of an airport is represented in written form in the Master Plan document, and graphically depicted in the Airport Layout Plan (ALP) drawings. An FAA-approved ALP is required for an airport to qualify and receive federal and/or state funding assistance.

Though the FAA does not strictly require airports to prepare master plans, it strongly recommends that they do so. Furthermore, each master plan must be accepted by the FAA. This acceptance does not commit the federal government to provide funding for the proposed developments, nor does it imply those developments are environmentally acceptable. The FAA only approves the aviation demand forecasts and the Airport Layout Plan.

Each master planning study focuses on the specific needs of the airport. The master planning process for Ocala International – Jim Taylor Field (OCF) determined the needs and development for the 20 year planning period from 2012-2032. This process included the following elements:

- Analysis of existing conditions
- Analysis of local environment
- Forecast of aviation demand
- Determination of facility requirements
- Identification and evaluation of alternatives
- Establishment of a facilities implementation plan
- Depiction of development in the Airport Layout Plan (ALP)

Over the next 20 years, the aviation demand forecast projects overall activity at OCF to grow at an average annual growth rate of 1.02 percent. By 2032, the airport anticipates to accommodate approximately 64,000 annual aircraft operations. By comparison, from 2005-2007 the Airport accommodated over 100,000 annual aircraft operations. Within the planning period, over 96 percent of operations will be conducted by "general aviation" aircraft, ranging from small piston aircraft to business jets. The remaining 4 percent of operations is spread nearly equally between local and transient air carrier, air taxi, and military operations. The aviation demand forecast also projects an un-met demand for equine and non-equine air cargo. The forecast projects that by 2032 the airport may accommodate over 500 annual operations of large cargo aircraft.

As air cargo aircraft have more demanding characteristics and differing needs than the traditional general aviation traffic, the Master Plan recommends development of the west side of the Airport for large cargo and transient aircraft. This development will help position the Airport for increased cargo operations, in keeping with management's strategic vision and statewide initiatives aimed at transforming Florida into a "global hub for trade."

In addition to west side development, the master plan also considered the short, medium, and long term needs and requirements of the airside, landside, and support facilities at the Airport. Based on these needs and requirements, a total of 19 alternatives were developed and evaluated, both individually and combined. The short, intermediate, and long term preferred alternative developments include:

- 933' south extension of Runway 18-36
- 1,782' extension of Runway 8-26
- West side cargo apron
- West side parallel taxiway
- On-site Aircraft Rescue and Fire Fighting (ARFF) facility
- New General Aviation Terminal and parking facilities
- Re-located fuel farm
- New T-hangar and conventional hangars

These preferred alternatives, and other requirements and maintenance needs, are carried forward into the facilities implementation plan. This plan established a basic master schedule and coordination plan for future Airport development. The schedule considered four phases of development: Short, intermediate, long term, and ultimate development. Additionally, the plan considered the potential cost of each item adjusted for inflation in the project implementation year. It also included information on likely funding sources and shares. The total costs for the short-term, intermediate, and long-term phases of development are as follows. No cost estimates were developed for ultimate development as their implementation years and therefore costs may vary.

- Short-term (2012-2017) - $14,955,888
- Intermediate (2018-2022) - $32,868,409
- Long-term (2022-2032) - $45,363,656

The OCF Master Plan Update has been prepared in cooperation with local agencies, the Florida Department of Transportation, and the Federal Aviation Administration. It was produced in accordance with the guidelines and standards set forth in the FAA Advisory Circulars 150/5070-6B, *Airport Master Plans*, and 150/5300-13A, *Airport Design*, and the Florida Department of Transportation's *Guidebook for Airport Master Planning*. Additionally, all elements of the master planning process had significant public involvement from the Master Plan Advisory Committee (MPAC). The MPAC consisted of members from the community, the City of Ocala, and the Florida Department of Transportation. The MPAC served in both public advisory and technical advisory committee roles. This included clarifying the vision for the Airport's future, identifying the infrastructure needs required to meet the community's goals, values, and assessing the technical merit of the alternatives developed to meet those needs.

CHAPTER 1
BACKGROUND

This chapter provides a brief overview of the history of Ocala International – Jim Taylor Field (OCF), its aeronautical role as a general aviation airport, and its role as an important transportation facility and economic contributor to Marion County and the City of Ocala.

1.1 AIRPORT HISTORY AND DEVELOPMENT

The history of OCF began in 1927 when Jim Taylor donated land to the City of Ocala for development of an airport. In 1928, Jim Taylor Field was completed, located approximately four miles east of the current Airport site, bringing aviation to the Ocala area. The Airport continued to develop, and in the 1940s supported a contract flight school that trained Army Air Force pilots for World War II.

Commercial passenger service increased in 1947 when Eastern Airlines began service at the Airport. In 1962, the Federal Aviation Administration decided to relocate the airport to the current airport location. While commercial service continued at the new airport, scheduled service ceased in the early 1980s. Throughout its history, there have been many events that facilitated growth and expansion at the Airport. Exhibit 1-1 details these major milestones in the history and development of OCF.

1.2 OWNERSHIP AND MANAGEMENT

The City of Ocala is the owner and operator of OCF. As the owner and operator, the City participates financially in the Airport operations and capital improvements. Ocala has a five-member Airport Advisory Board appointed by the City Commission with staggered terms. The purpose of the Advisory Board is to provide local community input to the Airport and its staff. A full-time professional Airport Manager serves as the day-to-day director of the Airport and is assisted in managing the Airport by a staff of four.

1.3 HISTORICAL REVENUES AND EXPENSES

OCF generates revenue through fuel sales, land rent, building rent, hangar and tie-down rentals, concessions, miscellaneous revenue, and interest income. Expenditures consist of salaries and benefits, maintenance and operations, utilities, insurance, professional fees, administrative expenses, miscellaneous expenses, capital improvements, and grant matching. These are the items required to maintain the Airport, provide services, and ensure the continued operation the Airport. Capital improvements include costs for the upkeep of the Airport, its facilities and equipment, and any necessary infrastructure improvements.

Exhibit 1-1 Timeline of Events

1928: Jim Taylor Field Opens (Approximately 4 miles east of current location)

1927: Jim Taylor Donates land for development of Airport

1941: Greenville Aviation Army/Air Force contract pilot school begins training pilots

1947: Eastern Airlines begins service

1962: Federal Aviation Administration decides to relocate airport to current airport location

1968: Eastern resumes service at new Ocala airport

1972: Eastern Airlines moves service to Gainesville Regional Airport

Early 1980s: Commercial service discontinued

1973: 3,009-foot east-west crosswind runway constructed

1988: Runway 18-36 extended

1994: 400 additional acres of land acquired for aviation development

1995: Signage corrected, ILS installed, asphalt overlays of Runway 8-26 completed

2005: 18-36 runway safety area and extension improvements

2008: Runway18-36 rehabilitation

2010: Air Traffic Control Tower opens

2013: Runway 8-26 rehabilitation

1.4 COMMUNITY ECONOMIC IMPACT

OCF provides a significant positive contribution to the state and local economy through flight activities, tenants/businesses, construction development, and visitors to the area. Analysis by the Florida Department of Transportation[1] estimates the total annual economic impact from the Airport to be $88,646,200. The Airport is directly and indirectly responsible for 794 jobs, which generate an annual payroll of $22,920,600.

1.5 AIRPORT ROLE

The Federal Aviation Administration (FAA) classifies OCF in the National Plan of Integrated Airport Systems (NPIAS) as a 'General Aviation' airport. General Aviation airports are airports that do not receive scheduled commercial service, have at least 10-based aircraft, and are at least 20 miles from the nearest NPIAS airport. The Florida Department of Transportation also recognizes the Airport as a General Aviation airport in the *2025 Florida Aviation System Plan*. In this role, OCF serves the general aviation, corporate aviation, and the air cargo industry, as well as a limited number of charter operations.

The Airport currently has a 14 CFR Part 139 Class IV Airport Operating Certificate (AOC), indicating that it is capable of serving unscheduled commercial aircraft with 30 or more seats. The Airport estimates that the largest proportion of general aviation activity, approximately 35 percent, is business related. Flight training also represents a large component of the Airport's general aviation activity. Roughly, 30 percent of the Airport's annual operations are related to flight training. Approximately 12 percent of the Airport's based aircraft are owned by local businesses. The Airport also attracts a number of transient or visiting general aviation aircraft. This type of activity accounts for approximately 25 percent of the airport's annual activity. While the Airport does not have any based military aircraft, it does accommodate transient military operations by both helicopter and fixed-wing aircraft.

[1] FDOT *Florida Statewide Aviation Economic Impact Study* (March 2010)

CHAPTER 2
EXISTING CONDITIONS

Identifying the existing conditions of an airport is an important part of the master planning process. The existing conditions, also known as the inventory, describe the existing facilities at an airport. This process includes a review of the airport, its position in the regional setting, and its physical infrastructure. The analysis helps to identify the existing facilities at the airport and their ability to accommodate demand. This chapter presents the existing conditions of Ocala International – Jim Taylor Field (OCF).

2.1 AIRPORT LOCATION

OCF is located in Marion County, Florida, approximately four miles west of the City of Ocala. It is situated approximately 40 miles east of the Gulf of Mexico, and 75 miles west of the Atlantic Ocean. The *Public Land Survey System* location of the Airport is: Florida, Tallahassee Meridian, T21S, R15E, Section 20.

Marion County has an area of 1,610 square miles, making it the fifth largest county in Florida. Marion County has irregular topographical features with elevations ranging from 50 feet above Mean Sea Level (MSL) to 200 feet MSL. The Airport field elevation is 90 feet MSL. Exhibit 2-1 depicts the location of OCF, as well as surrounding public use airports in North-Central Florida listed as part of the National Plan of Integrated Airport Systems (NPIAS).

Exhibit 2-1 Ocala International Airport Location

Source: 2013 National Plan of Integrated Airport Systems (Modified)

2.1.1 Adjacent Airports

Airports in the area around OCF are of considerable importance in discussing general aviation activity and/or air carrier services in the region. Exhibit 2-1 depicts the locations of public use airports within an approximate 45-mile radius from OCF. Table 2-1 below summarizes the characteristics of the public use airports.

Table 2-1 Public-use Airports near OCF

Airport (Identifier)	NPIAS Classification	Drive Distance to OCF (miles)	Primary Runway Designation	Runway Length and Width	Based Aircraft
Crystal River Airport (CGC)	General Aviation	38.3	9-27	4,557' x 75'	29
Dunnellon/Marion Co. Airport (X35)	General Aviation	17.1	5-23	4,941' x 100'	92
Gainesville Regional Airport (GNV)	Primary- Non-Hub	44.0	11-29	7,504' x 150'	123
Inverness Airport (INF)	General Aviation	31.3	1-19	5,000' x 75'	29
Palatka Municipal Airport (28J)	General Aviation	62.2	9-27	6,000' x 100'	52
Leesburg Regional Airport (LEE)	General Aviation	47.2	13-31	6,300' x 100'	96
Umatilla Municipal Airport (X23)	General Aviation	58.1	1-19	2,500' x 60'	12
Williston Municipal Airport (X60)	General Aviation	25.2	05-23	6,668' x 100'	51

Source: Airnav.com

In addition to the public use airports detailed in Table 2-1, there are also a number of privately owned airports, airstrips, and heliports within the vicinity of OCF. These private use facilities base a small number of aircraft and conduct limited operations. Table 2-2 below details the privately owned facilities within 20 nautical miles of OCF.

Table 2-2 Private-use Airports near OCF

Airport/Heliport	Identifier	City	Distance/Location from OCF
Sheriff's Operation Center Heliport	3FL3	Ocala, FL	2.9 nm NE
Bernie Little Heliport	FL49	Ocala, FL	3.9 nm E
Shady International Heliport	FA49	Ocala, FL	5.1 nm SSE
Flying Dutchman Ranch Airport	FD29	Ocala, FL	6.0 nm ESE
Sheriff's North Multi District Office Heliport	1FL6	Ocala, FL	7.2 nm NNE
Sheriff's South Multi District Office Heliport	FL68	Ocala, FL	8.0 nm ESE
Crosswind Farm Airport	FL19	Ocala, FL	8.1 nm WNW
Jumbolair-Greystone Airport	17FL	Ocala, FL	8.3 nm NE
Idle Wild Airport	FL63	Ocala, FL	8.7 nm NW
MC Ginley Airport	FL61	Ocala, FL	8.8 nm S
Lee Farms Airport	FL80	Lowell, FL	10.2 nm NNE
Reluctant Gremlin Airport	FA09	Fairfield, FL	10.3 nm NNW
Monroe Airpark Airport	2FA2	Belleview, FL	10.9 nm SSE
Leeward Air Ranch Airport	FD04	Ocala/Belleview, FL	11.3 nm ESE
Wings-N-Wheels Airport	FA50	Reddick, FL	12.0 nm NNE
Norton Airport	8FL2	Belleview, FL	12.1 nm SSE
Drake Ranch Airport	7FD2	Hernando, FL	12.2 nm SSW
Back Achers Airport	8FL3	Belleview, FL	13.2 nm ESE
Thompson's Goinbroke Aero Ranch Airport	9FD5	Citra, FL	13.6 nm NNE
Lockheed Martin – Ocala Heliport	FL79	Ocala, FL	13.6 nm ESE
S & S Avion Ranch Airport	31FA	Oxford, FL	13.6 nm SSE
Seven Feathers Airport	10FD	Dunnellon, FL	13.7 nm SW
Twelve Oaks Airport	5FL7	Hernando, FL	13.7 nm SSW
Paniola Air Ranch Airport	FD14	Citra, FL	15.0 nm NE
Johary Airport	FL58	Belleview, FL	15.2 nm SE
Jordan Heliport	7FL0	Belleview, FL	15.7 nm SE
Redtail Airstrip Airport	FA30	Morriston, FL	15.8 nm WNW
Jordan Seaplane Base	FD79	Belleview, FL	16.0 nm SE
Lake Weir Seaplane Base	24FA	Oklawaha, FL	16.5 nm ESE
The Villages Heliport	19FL	Belleview, FL	16.8 nm SE
Wings Field Airport	96FL	Williston, FL	17.4 nm WNW
Williston Memorial Hospital Heliport	73FL	Williston, FL	17.5 nm NW
Woods and Lakes Airpark Airport	FA38	Oklawaha, FL	17.9 nm E
Rimes Lakecrest Airport	35FA	Cross Creek, FL	18.1 nm N
Village of Homewood Lady Lake Heliport	FL20	Lady Lake, FL	19.2 nm SE
Hobby Hill Airport	2FD1	Weirsdale, FL	19.9 nm SE

Source:Airnav.com

2.2 AIRSIDE FACILITIES AND LOCAL AIRSPACE

The airside facilities of an airport refer to those facilities specifically necessary for the operation and movements of aircraft. At OCF, this consists of the runway system, the taxiway system, aircraft aprons, and aircraft hangars. This section describes the existing condition of the airside facilities as well as the local airspace surrounding the Airport.

2.2.1 Runway System

The runway system at OCF consists of two non-intersecting runways oriented north-south and east-west respectively.

The north-south runway is the primary runway at the Airport. It is oriented along the approximate magnetic heading of 180 degrees and 360 degrees and is designated 18-36. Runway 18-36 consists of a 7,467 foot x 150 foot grooved asphalt surface in excellent condition. The landing threshold of 18-36 is displaced 160 feet on the Runway 18 end and 561 feet on the Runway 36 end.

Runway 18-36 has a Runway Design Code (RDC) and Runway Reference Code (RRC) of D-II-4000. The Runway Design code signifies the FAA design standards of the runway, while the runway reference code describes the current operational capabilities of the runway. The three parameters of the RDC/RRC consists of the aircraft approach category (AAC), Airplane Design Group (ADG), and the approach visibility minimums in feet. Runway 18-36 is in compliance with all FAA design standards.

The secondary east-west runway is oriented along an approximate magnetic heading of 080 degrees and 260 degrees and is designated 8-26. The primary purpose of Runway 8-26 is to provide appropriate crosswind coverage for general aviation aircraft when local wind conditions are not suitable for operations on Runway 18-36. Runway 8-26 consists of a 3,009 foot x 50 foot non-grooved asphalt surface in excellent condition. Runway 8-26 has a Runway Design Code (RDC) and Runway Reference Code (RRC) of B-II-VIS.

The runway width of 50 feet is a non-standard feature, which constitutes a deviation to the current FAA airport design standard of 75 feet for RDC B-II aircraft. Table 2-3 summarizes major runway characteristics by runway end for Runway 18-36 and Runway 8-26.

Table 2-3 Runway System Data

Facility Item	Runway	
Runway 18-36	**Runway 18**	**Runway 36**
Runway Length x Width	7,467' x 150'	
End Latitude	N 29° 10' 44"	N 29° 09' 30"
End Longitude	W 82° 13' 23"	W 82° 13' 23"
End Elevation (MSL)	80'	78'
Pavement Surface Course	Asphalt (Grooved)	
Pavement Surface Course Condition	Excellent	
Pavement Strength (lbs.)	60,000 (SW) | 125,000 (DW) | 220,000 (DT)	
Runway Instrument Approach Aids	RNAV (GPS)	ILS | LOC-DME| VOR | RNAV
Visual Approach Aids	PAPI-4L	PAPI 4L | MALSR
Runway Edge Lighting	HIRL	
Runway Markings	Non-Precision Instrument	Precision Instrument
Runway Marking Condition	Good	Good
Displaced Threshold Length	160'	561'
Runway 8-26	**Runway 8**	**Runway 26**
Runway Length x Width	3,009' x 50'	
End Latitude	N 29° 10' 46"	N 29° 10' 51"
End Longitude	W 82° 13' 53"	W 82° 13' 20"
End Elevation (MSL)	87'	88'
Pavement Surface Course	Asphalt	
Pavement Surface Course Condition	Excellent	
Pavement Strength (lbs.)	30,000 (SW)	
Runway Markings	Basic	Basic
Runway Marking Condition	Fair	Fair

Source: National Flight Data Center

2.2.2 Taxiway System

The taxiway system at OCF provides access to the runway system from the terminal area environment, thus increasing operational safety and efficiency between arriving and departing aircraft. As depicted in Exhibit 2-2, the taxiway system at the Airport consists of two primary taxiways, A and B, and their associated connector taxiways. A 50-foot wide parallel Taxiway A and 11 connector taxiways serve Runway 18-36. Approximately 4,850 feet of Taxiway A, from A1 to A8, is positioned 300 feet from the Runway 18-36 centerline with the remaining portion of taxiway A, from A9 to A11, positioned 400 feet from Runway 18-36.

A narrower 25-foot wide portion of Taxiway A extends north from connector A1 to Runway 26. Runway 8-26 is served by a 25-foot wide full length parallel Taxiway B with three connector taxiways: B1, B2, and B3. This narrower portion of Taxiway A from A1 to Runway 26, Taxiway B, as well as connectors B1, B2, and B3, deviate from the required taxiway width standard of 35 feet for RDC B-II aircraft. Furthermore, Taxiway B does not meet standards for runway to taxiway centerline separation, or runway centerline to holding position. Furthermore, the taxilane adjacent to the airport administration hangar does not contain sufficient wingtip clearance.
Table 2-4 lists the major characteristics of the taxiway facilities at the Airport.

Table 2-4 Taxiway System Data

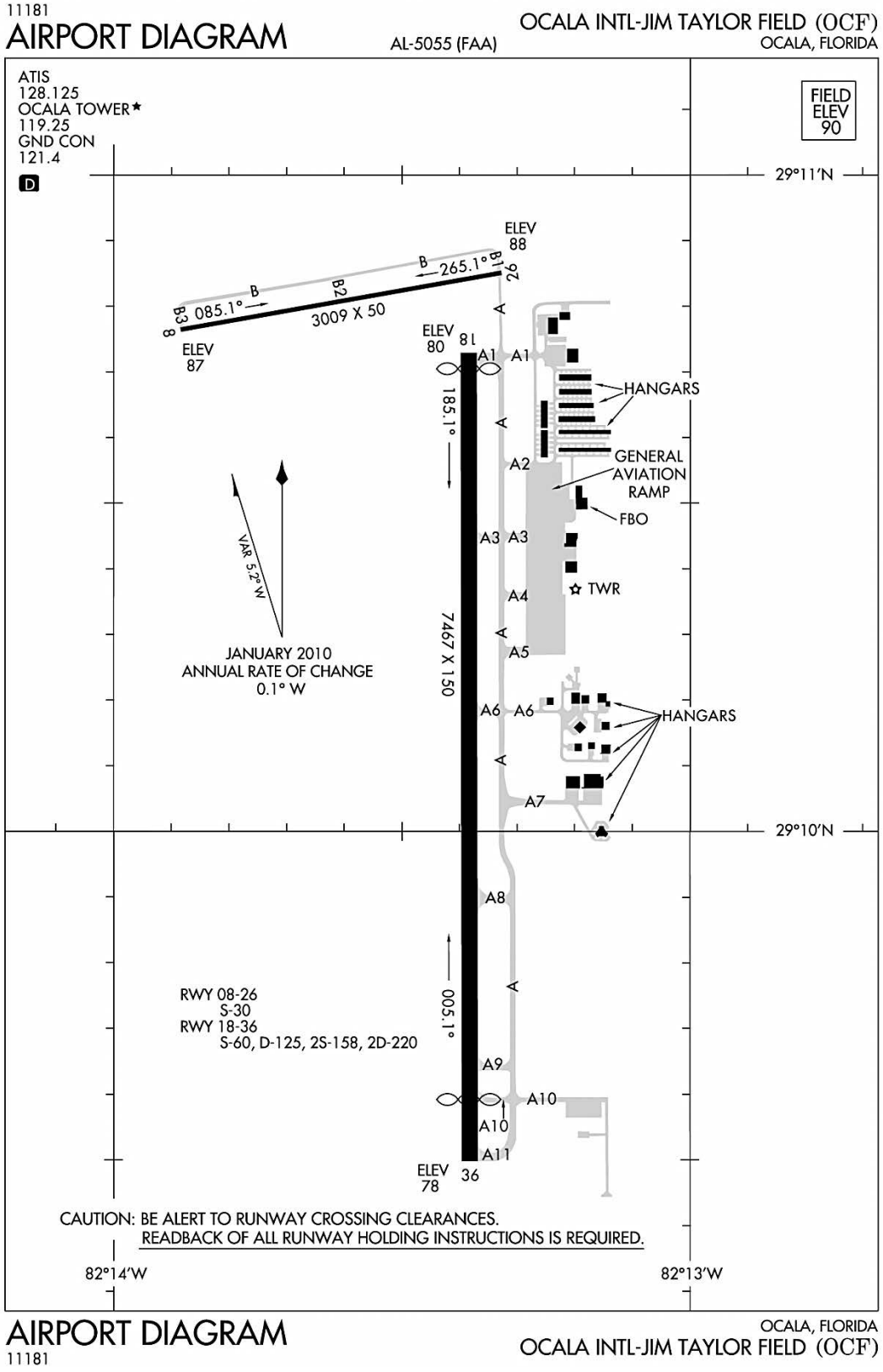
Taxiway Designation	Taxiway Width	Approximate Segment Length	Lighting	Pavement Marking	Shoulder Width
A (A1 to A11)	50'	7250'	HITL	Centerline	None
A (A1 to RWY 26)	25'*	700'	HITL	Centerline	None
A1 East	40'	320'	HITL	Centerline	None
A1 West	80'	225'	HITL	Enhanced Centerline	None
A2	40'	250'	HITL	Centerline	None
A3 East	50'	250'	HITL	Enhanced Centerline	None
A3 West	50'	225'	HITL	Enhanced Centerline	None
A4	50'	225'	HITL	Centerline	None
A5	50'	225'	HITL	Centerline	None
A6 East	25'	550'	HITL	Enhanced Centerline	None
A6 West	50'	225'	HITL	Enhanced Centerline	None
A7	40'	925'	HITL	Centerline	None
A8	50'	325'	HITL	Enhanced Centerline	None
A9	50'	325'	HITL	Enhanced Centerline	None
A10 East	50'	815'	HITL	Centerline	None
A10 West	50'	325'	HITL	Enhanced Centerline	None
A11	80'	425'	HITL	Enhanced Centerline	None
B	25'*	2800'	None	Centerline	None
B1	25'*	250'	None	Enhanced Centerline	None
B2	25'*	200'	None	Enhanced Centerline	None
B3	25'*	255'	None	Enhanced Centerline	None

*Non-standard taxiway width
Source: RS&H, 2013

2.2.3 Aircraft Aprons

The function of aircraft aprons is to provide areas for local and transient airport parking, air taxi and air charter operations, fueling operations, and maintenance/support vehicle access to the airfield. The primary parking apron is located on the eastern side of the airfield extending from the terminal building past the FBO building (See Appendix A - Sheet 3). The primary apron consists of approximately 75,000 square yards of asphalt pavement in good condition. Taxiway connectors A2, A3, A4, and A5 provide direct access to the primary apron from the taxiway system. Parking is provided in front of the terminal for air taxi and air charter operations while local and transient aircraft jointly use the area to the north of the terminal.

Exhibit 2-2 Airport Diagram



Source: Federal Aviation Administration (September 2013)

2.2.4 Aircraft Hangars

Aircraft hangars are buildings designed to store aircraft, with some including office and workshop space. At OCF, there are 18 conventional and corporate box hangars, eight T-hangar buildings totaling 101 units, and a six-unit hexa-port on the airfield. These buildings comprise a total of approximately 160,000 square feet.

Individual persons and/or corporations own 15 of the corporate hangars and the six-unit hexa-port. The Airport's Fixed Based Operator (FBO), Landmark Aviation, Inc., operates the three remaining corporate hangars. All of the corporate hangars are in good condition.

The eight current structures in the T-hangar complex were constructed between the late 1980s and 2008. The six east-west oriented buildings have electrical and water connections, while the two north-south buildings have only electrical. Additionally there are three open restrooms available in the T-hangar complex. The six older T-hangar buildings are in fair condition, with some chronic maintenance issues involving the hangar doors. The two north south T-hangar buildings shown in Exhibit 2-3 below are in good condition. Airport management is directly responsible for leasing and managing the T-hangar buildings.

Exhibit 2-3 North-South T-hangars

Source: City of Ocala, 2013

2.2.5 Airport Pavement Condition

Airfield pavements must provide a sufficient surface to support the loads imposed by aircraft as well resisting natural deteriorating influences. Pavement strength is an important criterion in determining the ability of airfield pavements to support existing and future aircraft activity.

In total, considering all runways, taxiways, and apron areas, OCF has a combined 3 million square feet of airfield pavement. In 2011, the Florida Department of Transportation (FDOT) as part of its Statewide Airfield Pavement Management Program conducted a full airfield pavement assessment at the Airport[2]. Table 2-5 presents its findings for immediate maintenance and rehabilitation needs. Appendix B presents a graphical pavement condition map of all airfield pavements at the Airport in 2011.

Table 2-5 Immediate Major Pavement Maintenance and Rehabilitation Needs

Area	Surface Type	Section Area (ft^2)	M&R Activity	2011 Estimated M&R Costs	PCI Before M&R
Central Apron	AAC	168,000	Mill and Overlay	$482,832.32	62
South Apron	AC	13,600	Mill and Overlay	$77,737.61	52
South Apron	AC	16,400	Reconstruction	$223,368.07	25
South Apron	PCC	11,200	Reconstruction	$152,544.05	18
TWY B	AC	85,225	Mill and Overlay	$536,065.29	50
TWY B	AC	7,200	Reconstruction	$98,064.03	18
A1 to RWY 8-26	AC	18,400	Reconstruction	$250,608.08	30
TWY A	AAC	230,791	Reconstruction	$2,466,694.93	34
TWY A	AC	120,708	Reconstruction	$1,378,606.53	33
TWY A	AC	26,400	Mill and Overlay	$166,056.03	40
TWY A	AC	77,900	Reconstruction	$661,293.30	37
TWY A3	AAC	11,500	Mill and Overlay	$62,433.51	53
TWY A6	AAC	11,500	Reconstruction	$139,771.05	32
TWY A6	AC	10,000	Mill and Overlay	$26,010.02	63
TWY A8	AC	18,800	Reconstruction	$256,056.08	27
TWY A8	AAC	3,600	Reconstruction	$41,115.61	33
TWY A9	AC	16,000	Mill and Overlay	$100,640.01	48

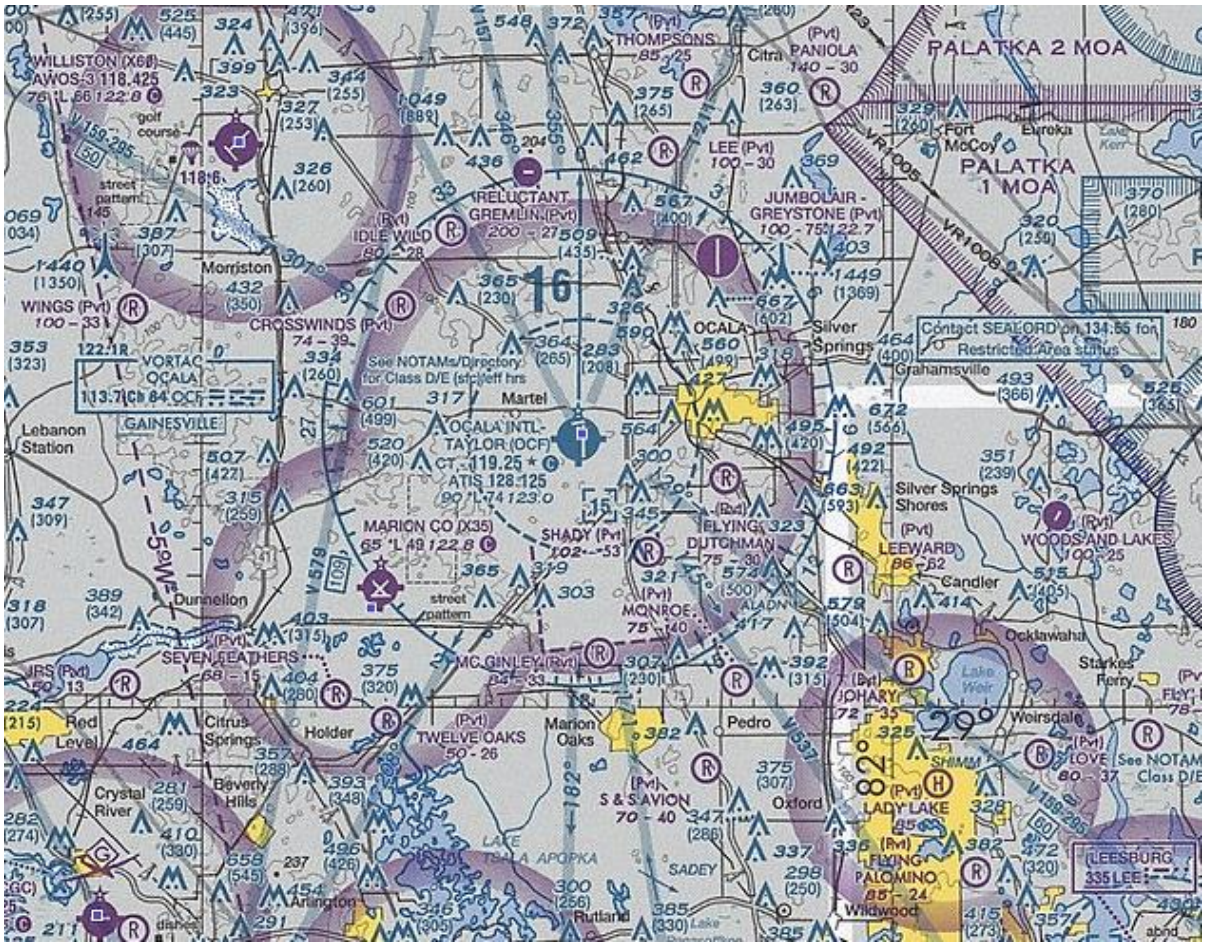
Source: FDOT, 2011

[2] FDOT Florida Statewide Pavement Management Program - *OCF Pavement Evaluation Report* (May 2011)

2.2.6 Airspace and Air Traffic Control

Exhibit 2-4 depicts the airspace and navigation system surrounding OCF, which consists of Class D and Class E airspace. Class D airspace surrounding the Airport is represented by a 4.4 nautical mile radius cylindrical boundary extending from ground level up to and including 1,500 feet MSL. Class E airspace surrounding the airport has a floor of 700 feet AGL and extends to but not including 18,000 feet MSL. Approximately 4.4 miles south of the Airport and extending approximately 10 miles south is an extension of Class E (surface) Airspace. This Class E (surface) extension is approximately 5 miles wide and extends to the surface. Class D airspace is designated airspace surrounding an operational control tower where two-way communication is required between pilots and the tower. The Air Traffic Control Tower (ATCT) at OCF operates as part of the Federal Contract Tower Program. The Ocala ATCT is responsible for air traffic separation and communications occurring on the Airport's runways, taxiways, movement areas, and Class D airspace daily from 6 am to 9 pm local time. The airspace reverts to Class E airspace outside of these hours.

Exhibit 2-4 Local Airspace Sectional Chart



Source: Federal Aviation Administration

2.2.7 Navigational/ Visual/ Communication Aids

Navigational aids (NAVAIDs) are facilities located at or near the Airport that assist pilots in locating the Airport and conducting safe operations in the airport environment. They provide navigational, visual, and communications assistance for the repeated safe operation of aircraft. The NAVAIDs found at OCF include:

- Very high frequency Omni-directional Range/Tactical Air Navigation (VORTAC)
- Instrument Landing System (ILS) – Runway 36 End
    - Glide Slope (GS) antenna and shelter
    - Localizer (LOC) antenna and shelter
    - Distance Measuring Equipment (DME) antenna and shelter
    - Medium Approach Lighting System with Runway alignment lights (MALSR)
- Precision Approach Path Indicator (PAPI) on Runway 18-36
- High Intensity Runway Lighting (HIRL)
- High Intensity Taxiway Lighting (HITL)
- Rotating beacon
- Segmented circle/lighted wind cone
- Automated Weather Observation System III (AWOS III)

2.2.8 Instrument Approach Procedures

OCF is served by four standardized instrument approach procedures for Runway 18-36. These procedures utilize both ground-based and satellite-based instrumentation. As part of these procedures, both special alternate minimums and departure procedures apply. Table 2-6 details the current published instrument approach procedures available at the Airport.

Table 2-6 Published Instrument Approach Procedures

Runway	Approach Type	Primary NAVAID	Visibility (miles)	Ceiling (feet)
Runway 18	RNAV	GPS	3/4	200
Runway 36	ILS	ILS	3/4	200
	RNAV	GPS	3/4	200
	VOR	VOR	3/4	600

Source: FAA digital Terminal Procedures Publication

2.3 LANDSIDE FACILITIES

The landside facilities of an airport are those facilities necessary for the processing of passengers, freight, and ground transportation vehicles. This section presents an overview of these facilities at OCF, including the area roadway system and the terminal, fixed base operator, and vehicle parking facilities.

2.3.1 Off-Airport Roadway System

OCF is located in the central portion of Marion County approximately four miles west of the City of Ocala. The primary means of transportation to the Airport is through personal vehicles, rental cars, and on-demand taxi service. Public transportation does not currently serve the Airport.

Vehicle ground access to the Airport is provided through several major transportation routes. Table 2-7 lists the major roadways and airport access roads to OCF, along with the direction of travel and the number of traffic lanes in the vicinity of the Airport.

Table 2-7 Major Vehicle Transportation Roadways

Road Name	Direction of Travel	Number of Traffic Lanes
Interstate 75	North/South	6
U.S. Highway 441	North/South	4
SW 60th Avenue	North/South	4
SW 80th Avenue	North/South	2
State Road 200	North/South	6
State Road 40	East/West	4
State Road 27	East/West	4
State Road 464	East/West	4
SW 20th Street	East/West	4
SW 38th Street	East/West	2

Source: RS&H, 2013

2.3.2 On-Airport Roadway System

The primary means of vehicle access to the Airport is provided through 10 gated access points, adjacent to the southbound lane of SW 60th Avenue. Eight of these points are Airport-owned controlled access points that provide secure and monitored vehicle access to aircraft hangars and the airport operations area. The entrance roads to both the terminal and the Fixed Based Operator (FBO) consist of a one way loop road which assists in traffic flow and leads vehicles to parking facilities.

On the airfield side of the Airport, several unpaved and paved controlled access roads exist to support maintenance activities. However, Airport does not currently have a perimeter airside access road. Airport perimeter roads allow full access for service vehicles and machinery to access various parts of airport property.

2.3.3 Terminal Building

The existing terminal building at OCF is a 4,340-square-foot building located on the east side of the airfield. Constructed in 1962, this building houses rental car providers and restrooms. The current rental car providers operating at this facility are Enterprise, Hertz, and Avis Rental Car. This building currently operates at capacity. The current space is not sufficient to meet user demands.

Exhibit 2-5 Airside View of Terminal Facility

Source: RS&H, 2013

2.3.4 Fixed Based Operator

A fixed based operator is typically a private entity that leases land from an airport to provide various services to based and itinerant aircraft. Currently OCF has one FBO, Landmark Aviation, Inc. The FBO provides and supports the following services at the Airport:

- Aircraft fuel storage and dispensing
- Aircraft ground handling, tie-down and hangars
- Aircraft charter/flight instruction/sales
- Aircraft maintenance (engine and airframe)
- Pilot amenities, services, and supplies

All services are located in a 7,200 square foot building on Airport property to the north of the terminal building (See Appendix A - Sheet 3). A restaurant is located within the FBO building that leases space directly from the FBO. Additionally, Landmark Aviation, Inc. manages three conventional hangars where a combination of aircraft maintenance and storage operations occurs.

2.3.5 Vehicle Parking Facilities

Public vehicle parking facilities at OCF consists of three dedicated surface parking lots for use by tenants and visitors. The parking facility located at the terminal building contains approximately 40 paved parking spaces, with approximately 40 additional unpaved designated parking spaces. Car rental companies Avis, Enterprise, and Hertz have approximately 28, 30, and 10 reserved spaces respectively to accommodate rental vehicles. The terminal lot is consistently at capacity. To the southeast of the main parking area is an unpaved overflow parking/staging area. This area is not conducive to efficient parking, and does not provide an appropriate surface during inclement weather conditions.

The FBO vehicle parking facility consists of approximately 80 vehicle parking spaces. Unlike the terminal facility, this lot does not currently operate near capacity. The third public parking facility is located south of the FBO at the Ocala Aviation/Quest Avionics Hangar. This approximate 11,000 square foot lot contains 36 parking spaces and does not currently operate near capacity.

2.4 SUPPORT FACILITIES

The support facilities of an airport serve a variety of functions that work together to ensure smooth and efficient operation of an airport. For OCF, the prime support facilities include the Aircraft Hangars, Air Traffic Control Tower, Aircraft Rescue and Fire Fighting, Fuel Facilities, and Airport Maintenance. This section presents an overview of the existing support facilities at the Airport.

2.4.1 Air Traffic Control Tower

An Air Traffic Control Tower (ATCT) is a facility designed with sufficient height to provide air traffic controllers a proper visual field of view of the aircraft operations into, out of, and on the airport. OCF owns a Visual Flight Rules (VFR) ATCT, constructed in 2010, and operated through the FAA contract tower program. The Airport contracts the air traffic control service through Robinson Aviation (RVA, Inc.), which provides a staff of six. The Ocala ATCT operates seven days a week from 6:00 am to 9:00 pm local time. The ATCT is located approximately 250 feet north of the Airport terminal building (See Appendix A).

2.4.2 Aircraft Rescue and Fire Fighting

Aircraft Rescue and Firefighting (ARFF) crews conduct fire prevention, firefighting, rescue, and medical response in the event of an aircraft incident or accident. Airports that serve scheduled and unscheduled air carrier flights are required to provide ARFF capabilities corresponding to a particular level of service. The activity and characteristics of aircraft operating from an airport determines the appropriate level of service.

OCF is required as part of its Part 139 Class IV Airport Operating Certificate (AOC) to provide ARFF capabilities prior to and after charter flights. Air carriers and large charters are required to notify the Airport 24 hours prior to arriving or departing the Airport. The City of Ocala Fire Station Number Four then provides ARFF services. Firefighting equipment and personnel then arrive 15 minutes prior to anticipated aircraft arrival and leave five minutes after safe landing. The Airport does not currently maintain an on-site ARFF facility and/or equipment.

2.4.3 Fuel Facilities

The fuel facilities at the Airport currently consist of three above-ground fuel storage tanks located on the east side of the airfield just north of the FBO. These tanks contain aviation gasoline (avgas) and jet fuel (Jet-A) to sustain the needs of local and itinerant aircraft operations (See Appendix A).

These tanks consist of one 12,000-gallon tank for storage of 100LL avgas and two 12,000-gallon tanks for Jet-A fuel. These tanks are owned by the City of Ocala, maintained by the Landmark Aviation. The catch basin and existing spill prevention equipment are the responsibility of the City of Ocala.

In addition to the large storage tanks, a 2,000-gallon avgas tank attached to a self-service pump is located on the airfield approximately 400 feet northwest of the terminal building. The Airport's FBO, Landmark Aviation, Inc., operates this self service station. Additionally, one privately owned 10,000-gallon Jet-A tank exists in the corporate hangar complex.

2.4.4 Airport Maintenance

OCF owns and operates a variety of equipment that is needed for ground maintenance, pavement and facilities maintenance, and general repairs. Currently airport maintenance does not have a dedicated storage facility for this equipment. A proposed maintenance facility is expected as part of future development.

2.5 AREA METEOROLOGICAL CONDITIONS AND CLIMATE

Operations at an airport are dramatically affected by the weather patterns and associated meteorological conditions of the region. The amount of rainfall, prevailing winds, and average amount of inclement weather help to determine such aspects as runway orientation and the type of instrument approaches required to achieving the safest and most efficient operations possible. Table 2-8 below tabulates temperature and precipitation data from 1981-2010.

Table 2-8 Ocala Area Meteorological Averages

	Annual	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Average Max Temperature (°F)	82.5	70.1	73.2	77.8	83	88.7	91.2	92.2	91.7	89.4	84.1	77.4	71.5
Average Min Temperature (°F)	59.3	45.2	47.9	52	56.5	63.5	69.9	71.7	71.9	69.4	62.1	53.8	47.3
Average Temperature (°F)	70.9	57.7	60.6	64.9	69.7	76.1	80.5	81.9	81.8	79.4	73.1	65.6	59.4
Precipitation (inches)	50.60	3.17	3.27	4.56	2.40	2.98	7.42	6.71	6.32	6.07	3.03	2.10	2.57

Source: National Oceanic and Atmospheric Administration

2.5.1 Area Climate[3]

The climate of the Marion County area is characterized by long, warm, humid summers and mild, dry winters. The Atlantic Ocean and the Gulf of Mexico, together with numerous inland lakes, have a moderating effect on summer and winter temperatures. Summer temperatures are fairly uniform from year to year and show little day-to-day variation.

Afternoon temperatures reach 90°F or higher with great regularity during the warmest months, although temperatures of 100°F or higher seldom occur. Winter temperatures vary considerably from day-to-day, largely because periodic cold, dry air masses invade from the north.

Frost or freezing temperatures occur at least once every winter and average eight to 10 times a year. Temperatures drop to 28°F three or four times during an average winter and 25°F or lower during about half the winters. Temperatures as low as 20°F are rare. Winter cold spells are usually short – seldom more than two to three days.

Most summer rainfall occurs as local thundershowers in the afternoon or early evening. During June, July, August, and September, measurable rainfall can be expected on about half the days. Summer showers are sometimes heavy – two to three inches of rain can fall in one or two hours. Day-long rains in summer are rare and are almost always associated with a tropical storm.

Winter and spring rains are usually associated with large-scale continental weather developments and are of longer duration. Some last for 24 hours or longer. They are usually not so intense as the summer thundershowers. Occasionally, they release a large amount of rainfall over large areas. 24-hour duration of seven inches or more can be expected in about one in every ten years. Hail occurs at irregular intervals during thundershowers. Individual pieces are generally small and seldom cause much damage. Snow is rare. If snow occurs, it nearly always melts when it hits the ground.

Tropical storms can occur during the period from early June through mid-November. These storms diminish in intensity rapidly as they move inland. Winds reach hurricane force (74 miles an hour or greater) only in about one year in every 100 years.

Extended dry periods or droughts can occur in any season, but are most common in spring and fall. A drought or dry period generally occurs in April or May, although generally of shorter duration than those in the fall, and tend to be intensified by higher temperatures.

Prevailing winds for the Ocala area are generally southerly in spring and summer and northerly in fall and winter. Wind speed usually ranges from 4 to 8 miles per hour during the day, and almost always drops to near calm at night.

[3] USDA Soil Conservation Service - *Soil Survey of Marion County Area Florida* (March 1979)

2.6 WILDLIFE HAZARDS

Interactions between wildlife and aircraft on and around an airport can pose a serious risk to injury, loss of life, or loss of property. Though OCF only has one reported wildlife strike on record, there are a number of potential wildlife hazards in the area. To identify and reduce these hazards, the City of Ocala and the Airport conducted a Wildlife Hazard Assessment (WHA) to establish a Wildlife Hazard Management Plan (WHMP) for the Airport in January 2012[4]. During the process of the WHA, the following species were most frequently observed:

- American kestrel (Falco sparverius)
- Cattle egrets (Bubulcus ibis)
- Mourning doves (Zenaida macroura)
- American robins (Turdus migratorius)
- European starlings (Sturnus vulgaris)
- Red-winged blackbirds (Agelaius phoeniceus)
- Turkey vultures (Cathartes aura)
- Armadillo (Cingulata)
- Striped skunk (Mephitis mephitis)
- Eastern cottontail (Sylvilagus floridanus)
- Fox squirrel (Sciurus niger)
- Opossum (Didelphimorphia)
- Coyote (Canis latrans)

Habitat management is the most effective long-term strategy for alleviating wildlife populations on or near an airport. Habitat management consists of wildlife population management, habitat modification and land use changes. The summary of main priorities for wildlife mitigation for OCF includes:

- Grass height management
- Eliminating wooded areas from inside the perimeter fence
- Burying the bottom edge of the perimeter fence

[4] Environmental Resource Solutions - *Wildlife Hazard Management Plan Ocala International Airport* (January 2012)

CHAPTER 3
ENVIRONMENTAL OVERVIEW

The purpose of considering environmental factors in airport master planning is to help the Airport Sponsor thoroughly evaluate airport development alternatives and to provide information that will help expedite subsequent environmental processing.

While FAA Orders 1050.1E *Environmental Impacts: Policies and Procedures* and 5050.4B *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* are the FAA's environmental guidance for airport development projects to comply with NEPA, it is important to note that the environmental analysis included in this Master Plan Update is not a NEPA document intended to satisfy the need for formal NEPA analysis. This section includes environmental information to assist with identifying and evaluating potential development alternatives, and sets the stage to guide the necessary levels of subsequent NEPA processing.

The following sections identify the key and applicable environmental impact categories as described in FAA Order 1050.1E for Ocala International – Jim Taylor Field (OCF) and surrounding area. This includes:

- Air Quality
- Coastal Resources
- Compatible Land Use
- Department of Transportation: Section 4(f)
- Farmlands
- Fish, Wildlife, and Plants
- Floodplains
- Hazardous Materials, Pollution Prevention, and Solid Waste
- Historical, Architectural, Archaeological, and Cultural Resources
- Light Emissions and Visual
- Natural Resources and Energy Supply
- Noise
- Socioeconomics, Environmental Justice, and Children's Health and Safety
- Water Quality
- Wetlands
- Wild and Scenic Rivers

3.1 AIR QUALITY

Responsibility for protecting and improving the nation's air quality rests with the U.S. Environmental Protection Agency (EPA) and is outlined in the Clean Air Act (CAA). Section 110 of the CAA requires that States develop a State Implementation Plan (SIP) in an effort to comply with federal air quality standards. National Ambient Air Quality Standards (NAAQS) have been established under Section 109 to protect public health. The FAA ensures all federal airport actions, such as financial awards and grants, conform to the state plan for controlling air pollution impacts.

Since the State of Florida does not have Indirect Source Review requirements, compliance with state and federal guidelines is accomplished by reviewing the forecasted operational level of the

Airport. According to the *Air Quality Procedures for Civilian Airports and Air Force Bases*, an air quality analysis is required if the proposed airport action would occur at an airport having a total of 180,000 general aviation and air taxi annual operations, or more than 1.3 million enplanement. The current and forecast level of general aviation operations and passenger enplanements fall below this level. Therefore, an air quality analysis is not required.

Air quality standards at the Airport and within Marion County as a whole meet those established by the above mentioned federal and state legislation. However, as initiated by the Airport Act of 1982, an air quality certification from the State of Florida is required prior to any construction to ensure that federal and state air quality standards will be met.

3.2 COASTAL RESOURCES

The Coastal Barriers Resources Act (CBRA), the Coastal Zone Management Act (CZMA), and Executive Order 13089, Coral Reef Protection, govern federal activities involving or affecting coastal resources. The CZMA and the National Oceanic and Atmospheric Administration (NOAA) provide procedures for ensuring that an action is consistent with approved coastal zone management programs.

In 1981, NOAA approved the Florida Coastal Management Program. Due to the geography of Florida, the entire state is included in the Florida's Coastal Zone. Therefore, OCF is subject to compliance with the State's approved Coastal Zone Management Program and any federally funded projects must be consistent with the program.

The CBRA, as amended, prohibits federal financial assistance for development within the coastal barrier resources system, which consists of undeveloped coastal barriers along the Atlantic and Gulf coasts. However, the closest Coastal Barrier Resource System unit is Unit P25 located approximately 48 miles west of Marion County in Levy County.[5] Therefore, the Airport is not subject to the system's requirements.

3.3 COMPATIBLE LAND USE

FAA Order 1050.1E states the compatibility of existing and planned land uses near an airport are usually associated with the extent of an airport's noise impacts. Generally, the area surrounding OCF is free of encroaching land uses. The surrounding lands consist of a mix of agricultural, commercial, and industrial land uses. Some low-density residential uses are also scattered through the area. One area, south and southwest of the Airport, is zoned for high density residential. This High Density Residential parcel of land, adjacent to SW 38th St., is owned by On Top of the World Communities, Inc., which plans to establish a residential community on this currently vacant tract. In 2001, The Airport acquired avigation easements, in perpetuity, from "On Top of the World" for future RPZ protection.

In the State of Florida, Chapter 333 of the Florida Statutes (the "Airport Zoning Law of 1945") requires and enables local governments to regulate land uses and development in the vicinity of airports. The area around OCF is governed by both the City of Ocala and Marion County. The Ocala City Council regulates lands incorporated within the city limits and the Marion County Board of County Commissioners regulates unincorporated lands. Sections 3.3.1 and 3.3.2 below present a description the city and county airport zoning regulations.

[5] U.S. FWS, CBRS ArcGIS layer package (October 2013)

Additionally, Chapter 163.3177 of the Florida Statues requires local governments to consider the land use compatibility around airports in their comprehensive plan. Specifically, as of June 30, 2012, local governments were required to have amended their comprehensive plan to include criteria by which they will ensure and achieve the compatibility of lands adjacent to an airport as defined in Chapter 333.35 and Chapter 333.02 of the Florida Statutes.

As part of the City's 2035 Vision Plan, the City proposes to implement a form-based code that describes the mixture of land uses. In general, a form-based code is different from conventional zoning in that it does not focus on segregation of land uses. A form-based code is a regulation consisting of a set of standards that identify parameters for an orderly development, but does not specify a particular type of land use. A form-based code can consist of many kinds of standards, including public spaces (requirements for sidewalks and parking), building forms, building materials, signs, landscaping and trees, drainage, or others. Currently, in the future land use element of the City's comprehensive plan, Policy 11.3 states that the permissible implementation of land use classifications associated with the City's 2035 Vision Plan shall be consistent with Chapter 333 of the Florida Statutes. While this policy aims to protect the Airport from incompatible land use, it is recommended the Airport work closely with the City to ensure compatible land use of adjacent lands in conjunction with the City's airport zoning regulations.

The existing comprehensive plan for Marion County, revised in August 2012, does not specifically address criteria for ensuring land use compatibility around OCF. However, as of March 2014, the County's comprehensive plan is currently undergoing additional revisions. In the proposed future land use element, Objective 7.1 Airport Overlay Zone (AOZ) presents policies to ensure compatibility of uses adjacent to public airports in accordance with Chapter 163, and 333 of the Florida Statutes. Specifically, Policy 7.1.1 establishes an AOZ around publicly owned major airports in the county addressing the following criteria:

- Obstructions due to building or other structure height
- Noise, odor, animal congregation, and other nuisances
- Runway clearance zones at the ends of and extended beyond the runways

To assist in this process, Policy 7.1.2 requires that each airport have a plan for the proposed uses of the airport, as adopted in the transportation element and maps of the comprehensive plan. Based on these policies, the County's zoning regulations (adopted in July 2013) may or may not be revised. Furthermore, the County's proposed comprehensive plan also would prohibit the construction of public educational facilities near an airport. Policy 2.1.9 specifically requires that the proposed educational facility location lie outside the area regulated by Section 333.03 of the Florida Statutes.

3.3.1 City of Ocala Airport Zoning

The City of Ocala Code of Ordinances, Chapter 18, Article IV, is the official document regarding airport zoning (See Appendix C). Known as the Ocala Airport Zoning Ordinance, Article IV sets forth regulations intended to ensure compatible land use near OCF. In addition to administrative matters, the ordinance puts forth in Sections 105-107 criteria that define the Airport Zoning Map, height limitations, land use restrictions, hazard marking and lighting, and noise regulations.

Section 18-105 creates and establishes an Airport Zoning Map[6], which encompasses the land beneath the approach transitional, horizontal, and conical surfaces defined in 14 CFR Part 77, as applicable to OCF. Structures or obstructions are restricted by these surfaces as further defined in the ordinance.

Section 18-106 defines land use restrictions with the aim to prevent interference with the operation of aircraft. This section goes on to describe limitations for lighting and illumination, visual hazards, and electronic interference. As well, the section requires the owner of an existing obstruction to mark and light the obstruction in accordance with FAA AC 70/7460-1.

Section 18-107 establishes noise zones, defined as all the lands lying within designated areas on the Ocala Airport Zoning Map. The section goes on to define restrictions for residential, school, church, hospital uses, as well as construction standards for other facilities located within these areas. As well, the section provides that the city building official will provide a disclosure statement to all purchasers or lessees of property within the defined noise zones.

The remaining sections of the ordinance describe administrative matters such as permits, non-conforming uses and variances, as well as enforcement and appeals. The ordinance specifies the city building office and the zoning administrator with enforcing the ordinance regulations. It is recommended that the Airport engage the city to appropriately maintain and update the regulations to reflect the planned development at OCF.

Exhibit 3-1 and Exhibit 3-2 present the City's future land use and zoning maps respectively.

3.3.2 Marion County Airport Zoning

Marion County addresses airport zoning in its Land Development Code (LDC) Article 5 Division 1 Airport Overlay Zone (See Appendix D). Section 5.5.1 states that the purpose of the Article is to regulate the use of land in the vicinity of general aviation public use airports in accordance with Chapter 333 of the Florida Statutes, in order to avoid the creation of hazards and prevent uses that may adversely affect airport operations. The Article accomplishes this through defining land use restrictions in 5.1.2 and Lot and Building Standards in 5.1.3.

Section 5.1.2, Land Use Restrictions, describes the area for land use restrictions as the lands outside the corporate limits of the City of Ocala and within the transitional, approach, horizontal, and primary areas as defined by the ALP in the county's comprehensive plan. However, the Article does not specifically define what those land use restrictions are. It is recommended the ALP referenced in the county's comprehensive plan be continually updated to coincide with any significant change to the Airport's ALP, to ensure proper land use compatibility.

Section 5.1.3, Lot and Building Standards, details the structure and vegetation height limitations based on their location in relation to the transitional, approach, horizontal, and primary imaginary surfaces defined in 14 CFR Part 77, as applicable to OCF. The interpretation, conflict, enforcement, and other provisions of the Land Development Code are discussed in Article 1. Section 1.1.5 states that the enforcement of the code, including Section 5, is the duty of the Marion County Administrator.

Exhibit 3-3 and Exhibit 3-4 depict the County's future land use and zoning maps respectively.

[6] As of May 2014, the Airport Zoning Map was not on file in the office of the city clerk as specified in Chapter 18 of the Ocala Code of Ordinances.

Exhibit 3-1 City of Ocala 2035 Future Land Use Map

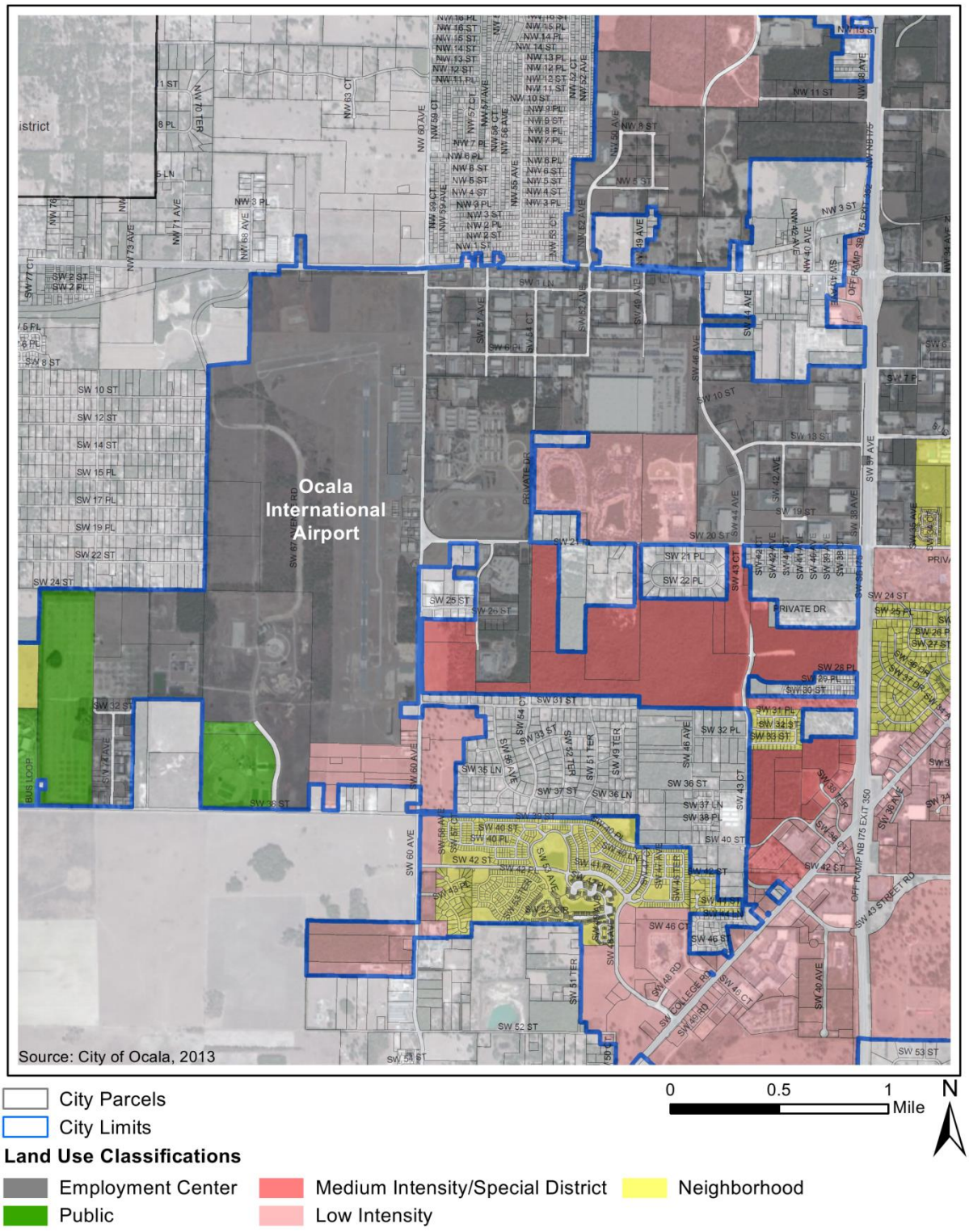
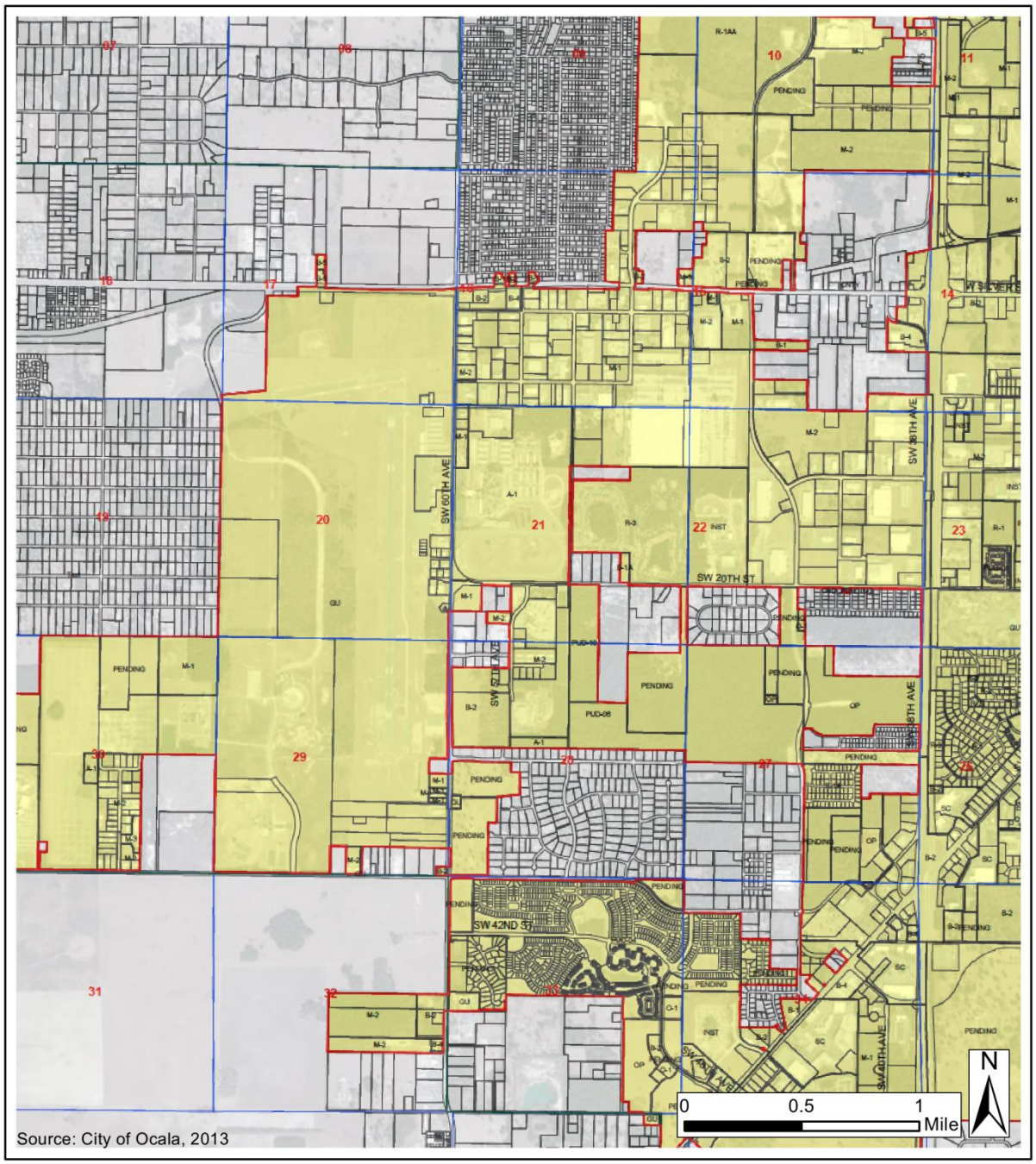


Exhibit 3-2 City of Ocala 2035 Zoning Map



Parcels
Sections
Zoning
City Limits

Zoning Districts

A-1 - Agricultural
B-1 - Neighborhood Business
B-2 - Community Business
B-4 - General Business
B-5 - Wholesale Business
GU - Government Use
INST - Institutional
M-1 - Light Industrial
M-2 - Medium Industrial
M-3 - Heavy Industrial
PUD-06 - Planned Unit Development
R-1AA - Single Family Residential
R-3 - Multiple-Family Residential
SC - Shopping Center

Exhibit 3-3 Marion County Future Land Use Map

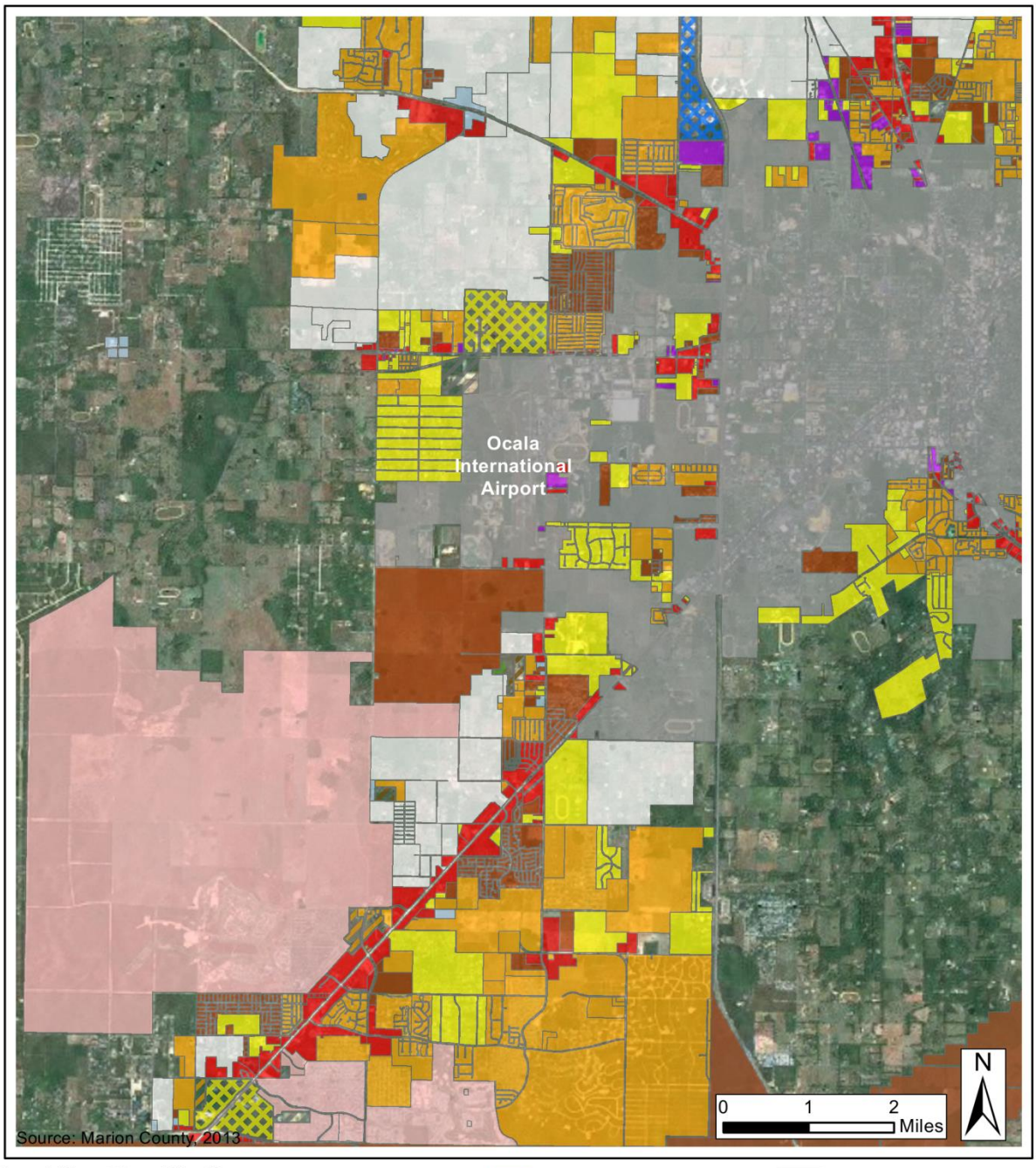
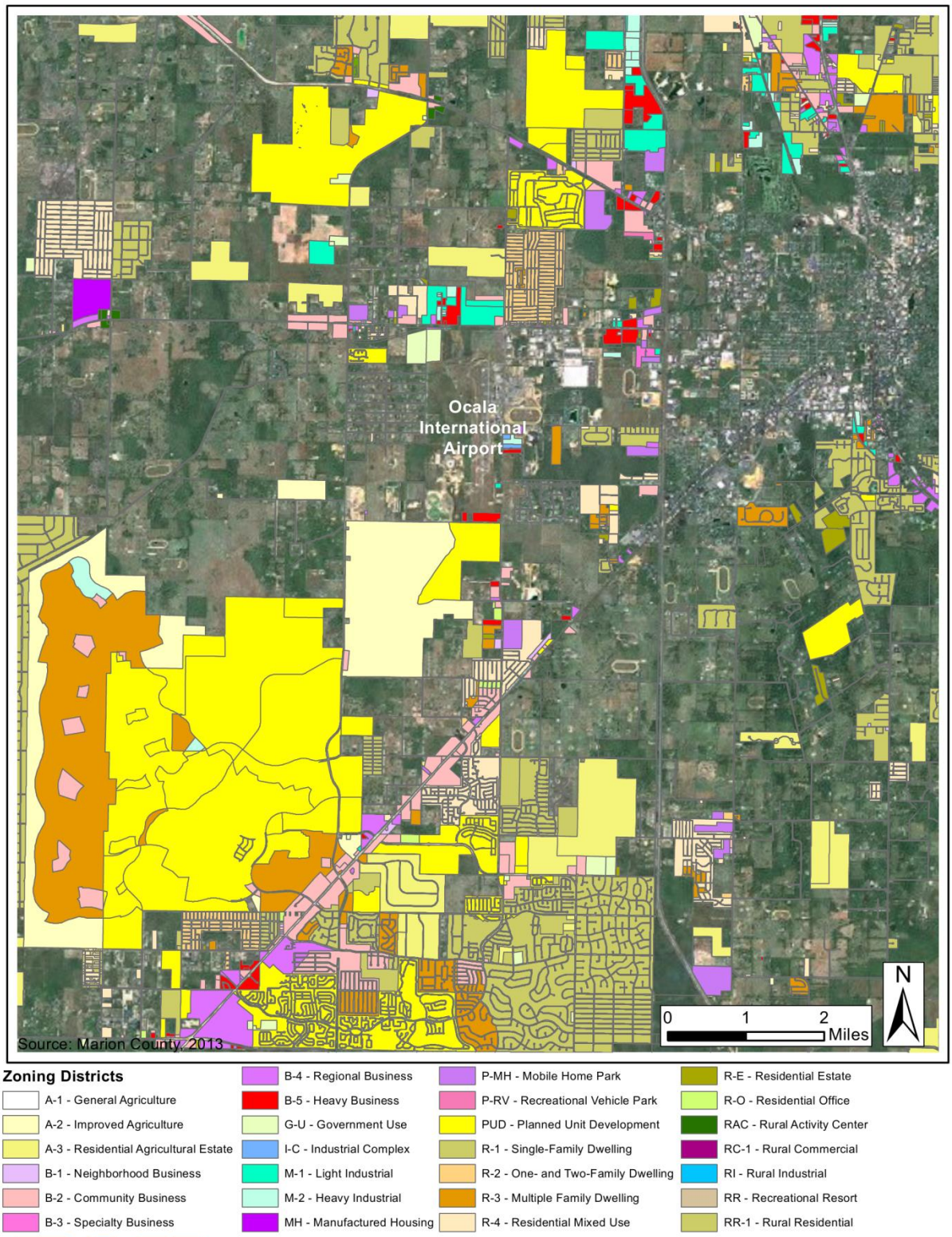


Exhibit 3-4 Marion County Zoning Map



3.4 DEPARTMENT OF TRANSPORATION: SECTION 4(f)

The Department of Transportation Act, Section 4(f) provides that no project that requires the use of any land from a public park or recreational area, wildlife and waterfowl refuge, or historic site be approved by the Secretary of the Interior unless there is no viable alternative and provisions to minimize any possible harm are included in the planning.

There are very few Section 4(f) resources located near the Airport. The nearest existing potential Section 4(f) resources to the Airport are the Ocala Regional Sportsplex (0.6 mile south) and the West Port High School (1.5 miles southeast).

Similarly, Section 6(f) prevents conversion of lands purchased or developed with Land and Water Conservation Fund to non-recreation uses, unless the Secretary of the Department of the Interior, through the National Park Service, approves the conversion. Conversion may only be approved if the conversion is consistent with the comprehensive statewide outdoor recreation plan in force when the approval occurs, and the converted property is replaced with other recreation property of reasonably equivalent usefulness and location and at least equal fair market value. The nearest existing potential Section 6(f) resources to the Airport is State Road 200 Park (6.5 miles east). Further investigation is required to determine if this park was purchased with Land and Water Conservation Fund resources.

3.5 FARMLAND

The Farmland Protection Policy Act (FPPA) of 1981 regulates federal actions that have the potential to convert farmland to non-agricultural uses. The FAA requires consideration of "important farmlands," which it defines to include "all pasturelands, croplands, and forests considered to be prime, unique, or statewide or locally important lands".

None of the lands on or in the immediate vicinity of the Airport are considered prime, unique, or of statewide and/or local importance. According to the Natural Resource Conservation Service (NRCS) Web Soil Survey, most of the area consists of Chandler sand.[7] Other soils in the area include Adamsville sand, Apopka sand, Arredondo sand, Pedro-Arredondo complex, Astatula sand, Jumper fine sand, Sparr fine Sand, and Tavares sand.

The Airport property itself consists of mostly Chandler sand. This type of soil has a low water capacity with rapid permeability. This severely limits the potential use of any such land for cultivated crops. Pasture and citrus groves are two possible agricultural uses that are most suited to this type of soil. However, a supplemental water source would be necessary during drier conditions. Therefore, this land is not considered "prime farmland" according to the legislation.[8]

[7] NRCS, USA Soil Survey ArcGIS Map Service (October 2013)
[8] Kimley-Horn and Associates Inc., - *Environmental Assessment for Runway 08-26 Improvement and Extension* (1994)

3.6 FISH, WILDLIFE, AND PLANTS

Provisions have been set forth in NEPA for the protection of fish, wildlife, and plants of state and national significance. The Endangered Species Act, Fish and Wildlife Coordination Act, Fish and Wildlife Conservation Act, and the Migratory Bird Treaty Act are among applicable regulations.

Although the Endangered Species Act does not protect state-protected species or habitats, the FAA must ensure that the environmental documents prepared for airport actions address effects on state-protected resources. The U.S. Fish and Wildlife Service (USFWS) and the Florida Natural Areas Inventory (FNAI) list protected species potentially found in Marion County. Table 3-1 and Table 3-2 present these species.

Table 3-1 Federally and State Listed Plant Species in Marion County

Common Name	Scientific Name	Federal Status	State Status
Ashe's Savory	*Calamintha ashei*	-	T
Brittle Maidenhair Fern	*Adiantum tenerum*	-	E
Britton's Beargrass	*Nolina brittoniana*	-	E
Chapman's Sedge	*Carex chapmanii*	-	T
Dwarf Spleenwort	*Asplenium pumilum*	-	E
Florida Beargrass	*Nolina atopocrpa*	-	T
Florida Bonamia	*Bonamia grandiflora*	T	E
Florida Mountain-mint	*Pycnanthemum floridanum*	-	T
Florida Spiny-pod	*Matelea floridana*	-	E
Florida Willow	*Saliz floridana*	-	E
Giant Orchid	*Pteroglossapis ecristata*	-	T
Godfrey's Swampprivet	*Forestiera godfeyi*	-	E
Hartwrightia	*Hartwrightia floridana*	-	T
Incised Groove-bur	*Agrimonia incise*	-	E
Large-leaved Grass-of-parnassus	*Parnassia grandifolia*	-	E
Lewton's Polygala	*Polygala lewtonii*	E	E
Longspurred Mint	*Diceranda cornutissima*	E	E
Narrowleaf Naiad	*Najas filifolia*	-	T
Ocala Vetch	*Vicia Ocalensis*	-	E
Piedmont Jointgrass	*Coelorachis tuberculosa*	-	T
Pinesap	*Monotropa hypopithys*	-	E
Pinkroot	*Spigelia loganioides*	-	E
Plume Polypody	*Pecluma plumula*	-	E
Pondspice	*Litsea aestivalis*	-	E
Pygmy Pipes	*Monotropis reynoldsiae*	-	E
Sand Butterfly Pea	*Centrosema arenicola*	-	E
Scrub Stylisma	*Stylisma abdita*	-	E
Scrub Wild Buckwheat	*Eriogonum longifolium var. gnaphalifolium*	T	E
Silver Buckthorn	*Sideroxylon lycioides*	-	E
Spoon-leaved Sundew	*Drosera intermedia*	-	T
Star Anise	*Illicium parviflorum*	-	E
Swamp Plume Polybody	*Pecluma ptilodon*	-	E
Widespread Polypody	*Pecluma dispersa*	-	E
Wood Spurge	*Euphorbia commutata*	-	E

Candidate species (C), Endangered species (E), Special Concern (SC) threatened species (T)
Source: USFWS, 2013

Table 3-2 Federally and State Listed Wildlife Species in Marion County

Common Name	Scientific Name	Federal Status	State Status
Gopher Frog	*Rana Capito*	-	SC
Frosted Flatwood Salamander	*Ambystoma cingulatum*	-	T
Everglade Snail Kite	*Rostrhamus sociabilis plumbeus*	E	-
Wood Stork	*Mycteria americana*	E	-
Red-cockaded Woodpecker	*Picoides borealis*	E	-
Scrub-jay	*Aphelocoma coeruluscens*	T	-
Southeastern American Kestrel	*Falco sparverius paulus*	-	T
Florida Sandhill Crane	*Grus Canadensis pratensis*	-	T
Limpkin	*Aramus guarauna*	-	SC
Florida Burrowing Owl	*Athene cunicularia floridana*	-	SC
Little Blue Heron	*Egretta caerulea*	-	SC
Snowy Egret	*Egretta thula*	-	SC
Tricolored Heron	*Egretta tricolor*	-	SC
White Ibis	*Eudocimus albus*	-	SC
Osprey	*Pandion haliaetus*	-	SC
Bluenose Shiner	*Pteronotropis welaka*	-	SC
Lake Eustis Pupfish	*Cyprinodon variegatus hubbsi*	-	SC
Tessellated Darter	*Etheostoma olmstedi*	-	SC
Florida Mouse	*Podomys floridanus*	-	SC
Sherman's Fox Squirrel	*Sciurus niger shermani*	-	SC
Striped Newt	*Notophthalmust prestriatus*	C	-
West Indian Manatee	*Trichechus manatus latirostris*	E	-
Eastern Indigo Snake	*Dymarchon corais couperi*	T	-
Florida Black Bear	*Ursus americanas floridanus*	-	T
Florida Pine Snake	*Pinuophi melanoleucus mugitus*	-	SC
Gopher Tortoise	*Gopherus polyphemus*	C	T
Sand Skink	*Neoseps reynoldsi*	T	-
Short-tailed Snake	*Lampropeltis extenuata*	-	T
Suwannee Cooter	*Pseudemys concinna suwanniensis*	-	SC

Candidate species (C), Endangered species (E), Special Concern (SC) threatened species (T)
Source: USFWS, 2013.

3.7 FLOODPLAINS

Executive Order 11988 directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare and restore and preserve the natural and beneficial floodplains.

Floodplains are defined as "…lowland and relatively flat areas adjoining inland and coastal waters including flood prone areas of offshore islands, including at a minimum, that area subject to a one percent or greater chance of flooding in a given year."[9] Therefore, the objective would be to avoid, to the extent practicable, any impacts within the 100-year floodplain. The Airport property does not encompass any 100-year floodplain areas.

[9] U.S. Army Corps of Engineers (USACE), *National Flood Risk Management Program*

3.8 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

Federal, state, and local laws regulate the use, storage, transport, disposal, and contamination of hazardous materials. These laws may extend to past and future landowners of properties containing these materials, depending on the origin and severity of the contamination and disposal methods used.

Aircraft fuel constitutes the largest quantity of hazardous materials stored and consumed at the Airport. The Airport has a fuel farm on the east side of the airfield that contains three aboveground storage tanks. One is a 12,000-gallon tank for the storage of 100LL avgas, and two are 12,000-gallon tanks for Jet-A. The City of Ocala owns these tanks and Landmark Aviation maintains the tanks.

A common waste generated at the Airport is used motor oil associated with aircraft, vehicle, and ground maintenance equipment. Solid waste generated at the Airport is collected at various bins and disposed of through a contract local disposal service. Currently, the Airport has no specialized facilities for handling waste from aircraft lavatories.

The U.S. EPA has listed ten hazardous waste sites, based on the Resource Conservation and Recovery Act (RCRA), in the immediate vicinity of the Airport:[10]

- Dollinger Inc. (Handler ID: FLT060077526);
- Florida Emergency Training Facility (Handler ID: FLR000060749);
- Pneumatic Products Corp (Handler ID: FLD982143570);
- MRMC Ambulance (Handler ID: FLD84253880);
- Ocala Breeders' Sales Company (Handler ID: FLR000102996);
- Defios Paint and Body Shop (Handler ID: FLR000021683);
- American Sanitation (Handler ID: FLD98132762);
- Aurora Precision Metals, Inc. (Handler ID: FLD982099715);
- JRs Custom Fabrication, Inc. (Handler ID: FLT110081734); and
- William's Diesel Service, Inc. (Handler ID: FLR000037648).

There is one site approximately two miles east of the Airport's property the U.S. EPA lists as a toxic release to land site: Emergency One Incorporated ARFF Plant (TRI Facility ID: 3447MRGNC2929S).

There are no active landfills or hazardous waste disposal sites on the Airport's property, or near the vicinity of the Airport. The former martel landfill exists adjacent to Airport property on State Road 40. The closest active landfill and hazardous waste disposal site is the Baseline Landfill, approximately 15 miles southeast of the Airport.

[10] US EPA – NEPAssist (2012)

3.9 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

The National Historic Preservation Act (NHPA) of 1966 established the Advisory Council on Historic Preservation (ACHP) and the National Register of Historic Places (NRHP) within the National Park Service (NPS). Section 106 of the NRHP requires federal agencies to consider the effects of their undertaking on properties on or eligible for inclusion in the NRHP.

According to the NRHP, the closest historic resource is the West Ocala Historic District, located approximately four miles west of the Airport. The West Ocala Historic District has more than 100 buildings that represent the African-American community that flourished there between 1886 and 1920.[11]

3.10 LIGHT EMISSIONS AND VISUAL IMPACTS

Aesthetic impacts are generally more difficult to quantify due to the subjective nature of annoyances associated with light emissions and visual impacts. There is no special-purpose law that identifies thresholds for light emissions and visual impacts.

FAA Order 1050.1E, Change 1, indicates that when a proposed action results in light emissions that create annoyances that interfere with normal activities, it may constitute a light emission impact. Additionally, the Order states that if federal or state agencies, the local public, or Native American tribes indicate that proposed actions may conflict with the existing visual environment, and the agencies state the effect is objectionable, an action may constitute an impact and require mitigation. Airport lighting includes the following sources:

- Runway 36 Medium Intensity Approach Lighting System
- Runway 18-36 Precision Approach Path Indicator
- Runway 18-36 Threshold Lighting
- High Intensity Runway 18-36 Lighting
- High Intensity Taxiway A Lighting
- Apron lighting
- FBO and Terminal Parking Area Lighting

3.11 NATURAL RESOURCES AND ENERGY SUPPLY

Energy use at an airport is related to the amount of energy required to operate aircraft, aircraft support vehicles, airport facilities and support structures, and terminal facilities. There are no special purpose laws that identify thresholds for the use of natural resources and energy supply.

Ocala Utility Services currently provides electric power to the Airport and some of the adjacent properties. In addition, Marion County Utility Services provides electric, water, and sewage series to areas surrounding the Airport. Additionally, the Airport has a back-up diesel generator to run airfield lighting and NAVAIDs should a power failure occur.

[11] NPS, Find a Park (2012)

3.12 NOISE

Noise is the most apparent environmental impact from an airport and at most airports accounts for the majority of complaints from nearby residents. While there are currently no non-compatible land uses in the vicinity of the Airport, residential areas are located 2.75 miles northeast, 2 miles southeast, and 3 miles south of the Airport, and may be sensitive to any increased aircraft noise associated with the Airport. As part of its Federal Aviation Regulations (FAR) Part 150 Noise Compatibility Planning, the Airport provides community information and pilot education programs, as well as land use measures to ensure compatibility with noise sensitive areas. Exhibit 3-5 presents the most recent (2005) noise contours. It is important to note that in 2005 the Airport accommodated over 100,000 operations. This level of activity is beyond the existing and forecast activity and, assuming a comparable fleet mix, is therefore a conservative representation of the Airport's potential noise impact.

The FAA requires a noise analysis for general aviation-related actions if a proposed action involves more than 90,000 annual piston-powered aircraft operations in Approach Categories A through D, 700 annual jet-powered aircraft operations, or an action involving a new airport location, a new runway, a major runway extension, or runway strengthening. A noise analysis would also be required for proposed airport actions when forecasted helicopter operations for the period of the analysis exceeds ten daily average operations with hover times exceeding two minutes.

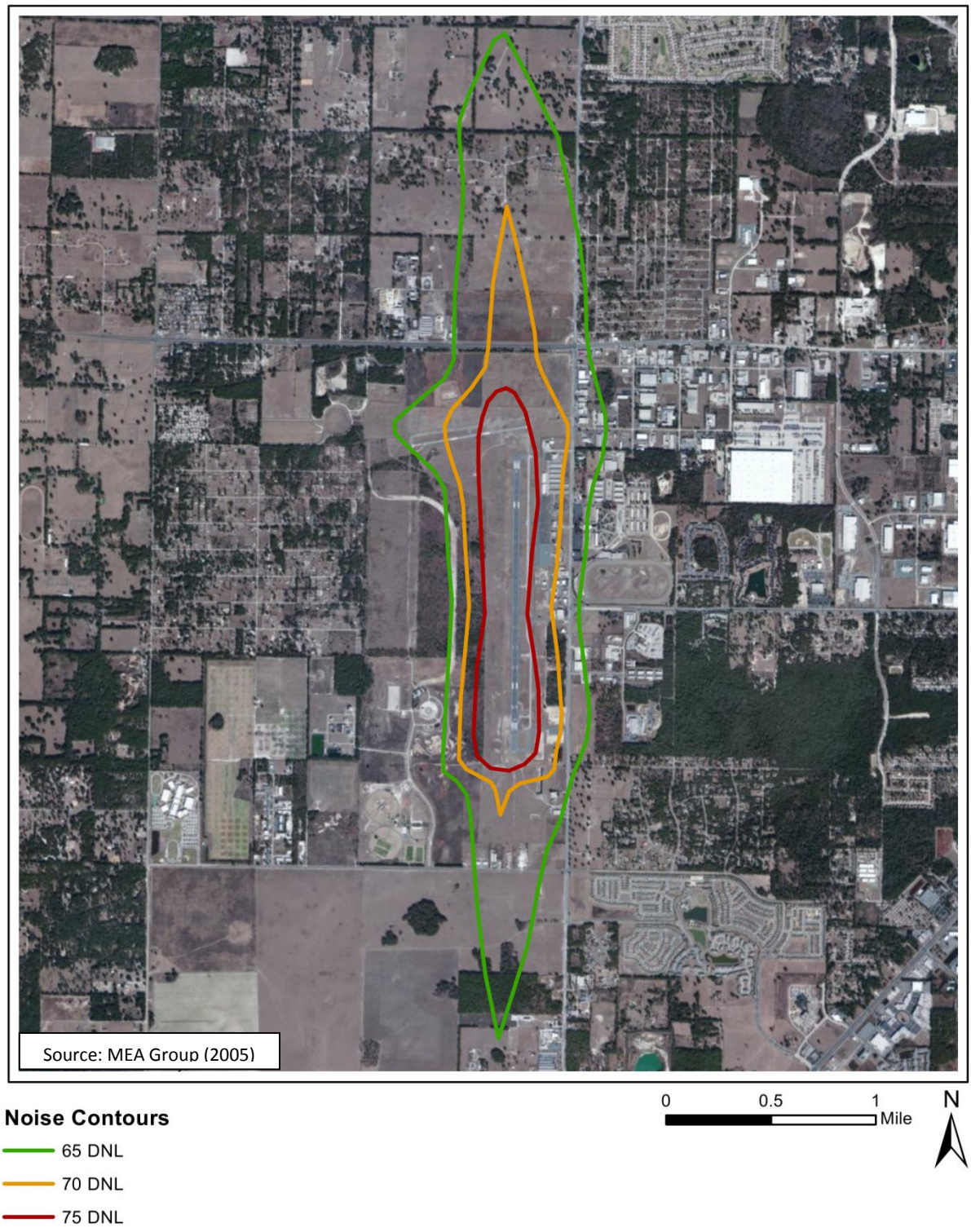
3.13 SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

The principle socioeconomic impacts that must be considered are the relocation of businesses and/or residences, alteration of surface transportation patterns, the division or disruption of established communities, disruption of orderly planned development, and the creation of an appreciable change in employment. If any relocation of residential or commercial properties are required, compensation shall be made under the Uniform Relocations Assistance and Real Property Acquisition Policies Act of 1970, as amended by the Surface Transportation and Uniform Relocation Act Amendments of 1987.

Executive Order 12898 requires that potential impacts on minority and low-income populations may not be disproportionately high and adverse. A review of the 2010 U.S. Census Tracts near the Airport reveals a relatively low percentage of individuals below the poverty level in the areas surrounding the Airport in relation to other areas in Marion County. A review of 2010 U.S. Census also shows that the areas surrounding OCF have populations of 70.7% White and 20.9% Black. The remaining population reported themselves as American Indian and Alaska Native persons; Asian, Native Hawaiian and Other Pacific Islanders; or have reported two or more races.

Executive Order 13045 directs federal agencies to identify and address environmental health risks and safety risks that may disproportionately affect children. A review of the surrounding areas shows that the closest school is 2.5 miles east of the Airport. This is well outside of the 65 DNL noise contour and aircraft flight paths, and is likely unaffected by pollution caused by aircraft using the Airport. There is a public recreation area located immediately southwest of the Airport.

Exhibit 3-5 Existing Noise Contours



3.14 WATER QUALITY

Water quality at OCF is regulated by federal and state legislation. The Federal Water Pollution Control Act, as amended, known Clean Water Act, provides the authority to establish water control standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, and issue permits for discharges and for dredged or filled materials into surface waters. The Fish and Wildlife Coordination Act requires consultation with the U.S. Fish and Wildlife Service and appropriate State agencies when any alteration and/or impounding of water resources is expected.

Marion County is in the St. Johns River Water Management District (SJRWMD) and the Southwest Florida Water Management District (SWFWMD).[12] The County receives its water supply from the Floridian Aquifer, and is located within the Ocklawaha River Watershed and the Withlachoochee Watershed. The City of Ocala is surrounded by a series of rivers, lakes, and ponds. There are no major rivers or streams near the Airport. To the southeast are the Withlachooche River and the Rainbow River, about 15 miles from the Airport.

Additionally, the Federal National Pollution Discharge Elimination System (NPDES) provides regulations that govern the quality of stormwater discharged into the water resources of the U.S. Permitting requirements for construction that exceeds 5 acres are specified by NPDES and are administered by the Florida Department of Environmental Protection (FDEP). Coordination with the FDEP, SJRWMD and SWFWMD is necessary to ensure water quality.

The existing stormwater drainage system at OCF consists of a system of ditches, swales, culverts, and retention basins. This system diverts stormwater from the runways, taxiways, aprons, and other impervious surfaces. All runoff from the primary runway is diverted to an area in the extreme southeast corner of the Airport near the approach to Runway 36. Another existing retention basin is located on the east side of the airfield near the T-hangar complex. This basin accepts runoff from the T-hangars and nearby apron areas.

According to the U.S. EPA, there are eight Toxic Releases to Water points in Marion County, the closest one being two miles east of the Airport. Additionally, due to the extreme natural permeable characteristics of the soil on the airfield, most of the stormwater that enters the drainage system percolates through the soil.

3.15 WETLANDS

Executive Order 11990, *Protection of Wetlands,* defines wetlands as "…those areas that are inundated by surface or groundwater with a frequency sufficient to support, and under normal circumstances does or would support, a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction."

Wetlands in the vicinity of the Airport have been mapped by the U.S. FWS and are available via the National Wetlands Inventory (NWI). As shown in Exhibit 3-6, there are no wetlands directly on Airport property, but there are wetlands within the vicinity of the Airport. In an area northeast portion of the Airport, on the east side of Southwest 60th Avenue, there is a freshwater emergent wetland. Also, to the east of the Airport are four freshwater ponds, which the USFWS has classified as a type of wetland. There is also a freshwater pond southwest border of the Airport property.

[12] FDEP - Water Management Districts (October 2013)

3.16 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act of 1968, as amended, describes those river segments designated as, or eligible to be included in, the Wild and Scenic Rivers System. In addition, the President's 1979 Environmental Message Directive on Wild and Scenic Rivers directs federal agencies to avoid or mitigate adverse effects on rivers identified in the Nationwide Rivers Inventory as having potential for designation under the Wild and Scenic Rivers Act. The State of Florida has two wild and scenic rivers: the Wekiva River and the Loxahatchee River. The closest wild and scenic river to the Airport is the Wekiva River, approximately 80 miles southeast of the Airport.

Exhibit 3-6 Wetlands surrounding OCF

CHAPTER 4
AVIATION DEMAND FORECASTS

This chapter presents the aviation activity forecasts for Ocala International – Jim Taylor Field (OCF) for the 20-year forecast period from 2012 to 2032.

The objective of forecasting an airports activity is to identify and appraise the factors that influence aviation demand so that future infrastructure and facility needs can be determined. The FAA's Terminal Area Forecast (TAF) is the standard benchmark of an airport's future activity and serves as the basis for FAA planning. Therefore, this forecast uses the most recent TAF as a starting point for analysis. In addition, alternative forecasts have been developed to test the impact of various growth scenarios on the number of based aircraft and operations.

Forecasting aviation activity involves both analytical techniques and subjective considerations. Regardless of the methodology used, assumptions must be made about how internal and external factors might change. Factors that can influence aviation activity levels include:

- Regulatory policy on the local, state, and national level
- Technological innovations
- Aviation industry trends
- Fluctuations in local population and employment
- General economic conditions

The forecasts presented in this chapter provide short-term, mid-term and long-term projections for the years 2017, 2022, and 2032. These represent the 5, 10, and 20-year estimates of aviation activity at the Airport. It is important, however, to view the projections independently of specific years and to consider the actual growth of activity as the trigger point that influences the need for future airport facilities. If actual growth occurs faster than anticipated, schedules of development should be reviewed and accelerated as necessary. Similarly, slower than projected growth may warrant deferment of planned improvements. Actual activity growth should be frequently compared to projected growth, so schedule corrections can be identified and implemented.

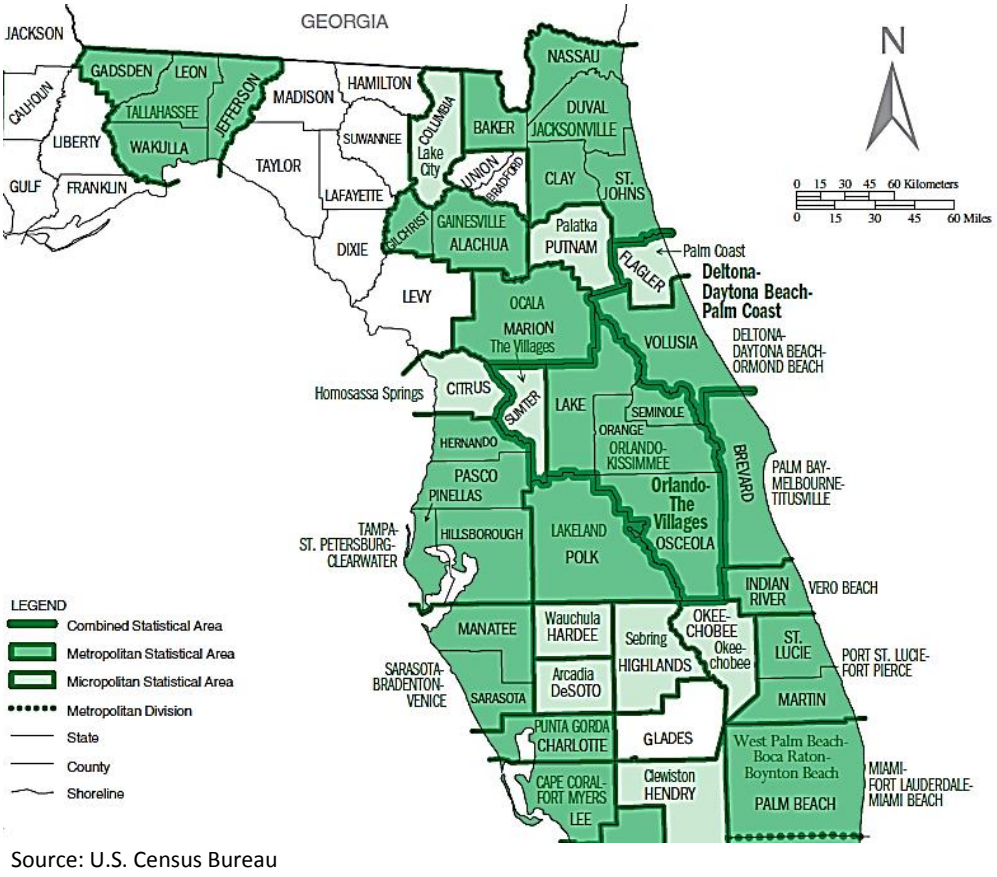
4.1 AIRPORT SERVICE AREA

The airport service area, also known as the air trade area, is the geographic area served by a particular airport. This section identifies the characteristics of the airport service area for OCF that influence aviation demand. This analysis provides a basis for identifying the ability of the Airport to support future aviation activity.

4.1.1 Identification of the Prime Air Trade Area

The prime air trade area for OCF is the Ocala/Marion County Metropolitan Statistical Area (MSA). The MSA is an area defined by the U.S. Office of Management and Budget (OMB), which is the official area used by the U.S. Census for statistical purposes. It is understood that some of the users of the Airport will originate from outside of the MSA, while other local users will utilize airports outside of the MSA. However, the majority of demand for the Airport's services is generated within the Ocala/Marion County MSA. Exhibit 4-1 shows the OMB Ocala/Marion County MSA and the surrounding statistical areas of North Central Florida.

Exhibit 4-1 Ocala/Marion County Metropolitan Statistical Area



Source: U.S. Census Bureau

4.1.2 Local Factors Affecting Aviation Demand

Consideration of a community's economic character is particularly important to the determination of aviation activity levels. Before forecasting future activity, several conditions and assumptions should be identified in order to determine the foundation of aviation demand. This section identifies the characteristics of economic and socio-economic conditions, and their relation to trends on the state and national levels.

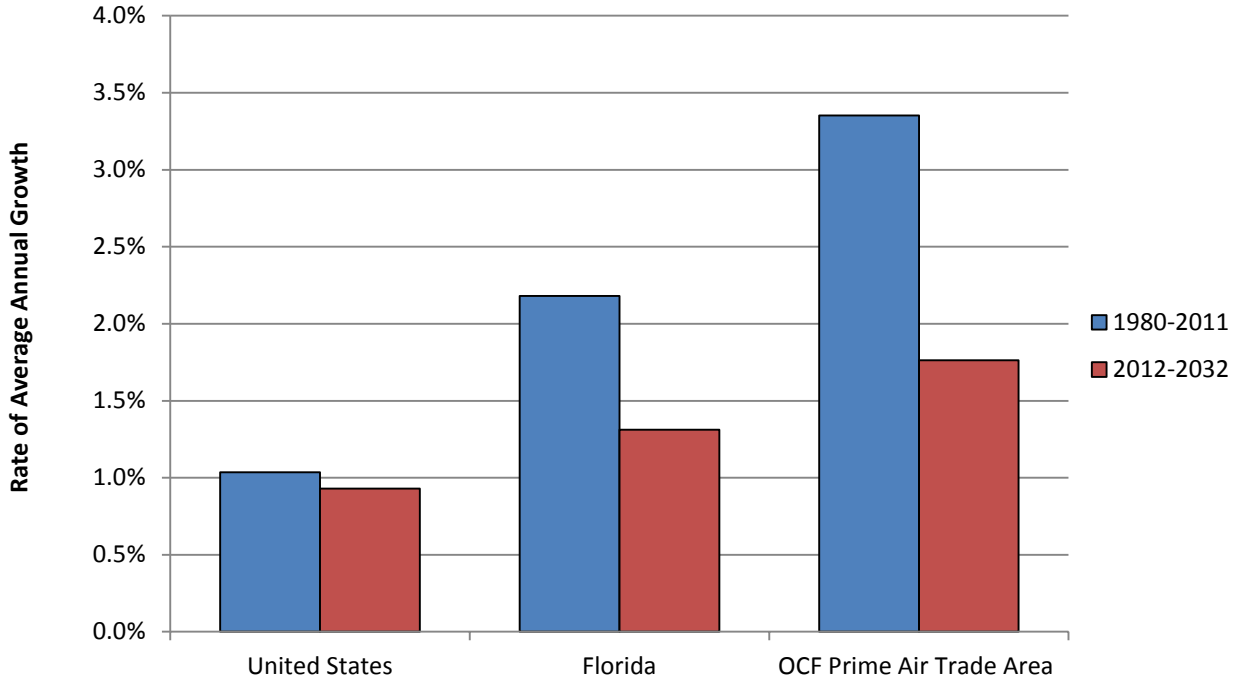
4.1.2.1 Population

According to the 2010 U.S. Census, Marion County, Florida has a total population of 326,833, of which 56,315 are in the City of Ocala. From 1980-2011, the Ocala/Marion County MSA grew at an average annual rate of 3.35 percent. During the same time period, the population of Florida grew at 2.18 percent, while U.S. population grew at an average rate of 1.04 percent.

The trend of the OCF prime air trade area population growth outpacing national and state growth is expected to continue, but at a slower pace. For 2012-2032, *Woods and Poole Economics* project the population to grow in the prime air trade area by an average of 1.76 percent per year. Over this same 30-year period, Florida and U.S. populations are projected to

grow annually by 0.93 percent and 1.31 percent respectively. Exhibit 4-2 below demonstrates these historical and projected growth rates.

Exhibit 4-2 Historical and Projected Population Average Annual Growth Rates



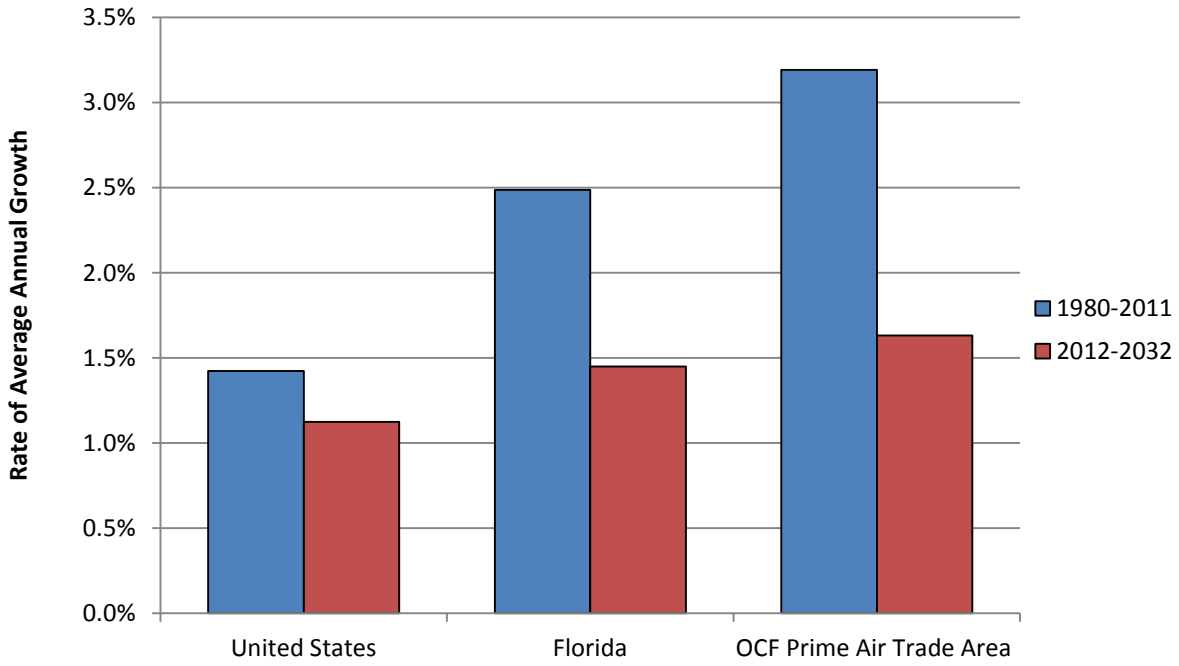
Source: Woods and Poole Economics

4.1.2.2 Employment

In 2012, the prime air trade area contained approximately 135,020 employed persons. Employment in the prime air trade area grew at an average annual rate of 3.19 percent, versus 2.49 percent for the state and 1.42 percent for the nation. Employment growth in the prime air trade area is estimated to continue at an average rate of 1.63 percent for the period of 2012-2032 for the prime air trade area, versus 1.45 percent for the state and 1.13 percent for the nation.

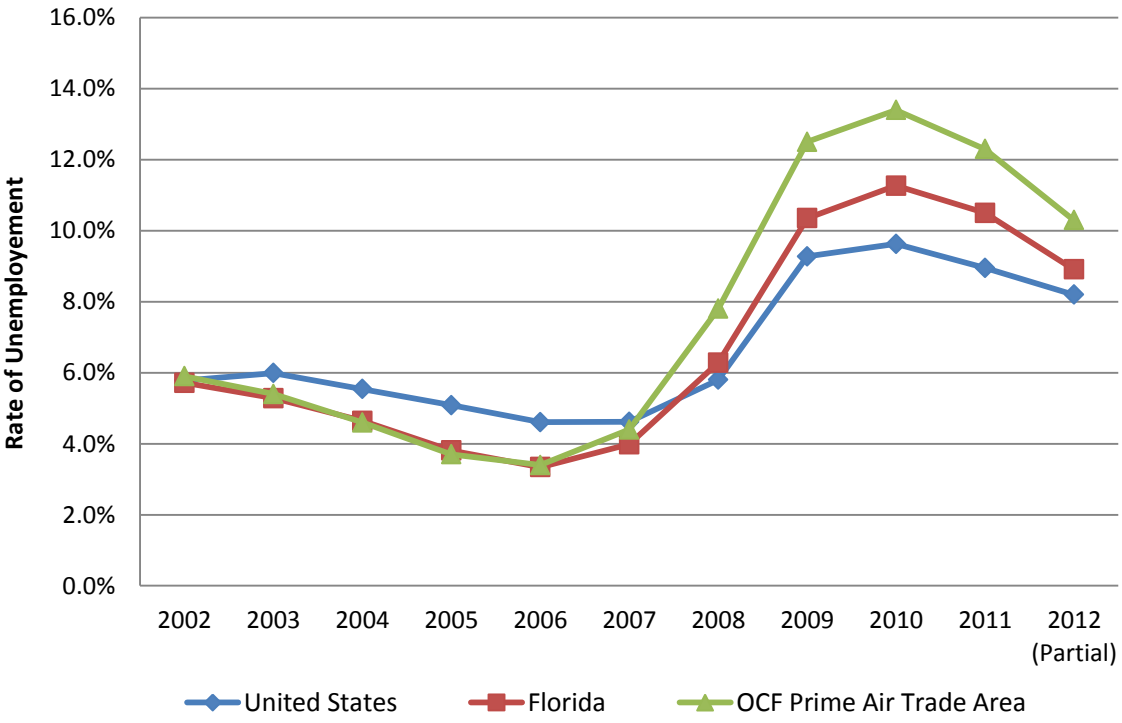
During the economic recession period beginning in 2008, the unemployment rate of the prime trade area was higher than that of the U.S. and Florida averages. This provides some indication that the area may be more sensitive to negative economic conditions. Exhibit 4-3 and Exhibit 4-4 respectively compare the employment growth rate and annual unemployment rate of the prime air trade area as compared with the state of Florida and the U.S.

Exhibit 4-3 Historical and Projected Employment Average Annual Growth Rates



Source: Woods and Poole Economics

Exhibit 4-4 Historical Unemployment Rates

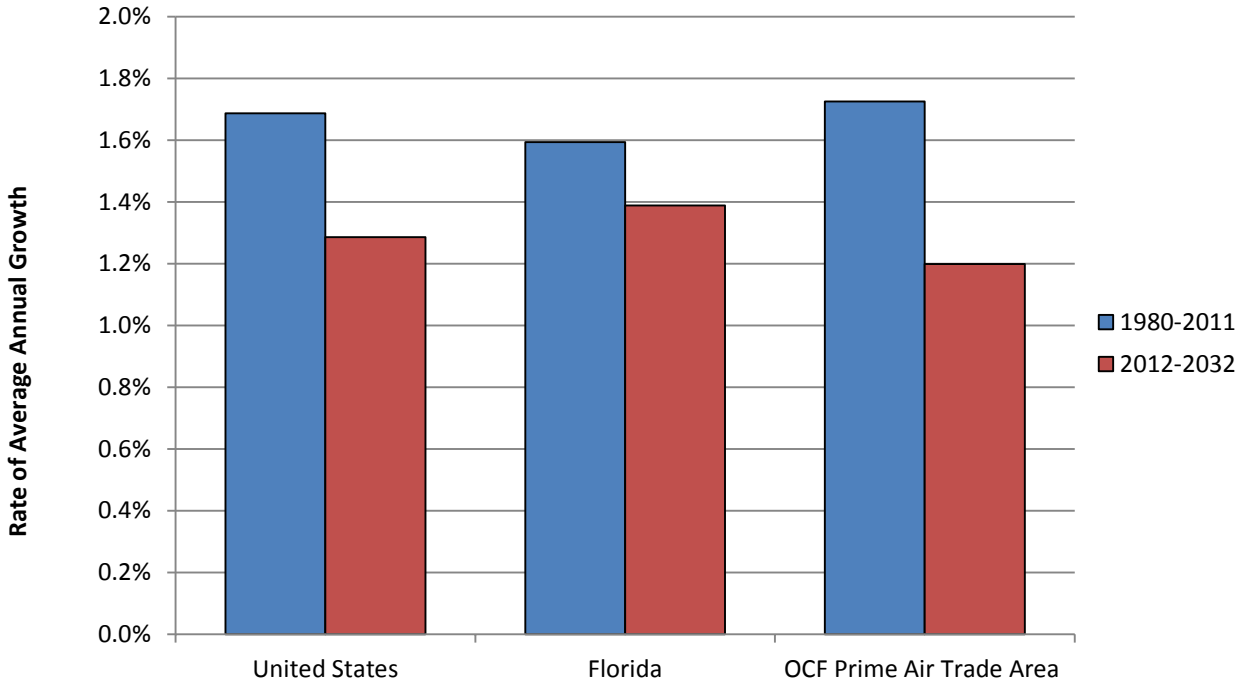


Source: U.S. Bureau of Labor and Statistics

4.1.2.3 Per Capita Personal Income

Per Capita Personal Income (PCPI) represents a value of the average earnings of each resident. It is one measure of wealth and may correlate with the propensity to employ the services of the Airport. The PCPI growth in the prime air trade area exceeded the State average, but closely resembled the U.S. average from 1980-2011. The 2012-2032 PCPI growth rate for the prime air trade area is projected to be slightly lower than both the state and U.S. averages. Exhibit 4-5 presents the comparative PCPI growth rates between the U.S., Florida, and the prime air trade area.

Exhibit 4-5 Historical and Projected PCPI Annual Growth Rates



Source: Woods and Poole Economics

4.1.3 Summary of Local Economy[13]

The economy of Ocala/Marion County area is based upon seven key diverse industries that support the economic activity for the area:

- **Manufacturing** - Top manufacturing sectors in Marion County include metal fabrication, computers and electronics, transportation equipment, plastic/rubber products.

- **Agriculture** - Ocala/Marion County has a strong equine industry that supports breeding and training of various breeds of horses on over 70,000 acres of land. The county contains the highest number of horses of any county in the U.S.

[13] Applied Marketing - *Ocala/Marion County Economic Development Corporation - Economic Base Analysis* (2009)

- **Distribution** - Numerous road, rail, and nearby port connections allow for multiple distribution activities in the Ocala/Marion County area. Area distribution sectors include food products, household goods, industrial/construction parts, and vehicle parts.

- **Leisure/Hospitality** - Interstate 75, one of the main north south corridors for the state of Florida, bisects Marion County approximately 2.5 miles from the center of the city of Ocala. This central location allows the area to benefit economically in the leisure/hospitality industry.

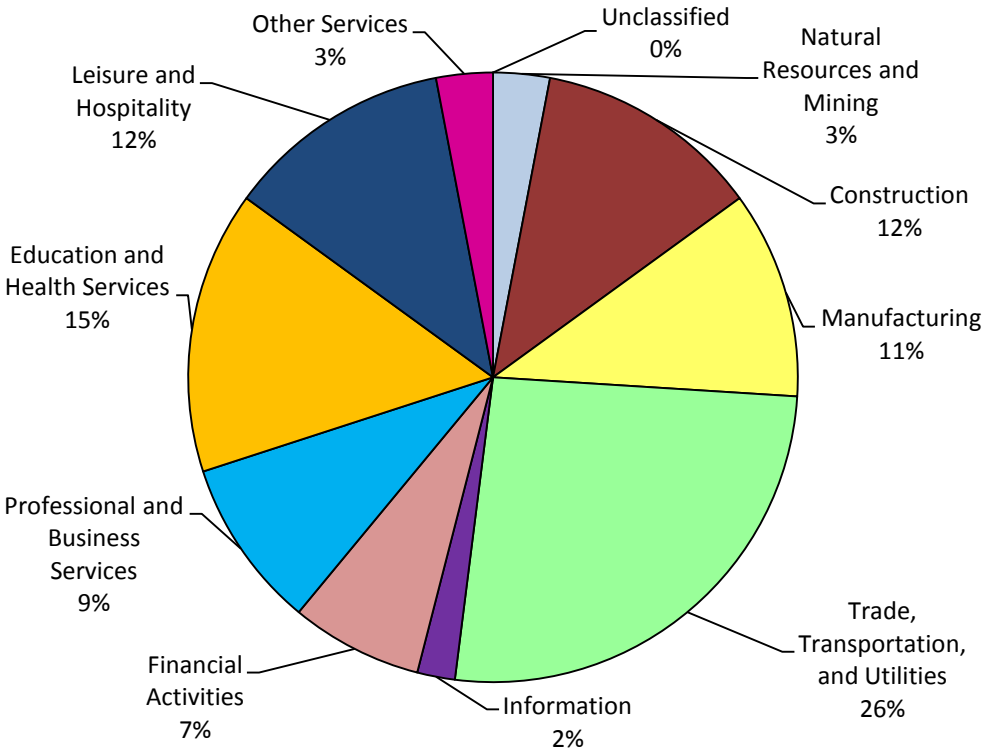
- **Healthcare** - The area is home to Munroe Regional Medical Center and Ocala Regional Medical Center, which provide health services to the area and region, and provide employment to a large number of people within Marion County.

- **Government** - A significant fraction of employment in the area stems from federal, state, and local governments.

- **Retail** - Ocala is a known regional retail destination for residents within Marion County and nearby communities.

Exhibit 4-6 below provides a graphic representation of employment in Marion County by the North American Industry Classification System (NAICS)

Exhibit 4-6 Marion County Employment Breakdown by NAICS Super Sector

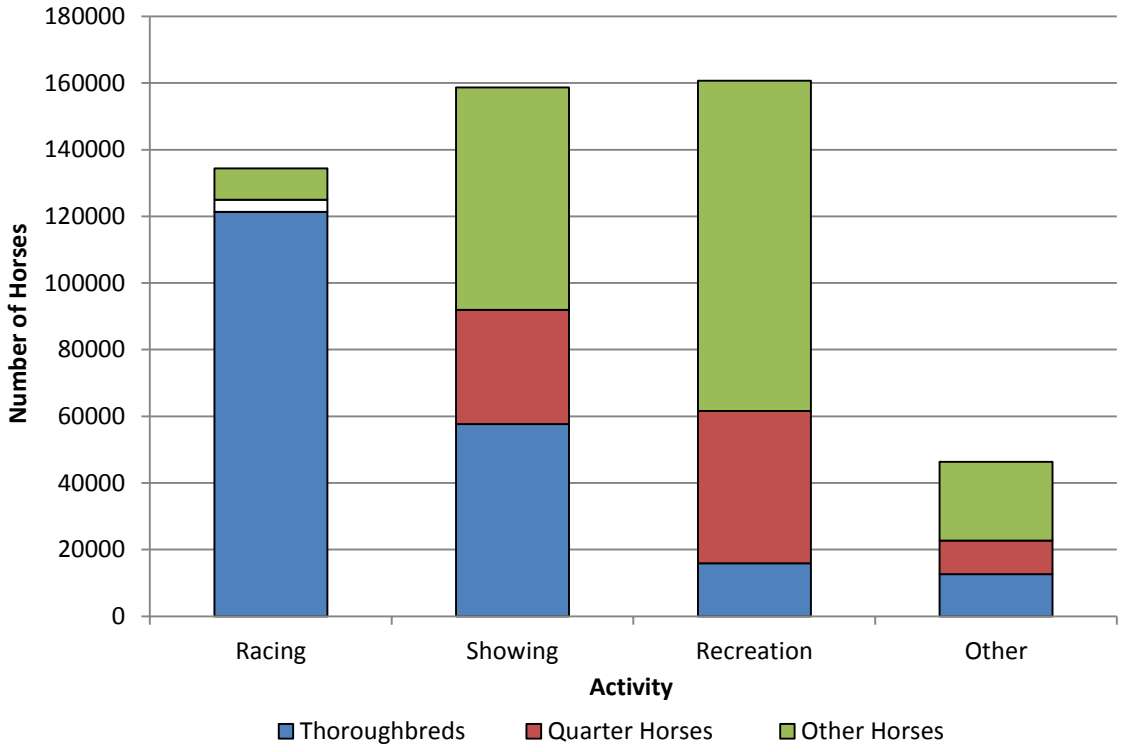


4.1.4 Review of Equine Activity

Equine activity in the U.S. represents a well-developed industry that includes a wide variety of activities, such as sport, agriculture, entertainment, showing, and recreation. According to the American Horse Council Foundation, there are horses in every state in the nation, with 45 states having an equine population of 20,000 or more. The total US horse population is 9.2 million. This population supports an equine industry consisting of 4.6 million people representing owners, service providers, employees, and volunteers. Considering the multiplier effect, the industry as a whole contributes $102 billion to the U.S. economy.

The horse industry in Florida was quantified by the American Horse Council Foundation in a 2005 report entitled, *The Economic Impact of the Florida Horse Industry*. According to this report, Florida has approximately 500,000 horses, which support an industry producing a total economic impact of $5.1 billion. There are over 400,000 Floridians involved in the industry including 105,600 horse owners, 49,000 employees, and 285,000 volunteers. Exhibit 4-7 details the Florida equine population by major sector and activity[14].

Exhibit 4-7 Florida Equine Population by Breed and Activity



[14] *American Horse Council Foundation – The Economic Impact of the Florida Horse Industry (2005)* Includes additional registered breeds and non-registered, non-pedigree horses. The horses primarily used for 'Racing' and categorized under 'Other Horses' are predominately Standardbreds.

The equine industry is a very important part of the social and economic fabric of the Ocala/Marion County Area. Due to Marion County leading all US counties in horses and ponies in residence, the USDA in 1999 approved the area to advertise itself as "The Horse Capital of the World." Additionally, on April 16, 2003 the Florida House of Representatives passed SR 2724 officially recognizing Ocala/Marion County as "The Horse Capital of the World."

Currently, there are over 600 equine farms and training centers in the Ocala/Marion County, with 200 devoted to 40-50 breeds such as:

- Paso Fino
- Missouri Foxtrotter
- Arabian, Morgan
- Miniature horse
- Quarter horse
- Hunter/jumper
- Gentle giants

Over 400 of these area farms and training centers are devoted specifically to high-value thoroughbreds. Ocala/Marion County is also one of only four major thoroughbred centers in the world. The local thoroughbred industry has produced 45 national champions, six Kentucky Derby winners, 20 Breeders' Cup champions and six "Horses of the Year".

According to the Florida Thoroughbreds Breeders' and Owners' Association, there are over 70,000 acres in Marion County devoted to the thoroughbred industry, which supports a thoroughbred population of 35,300. The thoroughbred industry in Ocala/Marion County has a total economic impact of over $1.3 billion.

The nationally known Ocala Breeders' Sales Company, located on the east side of SW 60th Ave approximately 1,000 feet east of the Airport, hosts thoroughbred auctions several times a year, representing over $100 million in annual sales.

4.1.5 Recent and Projected Macroeconomic Factors

Major national/global events and issues represent macroeconomic factors that have the potential to affect airport activity in addition to local microeconomic conditions:

- **National Recession** - The recent national economic recession had a major impact upon consumer and business consumption. National trends indicate retail sales, consumer spending, and consumer confidence dropped sharply. This recession, and the subsequent on-going variable economic environment, has kept the national economy stagnated.
- **Petroleum Costs** - The availability and price of oil remain a major concern. Not only has the price of fuel increased dramatically, but occasional spot shortages raise other concerns. Further, new environmental laws seek to reduce consumption of hydrocarbons, thereby causing problems for all modes of transport including aviation.

In summary, while nationwide and worldwide economic growth is expected to continue, uncontrollable factors exist that can influence aviation demand.

4.2 HISTORICAL AVIATION ACTIVITY

This section presents the historical aviation statistics for OCF, including based aircraft, annual operations, and air cargo activity. This information will be used to help identify and appraise factors that influence aviation demand, which will then be used to determine forecasts of future aviation activity.

4.2.1 Based Aircraft

One measure of aviation activity at an airport is the number of based aircraft. A based aircraft is defined by the FAA as an aircraft that is operational & airworthy, which is typically based at the facility in question for a majority of the year. Based aircraft categories include single-engine piston, multi-engine piston, jet, and rotorcraft.

Based aircraft are major economic contributors to the airport. They help generate revenues from tie-down fees, hangar leases, fuel sales, and maintenance. Based aircraft forecasts are used to evaluate the size of the ramp, tie-down, and hangar areas. Additionally, the number of based aircraft provides airport management and state planning officials an indication of airport performance.

According to the January 2012 FAA Terminal Area Forecast for OCF (See Appendix E), the actual number of based aircraft in 2010 was 162. Table 4-1 below presents a comparison of the actual and forecast based aircraft for the nation, the FAA Southern Region, the state of Florida, and the Airport.

Table 4-1 Based Aircraft Comparison

Fiscal Year	Number of Based Aircraft			
	National	So. Region	Florida	OCF
Actual				
1990	162,242	27,366	11,221	101
1995	157,828	26,527	10,666	75
2000	180,006	31,961	12,157	109
2005	197,464	36,028	13,152	124
2010	165,860	30,874	10,931	162
Projected				
2012	169,240	31,385	11,241	164
2017	176,497	32,699	12,059	173
2022	184,261	34,126	12,931	182
2032	200,749	37,206	14,879	193

Source: FAA- January 2012 Terminal Area Forecast

Nationally, the general aviation industry has experienced declines in certain measures of activity since the early 1980s, including new aircraft shipments, active fixed base operators, hours flown, etc. However, on the national level based aircraft showed an average annual growth rate of approximately 0.11 percent from 1990 to 2010. The FAA's TAF forecast suggests based aircraft on the national level will continue to grow over the long term, yet at a relatively slow pace of 0.86 percent annually from 2012 to 2032.

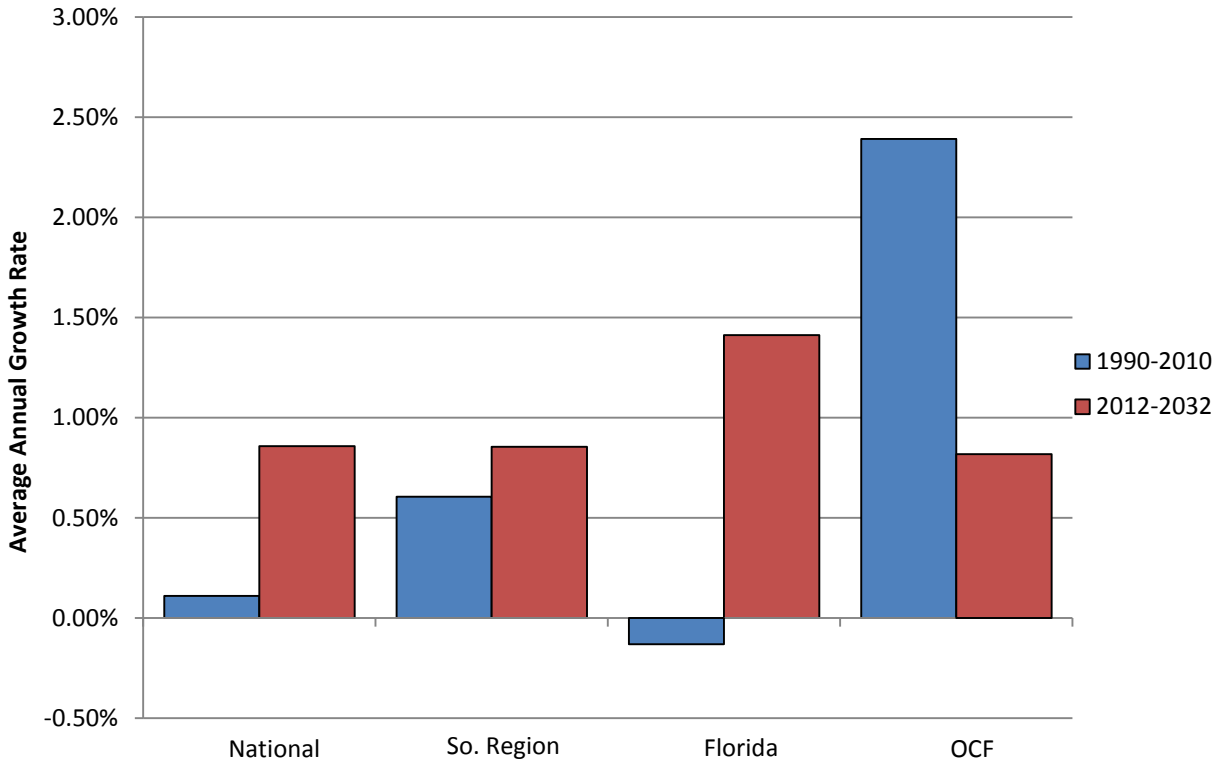
At the FAA Southern Region level, based aircraft growth is expected to be nearly identical to national average at 0.85 percent annually. The FAA's Southern Region includes the states of Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee, as well as Puerto Rico and the U.S. Virgin Islands. From 1990-2010, the FAA Southern Region had an increase of 0.60 percent per year in based aircraft.

The state of Florida showed a slight reduction in based aircraft from 1990-2010, decreasing at an average annual rate of 0.13 percent. However, according to the January 2012 TAF, this trend is projected to reverse; a growth rate of 1.41 percent annually is expected from 2012 to 2032.

At OCF, based aircraft have increased from 101 to 162 from 1990 to 2010, at an average annual growth rate of 2.4 percent. The total number of based aircraft at the airport as of December 2012 is 128; however, discussions with Airport management revealed higher-than-average variability in based aircraft counts in 2012. Therefore, the 2011 verified number of 171 based aircraft should serve as the baseline for forecasting based aircraft at OCF. The January 2012 TAF shows based aircraft increasing at an average annual growth rate of 0.82 percent from 2012-2032.

Exhibit 4-8 presents a comparison of historical and future average annual growth rates for based aircraft in the Nation, the FAA Southern Region, the state of Florida, and OCF.

Exhibit 4-8 Growth Rate of Based Aircraft



Source: Federal Aviation Administration – January 2012 Terminal Area Forecast

4.2.2 Annual Aircraft Operations

An aircraft operation is defined as either a takeoff or landing. For planning purposes, the FAA records annual aircraft operations in the following four categories:

- **Air Carrier** - An air carrier operation involves an aircraft with a seating capacity of more than 60 seats or a cargo payload capacity of more than 18,000 pounds. Further, the aircraft must be carrying passengers or cargo for hire or compensation.
- **Commuter** - Commuter operations represent scheduled commercial flights for aircraft with 60 seats or fewer or a cargo payload capacity of 18,000 pounds or less. This category includes air taxi operations, which are nonscheduled commercial flights or those for-hire flights using aircraft with 60 or fewer seats or a payload capacity of 18,000 pounds or less.
- **Military** - Military operations are by all classes of military or federal government aircraft.
- **General Aviation** - General aviation (GA) operations are any type of operation that is not included in one of the other defined categories. These are typically privately owned aircraft used for business, training, recreation, personal, or public use.

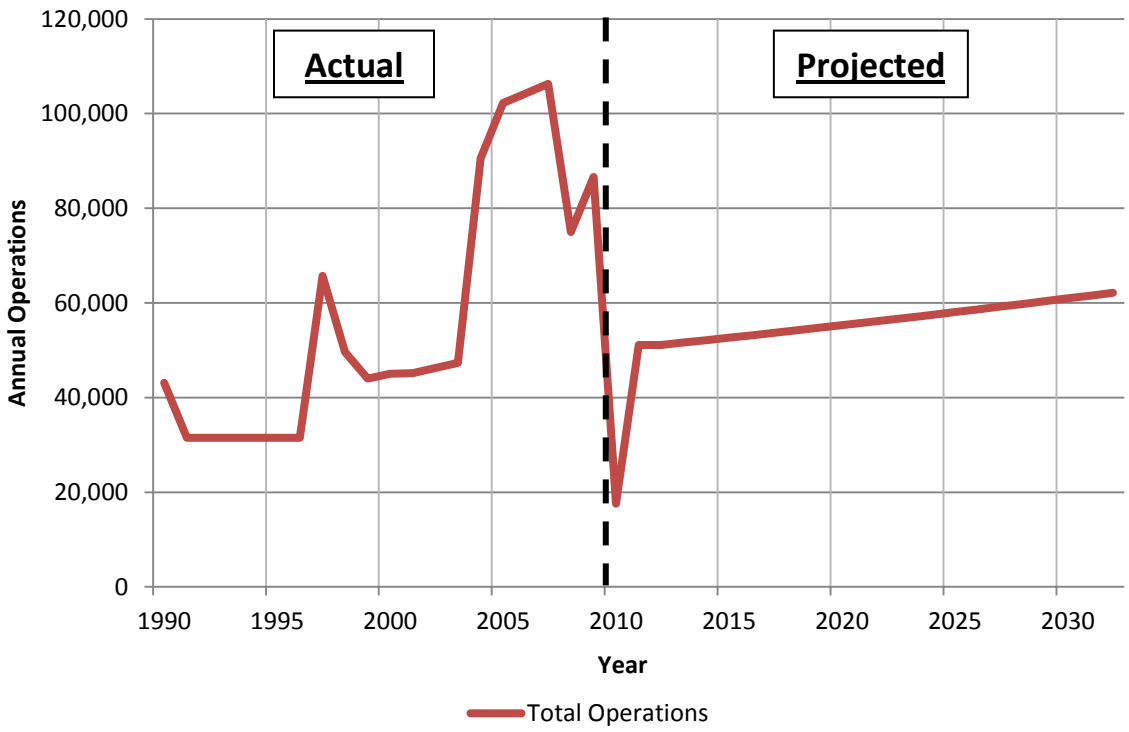
Table 4-2 and Exhibit 4-9 present the historical and 20-year projected activity of the Airport's annual aircraft operations in the four categories as detailed in the January 2012 TAF, the official aviation activity forecast for airports in the National Plan of Integrated Airport Systems (NPAIS). The activity in each category is discussed below:

Table 4-2 Historical and Projected Operations

Fiscal Year	Commercial Service		General Aviation	Military	Total Operations
	Air Carrier	Air Taxi & Commuter			
Actual					
1990	0	3,000	40,000	100	43,100
1995	0	110	31,300	70	31,480
2000	0	90	44,718	220	45,028
2005	0	206	101,538	454	102,198
2010	8	108	17,298	161	17,575
Projected					
2012	47	776	49,496	793	51,112
2017	47	811	52,021	793	53,672
2022	47	846	54,674	793	56,360
2032	47	916	60,396	793	62,152
Projected AAGR	**0%**	**0.83%**	**1.0%**	**0%**	**0.98%**

Source: Federal Aviation Administration – January 2012 Terminal Area Forecast

Exhibit 4-9 TAF Actual and Projected Aircraft Operations



Source: Federal Aviation Administration – January 2012 Terminal Area Forecast

- **Air Carrier** – Few air carrier operations have occurred at the Airport since the 1980s, and that trend is expected to continue. The infrequent air carrier operations expected by the TAF are likely to be related to cargo and charter activities.
- **Commuter** - Commuter operations have occasionally occurred at the Airport with an anomaly in 1990 when 3,000 operations were recorded. Since 1990, only a few commuter operations per year were recorded. For the future, a small annual number of commuter operations are expected by the TAF, increasing at an average annual growth rate of 0.83 percent from 2012-2032.
- **Military** - Since 1990, annual military aircraft operations at the Airport have fluctuated with a normal number of a few hundred per year. For the future, several hundred military operations per year are anticipated. While recent annual numbers are on the rise, it is not unusual for military aircraft operations counts to increase or decline by large margins as the Department of Defense alters its operational requirements.
- **General Aviation** – The overwhelming majority of operations at the Airport are flown in the general aviation category. As shown in Table 4-2, general aviation operations have shown wide variations in activity since 1990. For the future, a steady increase at an average annual growth rate of one percent is anticipated.

4.2.3 Actual Recent Aircraft Operations

The January 2012 FAA Terminal Area Forecast, provides actual historical information for OCF through Fiscal Year 2010. From 2011-2040, the TAF projects aviation activity based on statistical forecasting methods.

The Ocala Air Traffic Control Tower (ATCT) records the most recent actual observed operations. This data from the ATCT is then compiled in the FAA Air Traffic Activity Data System (ATADS), the official National Airspace System (NAS) operations data. Table 4-3 presents the monthly actual aircraft operations at the Airport from 2011-2012.

Table 4-3 ATADS Monthly Actual Aircraft Operations 2011-2012

		Total Itinerant					Total Local			
		Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
2011										
	January	2	75	2,831	60	2,968	1,621	26	1,647	4,615
	February	3	85	2,855	44	2,987	1,377	34	1,411	4,398
	March	5	104	3,212	61	3,382	1,518	14	1,532	4,914
	April	4	83	3,133	59	3,279	1,456	8	1,464	4,743
	May	9	64	2,987	55	3,115	1,337	74	1,411	4,526
	June	5	44	2,437	37	2,523	1,116	16	1,132	3,655
	July	0	45	2,500	32	2,577	824	18	842	3,419
	August	0	36	2,526	28	2,590	702	14	716	3,306
	September	8	40	2,745	49	2,842	1,172	10	1,182	4,024
	October	2	57	2,924	59	3,042	1,420	8	1,428	4,470
	November	2	125	2,983	30	3,140	1,462	32	1,494	4,634
	December	4	67	3,063	69	3,203	1,799	36	1,835	5,038
	Total 2011	**44**	**825**	**34,196**	**583**	**35,648**	**15,804**	**290**	**16,094**	**51,742**
2012										
	January	0	71	3,095	106	3,272	1,144	6	1,150	4,422
	February	5	109	2,626	62	2,802	1,378	2	1,380	4,182
	March	3	172	3,470	78	3,723	1,272	46	1,318	5,041
	April	3	88	3,079	74	3,244	1,155	20	1,175	4,419
	May	3	62	2,937	55	3,057	1,375	32	1,407	4,464
	June	3	35	2,584	43	2,665	1,144	2	1,146	3,811
	July	2	55	2,451	71	2,579	957	6	963	3,542
	August	0	36	2,595	43	2,674	788	24	812	3,486
	September	4	38	2,971	36	3,049	1,160	16	1,176	4,225
	October	7	23	3,022	67	3,119	1,112	4	1,116	4,235
	Total to 10/2012	**30**	**689**	**28,830**	**635**	**30,184**	**11,485**	**158**	**11,643**	**41,827**
Average Month		**5**	**102**	**4,227**	**78**	**4,412**	**1,874**	**32**	**1,906**	**6,318**

Source: FAA Air Traffic Activity Data System report, December 2012

The ATADS detailed in Table 4-3 provides full data for 2011 only. Total aircraft operations in 2011 were 51,742, very similar to the 51,105 projected total operations listed in the January 2012 TAF. Though similar, the more current 2011 ATADS information will form the basis of the activity forecast.

4.2.4 Air Cargo Operations

Air cargo operations at OCF typically consist of shipments by local businesses and horse transports associated with local equine activity. While a rather small portion of cargo operations is non-equine air cargo, local businesses continue to grow and increase cargo operations. The City of Ocala is actively pursuing increased economic development of the Airport, with a considerable amount of effort being made to attract aviation and non-aviation business to the Airport. As the local community continues to grow and expand, cargo operations at the Airport are expected to increase.

Historically, the majority of air cargo operations are directly related to the Ocala/Marion County equine industry. The movement of high value horse breeds such as thoroughbreds drives air cargo operations at the Airport. While a number of factors such as horse shows and nearby races may account for occasional shipment of equine by air, the state of the local equine industry and equine air cargo activity is linked with Ocala Breeders' Sales Company (OBS) auctions.

Currently, OBS conducts between six to eight auctions per year, annually showing between 4,000 and 6,000 horses and grossing sales between $68 million to109 million. During the auctions, general aviation and cargo operations increase at the Airport. With the increase in OBS activity and increasing value of horses, shipments will continue to grow. This growth will increase demand upon the Airport to support cargo operations. Table 4-4 details five year auction history from OBS from 2007-2012.

Table 4-4 OBS Historical Equine Auction Data

Year	Total Number of Horses Shown	Total Auction Amount	Average Price/Horse
2007	7,072	$109,312,700	$15,457.11
2008	6,051	$103,559,100	$17,114.38
2009	5,176	$68,543,700	$13,242.60
2010	4,275	$64,498,450	$15,087.36
2011	4,225	$74,243,100	$17,572.33
2012	4,024	$86,353,100	$21,459.52
Average Price/Horse - AAGR 2007-2012:			**6.78%**

Currently, the most common cargo aircraft used for equine air cargo operations is the Boeing 727. However, due to noise regulations and increasing fuel and maintenance costs, equine cargo operators are fast removing this aircraft from their fleet. The Airport has had multiple requests for Boeing 767 cargo aircraft, which due to current airport infrastructure it is unable to accommodate. In 2012, 36 total equine air cargo operations were conducted at the Airport. This level of activity will be used as the baseline to forecast future equine air cargo activity at the Airport.

4.2.5 Enplaned Passengers

An enplaned passenger forecast is the basis for determination of the future facilities needed to accommodate projected demand of commercial passenger service. Since commercial service ended at OCF in the early 1980s, the Airport has not been a major location for commercial air passengers.

According to the FAA Air Carrier Activity Information System (ACAIS), the Airport had 365 passenger enplanements in 2011. Table 4-5 below details the 10-year historical passenger enplanement statistics for OCF, as compared with the January 2012 TAF from 2001-2011.

Table 4-5 Historical Passenger Enplanements

Total Passenger Enplanements		
Year[1]	**ACAIS**	**TAF**
2001	231	33
2002	5	33
2003	10	0
2004	102	0
2005	19	90
2006	102	0
2007	271	0
2008	503	396
2009	223	0
2010	204	172
2011	365	*350

[1]ACAIS-Calendar Year; TAF-Fiscal Year
*Projected

Though Table 4-5 makes evident a difference in reporting period between the ACAIS and the TAF (ACAIS-Calendar Year; TAF-Fiscal Year), it also demonstrates a significant difference between the numbers of historical enplaned passengers. The ACAIS is compiled from air carrier data submitted to the U.S. Department of Transportation, and then reviewed by the FAA. Therefore, it appears the historical data in the January 2012 TAF is not supported. However, the TAF projects a constant number of 350 annual passenger enplanements from 2012-2032 representing only approximately four percent difference from 2011 ACAIS data. Additionally, the historical ACAIS data indicates a high variability in the yearly passenger enplanements. Therefore, the TAF zero percent growth rate is considered appropriate.

4.3 AVIATION ACTIVITY FORECASTS

This section presents the aviation activity forecasts for OCF for the planning period of 2012-2032. The forecasts provide short-term, mid-term and long-term projections for the years 2017, 2022, and 2032. These represent the 5-, 10-, and 20-year estimates of aviation activity at the Airport. Activity projections include based aircraft, air cargo, enplaned passenger, itinerant operations, and total operations.

4.3.1 Based Aircraft Forecast by Type

Based on the January 2012 TAF growth rates for the Airport, it is anticipated that based aircraft will grow at a rate of 0.82 percent per year. On average, this represents approximately one to two new based aircraft per year. This growth rate is similar to that of the rest of the nation and the FAA Southern Region, but slightly less than the state of Florida. This forecast uses the Airport-verified baseline number of 171 based aircraft in 2011, rather than the 163 that the TAF indicates in 2011.

The forecast carries a 0.82 percent growth rate out to 2032. This rate of growth considers: 1) the historical growth rate between 1990 and 2010 was 2.4 percent, so the future is projected to grow at a smaller rate than the past, and 2) the current local and national economic conditions appear to be improving.

As shown in Table 4-6, single-engine aircraft are expected to continue to dominate the based aircraft fleet at the Airport, while multi-engine and jet aircraft are projected to increase at a slightly higher rate during the planning period. No change in the number of based helicopters is anticipated.

Table 4-6 Based Aircraft Forecast by Type

	Single Engine	Multi Engine	Jet	Helicopter	Total
Actual					
2011	128	22	13	8	171
Forecast					
2012	**129**	**22**	**13**	**8**	**172**
2013	130	22	13	8	174
2014	131	23	14	8	175
2015	132	23	14	8	177
2016	133	23	14	8	178
2017	**134**	**23**	**14**	**8**	**180**
2018	136	24	14	8	181
2019	137	24	15	8	183
2020	138	24	15	8	185
2021	139	24	15	8	186
2022	**140**	**24**	**15**	**8**	**188**
2023	141	25	16	8	189
2024	142	25	16	8	191
2025	144	25	16	8	193
2026	145	25	16	8	194
2027	146	26	16	8	196
2028	147	26	17	8	198
2029	148	26	17	8	199
2030	149	26	17	8	201
2031	151	27	18	8	203
2032	**152**	**27**	**18**	**8**	**205**
AAGR	**0.82%**	**0.95%**	**1.50%**	**0.00%**	**0.82%**

Source: RS&H, 2013

4.3.2 Air Cargo Forecast

Increased growth of local and regional businesses and industries will contribute to growth of cargo operations at the Airport. However, the local equine industry dominates the existing air cargo market, and will be treated as the sole generator for air cargo operations for the purposes of forecasting.

As discussed in Section 4.1.4, Ocala/Marion County advertises itself as the "Horse Capital of the World." However, one other area in the U.S. is also known by this motto: Lexington, Kentucky. According to a 2008 report to the Florida Agriculture Center & Horse Park Authority[15], the Ocala/Marion County MSA and the Lexington MSA both have approximately 3.2 equine per acre. Provided the similarities between the Ocala/Marion County and Lexington thoroughbred industries and number of equine per acre, the demand for equine air cargo operations would be expected to be comparable between Lexington Blue Grass Airport (LEX) and OCF.

[15] POLICOM - *Economic and Fiscal Impact of The Florida Horse Park Upon Marion County and the State of Florida* (January 2008)

The 2005 Master Plan for Lexington Blue Grass Airport indicates that LEX handles significantly more equine air cargo operations than OCF. In 2012, LEX was projected to conduct 210 operations directly tied to equine air cargo operations. Therefore, the difference of 174 operations between LEX and OCF may represent an unmet demand for increased air cargo service at OCF.

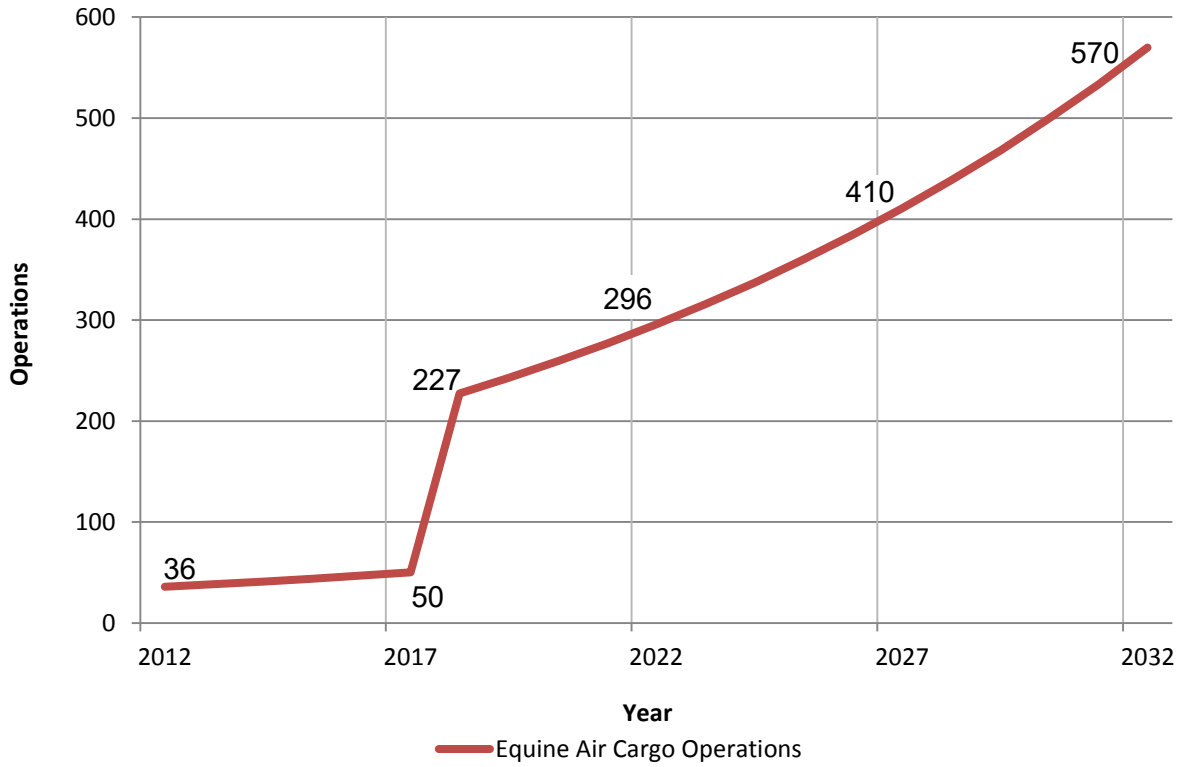
According to prospective users, the Airport does not currently have the appropriate infrastructure to support larger aircraft to accommodate these operations. However, in conjunction with development plans, OCF intends to construct a cargo taxiway and apron area for cargo use. This development will be designed to support larger aircraft and thus be able to accommodate increased air cargo operations. The air cargo forecast depicted graphically in Exhibit 4-10 shows an increase of 174 operations beginning after the proposed airport development. However, a transition period would most likely exist for increased activity as unmet demand starts to be realized.

As discussed, higher value equine are more likely to be shipped by air, and recent equine activity supports the increasing sales in the local equine industry. Therefore, future air cargo operations at OCF were forecasted by creating a ratio of operations to the average price/horse annual growth rate of 6.78 percent from recent OBS auctions (Table 4-4) and projecting this rate through the planning period.

This methodology of utilizing comparative growth rates to forecast high value equine air cargo is consistent with accepted methodology utilized in the 2006 Master Plan. However, it is significantly updated to reflect current economic conditions within the industry and actual observed equine operations at the Airport. As a result, this 2013 forecast for 2032 is several orders of magnitude less than the 2006 forecast for 2024.

Exhibit 4-10 presents the air cargo operations forecast from 2012-2032. Given that air cargo operations historically represent 90 percent or more of the air carrier operations at the Airport, this forecast also represents the total air carrier operations forecast for the planning period.

Exhibit 4-10 Air Cargo Operations Forecast



4.3.3 Enplaned Passengers and Passenger Operations Forecast

For the purpose of this study, no scheduled commercial passenger activity is projected at OCF over the next 20 years. There are several reasons for this conclusion as follows:

- Extensive scheduled passenger air service is available at the major commercial airports in Gainesville, Orlando, and Tampa, located less than two hours away by interstate highway.
- Additional scheduled commercial service is available at Orlando (Sanford) and Daytona Beach which are within a two to four hour drive.
- Air service is being eliminated to many small communities as: 1) scheduled air carriers concentrate service in the largest markets, 2) discount carriers also focus on a relative few, high-volume markets, 3) airport congestion at large airports limits access from smaller markets, and 4) no new under-60-seat aircraft types are being built to serve small communities.
- The Ocala community recognizes the availability of good, nearby scheduled commercial air service and therefore does not currently seek-out or subsidize scheduled commercial air service at the Airport.

Consequently, no scheduled commercial passenger service is forecast for the Airport over the next 20 years. As discussed in Section 4.2.5, the TAF projected passenger enplanement growth rate is considered constant beginning at the ACAIS 2011 baseline of 365. Additionally, as discussed in Section 4.3.2, given the small number of passenger air carrier operations and little

likelihood for them to increase the current number of operations, the air cargo operations forecast will represent the total air carrier operations forecast for the planning period. For air taxi and commuter operations forecast, the growth rate of for the planning period will be held constant using the January 2012 TAF rate of 0.84 percent annual growth built from the baseline number of air taxi and commuter operations at the Airport. (Table 4-3). Table 4-7 details the passenger enplanements and commercial operations forecast for 2012-2032.

Table 4-7 Enplanements and Passenger Operations Forecast

	Enplanements			Operations		
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier** *	**Air Taxi & Commuter**	**Total**
2011	365	4	369	44	825	869
2012	**365**	**4**	**369**	**36**	**832**	**868**
2013	365	4	369	38	839	877
2014	365	4	369	41	846	887
2015	365	4	369	44	853	897
2016	365	4	369	47	860	907
2017	**365**	**4**	**369**	**50**	**867**	**917**
2018	365	4	369	227	875	1,102
2019	365	4	369	243	882	1,125
2020	365	4	369	259	890	1,149
2021	365	4	369	277	897	1,174
2022	**365**	**4**	**369**	**296**	**905**	**1,201**
2023	365	4	369	316	912	1,228
2024	365	4	369	337	920	1,257
2025	365	4	369	360	927	1,287
2026	365	4	369	384	935	1,319
2027	365	4	369	410	943	1,353
2028	365	4	369	438	951	1,389
2029	365	4	369	468	959	1,427
2030	365	4	369	500	967	1,467
2031	365	4	369	534	975	1,509
2032	**365**	**4**	**369**	**570**	**983**	**1,553**

* Air Cargo Forecast as presented in Section 4.3.2

It should be noted that, according to the FAA, a public-use airport enplaning less than 2,500 annual passengers is considered a *General Aviation* Airport. When enplanement levels reach 2,500, but less than 10,000 passengers annually the airport is considered a *Non-Primary Commercial Service Airport*. Over the 10,000 annual passengers level the airport is considered a *Primary Commercial Service Airport*. At each of these levels an airport fulfills a different "role" in the NPIAS. This change in role can result in a dramatic shift in federal priorities and eligible funding under the federal Airport Improvement Program. OCF is not expected to surpass 2,500 annual passengers or begin scheduled passenger service within the 2012-2032 planning period and therefore will remain a *General Aviation* airport.

4.3.4 Aircraft Operations Forecast

The total aircraft operations forecast for OCF for the planning period from 2012-2032 is presented in Table 4-8 below. For Air Carrier and Air Taxi operations, Table 4-8 restates the forecasts as described in Sections 4.3.2 and 4.3.3.

Military operations are forecast to remain constant throughout the planning period, as anticipated by the January 2012 TAF. The forecast begins from the 2011 ATADS baseline (Table 4-3), which represents the most recent actual military activity at the airport.

General Aviation and Local Civil operations utilize the January 2012 TAF growth rate of 1.0 percent beginning at the 2011 ATADS baseline (Table 4-3).

Table 4-8 Total Aircraft Operations Forecast

	Total Itinerant					Total Local			
Fiscal Year	Air Carrier	Air Taxi	General Aviation	Military	Total	Civil	Military	Total	Total Operations
2011	44	825	34,196	583	35,648	15,804	290	16,094	51,742
2012	**36**	**832**	**34,538**	**583**	**35,989**	**15,962**	**290**	**16,252**	**52,241**
2013	38	839	34,883	583	36,344	16,122	290	16,412	52,755
2014	41	846	35,232	583	36,702	16,283	290	16,573	53,275
2015	44	853	35,584	583	37,064	16,446	290	16,736	53,800
2016	47	860	35,940	583	37,430	16,610	290	16,900	54,330
2017	**50**	**867**	**36,300**	**583**	**37,800**	**16,776**	**290**	**17,066**	**54,866**
2018	227	875	36,663	583	38,348	16,944	290	17,234	55,582
2019	243	882	37,029	583	38,737	17,113	290	17,403	56,141
2020	259	890	37,400	583	39,132	17,285	290	17,575	56,707
2021	277	897	37,774	583	39,530	17,457	290	17,747	57,278
2022	**296**	**905**	**38,151**	**583**	**39,935**	**17,632**	**290**	**17,922**	**57,857**
2023	316	912	38,533	583	40,344	17,808	290	18,098	58,442
2024	337	920	38,918	583	40,758	17,986	290	18,276	59,035
2025	360	927	39,307	583	41,177	18,166	290	18,456	59,634
2026	384	935	39,700	583	41,603	18,348	290	18,638	60,241
2027	410	943	40,097	583	42,034	18,531	290	18,821	60,855
2028	438	951	40,498	583	42,471	18,717	290	19,007	61,477
2029	468	959	40,903	583	42,913	18,904	290	19,194	62,107
2030	500	967	41,312	583	43,362	19,093	290	19,383	62,745
2031	534	975	41,726	583	43,817	19,284	290	19,574	63,391
2032	**570**	**983**	**42,143**	**583**	**44,279**	**19,477**	**290**	**19,767**	**64,045**

Source: RS&H, 2013

The total aircraft operations are forecast to grow at an average annual growth rate of 1.02 percent from 2012-2032. As detailed in Table 4-8, the majority of operations are in general aviation, as commercial and military traffic represent such a small portion of total activity.

4.4 CRITICAL AIRCRAFT IDENTIFICATION

A critical aircraft is the aircraft (or composite aircraft) with fastest approach speed and the widest wingspan that makes substantial use of a runway on a regular basis. Substantial use is defined as conducting 500 or more annual itinerant aircraft operations or scheduled commercial service operations[16]. The selection of the critical aircraft is used to identify airport design criteria such as the pavement strength, the Runway Design Code (RDC), and the Taxiway Design Group (TDG), among others.

The critical aircraft is designated by a two-component code known as the Airport Reference Code. The first component, depicted by a capital letter, is the Aircraft Approach Category (AAC), which correlates to aircraft approach speed. The second component, depicted by a Roman numeral, is the Airplane Design Group (ADG), which correlates to the wingspan (physical characteristic). The AAC and ADG classifications are presented below:

Table 4-9 Aircraft Approach Categories

Aircraft Approach Category	Approach Speed
A	Approach speed less than 91 knots
B	Approach speed 91 knots or more but less than 121 knots
C	Approach speed 121 knots or more but less than 141 knots
D	Approach speed 141 knots or more but less than 166 knots
E	Approach speed 166 knots or more

Source: FAA AC 150/5300-13A

Table 4-10 Airplane Design Group

Group Number	Wingspan
I	Up to but not including 49 feet
II	49 feet up to but not including 79 feet
III	79 feet up to but not including 118 feet
IV	118 feet up to but not including 171 feet
V	171 feet up to but not including 214 feet
VI	214 feet up to but not including 262 feet

Source: FAA AC 150/5300-13A

4.4.1 Critical Aircraft for Runway 18-36

The primary runway at OCF, Runway 18-36, measures 7,467 feet in length and 150 feet in width. The existing critical aircraft for Runway 18-36 as shown on the Airport's approved ALP is the Gulfstream IV (G-IV), which has an ARC of D-II. Currently the Airport experiences greater than 500 annual itinerant operations of D-II aircraft or more demanding aircraft types.

Large general aviation aircraft such as the Boeing Business Jet (BBJ) and Gulfstream V (G-V) are among the increasing number of corporate aircraft currently operating or expected to be operating at the Airport on a regular basis. Additionally, large aircraft such as the Boeing 727

[16] FAA Order 5090.3C – Field Formulation of the National Plan of Integrated Airport Systems (December 2000)

(B-727) and McDonnell-Douglas DC-8 (DC-8) have historically been used for equine air cargo operations at the Airport. Due to this fact, the future critical aircraft was previously identified as the DC-8. However, as discussed in Sections 4.2.4 due to maintenance and noise concerns cargo operators are moving towards larger and more modern cargo aircraft. The Airport has had multiple requests to accommodate the Boeing 767 family of aircraft.

As discussed in Section 4.3.2, demand forecasts project more than 500 operations of cargo aircraft within the extent of the planning period. Therefore, the anticipated cargo variant of the Boeing 767 (767-200ER) is determined to be the future critical aircraft.

4.4.2 Critical Aircraft for Runway 8-26

Runway 8-26 is the secondary runway at OCF and serves as a crosswind runway. It measures 3,009 feet in length and 50 feet in width. The existing critical aircraft is the Beechcraft King Air 90, which has an ARC of B-II. Currently Runway 8-26 is instrumental in providing an alternative runway when the crosswind component experienced on Runway 18-36 exceeds an aircraft's maximum crosswind component. Additionally, when winds favor Runway 18-36, then Runway 8-26 provides a flight training facility for students developing the ability and aptitude for landing in crosswind conditions.

At the present time however, Runway 8-26 does not meet B-II design standards established by the FAA. Future infrastructure projects aim to address the deficiency in standards associated with Runway 8-26 in order to meet FAA design criteria for B-II aircraft. The critical aircraft is not anticipated to change within the planning period.

4.5 COMPARISON TO FAA FORECASTS

Forecasts developed by the Airport are reviewed by the FAA and compared to FAA TAF projections. FAA Order 5090.3C provides guidance on the FAA review process, and states that the FAA will find a locally developed airport planning forecast acceptable if it meets any of the following three conditions for a general aviation and reliever airport.

1. The forecast differs less than 10 percent in the five-year forecast period and 15 percent in the 10-year period
2. The forecast activity levels do not affect the timing or scale of an airport project
3. The forecast activity levels do not affect the role of the airport as defined in FAA Order 5090.3C

The forecast described in Section 4.3 utilizes the January 2012 TAF as a baseline and updates it based on airport records, current actual information, and local factors affecting aviation demand. The primary differences between this forecast and the January 2012 TAF are with passenger enplanements and air carrier operations forecasts.

As described in Section 4.2.5, the information in the FAA ACAIS database and the January 2012 TAF historical numbers appear to be based on outdated information. However, as discussed, this does not affect the current forecast, as the projected enplanements for the planning period vary only slightly from the current actual conditions. Nevertheless, it is recommended the differing figures for historical passenger enplanements be reconciled as they may influence future forecasting efforts.

The difference in air carrier operations between this forecast and the January 2012 TAF is solely result of the anticipated growth of air cargo due to equine transport. As discussed in Section 4.2.4, the increase in the number of operations is associated with an airport development project, but itself does not affect the timing or scale of this development.

The forecast rate of long-term growth for total operations is 1.02 percent, representing only a 4 percent difference in the growth rate provided in the January 2012 TAF. Therefore, accounting for the exceptions presented above, this analysis verifies the forecasts based upon aircraft records and reasonable growth factors are well in line with the TAF and the TAF is a reasonable projection of the overall traffic to be expected at the Airport over the planning period of 2012-2032.

4.6 ALTERNATIVE FORECAST SCENARIOS

The aviation industry is driven by various factors that are themselves subject to risk and uncertainty. In order to address these factors, it is necessary to develop alternative forecasts that provide a range of aviation activity at the Airport for short and long term planning purposes. This section presents alternative forecasts of based aircraft and total operations for OCF for the planning period of 2012-2032. These alternative forecasts are based upon assumptions that take into consideration factors that could influence forecasts to be greater or less than previously identified. These scenarios are then compared with the airport developed forecast presented in Section 4.3, and the January 2012 TAF.

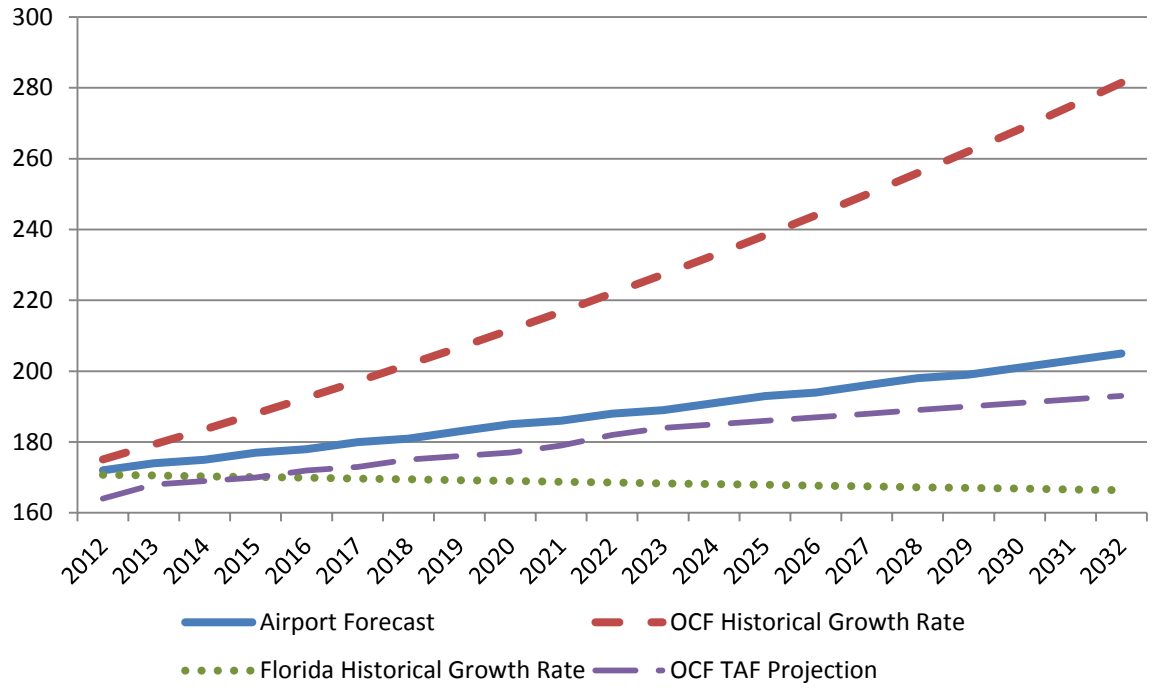
4.6.1 Alternative Based Aircraft Forecast

As discussed in Section 4.2.1, based aircraft are not only an important measure of activity at an airport, but they also are a major economic contributor to an airport. Additionally, accommodating an increasing number of based aircraft influences the future development needs of the Airport. The alternative based aircraft forecast for OCF utilizes high and low scenarios based on historical growth rates. These alternative forecasts establish ranges of potential growth activity for identifying facilities requirements. By monitoring actual growth over time, the Airport can ascertain what development track it is growing on, and re-evaluate its needs accordingly.

- **High Scenario:** As detailed in Section 4.2.1, the Airport has experienced growth in the number of based aircraft at an average annual growth rate of 2.4 percent. This rate of growth extended into the future represents the optimistic growth of based aircraft, which is applied to the airport verified number of 171 based aircraft in 2011 and projected over the period of 2012-2032. This scenario assumes sustained positive growth into the future that mirrors the past.

- **Low Scenario:** While the Airport has experienced growth of 2.4 percent from 1980-2010, the state of Florida experienced decline in the number of based aircraft at an average annual rate of 0.13 percent in the same time period. This negative growth rate is assumed as the basis for the low scenario for 2012-2032. This 0.13 annual growth rate is applied to the airport verified number of 171 based aircraft in 2011, and projecting from 2012-2032. This scenario assumes slow growth in activity over the next 20 years that reflects recent trends at the state level.

Exhibit 4-11 Alternative Based Aircraft Forecast



Source: RS&H, 2013

As illustrated in Exhibit 4-11, the high scenario projects the number of based aircraft to increase from 171 to 281 within the planning period. The pessimistic scenario projects a decrease in based aircraft from 171 to 166 during the planning period. For comparison, the Airport developed forecast projects 205 based aircraft at the Airport by 2032, while the January 2010 TAF projects 193 based aircraft at the Airport by 2032.

4.6.2 Alternative Total Aircraft Operations Forecast

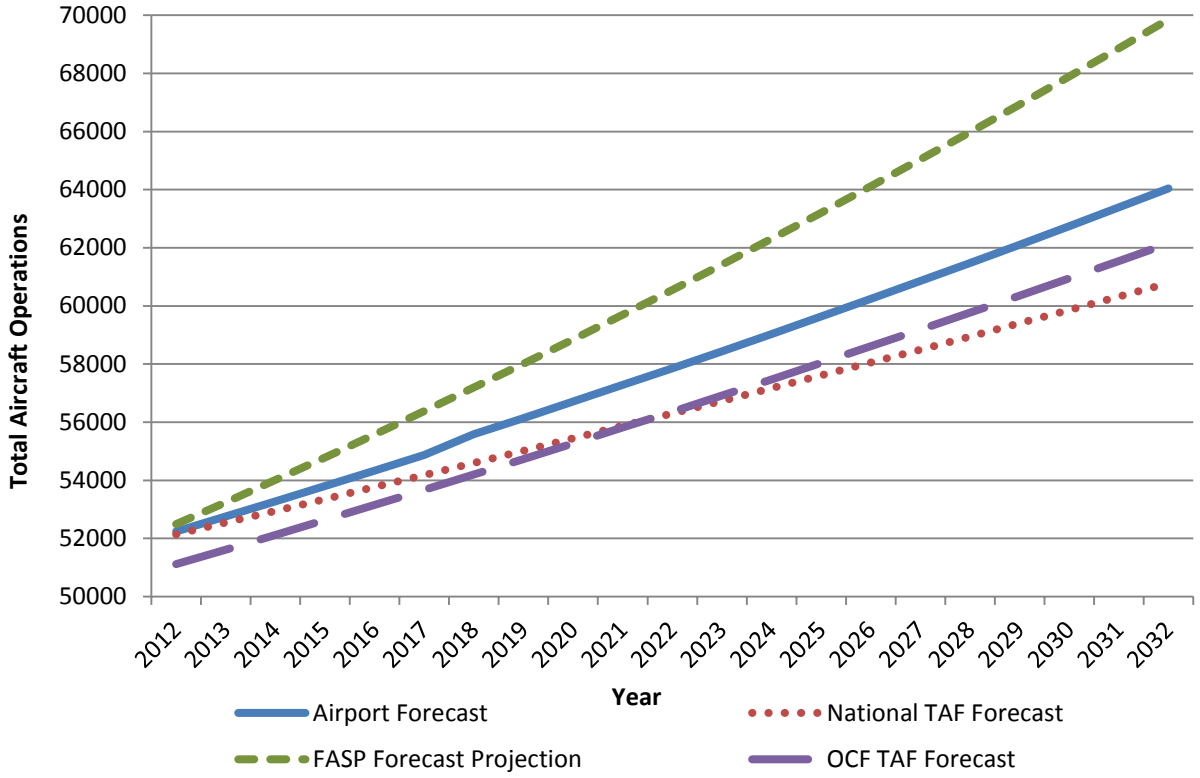
For General Aviation airports, the number of annual aircraft operations forms the key measure of activity. Additionally, aircraft operations represent an index of revenue for the Airport through the collection of tie-down fees, fuel sales, and other charges. The alternative total aircraft operations forecast for OCF employs an optimistic forecasted growth rate and a pessimistic growth rate, which form the basis of the two alternative scenarios.

- **High Scenario:** From 2012-2022, The Florida Department of Transportation projects the total operations from General Aviation aircraft to increase by an average annual growth rate of 1.44 percent[17]. For the high scenario, total aircraft operations at the Airport are projected to increase in line with this growth rate, with the rate assumed to continue from 2022-2032.

- **Low Scenario:** The basis of the low scenario of total aircraft operations for OCF for the planning period is the January 2012 national TAF. From 2012-2032, the FAA projects that the total number of aircraft operations will increase at a modest 0.77 percent. Therefore, the low scenario for total aircraft operations assumes future activity at OCF will match the projected national trend.

[17] FDOT – *Florida Aviation System Plan 2025* (February 2012)

Exhibit 4-12 Alternative Total Aircraft Operations Forecast



Source: RS&H, 2013

As detailed in Exhibit 4-12, the high scenario projects the total number of aircraft operations at the Airport to increase by nearly 20,000 from around 52,000 in 2012 to almost 70,000 by 2032. On the other hand, the low scenario projects only around 62,000 operations by 2032, an increase of only about 10,000 operations in the planning period. For comparison, the Airport developed forecast projects around 64,000 operations by 2032, while the January 2010 TAF projects 62,000 operations by 2032.

4.7 SUMMARY OF FORECASTS

Table 4-11 and Table 4-12 below presents a summary listing of the aviation demand forecasts for OCF for 5-, 10-, and 20-year estimates of aviation activity at the Airport as presented and discussed in this chapter. These projections of future aviation activity will be used to assess the capacity of existing facilities and determine improvements required to satisfy future activity level in the following chapters.

Table 4-11 Airport Developed Forecast Summary

Enplanements			Itinerant				Local			
Fiscal Year	Air Carrier	Commuter	Air Carrier	Air Taxi	General Aviation	Military	Civil	Military	Total Operations	Based Aircraft
2017	365	4	50	867	36,300	583	16,776	290	54,866	180
2022	365	4	296	905	38,151	583	17,632	290	57,857	188
2032	365	4	570	983	42,143	583	19,477	290	64,045	205

Source: RS&H, 2013

Table 4-12 Alternative Forecast Summary

	High Scenario		Low Scenario	
Fiscal Year	Based Aircraft	Total Operations	Based Aircraft	Total Operations
2017	197	56,377	170	54,179
2022	222	60,554	169	56,297
2032	281	69,861	166	60,785

Source: RS&H, 2013

In early 2013, the Florida Department of Transportation and the Federal Aviation Administration approved the forecast of activity for OCF (Table 4-11) for this Master Plan Update. The approval letters are provided for reference in Appendix F.

CHAPTER 5
FACILITY REQUIREMENTS

The facility needs for the future of Ocala International – Jim Taylor Field (OCF) are based on the forecasted aviation activity, the existing facilities, and the strategic vision of the City of Ocala. Unless specified by FAA or FDOT regulations, the facility recommendations presented in this chapter are not absolute design requirements, but are rather options that would accommodate the existing and forecast future demand.

5.1 FEDERAL AIRFIELD & AIRSPACE REQUIREMENTS

This section describes the airfield needs and airspace requirements for OCF for the planning period of 2012-2032. Additionally, the methods and planned timing upon which the facility requirements have been determined are specified in this section. The federal airfield design standards and criteria are determined by application of FAA Advisory Circular (AC) 150/5300-13A *Airport Design*.

5.1.1 Airspace Requirements

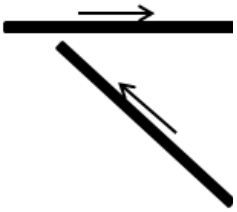
The national airspace system consists of various classifications of airspace that are regulated by the FAA. Airspace classification is necessary to ensure the safety of all aircraft utilizing Airport's facilities. Class D Airspace, in effect during air traffic control tower operation, is adequate for the existing and future operational requirements expected at OCF. When the air traffic control tower is not in operation, Class E airspace applies and is adequate for the existing and future operational requirements.

5.1.2 Airfield Capacity

Airfield capacity is an estimate of the number of aircraft that can be processed through the airfield system within a specific time period without inducing unacceptable levels of delay. A number of factors can influence airfield capacity, including runway configuration, taxiway configuration, air traffic control procedures, weather conditions, and aircraft fleet mix. The goal of an airfield capacity analysis is to determine if the airfield infrastructure is sufficient to accommodate projected demand.

Airfield capacity can be defined by an airport's Annual Service Volume (ASV). The ASV is essentially the number of annual operations that can occur before the maximum operational delay is reached. For planning purposes, an airport's ASV can be estimated by the runway configuration and the mix index, which accounts for the level of operations by large and heavy aircraft. At OCF, the runways are aligned in an 'open V' configuration with dependent runway operation. The historical mix index at the Airport is approximately 8 percent. Therefore, as demonstrated in Table 5-1 the ASV for the Airport can be considered as 260,000 operations per year.

Table 5-1 Annual Service Volume Based on Runway Configuration

FAA Runway Configuration	Mix Index %	Hourly Capacity (Operations/Hour) VFR	Hourly Capacity (Operations/Hour) IFR	Annual Service Volume (Operations/Year)
	0-20	132	59	260,000
	21-50	99	57	220,000
	51-80	82	56	215,000
	81-120	77	59	225,000
	121-180	73	60	265,000

Source: *FAA AC 150/5060-5 - Airport Capacity and Delay*

According to the FAA, the guidelines below should be followed as demand reaches designated threshold levels of ASV:

- 60% of ASV: Threshold at which planning for capacity improvements should begin.
- 80% of ASV: Threshold at which construction of improvements should be complete.
- 100% of ASV: Improvements should be made to avoid extensive delays.

Within the planning period of 2012-2032, the aircraft operations forecast, presented in Section 4.3.4, projects the total number of operations to be around 64,000 per year. Additionally, the alternative high scenario aircraft operations forecast projects around 70,000 annual operations. Sixty percent of the theoretical ASV of 260,000 is 156,000 operations. This number of operations is far beyond the forecasted level of activity for the planning period. Even with a great increase in the number of large aircraft utilizing the Airport (increased mix index), airfield capacity substantially exceeds demand. Therefore, additional airfield capacity is not needed within the planning period.

5.1.3 Runway Analysis

This section presents an analysis of the runway system at OCF with respect to the dimensional criteria, orientation, configuration, designation, length, and width. This analysis of the runway system takes into account the existing and future requirements to accommodate aviation demand. The runway length factors presented in this section are utilized for the purposes of determining ultimate design, and are not a substitute for aircraft performance calculations.

5.1.3.1 Runway Configuration, Orientation, and Designation

Configuration

As discussed in Section 5.1.2, the runways at OCF are configured in an 'Open V' pattern with Runway 8-26 situated approximately 660 feet north of Runway 18-36. This configuration results in the extended centerlines of Runway 18-36 and Runway 8-26 intersecting. Although there is no overarching inadequacy with extended centerline and runway intersections, the short separation between the two runways results in the Runway Safety Area (RSA) of Runway 18-36 overlapping Runway 8-26.

The FAA requires that a runway's RSA be clear of the RSA of any intersecting runway. To provide for the RSA and Runway Object Free Area (ROFA) standards on Runway 18-36, the Airport must utilize declared distances. Declared distances are the distances declared as available for takeoff and landing of the runway, which are less than the physical length of the runway. Table 5-2 and Sheet 2 of Appendix A tabulate and graphically illustrate the declared distances for Runway 18-36 respectively.

Table 5-2 Existing Declared Distances

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	7,467'	6,907'
Takeoff Distance Available (TODA)	7,467'	6,907'
Accelerate-Stop Distance Available (ASDA)	7,467'	6,907'
Landing Distance Available (LDA)	7,300'	6,347'

Source: RS&H, 2013

Orientation

The layout, or orientation, of the physical runway surfaces at an airport is primarily a function of wind coverage requirements for the existing and projected aircraft fleet mix. To evaluate runway orientation, 10 years of historical weather data was collected from the National Oceanic and Atmospheric Administration (NOAA) records of the Airport's on-site Automated Weather Observation System (AWOS) data. This data was then analyzed for All-Weather and Instrument Flight Rules (IFR) conditions using the FAA's *Wind Analysis Program* (See Appendix G). Table 5-3 presents the allowable crosswind components based on aircraft Runway Design Code (RDC) as detailed in Advisory Circular 150/5300-13A *Airport Design*. Table 5-4 presents the wind coverage percentages for OCF's runways based on the allowable crosswind components.

Table 5-3 FAA Allowable Crosswind Components

Runway Design Code (RDC)	Allowable Crosswind Component
A-I and B-I *	10.5 knots
A-II and B-II	13 knots
A-III, B-III, C-I through D-III D-I through D-III	16 knots
A-IV and B-IV, C-IV through C-VI, D-IV through D-VI	20 knots
E-I through E-VI	20 knots

* Includes A-I and B-I small aircraft
Source: RS&H, 2013

Table 5-4 Wind Coverage

Runway	Crosswind Component [Knots](MPH)			
	All Weather Windrose			
	10.5 (12.0)	**13.0 (15.0)**	**16.0 (18.4)**	**20.0 (23.0)**
18-36	97.22%	98.60%	99.78%	99.97%
8-26	97.26%	98.57%	99.76%	99.96%
Combined	99.76%	99.96%	100.00%	100.00%
	IFR Windrose			
	10.5 (12.0)	**13.0 (15.0)**	**16.0 (18.4)**	**20.0 (23.0)**
18-36	98.85%	99.38%	99.81%	99.97%
8-26	98.46%	99.04%	99.67%	99.90%
Combined	99.78%	99.95%	99.99%	100.00%

Source: RS&H, 2013

The results of this analysis depicted in Table 5-4 demonstrates that combined wind coverage provided by Runway 18-36 and Runway 8-26 is greater than 99 percent for all aircraft crosswind components. When Runway 18-36 is analyzed alone for the lower crosswind components of RDC B-II aircraft, it provides greater than 95 percent coverage. For federally funded projects, a crosswind runway is justified if the primary runway does not capture 95 percent of the crosswind component for the airplane needing the crosswind runway. Therefore, provided this level of coverage, Runway 8-26 is not justified as a required crosswind runway.

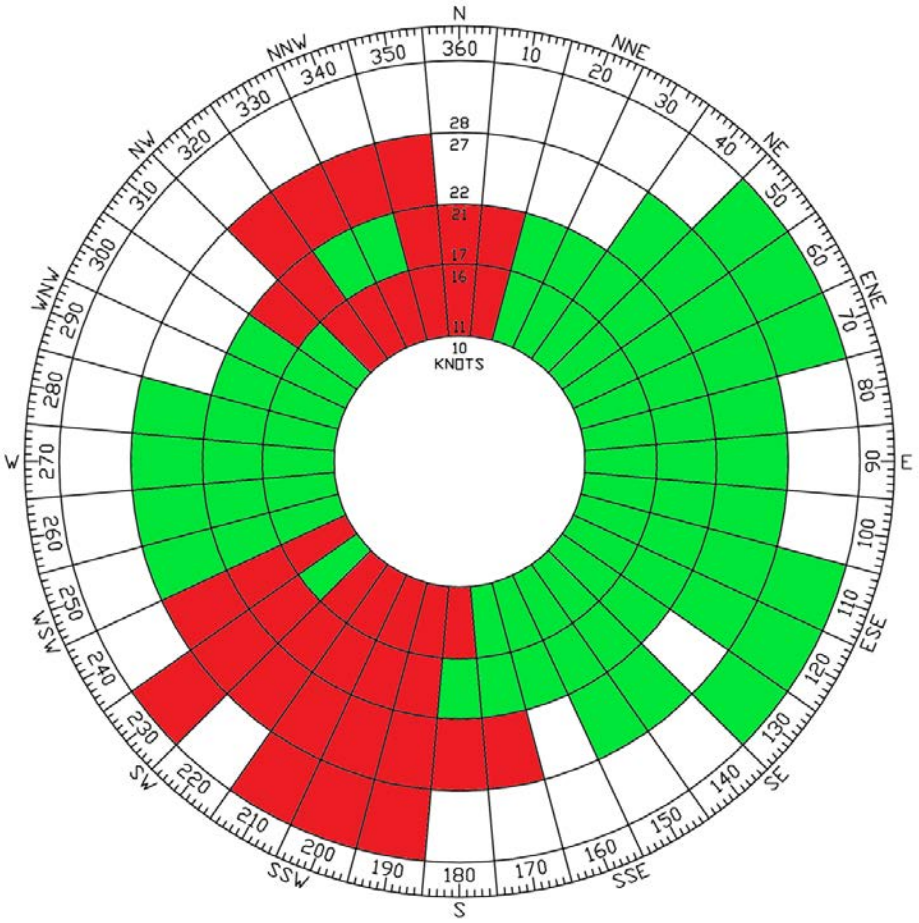
However, this analysis and other previous analyses are based on the data provided by the on-site Automated Weather Observation System-III (AWOS-III). Observations of actual wind conditions by Airport management and air traffic control personnel place into question the accuracy of this data. Per evaluation guidance in FAA Order 6560.20B *Siting Criteria for Automated Weather Observing Systems (AWOS)*, large groups of tall trees combined with local terrain likely produce 'sheltering obstructions' for the Airport's AWOS wind sensor, possibly affecting wind direction measurement accuracy. The AWOS-III equipment and associated nearby sheltering obstructions are shown in Exhibit 5-1.

Exhibit 5-1 OCF AWOS-III and Nearby Potential Obstructions

Source: RS&H, 2013

To provide a frame of reference for local meteorological conditions, the all-weather wind data from OCF was compared against corresponding data from Gainesville Regional Airport (GNV). GNV is a suitable comparison for OCF due to its proximity, similar geographic characteristics, and similar terrain. Exhibit 5-2 presents the graphical output of this analysis. In this exhibit, the windrose segments in red represent where the OCF has a greater reported component of wind than GNV and in green where GNV has a greater reported component of wind than OCF.

Exhibit 5-2 GNV-OCF All Weather Wind Comparison



Source: RS&H, 2013

This comparison shows that though the Airports are similar in nature, GNV has significantly greater East-West wind components, while OCF has greater North-South components. This result provides evidence that further questions the reliability of the wind data from the OCF AWOS III.

FAA Advisory Circular 150/5300-13A *Airport Design* states that when there is a question of the reliability, it may be necessary to obtain onsite wind observations for at least one year. Therefore, a wind study is recommended for a one-year period to obtain reliable on-site information regarding wind speed and direction. Analysis of the wind study data may reveal if AWOS equipment should be moved, or provide FAA justification of crosswind Runway 8-26.

Designation

In addition to runway configuration and orientation, the analysis reviewed the designation of the runways at OCF. Runways are designated by numbers, which represent the magnetic bearing of the runway centerline rounded to the nearest 10 degrees, measured from magnetic north. Due to natural variations in magnetic declination, or the angle between magnetic north and true north, runway designations must periodically change.

According to the National Geophysical Data Center (NGDC), the current magnetic variation for the Airport is 5°31' west changing at a rate of 0.5° west/year. Table 5-5 presents the runway true bearings, the year the designation is anticipated to change (based on current data), and the future runway designation.

Table 5-5 Runway Bearing and Designation

Current Designation	True Bearing	Magnetic Variation (Rate of Change)	Designation Change Year	Future Designation
Runway 18	359° 48' 53.15''	5°31' west (0.5° west/year)	2021	Runway 19
Runway 36	179° 48' 53.15''			Runway 1
Runway 8	79° 55' 28.89''		2019	Runway 9
Runway 26	259° 55' 28.89''			Runway 27

5.1.3.2 Runway Length Design Parameters

As described below, two specific guidance documents are recommended for determining runway lengths:

- **FAA Recommended Runway Length**: FAA Advisory Circular (AC) 150/5325-4B *Runway Length Requirements for Airport Design* provides performance graphs for composite aircraft groups adjusted for operations and conditions at the Airport.

- **Critical Aircraft Performance Characteristics**: Manufacturer-developed performance curves determine runway length for specific aircraft models and equipment. This information is adjusted to operations and conditions at the Airport to the maximum extent possible. This method produces information that is more accurate and is preferred by the FAA in determining runway lengths for aircraft weighing more than 60,000 pounds.

5.1.3.3 Recommended Length – Primary Runway 18-36

Within the planning period of 2012-2032, Runway 18-36 is anticipated to serve RDC D-IV cargo aircraft. However, the current critical aircraft is designated as RDC D-II. Therefore, to appropriately analyze runway length, runway length requirements for both current and future critical aircraft will be examined. These computed lengths serve as a general planning guide for a composite group of aircraft, determined by the aircraft's useful payload of 60 percent and 90 percent.

Current Critical Aircraft

The current RDC D-II critical aircraft for the Airport, the Gulfstream IV, has a maximum takeoff weight (MTOW) in excess of 60,000 pounds; therefore manufacturer information was utilized to determine runway length. The useful payload and maximum weights were used to determine takeoff and landing runway length data at Standard Day Temperature (SDT). These values were then adjusted for temperature, field elevation, and runway surface conditions and runway gradient conditions at the Airport as detailed in FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design*. Table 5-6 presents the design parameters and runway length requirements for the current D-II critical aircraft.

Table 5-6 FAA Recommended Runway Lengths (RDC D-II) – Runway 18-36

Category	Parameter
Critical Aircraft	Gulfstream IV
Maximum Takeoff Weight (MTOW)	73,200 lbs.
Maximum Landing Weight (MLW)	58,500 lbs.
OCF Mean Daily Maximum Temperature (Hottest Month)	92.2 °F
Airport Elevation	90' MSL
Runway Centerline Elevation Difference	2.1'
Runway Surface Condition	Wet Condition
FAA Recommended Takeoff Length (100% MTOW)	**6,500'**
FAA Recommended Takeoff Length (60% MTOW)	**5,200'**
FAA Recommended Landing Length (MLW)	**4,400'**

Source: RS&H, 2013

Runway 18-36 has a current length of 7,467 feet, which is sufficient in length to support 100 percent of the RDC D-II critical aircraft fleet operating at 100 percent MTOW. Therefore, no modification to Runway 18-36 length is recommended to accommodate the current RDC D-II critical aircraft.

Future Critical Aircraft

Within the planning period, equine air cargo operations at the Airport are projected to consist of approximately 570 operations per year utilizing the Boeing 767. Therefore, the Boeing 767-200ER (RDC D-IV) has been selected as the future critical aircraft for Runway 18-36. Table 5-7 below details required takeoff length for 60, 75, and 100 percent MTOW, and required landing length for MLW as determined from the manufacturer's Airport Planning Manual (APM), adjusted to Airport conditions as detailed in FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design*.

Table 5-7 FAA Recommended Runway Lengths (RDC D-IV) – Runway 18-36

Category	Parameter
Critical Aircraft	Boeing 767-200ER
Maximum Takeoff Weight (MTOW)	395,000 lbs.
Maximum Landing Weight (MLW)	278,000 lbs.
OCF Mean Daily Maximum Temperature (Hottest Month)	92.2 °F
Airport Elevation	90' MSL
Runway Centerline Elevation Difference	2.1'
Runway Surface Condition	Wet Condition
FAA Recommended Takeoff Length (100% MTOW)	**11,600'**
FAA Recommended Takeoff Length (75% MTOW)	**6,000'**
FAA Recommended Takeoff Length (60% MTOW)	**4,300'**
FAA Recommended Landing Length (MLW)	**5,700'**

Source: RS&H, 2013

FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design*, does not consider substantive variables that may be in place at a specific airport. When analyzing future runway requirements at OCF, it is important to factor in specific factors that come into play when transporting thoroughbred horses. The use of Runway 18-36 to accommodate specific thoroughbred transport operations is an important factor in determining the required length of Runway 18-36.

From dimensional analysis of the Boeing 767-200ER and assuming a typical girth/length factor of 77.5 inches for a typical thoroughbred, the interior space of the aircraft can accommodate 40 horses situated in individual air stalls. Mobile air stalls are erected to secure the horses and reduce their movement capabilities, which reduces the possibility of injury. Air stalls also prevent a significant amount of movement among horses, which could result in a redistribution of weight outside of the aircraft's center of gravity (CG) limits. Considering an average thoroughbred weight of 1,300 pounds, 40 horses equates to a cargo payload of 52,000 pounds.

Based on data from cargo operators, the majority of stage lengths of horse transports from OCF are from 500 to 1,500 nautical miles (NM); though stage lengths of 2000 NM are not uncommon.

Assuming a Boeing 767-200ER horse transport operation originating from the Airport with a full cargo payload of 40 horses, 20° flap setting, 90°F, and 2,000-mile stage length, the required takeoff distance according to the manufacturer APM and FAA Advisory Circular 150/5325-4B is 6,100 feet. The current runway length of 7,467 feet is sufficient in length to support this potential operation. However, it is important to note that this only considers length requirements and not the structural capability of the pavement to support this operation. Pavement requirements are discussed in Section 5.1.7.

The existing Runway 18-36 length is suitable to accommodate the requirements for proposed horse transport operations. However, it is recommended adjacent land use be protected for potential future runway extensions. This will ensure ultimate airspace and airport facilities are not constrained for increasing stage lengths and cargo aircraft types utilized for equine and non-equine air cargo.

5.1.3.4 Recommended Length – Crosswind Runway 8-26

FAA Advisory Circular 150/5325-4B *Runway Length Requirements for Airport Design* provides guidance that a crosswind runway providing non-scheduled general aviation service should provide for 100 percent of the recommended runway length for the lower crosswind capable airplanes using the primary runway.

Table 5-8 presents the design parameters specific to operations at OCF and the corresponding FAA recommended runway length for Runway 8-26 based on the future designated critical aircraft, the Beechcraft King Air 90. The runway length for the King Air 90, as shown in Table 5-8, serves as a general planning guide for the composite group of small aircraft utilizing Runway 8-26.

Table 5-8 FAA Recommended Runway Lengths (RDC B-II) – Runway 8-26

Category	Parameter
Critical Aircraft	Beechcraft King Air 90
Maximum Takeoff Weight (MTOW)	10,100 lbs.
Number of Passengers & Crew	9
OCF Mean Daily Maximum Temperature (Hottest Month)	92.2 °F
Airport Elevation	90' MSL
FAA Recommended Runway Length (100% fleet)	**3,700'**

5.1.3.5 Runway Design Standards

This section presents the facility design standards necessary for the runway system at OCF to accommodate the dimensional characteristics of the critical aircraft designated for each runway. Table 5-9 tabulates the current FAA runway design standards contained in Advisory Circular 150/5300-13A *Airport Design*, based on the runway design code (RDC) of the current and future critical aircraft at the Airport. Compliance with the FAA standards, without a Modification of Standards (MOS), constitutes a minimum level of safety and operational efficiency.

Table 5-9 Runway 18-36 Design Standards

	Existing Standards	Existing Standards Currently Met (✓)	Future Standards	Future Standards Currently Met (✓)
Critical Aircraft	**Gulfstream IV**		**767-200ER**	
Runway Design Code	**D-II**		**D-IV**	
Runway Approach Category	**PIR**		**PIR**	
Runway Design				
Runway Width	100'	✓	150'	✓
Shoulder Width*	10'	✓	25'	
Runway Protection				
RSA Length beyond departure end**	1,000'	✓	1,000'	✓
RSA Length prior to threshold**	600'	✓	600'	✓
RSA Width	500'	✓	500'	✓
ROFA Length beyond Runway end**	1,000'	✓	1,000'	✓
ROFA Length prior to threshold**	600'	✓	600'	✓
ROFA Width	800'	✓	800'	✓
ROFZ Length beyond Runway end	200'	✓	200'	✓
ROFZ Width	400'	✓	400'	✓
Runway Separation				
Runway Centerline to Holding Position	250'	✓	250'	✓
Runway Centerline to Taxiway/Taxilane Centerline	300'	✓	400'	
Runway Centerline to Aircraft Parking Area	500'	✓	500'	✓

Source: FAA Advisory Circular 150/5300-13A
PIR= Precision Instrument Runway; NPI = Non-precision Instrument; RSA = Runway Safety Area; ROFA= Runway Object Free Area; ROFZ= Runway Obstacle Free Zone; POFA= Precision Obstacle Free Zone; RPZ= Runway Protection Zone
*Paved shoulders required for ADG IV aircraft and above.
** Standard met using declared distances

Table 5-10 Runway 8-26 Design Standards

	Existing Standards	Existing Standards Currently Met (✓)	Future Standards	Future Standards Currently Met (✓)
Critical Aircraft	**King Air 90**		**King Air 90**	
Runway Design Code	**B-II**		**B-II**	
Runway Approach Category	**Visual**		**NPI**	
Runway Design				
Runway Width	75'		75'	
Shoulder Width*	10'		10'	
Runway Protection				
RSA Length beyond departure end**	300'	✓	300'	✓
RSA Length prior to threshold**	300'	✓	300'	✓
RSA Width	150'	✓	150'	✓
ROFA Length beyond Runway end**	300'	✓	300'	✓
ROFA Length prior to threshold**	300'	✓	300'	✓
ROFA Width	500'	✓	500'	✓
ROFZ Length beyond Runway end	200'	✓	200'	✓
ROFZ Width	250'	✓	250'	✓
Runway Separation				
Runway Centerline to Holding Position	200'		200'	
Runway Centerline to Taxiway/Taxilane Centerline	240'		240'	
Runway Centerline to Aircraft Parking Area	250'	✓	250'	✓

Source: FAA Advisory Circular 150/5300-13A
PIR= Precision Instrument Runway; NPI = Non-precision Instrument; RSA = Runway Safety Area; ROFA= Runway Object Free Area; ROFZ= Runway Obstacle Free Zone; POFA= Precision Obstacle Free Zone; RPZ= Runway Protection Zone
*Paved shoulders required for ADG IV aircraft and above.
** Standard met using declared distances

5.1.4 Taxiway Analysis

The taxiway system at an airport serves the purpose of providing access between the runway system, the aircraft parking and hangar areas, and other movement areas of the airfield. Taxiways must meet FAA design standards, provide efficient circulation, and have appropriate strength. The taxiway analysis presented in this section addresses the specific requirements of the taxiway system at the Airport to accommodate the existing and future aviation demand. Taxiways at OCF consist of the following types:

- **Parallel Taxiway** - A taxiway parallel to the runway that facilitates the movement of aircraft to and from the runway.
- **Exit Taxiway** - Taxiways that provide a means of entering and exiting the runway (does not include those taxiways designated as connector, parallel, or apron taxiways).
- **Connector Taxiway** - These taxiways connect the parallel taxiways with the aprons and aircraft storage facilities.
- **Apron Taxiway** - Taxiways that provide primary aircraft access in an aircraft parking apron.
- **Taxilane** - Designed for low speed and precise taxiing that provides access to individual aircraft parking positions and/or hangar areas.

5.1.4.1 Taxiway Design Standards

The design and operational characteristics of the critical aircraft determine the design standards for taxiway design at an airport. For both practical and economic reasons, portions of an airfield may be designed for one aircraft type and other portions for a different aircraft type.

At OCF, the mix of small and large aircraft at the Airport means that different segments of taxiway system are designed for the aircraft type that makes primary use of that area. The current and future taxiway design should meet the FAA design standards for the current and future designated critical aircrafts at the Airport as detailed in Table 5-11.

Table 5-11 Taxiway Design Standards for OCF Critical Aircraft

	Existing		Future	
Critical Aircraft	**Gulfstream IV**	**Beechcraft King Air 90**	**Boeing 767-200ER**	**Beechcraft King Air 90**
Design Group	**ADG II TDG 3**	**ADG II TDG 2**	**ADG IV TDG 5**	**ADG II TDG 2**
Taxiway Design				
Taxiway Width	50’	35’	75’	35’
Taxiway Edge Safety Margin	10	7.5’	15’	7.5’
Taxiway Shoulder Width	20’	10’	25’	10’
Taxiway Protection				
Taxiway Safety Area Width	79'	79'	171'	79'
Taxiway Object Free Area Width	131'	131'	259'	131'
Taxilane Object Free Area Width	115'	115'	225'	115'
Taxiway Separation				
Runway Centerline to Taxiway Centerline	400’	400’	400'	400’
Taxiway/Taxilane Centerline to Parallel Taxiway/Taxilane Centerline*	160'	105’	240'	105’
Wingtip Clearance				
Taxiway Wingtip Clearance	26'	26'	44'	26'
Taxilane Wingtip Clearance	18'	18'	27'	18'

* Taxilane Centerline to Taxilane Centerline Separation for ADG II = 97’
Source: FAA Advisory Circular 150/5300-13A

Compliance with the FAA standards constitutes an acceptable level of safety and operational efficiency. Therefore, all taxiways are recommended to be modified or constructed to FAA design standards. However, as described in Section 2.2.2, there are standards deficiencies that exist with segments of the current taxiway system. If necessary, Modification of Standards (MOS) may be granted by FAA if the Airport can demonstrate an equivalent level of safety through operational restrictions.

Taxiway A from A1 to Runway 26, Taxiway B, as well as connectors B1, B2, and B3 currently deviate from the required taxiway width standard of 35 feet for RDC B-II aircraft. Additionally, Taxiway B does not meet standards for runway centerline to taxiway centerline separation, or runway centerline to holding position. Additionally, the taxilane adjacent to the airport administration hangar (Building 750) does not contain sufficient wingtip clearance.

Furthermore, FAA Advisory Circular Advisory Circular 150/5300-13A *Airport Design,* issued in September 2012, provides guidance and sets requirements for geometric configuration of the taxiway connectors. The following design requirements aim to reduce any runway incursions, and are required under the current design standards

- Limit taxiway intersections to “three node” concepts or less
- Avoid wide expanses of pavement
- Limit runway crossings
- Avoid “high energy” intersections in the middle third of the runway
- Increase visibility with right angle intersections
- Avoid runways that are used as taxiways and taxiways used as runways
- Do not enable aircraft to taxi directly from an apron to a runway without making a turn

The existing taxiway system at OCF has several taxiway connectors that will need to be relocated and/or removed to meet the standards presented above. This includes the following taxiway connectors: A8, A6-west, A3-west, and B2.

5.1.5 Aircraft Parking Apron

The existing apron facilities at OCF consist of 75,000 square yards of paved surface, of which 68,000 square yards are used for aircraft parking and tie-down, circulation, aircraft movement, and FBO frontage. Small transient general aviation aircraft are typically parked at the FBO apron area. A 22,400 square yard apron directly in front of the terminal building serves all heavy, itinerant aircraft in excess of 60,000 pounds. Tie-down space is provided in front of the FBO and near the terminal building.

It is estimated that 15 percent of based aircraft at the Airport are not hangared and will require apron space. Additionally it is assumed that and that 50 percent of the total daily itinerant aircraft would be on the apron at any given time. Accepted planning standards of 400 square yards per single engine aircraft, 600 square yards per multi engine, and 800 square yards per jet aircraft were applied to determine the future general aviation apron space requirements.

For helicopter apron needs, a factor of 417 square yards per aircraft was determined by the dimensional characteristics of the design helicopter operating at the Airport (Bell 206), and FAA Advisory Circular 150/5390-2C *Heliport Design*. Additionally, to determine the required parking area needed for special events, such as OBS horse auctions, the number of itinerant GA aircraft requiring apron space was increased by 25 percent, which represents typical increases in activity during these events. Table 5-12 presents the apron area requirements for OCF.

Table 5-12 Apron Area Requirements

		Single Engine	Multi Engine	Jet	Helicopter	Total (Square Yards)
2012	**Based Aircraft (Square Yards)**	7,740	1,980	1,560	500	11,780
	Itinerant Aircraft (Square Yards)	14,751	3,803	2,996	961	22,512
	Special Events (Square Yards)	3,688	951	749	240	5,628
						39,920
2017	**Based Aircraft (Square Yards)**	8,040	2,070	1,680	500	12,290
	Itinerant Aircraft (Square Yards)	15,493	3,994	3,147	1,009	23,644
	Special Events (Square Yards)	3,873	999	787	252	5,911
						41,846
2022	**Based Aircraft (Square Yards)**	8,400	2,160	1,800	500	12,860
	Itinerant Aircraft (Square Yards)	16,368	4,220	3,325	1,067	24,980
	Special Events (Square Yards)	4,092	1,055	831	267	6,245
						44,085
2032	**Based Aircraft (Square Yards)**	9,120	2,430	2,160	500	14,210
	Itinerant Aircraft (Square Yards)	18,149	4,679	3,687	1,183	27,697
	Special Events (Square Yards)	4,537	1,170	922	296	6,924
						48,832

Source: RS&H, 2013

Based on the existing availability of apron space, the current general aviation apron area not utilized for cargo (53,000 square yards) is sufficient for the requirements of the Airport for the planning period. However, it is recommended the Airport specifically designate four helicopter-parking areas on the existing apron to safely accommodate helicopter operations.

5.1.6 Aircraft Hangars

The quantity and type of general aviation hangars at an airport is a function of aircraft fleet mix, weather conditions, security, and user preference. In general, smaller single-engine aircraft and multi-engine aircraft are typically stored in T-hangar units. Larger multi-engine and jet aircraft typically are stored in conventional hangars.

The percentage of based aircraft stored at an airport can vary from 20 percent to over 80 percent. Compared with the nation, airports in Florida typically have a higher percentage of owners that hangar aircraft. Historically, 85 percent of the based aircraft at the Airport are hangared.

Currently, the Airport has a total of 18 conventional and corporate box hangars, eight T-hangar buildings totaling 101 units, and a six unit hexa-port comprising a total of approximately 160,000 square feet. Approximately 74 percent of the hangared aircraft are stored in T-hangars, while 26 percent are stored in multi-use/corporate hangars. Table 5-13 presents the hangar demand projected for OCF from 2012-2032.

Table 5-13 Hangar Space Demand

Year	Total Aircraft Stored	T-Hangar Demand	Conventional/ Box Hangar Demand
2012	146	108	38
2017	153	113	40
2022	160	118	42
2032	174	129	45

Source: RS&H, 2013

It is important to note that, although T-hangar capacity has exceeded demand in the recent past, demand is projected to exceed existing capacity of 101 units. For the 18 conventional box hangars, demand is projected to exceed capacity of 40 aircraft in 2017. Therefore, design and construction of aircraft storage facilities should be planned in the near term in order to increase capacity and meet projected demand. Any future hangar development is recommended to follow the siting criteria below:

- Hangars must be constructed outside of the runway obstacle free zone and the taxiway and taxilane object free areas. Hangars must also be located outside the runway visibility zone and FAR part 77 surfaces, and NAVAID critical areas.
- Hangars should be developed in a linear, modular manner. Future hangars should be centralized for vehicle access and to minimize costs associated with paving, drainage, and utilities.
- To the extent possible, hangars should be segregated based on the hangar type and function
- Hangar development should allow adequate drainage with minimal slope differential, especially in front of hangar doors.

5.1.7 Airfield Pavement Strength & Condition

The required pavement design strength is a function of many factors such as level of activity, aircraft weight, and landing gear configuration. Typically small piston general aviation aircraft range from 2,500 to 12,500 pounds, while business jets range from 12,000 to 90,000 pounds. However, the impact of an aircraft on an airport's pavement is a function of the aircraft weight as well as the landing gear type.

A single wheel gear aircraft is one where each landing gear is supported by a single tire; dual wheel gear consist of two tires per axle that equally share the weight of the aircraft; dual tandem gear consists of 4 tires per axle arranged as a pair of dual wheel gear that helps provide for a greater weight distribution. Most aircraft over 20,000 pounds have a dual wheel gear configuration, while cargo and transport aircraft are configured with dual tandem wheel gear.

Table 5-14 presents typical aircraft weights and landing gear configurations.

Table 5-14 Typical Aircraft Weights

Aircraft Type	ARC	Gear Type	Maximum Take-Off Weight
Small Single-Engine Piston	A-I to B-I	Single Wheel	2,500 to 8,000 lbs.
Medium Multi-Engine Piston/Turboprop	B-I to B-II	Single or Dual Wheel	8,000 to 12,500 lbs.
Medium Business Jet	B-II to C-II	Dual Wheel	20,000 to 45,000 lbs.
Large Business Jet	C-II to D-II	Dual Wheel	45,000 to 90,000 lbs.
Cargo Transport	CIII to D-IV	Dual Tandem	125,000 to 280,000 lbs.

Source: RS&H, 2013

FAA Advisory Circular 150/5320-6E *Airport Pavement Design and Evaluation* provides guidance stating the pavement should be designed for the maximum anticipated takeoff weight of the airplane. This methodology provides conservatism in design. However, the Advisory Circular also states proper pavement strength design must represent the most economical solution for long-term aviation needs.

Within the planning period, the Boeing 767-200ER is expected to have the heaviest maximum gross takeoff weight of any aircraft utilizing the Airport. The maximum anticipated takeoff weight of this aircraft considering a 100 percent equine cargo load and a 2,000-mile stage length is anticipated to be approximately 285,326 lbs. Based on guidance from Boeing, this translates into a dual-tandem strength requirement of approximately 243,869 lbs. However, it is prudent to accommodate a dual-tandem strength of 300,000 pounds, representing over 75 percent MTOW of the critical aircraft to accommodate future growth of non-equine air cargo.

The current load bearing capability of pavement associated with Runway 18-36 and adjoining taxiways is 220,000 lbs. for dual-tandem aircraft. It is recommended that areas of the Airport proposed to support large cargo aircraft have a dual-tandem rating of 300,000 pounds (dual rating: 175,000 lbs). Pavement strengths of other areas of the Airport should be designed based on the anticipated use of those areas. In some cases it may be more appropriate and cost effective to create new pavement areas for projected larger and heavier aircraft than to upgrade existing areas typically utilized by lighter aircraft.

Table 5-15 presents general guidelines for pavement design strengths for the functional areas of the airfield. However, any future airfield pavements should be fully analyzed and designed appropriately according to FAA Advisory Circular 150/5320-6E *Airport Pavement Design and Evaluation*.

Table 5-15 Recommended Pavement Strength Guidelines

Pavement Area	Recommended Pavement Strength	Gear Type
Apron (Terminal/FBO Transient)	90,000	Dual Wheel
Apron (Piston Aircraft)	12,500	Single Wheel
Apron (Cargo)	300,000	Dual Tandem
Piston/Turboprop Taxiways	90,000	Dual Wheel
Cargo Taxiways	300,000	Dual Tandem
Hangar Taxilane (Piston and Turboprop)	12,500	Single Wheel
Hangar Taxilane (Business Jet)	30,000	Dual Wheel

Source: RS&H, 2013

5.1.8 Electronic, Satellite, and Visual Aids to Navigation

OCF has electronic, visual, and satellite aids to navigation that provide information to pilots to conduct safe operations to and from an airport. This section will analyze these aids to navigation to determine the requirements based on current and projected activity at OCF.

5.1.8.1 Electronic & Satellite Aids

Automated Weather Observation System-III (AWOS-III) – An Automated Weather Observation System (AWOS) is a modular set of meteorological sensors that collect local airport weather data. The AWOS-III collects data on wind speed, wind direction, temperature, dew point, barometric pressure, density altitude, visibility, precipitation, day/night, cloud height, and sky condition. Current weather data can be obtained from an aircraft by tuning the radio to 128.125 Megahertz (MHz) or by calling (352) 237-8525.

At the Airport, the AWOS is positioned approximately 220 feet west of Taxiway A and 1,940 feet north of the approach end of Runway 36. As discussed in Section 5.1.3.1, there is question of the accuracy of the wind direction data from the current AWOS due to the potential channeling of wind by vegetation. Therefore, a wind study is recommended. If a wind study confirms inaccurate wind data, the AWOS and/or wind sensor may be required to be relocated, or vegetation may be required to be cleared so the system can function accurately.

Instrument Landing System (ILS) - An ILS system is provided for Runway 36. The ILS, commissioned in April 2000, provides Instrument Flight Rules (IFR) approach capabilities in weather minimums as low as ¾-mile visibility with 200-foot ceilings. Components of the ILS include a localizer and glideslope. The localizer is located approximately 440-feet north of the approach end of Runway 18, the glideslope is located approximately 260 feet west of Runway 18-36 centerline and approximately 1,500-feet north of the approach end of Runway 36.

The lateral distance of 260 feet from the runway centerline to the glide slope represents a deviation from the 400-foot standard. Although no modifications are recommended for the localizer associated with the ILS, consideration may be given to relocating the localizer to accommodate future airfield development.

Area Navigation/Global Positioning System (RNAV/GPS) - Area Navigation (RNAV) Global Positioning System (GPS) approaches are provided for Runway 18 and Runway 36. These approaches are certified to independently provide lateral (LNAV), vertical navigation (VNAV), and Lateral Precision with Vertical Guidance (LPV), depending upon the capabilities of the GPS receiver installed in the aircraft. Presently no instrument approaches are provided for Runway 8-26. When further development of Runway 8-26 is permissible, future plans should include the establishment of non-precision GPS approaches.

Very High Frequency Omni directional Range/Tactical Navigation (VORTAC) – A VORTAC navigational aid is a system that provides azimuth and distance information for enroute aircraft and for instrument approaches. At OCF, the VORTAC is located approximately 1,000 feet west of the approach end of Runway 18 and approximately 1,000-feet south of the midpoint of Runway 8-26. Future development in this portion of airfield property is limited by the VORTAC critical area clearance requirements. For repairs and regular upkeep, the VORTAC facility is maintained by FAA's Airway Facilities Division.

One indicator of the amount of use of the VORTAC is by the number of aircraft overflights in area airspace without landing. While the number of overflights can generally be correlated to instrument approaches and VORTAC use, it is important to note that satellite aided T-routes also use the OCF VORTAC as a GPS waypoint. Table 5-16 below presents the recent IFR and VFR overflights.

Table 5-16 Historical Overflight Data

Year	Air Carrier	Air Taxi	General Aviation	Military	Total
IFR Overflight					
2010	0	4	342	0	346
2011	4	1	54	9	68
2012	1	1	194	3	199
VFR Overflight					
2010	1	51	1293	99	1444
2011	2	139	1608	242	1991
2012	3	186	1515	212	1916

Source: FAA Operations Network Database

No modifications other than regular maintenance and upkeep are recommended for the VORTAC. If future airport development requires relocation of the VORTAC system, coordination must occur with the FAA Air Traffic Organization Service Unit. It is also important to note that the National Airspace System in conjunction with the FAA's NextGen program is transitioning to satellite based navigation. The proposed VOR/VORTAC discontinuance program, as part of NextGen, proposes to significantly reduce the number of VORs to a minimum operating network. However, the exact number and which VORs would be discontinued is currently unknown. Exhibit 5-3 depicts the OCF VORTAC.

Exhibit 5-3 OCF VORTAC

5.1.8.2 Visual Aids

Rotating Beacon - The rotating beacon helps pilots locate and identify the type of airport under night or low light conditions. For public use, non-military airports, the beacon produces alternating green and white lights from one to ten degrees above the horizon. At OCF the beacon is currently mounted to the top of the Air Traffic Control Tower (ATCT). The beacon in its current location on top of the ATCT is properly located and provides maximum visibility for local air traffic. Other than regular maintenance, no modification to the rotating beacon is recommended.

Wind Cones/Segmented Circle - Wind cones and segmented circle are visual aids that assist pilots in identifying wind direction. Four wind cones currently serve the Airport. One wind cone, which is accompanied by a segmented circle, is located approximately 400 feet west of the Runway 18-36 centerline and 2,500 feet south of the approach end of Runway 18. A lighted wind cone is positioned approximately 350 feet west of Runway 18-36 and approximately 900 feet north of the Runway 36 threshold adjacent to the Glideslope antenna. A third wind cone is located to directly west of the T-hangars approximately 650 feet northwest of the FBO. A fourth wind cone is located approximately 300 feet to the south of the midpoint of Runway 8-26. Other than regular maintenance, no modifications are recommended for any of the wind cones/segmented circle. If development of the west side of the Airport's property occurs, consideration may be given to relocating the wind cones/segmented circle to a location less likely to be impacted by future facilities.

Medium-intensity Approach Lighting System with Runway Alignment Indicator (MALSR) - Currently a MALSR lighting system is installed on the approach end of Runway 36. The MALSR system is instrumental to helping pilots identify the airfield environment when executing the ILS approach for Runway 36 in low visibility conditions. Given that the existing MALSR system is in fair condition, it is recommended a replacement system be installed. However, in the event of a south extension to Runway 18-36, the MALSR system will require repositioning relative to the relocated Runway 36 end.

Compass Calibration Pad - A compass calibration pad is a designated and attuned location on an airport that allows aircraft to check and correct for the errors of on-board magnetic navigation equipment. OCF currently maintains a compass calibration pad located at Taxiway A8. Current FAA standards specify the compass calibration pad should be, among other specifics, at least 600 feet from all magnetic objects, 150 feet from runway/taxiway ferrous materials, and located outside airport design surfaces. The current location of the compass calibration pad does not meet current guidance and is, therefore, recommended to be relocated.

Precision Approach Path Indicator (PAPI) - PAPI systems consists of four light units arranged in a single row and typically installed on the left side of the runway. The lighting systems provide pilots visual guidance of their position relative to a specific descent path.

At OCF, PAPI systems are installed on Runway 18 and Runway 36. No modifications of the existing PAPI systems are recommended. However, the PAPI system may be required to be repositioned if any future expansion of Runway 18 or Runway 36 occurs. Additionally, plans for future development west of Runway 18-36 should consider the location of the PAPI system serving Runway 36. Although no PAPI system currently exists on Runway 08-26, the installation of a PAPI system should be considered when future development of the runway takes place.

Airfield Lighting - Runway 18-36 currently has High Intensity Runway Edge Lighting (HIRL) and Taxiway A has High Intensity Taxiway Edge Lighting (HITL). The FAA suggests in Advisory Circular 150/5340-24 *"Runway and Taxiway Edge Lighting Systems"*, that a HIRL system be used in conjunction with precision instrument approach procedures. Other than regularly scheduled maintenance and upkeep, no modifications are recommended for this lighting. Any future taxiways that would serve Runway 18-36 are recommended to have HITL. Currently Runway 8-26 and associated parallel Taxiway B are unlit. Although lighting Runway 8-26 and Taxiway B is not necessary in the short term, the installation of MIRL and MITL systems should be considered when development of the runway and taxiway moves forward.

Airfield Markings - In support of current operations at the Airport, Runways 18 and 36 have precision instrument markings consisting of landing designator, centerline, threshold, aiming point, touchdown zone, and side stripes markings. Runway 8-26 is appropriately marked as a visual runway, consisting of a landing designator and centerline. Other than regularly scheduled maintenance and upkeep, no modifications are currently recommended. However, future pavement markings associated with the runways should be modified to coincide with any runway/taxiway changes in designation as well as future development.

Additionally, any establishment of non-precision instrument approaches on Runway 8-26 will require the modification of the existing visual runway markings to reflect markings required for a non-precision instrument approach runway.

Airfield Signage - The airfield signage at the Airport was renovated during airfield electrical improvements conducted at the Airport in 2011. The signage was installed according to an

Airfield Signage Plan approved by the FAA Airports District Office. The existing airfield signage is adequate for the current facilities. However, signage improvements should be considered in conjunction with airfield development projects such as runway/taxiway extensions, apron expansion, and other development.

5.2 STATE AIRFIELD & AIRSPACE REQUIREMENTS

In addition to complying with the federal airfield and airspace requirements, OCF must comply with Florida Statutes Chapter 330, *Regulation of Aircraft, Pilots, and Airports* and the Florida Administrative Code (FAC) Rule 14-60, *Airport Licensing, Registration, and Airspace Protection.* Specifically, Rule 14-60 provides the FDOT minimum standards, including airports, airport markings, and airport lighting, as well as airspace protection with respect to Florida licensed airports.

Both FAC Rule 14-60 and the FDOT Guidebook for Airport Master Planning detail that airports fulfilling the Requirements of 14 CFR Part 133 are considered to meet the State's minimum standards. As described in Section 1.5, OCF currently fulfills the requirements of part 14 CFR Part 139 and maintains a Class IV Airport Operating Certificate.

5.3 LANDSIDE FACILITIES

The landside facilities of an airport are those necessary for the processing of passengers, freight, and ground transportation vehicles. This section details the facility requirements for the primary landside facilities at OCF for the 2012-2032 planning period. This includes the on/off airport roadway system, terminal, FBO, and air cargo facilities.

5.3.1 Off Airport Roadway System

As described in Section 2.3.1, off-airport vehicle access is provided to the Airport via several major vehicle transportation routes as detailed in Table 2-7

From 2005-2007, the Airport experienced over 100,000 aircraft operations per year. During this time of increased activity at the Airport, the off airport roadway system performed adequately with no significant vehicle delay. For the planning period, the activity level projected by the aviation demand forecasts is not in excess of 70,000 operations per year. Provided historical capacity, the off airport roadway system is sufficient to accommodate demand from the Airport for 2012-2032.

According to FAA Advisory Circular 150/5070-6B *Airport Master Plans*, with exception of busy commercial airports, airport access planning of the off airport roadway system by local transportation agencies has been effective. Thus, further off-airport access planning during the planning period will be conducted as part of regional planning by the Marion County/Ocala Transportation Planning Organization, and the Florida Department of Transportation as appropriate.

5.3.2 On-Airport Roadway System

In general, the on-airport roadway system at an airport consists of four types of roads: primary airport access roads, terminal access roads, terminal frontage roads, and service roads. At OCF, the on-airport roadway system is made of combined terminal access/frontage roads

provided via connections from SW 60th Ave. and airside restricted use access roads utilized by maintenance personnel and aviation tenants.

The terminal access/frontage roads at the FBO and the terminal building follow the centralized ground access circulation concept. The roadways are configured as a one way access road, with co-located parking areas which also serve as recirculation roads.

The centralized ground access concept provides appropriate circulation for arriving and departing vehicles. Any future expansion, rehabilitation, or modification to the on airport roadway system/parking areas should account for the appropriate circulation of vehicles. Specifically, FAA Advisory Circular 150/5360-13 *Planning and Design Guidelines for Airport Terminal Facilities* recommends a counter clockwise traffic pattern, a minimum number of turns, perpendicular parking layout, 12 foot terminal access road lane width, and 8 foot inner terminal curb frontage lane width

The current restricted use airside access system utilized for maintenance activities consists of several short segments of unconnected service roads. To facilitate maintenance and security access to perimeter facilities and fencing, it is recommended a perimeter road inside the property line be constructed.

5.3.3 Terminal Building

The primary purpose of a terminal building is to serve passengers utilizing the airport. The existing terminal building, constructed in the 1960s, was originally developed to support scheduled air carrier operations. With the discontinuation of scheduled service to the Airport in the 1980s, rental car agencies and offices absorbed the building's space. In its current form as a general aviation terminal, the primary purpose is to accommodate passengers, pilots, and visitors to the Airport.

As discussed in Section 2.3.3, the 4,340-square-foot facility currently operates at capacity and is not of sufficient size to perform its purpose adequately. Therefore, it is recommended a new terminal building be constructed to accommodate current and future demand when logistically and financially feasible. Conceptual terminal studies in 2005 and 2007 programed the future space needs at 7,876 square feet for the general aviation terminal building.

Table 5-17 presents the future terminal space needs by terminal function.

Table 5-17 Terminal Building Area Requirements

Terminal Function	Area	Terminal Function	Area	Terminal Function	Area
Customer Areas		**Office Areas**		**Airport Administration**	
Entries	200 s.f.	Offices (3)	450 s.f.	Reception	350 s.f.
Waiting Lobby	1,000 s.f.	Business Center	120 s.f.	Offices (3)	550 s.f.
Flight Planning	100 s.f.	Break Room	180 s.f.	Open Work Area	150 s.f.
Customer Service Counter	120 s.f.	Line Support	300 s.f.	Break Room	120 s.f.
Restroom	600 s.f.	Break Room	120 s.f.	Copy/File/Storage	120 s.f.
Pilots' Lounge	400 s.f.	Line Shower/Toilet	50 s.f.		
Quiet Rooms	100 s.f.	Kitchen Galley	120 s.f.	**Support/Service/Mechanical**	
Shower Area	100 s.f.	Copy/File/Storage	120 s.f.	Mechanical room	600 s.f.
Conference Room	240 s.f.	**Other**		Electrical Room	40 s.f.
Vending	50 s.f.	Offices (2)	240 s.f.	Circulation	400 s.f.
Car Rentals	450 s.f.	Lease Space	400 s.f.	Custodial	85 s.f.

Source: RS&H 2007

5.3.4 Fixed Based Operator Facility

The existing Fixed Based Operator (FBO) terminal building is an approximate 7,200-square-foot building housing a passenger lobby, flight planning area, pilot rooms, FBO administration offices, and a restaurant. FBO and terminal building space requirements generally vary between 50 to 75 square feet per peak hour passenger. Similar facilities associated with airports of comparable size in the region have been designed using an average of approximately 62.5 square feet per passenger. However considering the increased amount of activity experienced by the Airport during OBS horse auctions, a factor of 75 square feet per peak hour passenger is appropriate.

The number of peak hour general aviation passengers at OCF follows a historical correlation of approximately 0.05 percent of annual general aviation passengers. By applying a coefficient of 0.9 passengers per local operation and three passengers per itinerant operation as indicated by the FAA's *Estimating the Economic Impact of Airports*, the 143,958 general aviation passengers anticipated in 2032 equates to 72-peak hour passengers. Considering 75 square feet per passenger, the future FBO space requirement is 5,400 square feet. The current facility consisting of approximately 7,200 square feet exceeds demand for the planning period of 2012-2032.

5.3.5 Vehicle Parking Requirements

Of the available parking spaces at the Airport, only the terminal, FBO, and Ocala Aviation/Quest Avionics parking areas are used by visitors, general aviation pilots, and passengers. The FBO and Ocala Aviation/Quest Avionics parking areas currently operate efficiently, below capacity, and are determined to be sufficient for the planning period. However, demand for vehicle parking at the terminal facility currently exceeds capacity. Additional vehicle parking is required to accommodate current and future vehicle demand.

Vehicle parking requirements are based upon a planning factor of 1.5 spaces per peak hour general aviation passenger and 350 square feet per space, which accounts for parking area and

circulation lanes according to guidance contained in FAA Advisory Circular 150/5360-13. As discussed in Section 5.3.4, 72 peak hour general aviation passengers are projected by 2032. By applying the planning factors discussed above, 108 spaces consisting of 37,800 square feet of pavement are required to accommodate projected demand.

Additionally, much of the congestion at the current terminal facility relates to ready/return spaces occupied by the rental car agencies at the terminal. A planning parameter of one space per 6,000 annual passengers and 350 square feet per space were utilized to determine the future required 24 rental car spaces consisting of 8,400 square feet of pavement. However, the 70 existing rental car parking spaces are consistently operating at close to 100 percent capacity. The rental car companies at the Airport generate much of their sales through off-airport business, and therefore, rental car demand is heavily associated with additional non-aviation factors. Off-airport demand and associated parking should be thoroughly evaluated prior to construction of additional rental car facilities.

Conceptual terminal studies in 2005 and 2007 recommended 40,000 square feet of parking lot/circulation area for terminal access, accommodating approximately 114 spaces. Accounting for demand of the FBO parking area, this recommendation is determined to be sufficient for the planning period. Therefore, it is recommended the future terminal parking area be 40,000 square feet. However, parking area expansion should only be triggered to coincide with impending terminal building renovation/construction.

5.3.6 Air Cargo

The state of Florida is currently advancing a statewide initiative to develop logistics, freight, and export-oriented activities to transform Florida into a “global hub for trade”. This ambitious goal is facilitated with the creation of the FDOT Office of Freight, Logistics and Passenger Operations (FLP). This recently created office helps support this goal, and coordinates with the Florida Department of Economic Opportunity (DEO) in the development of the State Intermodal System (SIS). Additionally, the Federal Highway Administration (FHWA) has identified Florida as a “Freight Opportunity State” and is collaborating with FDOT in conjunction with its national efforts.

Currently, seven Florida airports handle over 98 percent of the state’s air cargo. However, over time the statewide initiative may over time result in increasing levels of air cargo at the Ocala International Airport. The central location of the airport and ease of access to highway and rail infrastructure make the Airport attractive to support air cargo.

However, as previously discussed, equine air cargo represents the most significant current and most likely near-term source of substantial air cargo activity. The Airport may also potentially receive locally centered air cargo activity associate with the creation of a Federal Express (FedEx) ground distribution hub to be located in the Ocala/Marion County Commerce Park, as well as R&L Trucking in downtown Ocala.

Currently, no facilities are provided that allow the segregation of general aviation operations, and cargo/equine movements and operations. Because of the unfamiliarity of the airport environment, the behavior of equine livestock is unpredictable during enplaning and deplaning. The area currently used for equine transport aircraft does not allow adequate space between the area associated with the movement of the horses and the apron area associated with the operation of aircraft. Additionally, equine and other non-equine air cargo requires specific facilities and access for commercial vehicles and equipment.

Therefore, an apron and cargo facilities for equine activities is recommended to be developed on the west side of the airfield. The location of the apron would provide substantial separation between the areas associated with equine activity and general aviation movements and activity located on the east side of the airfield. Furthermore, ground access provided from SW 67th Avenue would provide separation of heavy commercial vehicles serving the proposed west side cargo area and passenger vehicles on the east side of the Airport.

Common to horses being transported is a sickness, similar to the common cold in humans, called shipping fever. Horses typically contract shipping fever as a result of low resistance manifested by stress caused by sudden change of environment, which results from being transported. In order to maintain separation between sick and healthy animals and to allow for animal inspections, a dedicated equine quarantine facility is recommended. Design specifications of the structure should include facility design criteria outlined by the Animal and Plant Health Inspection Service (APHIS).

Development of the air cargo apron and infrastructure is recommended to consider the following criteria:

- Provide required Object Free Area and wingtip clearance standards for ADG IV aircraft
- Provide efficiency for aircraft movement to and from runways.
- Provide adequate space requirements for circulation of cargo, personnel, equipment, and ARFF movements.
- Be sized to appropriately account for various aircraft sizes, and flexible to adapt to increased demand and future use.
- Pavement should be designed to economically provide adequate drainage and the appropriate level of strength

Based on known apron parking envelope dimensions for similar aircraft and parallel parking configuration, the proposed apron area should be a minimum of 11,000 square yards to independently accommodate two 767-200ER cargo aircraft. Additionally, in order to serve the proposed air cargo apron and facilities, it is recommended a full-length parallel taxiway be constructed to the west of Runway 18-36 to ADG IV, TDG 5 standards to accommodate cargo and equine transport aircraft.

5.4 SUPPORT FACILITIES

As described in Section 2.4 the support facilities of an Airport serve critical roles in the on-going operation of an airport. This section describes the facility requirements for the support for OCF for the primary support facilities including the Air Traffic Control tower, ARFF/Maintenance, Aircraft Fuel Storage, and Utilities.

5.4.1 Air Traffic Control Tower

The current Air Traffic Control Tower (ATCT) was constructed in 2010. Prior to construction, an ATCT siting study was conducted according to FAA Order 6480.4A *Airport Traffic Control Tower Siting Process*. As part of this process, the ATCT was thoroughly analyzed for visibility, angle of incidence, object discrimination, local meteorological and atmospheric conditions, and approved by the FAA for airspace compatibility. Interviews with ATCT personnel indicated the current

control tower is adequate for their needs. Therefore, given original proper siting was followed, the current ATCT is suitable to accommodate forecast airport demand and future airport development. It is recommended that any proposed airport development should take into consideration visibility and sight requirements of the current ATCT.

Long-term operation of the ATCT is uncertain. In March 2013, the FAA announced the closure of the majority of ATCTs included in the Federal Contract Tower Program, including the ATCT at OCF, due to budget constraints. That closure order was later delayed. At the time this Master Plan was produced, the status of the ATCT is uncertain, both long term and short term, and depends on the outcome of the ongoing federal budgeting process.

5.4.2 Aircraft Rescue and Fire Fighting (ARFF) & Airport Maintenance

Airports that serve scheduled and unscheduled air carrier flights are required to provide aircraft rescue and firefighting (ARFF) facilities and equipment. As shown in Table 5-18, ARFF equipment requirements are determined by an index ranking based on aircraft activity and characteristics.

Table 5-18 ARFF Index Determinations

Index	Aircraft Length	Number of Vehicles	Scheduled Departures	Agent and Water Foam Requirements
A	Less than 90 ft	1	1 or more	500 lbs. Dry Chemical/HALON 1211 or 450 lbs. Dry Chemical and 100 gallons of water
B	90 ft to 126 ft	1	Less than 5	Index A equipment and 1,500 gallons of water
		2	5 or more	Index A equipment and 1,500 gallons of water
C	126 ft to 159 ft	2	Less than 5	Index A equipment and 3,000 gallons of water
			5 or more	Index A equipment and 3,000 gallons of water
D	159 ft to 200 ft	3	Less than 5	Index A equipment and 4,000 gallons of water
			5 or more	Index A equipment and 4,000 gallons of water
E	200' and Greater	3	1 or more	Index A equipment and 6,000 gallons of water

Source: 14 CFR Part 139.315

Currently, OCF supports occasional unscheduled charter operations and is therefore required to fulfill Index A requirements as part of its Class IV Airport Operating Certificate. However, the Airport currently has the equipment and capability to satisfy Index B requirements.

Additional demand on ARFF facilities will come as a result of future horse transport operations, which may utilize the 767-200ER aircraft. This aircraft has an overall length of 159.2 feet, requiring ARFF Index D equipment. However, total operations of this aircraft are expected to be less than 1 percent of the Airports projected traffic by 2032. Because there will be fewer than 5 daily departures, FAR Part 139.315 permits maintaining the next lower ARFF Index, Index C.

A larger percentage of anticipated operations are by business jet similar in dimension to the existing critical aircraft, the Gulfstream IV. This aircraft has an overall length of 89.3 feet, requiring Index A equipment.

Currently, the Airport does not have an ARFF facility located on Airport property. Air carriers are required to notify the Airport 24 hours prior to arriving or departing the airport. ARFF services are then provided by the City of Ocala Fire Station Number Four, which supplies a crew that arrives 15 minutes prior to anticipated aircraft arrival and leaves 5 minutes after safe landing.

Given the increase in overall activity at the Airport during the planning period, it is recommended for safety purposes the Airport construct a dedicated ARFF facility on airport property. This facility should be sufficient in size to house Index A/B requirements. When cargo operations warrant, it is recommended the Airport augment its Index A/B with additional equipment located off-site at Fire Station Number Four in order to meet Index C requirements. Air cargo operators requiring Index C services would be required to provide 24-hour notice, similar to the current arrangement with the Airport.

A future dedicated ARFF facility is required to follow the specific equipment and requirements of the Airport and in accordance with Advisory Circular 150/5210-15 *Aircraft Rescue and Firefighting Station Building Design,* and response times as required in FAR part 139.319. In addition, as is typical for many small airports, the Airport desires to co-locate Airport Maintenance equipment storage with the ARFF facility. For planning purposes, Table 5-19 presents representative space requirements for an example Index A/B ARFF facility with combined maintenance storage capabilities.

Table 5-19 Example ARFF and Maintenance Building Area Requirements

Facility Function	Area Required (Square Feet)
Vehicle/ Apparatus Bay	2,456
Watch/ Alarm Room	390
Office	89
Kitchen/Training/Day Room	390
Toilet Room (2)	155
Storage Closet	32
Corridor	100
Stairwell	228
Elevator/Elevator Machine Room	130
Washer/Dryer	34
Work Area	138
Storage Closet	420
Mechanical Room	100
Total	**4,662**

Source: RS&H, 2013

5.4.3 Aircraft Fuel Storage

Analysis of Airport data from 2007-2012 demonstrated an average 10.3 gallons of fuel dispensed per operation. By applying this ratio to projected activity, the future fuel requirements are determined. Historically, aviation gasoline (avgas) represents 27.63 percent of total fuel sales, with jet fuel represented 72.37 percent of total fuel sales. However, if horse transport operations utilizing the 767-200ER aircraft occur, the quantity of jet fuel demanded may significantly increase.

Table 5-20 presents the 2012-2032 fuel storage requirements, excluding 767-200ER operations. Table 5-21 presents the 2012-2032 fuel storage requirements with 767-200ER operations, assuming for planning purposes that each cargo operation requires fuel for a 2,000-mile stage length with a full equine payload of 52,000 lbs.

Table 5-20 Fuel Storage Requirements- Excluding 767 Operations

		Annual Demand (gal)		Weekly Demand (gal)		Storage Requirements*	
Year	Total Operations	Avgas	Jet Fuel	Avgas	Jet Fuel	Avgas Tanks	Jet Fuel Tanks
2012	52,241	148,672	389,410	2,859	7,489	1	1
2017	54,866	156,143	408,977	3,003	7,865	1	1
2022	57,857	164,655	431,272	3,166	8,294	1	1
2032	64,045	182,265	477,398	3,505	9,181	1	1

*Assumes continued use of 12,000 gallon tanks for fuel storage
Source: RS&H, 2013

Table 5-21 Fuel Storage Requirements- Including 767 Operations

		Annual Demand (gal)		Weekly Demand (gal)		Storage Requirements	
Year	Total Operations	Avgas	Jet Fuel	Avgas	Jet Fuel	Avgas Tanks	Jet Fuel Tanks
2012	52,241	148,672	389,410	2,859	7,489	1	1
2017	54,866	156,143	648,777	3,003	12,476	1	2
2022	57,857	164,655	1,850,888	3,166	35,594	1	2*
2032	64,045	182,265	2,913,766	3,505	56,034	1	3*

*Assumes increasing jet fuel tank size to 20,000 gallons for fuel storage
Source: RS&H, 2013

Assuming the Airport desires to maintain the ability to store a one-week supply of fuel, the existing fuel storage capacity provided for avgas at the Airport is sufficient for meeting the demand. To accommodate the projected jet fuel demand, additional storage facilities should be in place by year 2017. Additionally, development of storage facilities for 87UL or automotive gasoline (mogas) is recommended for airport service vehicle refueling.

A standard delivery of avgas consists of 8,500 to 9,000 gallons, while a full tanker load of jet fuel consists of 8,000 to 8,500 gallons. Therefore, in order to maintain a one-week's supply of avgas and avoid added surcharges resulting from the purchase of less than a full load of fuel, implementation of additional storage facilities should be initiated when appropriate.

While planning to add additional jet fuel storage, consideration should be given to replacing the existing 12,000-gallon jet fuel tanks with 20,000-gallon tanks. This would result in a significantly greater jet fuel capacity and more efficient use of space associated with the fuel farm.

5.4.4 Future Fuel Farm Siting

Though the existing fuel farm facilities contain sufficient capacity to meet the demands of the Airport, the age, location, and condition of the current facility warrant a siting analysis. Based on the needs of the Airport and its users, the fuel farm location is required to be suitable to immediately accommodate three 12,000-gallon tanks, with co-located self-serve avgas facilities, as well as aircraft circulating area.

A future location for such a facility at the Airport must take into account:

- Compliance with federal, state, and local regulations
- The ability of the fuel facility to expand as demand warrants
- The impact of the location on future Airport development
- User convenience
- Fuel delivery logistics
- Potential environmental effects
- Community Aesthetic Standards

5.4.5 Utilities

Any future development at the Airport should consider the need for utilities such as water, sanitary sewer, drainage, power, and industrial waste. While large airports are known to be large consumers of utility services, OCF as a small general aviation airport utilizes utilities in a similar manner to a small commercial industrial park. Therefore, long term service planning for water, sanitary sewer, and power is accomplished by the local utility company. The Airport will coordinate with local utility providers to ensure appropriate utility needs are satisfied. Specific utilities needs not accounted for by local utility providers is discussed in the sections below.

5.4.5.1 Stormwater Drainage Facilities

The existing stormwater drainage facilities at OCF consist of a series of ditches, swales, culverts, and retention basins. These facilities are used to divert runoff away from the paved areas of the Airport. Due to the characteristics of the soil on airport property, nearly all water that enters this system percolates into the ground before reaching its final destination. Therefore, standing water in retention basins or ditches is rarely seen on the airfield. The existing drainage system has adequate capacity for the level of development currently on the Airport. Future improvements will likely increase the area of impervious surfaces on the Airport. In conjunction with future airfield development, drainage plans must developed to address the increased runoff from such development. Because of the importance of addressing drainage issues, the Airport, in 2013, developed an Airport Stormwater Master Plan to address specific drainage associated with the Airport. The general information and conclusions of Airport Stormwater Master Plan is included for reference in Appendix H.

5.4.5.2 Industrial Waste

Currently solid waste at the Airport is collected in commercial dumpsters located at various landside locations such as the terminal building and the FBO. These dumpsters are serviced

through a contract with a local private waste disposal provider. The sizes and/or numbers of the dumpsters can be increased to account solid industrial waste from increased Airport development within the planning period.

5.5 NON-AVIATION FACILITIES

It is recommended that land located on the west side of the Airport be further developed to increase revenue from non-aviation related businesses. Additionally, businesses are considered compatible land uses that benefit the Airport and local economy. By utilizing otherwise vacant space, the Airport can increase revenue through land leases and work toward financial self-sufficiency. Development to the west of SW 67th Ave. would lack access to the airfield while buildings on the eastern side of SW 67th Ave. may have access to any airfield development west of Runway 18-36. Utility and drainage infrastructure for this area would be required. Any proposed development would be required to be compatible with existing and planned FAR part 77 surfaces, runway object free areas, runway visibility zones, building restriction lines, or NAVAID critical areas.

In 2011, the FAA approved a land release to enable the Airport to sell approximately 194 acres of the west airport property for non-aeronautical use. As of the time of this Master Plan, this arrangement has not yet been executed.

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CHAPTER 6
IDENTIFICATION AND EVALUATION OF ALTERNATIVES

This chapter presents the identification and evaluation of development alternatives for Ocala International – Jim Taylor Field (OCF) that satisfy the facility requirements, conform to the strategic vision of the Airport, and adhere to design standards established by the Federal Aviation Administration.

The alternatives analysis is an important part of the master planning process that describes and evaluates various development alternatives that both meet the needs of users and aid in the long-term financial self-sufficiency of the Airport. This systematic process provides the framework for decision-making necessary to arrive at a preferred development concept for each facility.

The preferred concepts provide the Airport with the best opportunity for flexibility and optimal development. The Airport Development Plan combines the recommended improvements into a cohesive and strategic plan that provide the best opportunity to implement the plan in an efficient manner.

The alternatives process for this Master Plan followed the guidance found in Advisory Circular 150/5070-6B *Airport Master Plans.* This process included significant input from Airport and the Master Plan Advisory Committee (MPAC) in the identification and development of alternatives. The MPAC consisted of members from the community as well as the City of Ocala and the Florida Department of Transportation. The MPAC served in both public advisory an technical advisory committee roles. This included identifying the infrastructure needs required to meet the community's goals, values, and assessing the technical merit of the alternatives developed to meet those needs.

The full identification and evaluation of alternatives combines qualitative and subjective techniques that include good planning judgment, models, calculations, and Federal Aviation Administration (FAA) design criteria. This process is outlined in the following sections:

- Description of the Development and Evaluation Process
- Summary of Facility Requirements
- Evaluation of Airfield Alternatives
- Evaluation of Cargo/Apron Alternatives
- Evaluation of Landside/Support Facility Alternatives

6.1 DEVELOPMENT AND EVALUATION PROCESS

An airport is a grouping of individual elements, such as the runways, taxiways, terminals, and other areas. These elements work together to form a functional system that enables efficient and continued operation of an airport. The functional areas and elements of OCF studied as part of this Master Plan include:

- Runways
- Taxiways
- Navigational Aids
- Air Cargo Facilities
- General Aviation Facilities
- Terminal & FBO Facilities
- Ground Access & Vehicle Parking
- Fuel Storage
- Airport Maintenance/ARFF

The alternatives process begins by first determining which primary and secondary functional elements are crucial to the future development of the Airport. Typically, primary elements represent major functional areas that consist of large land sections, while secondary elements fill in around primary elements.

The analysis then takes a broad group of primary and secondary element alternatives and selectively narrows them through an iterative analysis and refinement process. This process begins by screening the initial alternatives on a largely subjective basis to eliminate alternatives deemed not suitable for further development. The remaining alternatives then advance for further consideration and evaluation.

The evaluation of the element alternatives must consider the unique factors present at a particular airport, and addresses the important issues crucial for long-range planning decisions. Though the evaluation criteria vary with each particular functional area, the recommended criteria for use in evaluating alternatives are grouped into four general categories:

1. **Operational Performance** - Alternatives are evaluated to determine their ability to accommodate future activity levels, meet functional objectives, and function within the overall airport system.

2. **Best Planning Tenets** - The relative strength and feasibility of the alternatives are assessed with regard to best practices, planning guidelines, FAA design standards, and other factors. The selected alternative should be capable of being implemented and must be acceptable to the FAA, FDOT, local governments, and the community. The preferred development options should proceed along a path that supports the area's long-term economic development and diversification objectives.

3. **Environmental Factors** - Environmental impact categories described in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures* are considered for applicability in defining environmental criteria for the evaluation of development alternatives. Preliminary environmental evaluation helps ensure the Airport remains responsive to environmental considerations, which will help expedite subsequent environmental processes. It is important to note the environmental analysis included in

this Master Plan Update is not a NEPA document but rather assists with identifying and evaluating potential development alternatives.

4. **Fiscal Factors** - The alternative effort should consider cost. Some alternatives may result in excessive costs as a result of expansive construction, acquisition, or other development requirements. In order for a preferred alternative to best serve the Airport and the community, it must satisfy development needs at a reasonable cost. Cost estimate opinions developed are intended to provide a relative comparison, and serve an order of magnitude for planning purposes only.

The element alternatives presented in this chapter present the focused development concepts determined from a process of identification, development, and analysis. The selected elements then combine to allow for the selection of a preferred alternative leading to the Airport Development Plan.

6.2 SUMMARY OF FACILITY REQUIREMENTS

This section summarizes the major facility requirements for OCF through the 20-year planning period from 2012-2032, as identified in the facility requirements.

Runways

- Runway 18-36: Protect for runway extension in support of future cargo operations.
- Runway 18-36: Provide 25 feet paved runway shoulder width, and 400 feet runway to taxiway separation to accommodate Runway Design Code (RDC) D-IV aircraft.
- Runway 8-26: Provide runway length of 3,700 feet, given crosswind runway justification is obtained through a wind study.
- Runway 8-26: Comply with RDC B-II standards regarding runway width, runway to taxiway separation, and runway to aircraft holding position separation.

Taxiways

- Provide RDC B-II taxiway width for Taxiways A1 to Runway 8-26, Taxiway B, and connector Taxiways B1, B2, and B3.
- Provide RDC B-II, 240-foot required runway to taxiway separation for Runway 8-26 and Taxiway B.
- Reduce turning movements in “dogleg” on Taxiway A between Taxiways A7 and A8 to ease aircraft operations and reduce pavement deterioration.
- Provide for Taxiway Design Group (TDG) 5 taxiways for taxiways supporting future cargo operations.
- Relocate/Remove taxiway connectors A8, A6-west, A3-west, and B2 to comply with FAA design standards.

Airfield Pavement

- Accommodate the immediate major pavement maintenance and rehabilitation needs determined by the Florida Department of Transportation (FDOT).
- Provide dual tandem pavement strength of at least 300,000 pounds for areas accommodating 767-200ER critical aircraft.

NAVAIDs

- Conduct wind study to determine reliable on-site wind data regarding wind speed and direction. Analysis of data may result in required movement of AWOS or mitigation of vegetation, and potential justification of crosswind Runway 8-26.
- Change runway designator markings for Runway 8-26 in 2019 and for Runway 18-36 in 2021.
- Consider relocation of Instrument Landing System (ILS) localizer antenna to accommodate future aviation development.
- Relocate ILS Glide-Slope Facility to comply with 400-foot runway centerline separation standard.
- Relocate Compass Rose to more suitable airport location to comply with FAA standards.
- Provide for future medium intensity runway lighting (MIRL) for Runway 8-26 and Taxiway Bravo supporting future area navigation (RNAV) approach and non-precision instrument (NPI) designation.
- Provide appropriate NAVAID location in conjunction with airfield development projects.

Terminal Building

- Construct a new terminal facility with a recommended total usable area of 7,876 square feet accommodating customer areas, lease space, office areas, airport administration, and support areas.

Ground Access, Circulation, Parking

- Accommodate access by an increased number of large vehicles and trucks serving cargo activity.
- Construct on-airport maintenance perimeter service road.
- Provide for at least 40,000 square feet for 114 vehicle parking spaces and appropriate circulation for terminal vehicle parking area.

General Aviation

- Designate four helicopter parking areas to accommodate projected demand.
- Add a total of 28 additional T-hangar units to accommodate projected demand.

- Add a total of four additional conventional hangars to accommodate projected demand.

Air Cargo

- Construct 110,000 square yard dedicated cargo apron. This will allow the segregation of general aviation operations from equine/non-equine air cargo, and the growth of such activities.
- Construct dedicated equine quarantine facility to accommodate equine cargo inspections, quarantines, and operations.

Aircraft Rescue and Fire Fighting (ARFF)/Maintenance

- Obtain and maintain equipment to meet on-site Index B requirements.
- Obtain and maintain offsite equipment to satisfy Index C requirements when notified 24 hours in advance.
- Construct an on-site 3-bay combined ARFF/maintenance facility.

Fuel Storage

- Construct co-located fuel storage/self-serve facility capable of supporting ADG-II aircraft. In the near term, this facility should be able to accommodate two 12,000 gallon Jet-A tanks and one 12,000 gallon avgas tank. The ultimate fuel storage facility should be able to accommodate a projected storage need of over 55,000 gallons of Jet-A.

Utilities

- Provide natural gas utility for west-side aviation and non-aviation development.

Non-aviation facilities

- Release 194± acres for sale to accommodate non-aviation development. Property on the West side of the airport not intended for aeronautical use represents a potential source of revenue for the Airport.

6.3 AIRFIELD ALTERNATIVES - RUNWAY 18-36

Some of the most consequential facility planning issues considered in an airport master plan center on addressing the requirements of the airfield. Of specific importance are the considerations regarding an airport's primary runway.

The aviation demand forecasts presented in Section 4.3.2 forecast a steady increase of cargo operations throughout the planning period. By 2032, this increase in cargo activity will see a change in the critical aircraft for Runway 18-36 to the Boeing 767-200ER. Also, as discussed in Section 5.3.6, the state of Florida is advancing a statewide initiative to transform Florida into a "global hub for trade." This initiative aims to develop logistics, freight, and export oriented activities. Given the central location of OCF and the ease of access to highway and rail infrastructure, the Airport desires to position itself for increased air cargo activities.

As detailed in Section 5.1.3.3, the existing Runway 18-36 length can fully accommodate any proposed horse transport operations utilizing the critical aircraft. However, it is prudent to plan a long-term provision for expanding Runway 18-36 to accommodate future cargo operations associated with the critical aircraft and conform to the strategic vision of the Airport. This will ensure ultimate airspace and airport facilities are not constrained for increased stage lengths and future aircraft types utilized for equine and non-equine air cargo.

This section presents and analyzes the refined runway alternatives for the primary runway at OCF, Runway 18-36 including:

- Runway 18-36 No Action Alternative
- North Extension Alternative #1
- North Extension Alternative #2
- South Extension Alternative #1
- South Extension Alternative #2

6.3.1 Runway 18-36 No Action Alternative

The Runway 18-36 No Action Alternative effectively represents a "no build" scenario in which the existing conditions and operational environment of Runway 18-36 are preserved and maintained throughout the planning period. This alternative scenario entails the Airport maintain the current Runway 18-36 dimensions of 7,467 feet by 150 feet. Runway 18-36 will continue to use declared distances to satisfy FAA design standards for the Runway Safety Area (RSA) and Runway Object Free Area (ROFA). Exhibit 6-1 depicts the existing Runway 18-36 layout representing the Runway 18-36 No Action Alternative. Table 6-1 presents the existing declared distances maintained as part of this alternative.

Exhibit 6-1 Runway 18-36 No Action Alternative (Existing Layout)

Source: Bing

Table 6-1 Proposed Declared Distances – Runway 18-36 No Action Alternative

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	7,467'	6,907'
Takeoff Distance Available (TODA)	7,467'	6,907'
Accelerate-Stop Distance Available (ASDA)	7,467'	6,907'
Landing Distance Available (LDA)	7,300'	6,347'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the Runway 18-36 No Action Alternative in regards to the established development evaluation criteria.

Strengths:

- As the alternative maintains the existing conditions, it represents a technically feasible alternative for the Airport.
- The alternative conforms to FAA design standards, runway length requirements, and recommended best practices for safety.
- As the alternative proposes no additional infrastructure, it provides for the highest on and off-airport land use

- Runway 18-36 can sufficiently accommodate the critical aircraft the 767-200ER with an anticipated equine payload of 52,000 pounds and a 2000-mile stage length, thereby meeting near term needs of cargo operators.

- It is a no-cost alternative.

Weaknesses:

- As a no-action and no-build alternative, the Airport does not gain additional operational performance through capacity, capability, or efficiency

- Projected increases in cargo activity and general aviation operations associated with the Ocala Breeder's Sale would likely be limited due to less than optimal facilities.

- The no-action alternative is inflexible and represents a reactive development approach that does not provide for growth potential beyond the planning horizon or conform to best planning practices

- Larger cargo aircraft and related economic opportunities would be lost to other nearby airports with existing facilities such as Gainesville Regional Airport. In general, this development approach may stifle the Airport as an economic generator for the City of Ocala and surrounding communities, thereby not meeting the strategic vision of the Airport

6.3.2 North Extension Alternative #1

The North Extension Alternative #1 consists of lengthening Runway 18-36 to the north to gain an increase in usable runway length. This alternative requires either the intersection or closure of Runway 8-26. Given the importance of Runway 8-26 at OCF, closure of this runway is not a viable option. Therefore, a north extension alternative would require an intersecting configuration with Runway 8-26.

To meet the FAA airport design requirements for proper intersecting geometry, both Runway 18-36 and Runway 8-26 would need to increase in length. Runway 18 would extend approximately 1,115 feet to 8,582 feet, while Runway 8-26 would extend approximately 135 feet to 3,144 feet. This alternative would also require the natural extension of the taxiway system to access the relocated runway ends.

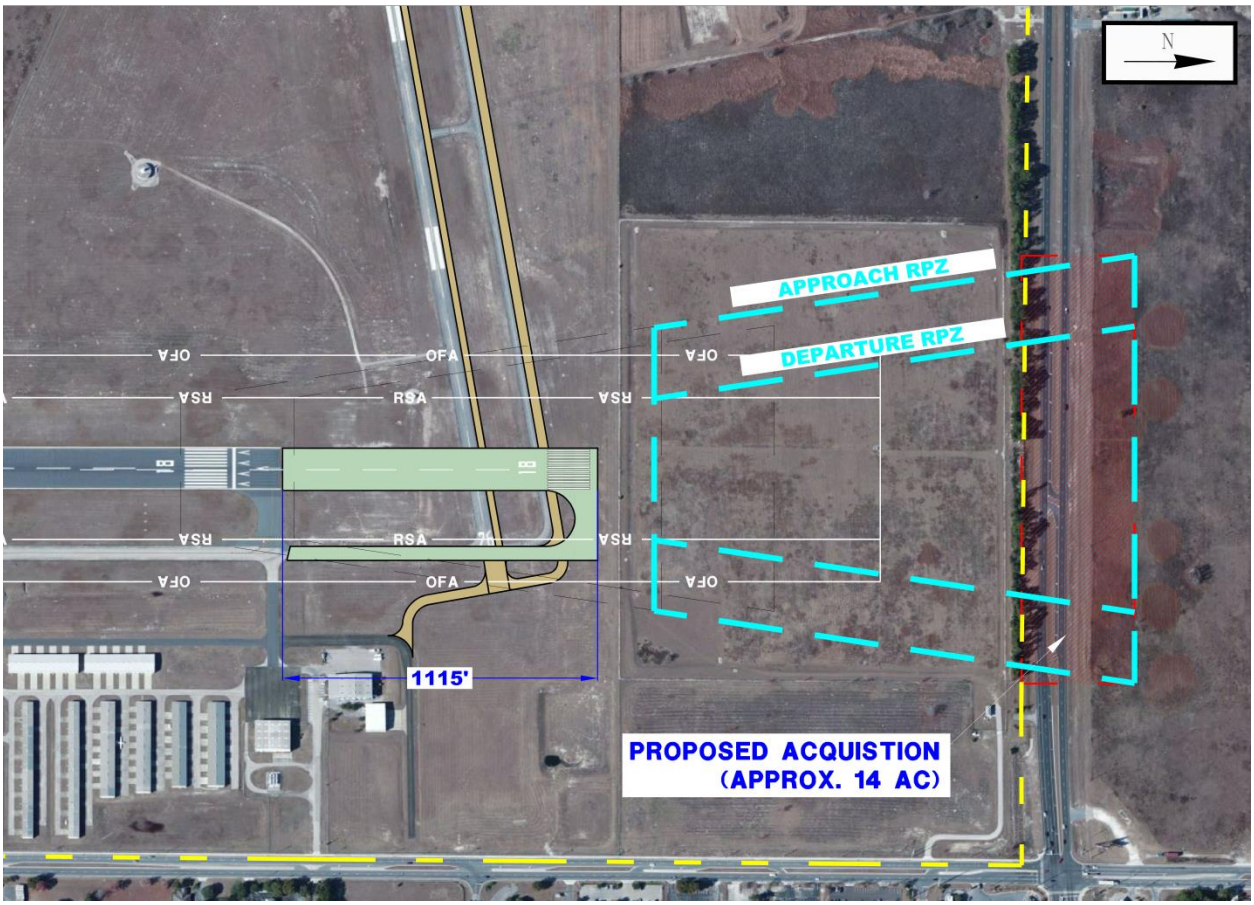
FAA design standards in Advisory Circular 150/5300-13A *Airport Design* requires that the intersecting pavement surfaces have a smooth grade transition with adequate drainage, with precedence given to the primary runway. Currently, there is 18-foot elevation difference between the existing and proposed Runway 18 end. This large grade difference would require Runway 8-26 be reconstructed in order to obtain the appropriate intersection grade transition, as well as require a substantial quantity of earth removal. If reconstructed, Runway 8-26 would also be required to be brought up to standards regarding:

- Runway Width
- Taxiway Width
- Runway-Taxiway Separation
- Runway Holding Position Separation

Additionally, while all physical development would be located within the Airport's property, the Runway Protection Zone (RPZ) associated with the relocated runway ends would extend beyond existing Airport property. Current FAA standards and guidance recommend the Airport should own the property in the RPZ in fee simple. Additionally, the RPZ be should cleared of above ground objects and at a minimum be clear of all incompatible uses including buildings, structures, and public roadways.

Exhibit 6-2 presents the North Extension Alternative #1 and depicts the proposed RPZs, property acquisition, and adjacent infrastructure conflicts. Table 6-2 presents the proposed declared distances for the alternative, demonstrating the operational increase usable length of the primary Runway 18-36.

Exhibit 6-2 North Extension Alternative #1



Source: RS&H, 2013

Table 6-2 Proposed Declared Distances – North Extension Alternative #1

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	8,582'	8,582'
Takeoff Distance Available (TODA)	8,582'	8,582'
Accelerate-Stop Distance Available (ASDA)	8,582'	8,582'
Landing Distance Available (LDA)	8,582'	8,020'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the North Extension Alternative #1 in regards to the established development evaluation criteria.

Strengths:

- The proposed alternative provides the Airport additional operational capability through increase in usable runway length.
- The increase in usable runway length will accommodate more than 75 percent of the MTOW of the future critical aircraft for Runway 18-36. This provides flexibility for the Airport to accommodate other large aircraft with demanding takeoff requirements. Furthermore, this will attract cargo operators as it allows them to have increased payload and/or stage lengths, thereby supporting the Airport's strategic vision.
- The alternative allows for forecast growth throughout and beyond the planning period.
- The current area north of Runway 18 is underutilized. The alternative provides the Airport the ability to make use of this property.
- The Runway 18-36 and Runway 8-26 geometry fully complies with applicable FAA design standards and appropriate planning guidelines for intersecting runways.

Weaknesses:

- Intersection layout decreases Annual Service Volume (ASV) from 260,000 to 230,000 operations per year. However, as discussed in Section 5.1.2 the Airport is not anticipated to be capacity constrained within the planning period or foreseeable future.
- As the proposed RPZs affect public roadways, the alternative does not conform to other applicable local, region and state transportation plans.
- The alternative involves large amount of earthwork, which may include cost premiums associated with the demolition, phasing, and reconstruction of Runway 8-26. (See Section 6.3.7).
- The alternative may have several potential social and environmental implications (See Section 6.3.6).
- Overall, the alternative represents a large and complex undertaking that, while technically possible, is practically infeasible.

6.3.3 North Extension Alternative #2

As detailed in Section 6.3.2, the North Extension Alternative #1 has a number of positive operational and strategic benefits for OCF. However, the alternative essentially represents an unconstrained development scenario for north runway development.
Such a development scenario has a number of technical, social, political, financial, and environmental factors, which may prevent the realistic implementation of extending beyond the Airport's existing boundaries.

The North Extension Alternative #2 proposes the use of the positive attributes of a north intersecting extension alternative, but with increased practicality through accommodation of the

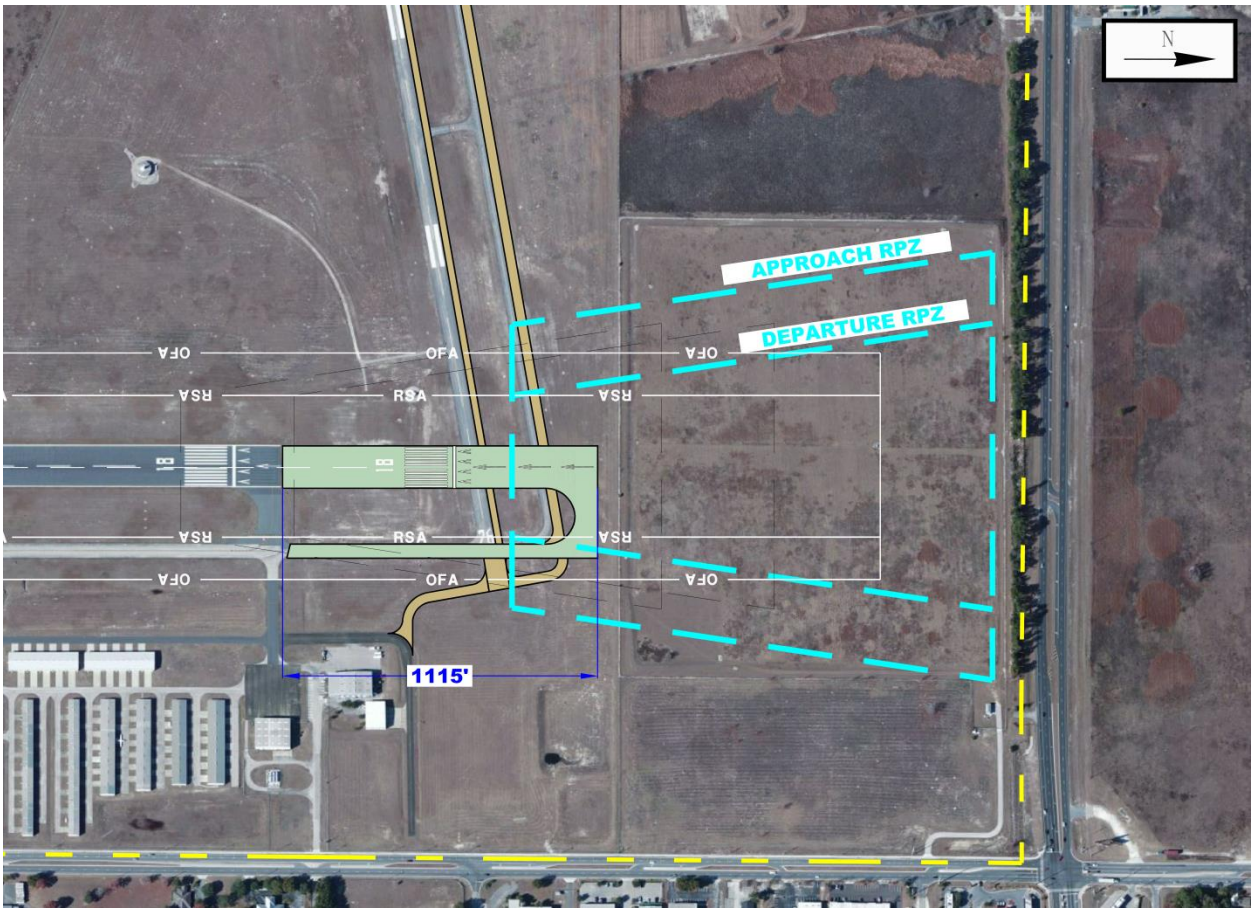
RPZ within the existing property boundary. The Airport would use displaced thresholds and declared distances to accomplish this objective. This action effectively represents a constrained development scenario for north runway development in which the Airport cannot physically or operationally extend beyond its existing property.

The North Extension Alternative #2 maintains the runway intersection geometry and design specifics of the North Extension Alternative #1 including:

- Runway 18 extension of approximately 1,115 feet
- Runway 26 extension of approximately 135 feet
- Extension of Taxiway system to access relocated runway ends

However, the alternative will accommodate the RPZ requirements by displacing the thresholds of both Runway 18 and Runway 26. Exhibit 6-3 depicts the features associated with the North Extension Alternative #2. Table 6-3 presents the proposed declared distances for Runway 18-36.

Exhibit 6-3 North Extension Alternative #2



Source: RS&H, 2013

Table 6-3 Proposed Declared Distances – North Extension Alternative #2

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	8,582'	8,080'
Takeoff Distance Available (TODA)	8,582'	8,080'
Accelerate-Stop Distance Available (ASDA)	8,582'	8,582'
Landing Distance Available (LDA)	8,080'	8,020'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the North Extension Alternative #2 in regards to the established development evaluation criteria.

Strengths:

- The alternative provides the Airport with the ability to increase the capability of the airfield while being geographically constrained by existing boundaries.
- As the physical infrastructure or design requirements do not extend beyond the existing Airport property, it presents a more socially and politically acceptable alternative than one that extends beyond the Airports existing property. Additionally, this alternative allows the Airport to conform to other applicable local, region and state transportation plans.
- The alternative accommodates the takeoff requirements for more than 75 percent MTOW of the future critical aircraft. The increase in operational performance of the airfield also positions the Airport for increased size and/or stage length of cargo aircraft, thus supporting the strategic vision of the Airport to maintain and attract additional cargo operations.
- The alternative allows for forecast growth throughout and beyond the planning period.
- By extending to the north, the alternative provides the Airport the ability to make use of underutilized Airport property.

Weaknesses:

- The intersection layout decreases Annual Service Volume (ASV) from 260,000 to 230,000 operations per year. However, as discussed in Section 5.1.2 the Airport is not anticipated to be capacity constrained within the planning period or foreseeable future.
- The alternative must utilize declared distances to be feasible and thus does not fully utilize full runway extension for operational purposes. Alternative also requires threshold of 18-36 be adjusted to avoid intersection. The FAA recommends avoiding this situation if possible.
- The alternative involves large amount of earthwork, and has significant cost premiums associated with the demolition, phasing, and reconstruction of Runway 8-26. (See Section 6.3.7).
- The alternative may have several potential social and environmental implications (See Section 6.3.6). Overall, the alternative represents a large and complex undertaking that, while technically possible, is practically infeasible.

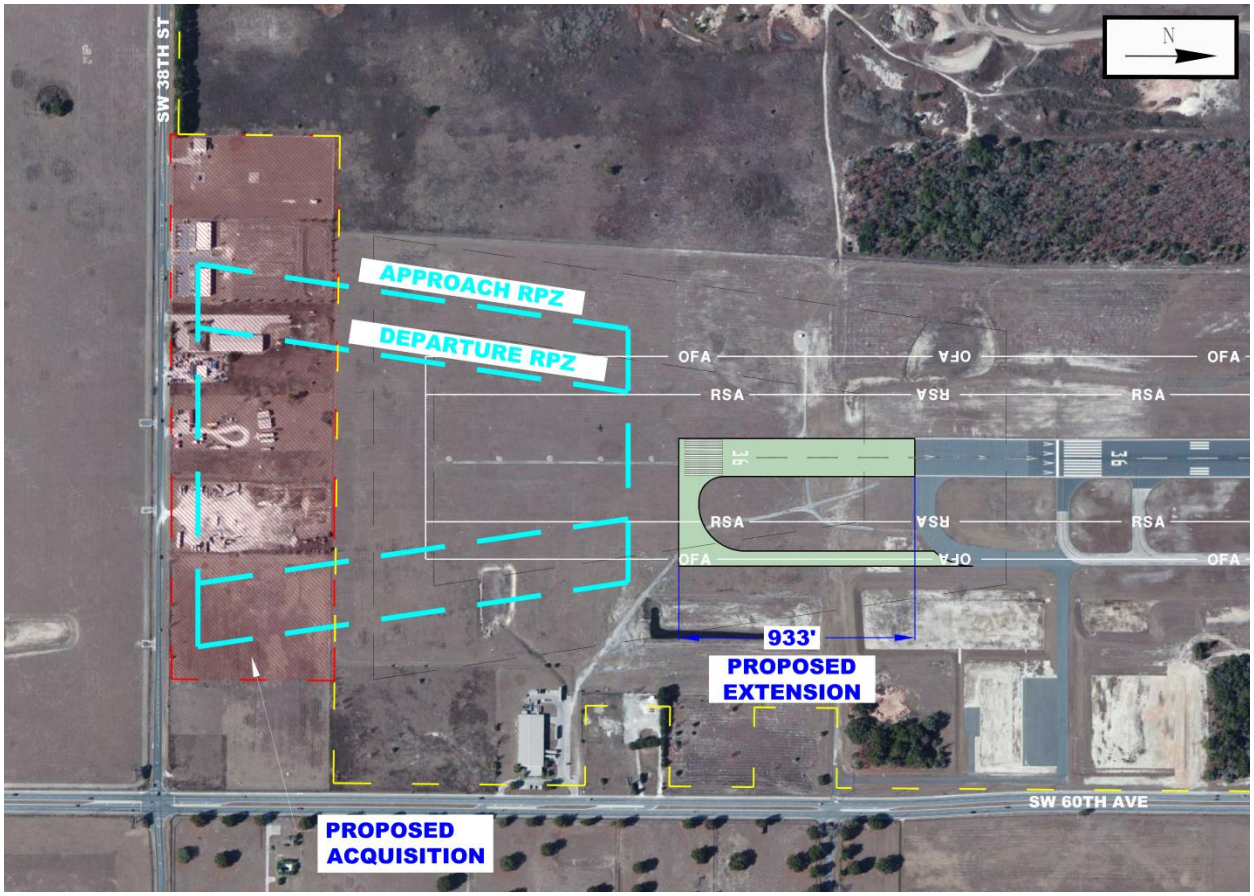
6.3.4 South Extension Alternative #1

As part of previous planning efforts, the Airport identified a south runway extension as appropriate for runway development. The proposed south extension as depicted on the 2011 FAA-approved ALP set consists of a 933-foot south extension to Runway 36. In this scenario, Taxiway A also extends 933 feet south to connect to the new end of Runway 36.

Similar to the North Extension Alternative #1, all physical development associated with the runway extension would be located within the Airport's property. However, the Runway Protection Zone (RPZ) associated with the relocated Runway 36 end would extend beyond the existing southern property boundary. Current FAA standards and guidance recommend the Airport should own the property in the RPZ in fee simple. Additionally, the RPZ be should cleared of above ground objects and at a minimum be clear of all incompatible uses including buildings, structures, and public roadways to obtain the full airport design standards for the Runway Protection Zone (RPZ).

Exhibit 6-4 presents the South Extension Alternative #1 and depicts the proposed RPZs, property acquisition of 36 acres, and adjacent infrastructure conflicts. Table 6-4 presents the proposed declared distances for the alternative.

Exhibit 6-4 South Extension Alternative #1



Source: RS&H, 2013

Table 6-4 Proposed Declared Distances – South Extension Alternative #1

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	8,400'	7,840'
Takeoff Distance Available (TODA)	8,400'	7,840'
Accelerate-Stop Distance Available (ASDA)	8,400'	7,840'
Landing Distance Available (LDA)	8,240'	7,840'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the South Extension Alternative #1 in regards to the established development evaluation criteria.

Strengths:

- The proposed alternative provides the Airport additional operational capability through increase in runway usable length.
- The increase in usable runway length will accommodate more than 75 percent of the MTOW of the future critical aircraft for Runway 18-36. This provides flexibility for the Airport to accommodate other large aircraft with demanding takeoff requirements. Furthermore, this will attract cargo operators as it allows them to have increased payload and/or stage lengths, thereby supporting the Airport's strategic vision.
- The alternative allows for forecast growth throughout and beyond the planning period.
- The proposed design features of the alternative conform to the intent of FAA design standards and other planning guidelines.
- By not negatively affecting existing infrastructure, the alternative provides an aspect of operational balance between Runway 18-36 and Runway 8-26.

Weaknesses:

- While technically feasible, the proposed alternative does not provide the ideal balance of on and off airport resources.
- This alternative poses the potential for social, political and community impacts associated with RPZ property acquisition.
- The alternative may involve significant cost premiums associated with property acquisition and construction costs. (See Section 6.3.7)

6.3.5 South Extension Alternative #2

As presented in Section 6.3.4, a south runway extension at OCF serves the primary purposes of meeting forecast demand and furthering the objective of financial self-sufficiency as part of the Airport's strategic vision. However, the proposed extension requires extension of Airport boundaries in order to meet FAA design recommendations.

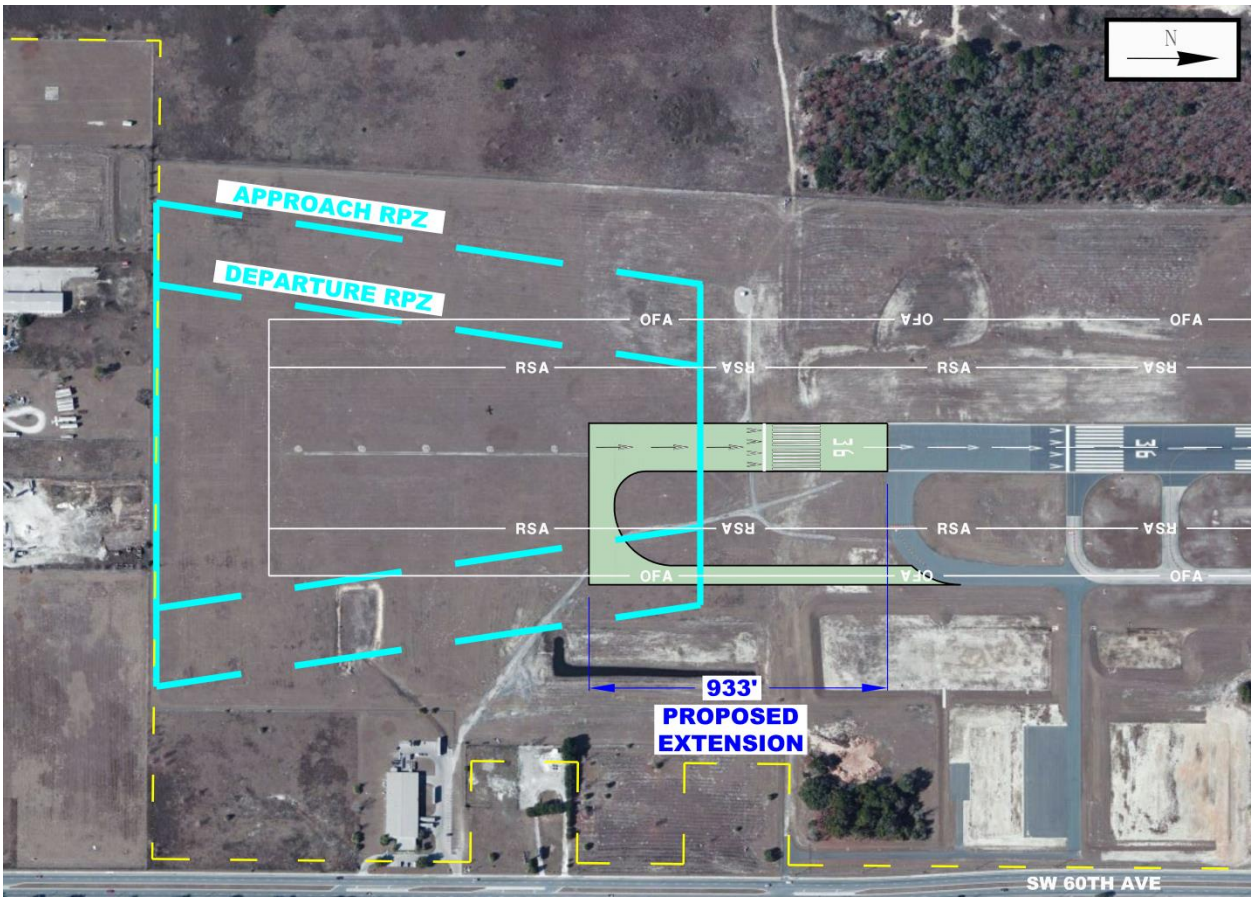
While compliance with the FAA recommendations represents best planning practices for safety and operational efficiency, it may not be technically, financially, socially, or otherwise feasible to

extend the Airport's boundaries. The South Extension Alternative #2 considers development only within the current Airport boundaries. This effectively represents a constrained development scenario for south runway development in which the airport cannot feasibly extend beyond its current boundaries.

The South Extension Alternative #2 scenario would maintain the 933-foot south extension as proposed in Section 6.3.4 for the purposes of obtaining additional operational length. The alternative conforms to the future RPZ requirements. This will serve to provide additional takeoff length for north operations and additional landing length for south operations.

Exhibit 6-5 depicts the features associated with the South Extension Alternative #2. Table 6-5 presents the proposed declared distances for the alternative demonstrating the increase usable length of Runway 18-36.

Exhibit 6-5 South Extension Alternative #2



Source: RS&H, 2013

Table 6-5 Proposed Declared Distances – South Extension Alternative #2

Declared Distance	RWY 18	RWY 36
Takeoff Run Available (TORA)	7,852'	7,840'
Takeoff Distance Available (TODA)	7,852'	7,840'
Accelerate-Stop Distance Available (ASDA)	8,400'	7,840'
Landing Distance Available (LDA)	8,240'	7,292'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the South Extension Alternative #2 in regards to the established development evaluation criteria.

Strengths:

- The alternative provides the Airport with the ability to increase the capability of the airfield while being geographically constrained by existing boundaries.
- As the physical infrastructure or design requirements do not extend beyond existing Airport property, it presents a probable socially and politically acceptable alternative. Additionally, this alternative conforms to other applicable local, region and state transportation plans.
- The alternative accommodates the takeoff requirements for more than 75 percent MTOW of the future critical aircraft. The increase in operational performance of the airfield also positions the Airport for increased size and/or stage length of cargo aircraft, thus supporting the strategic vision of the Airport to maintain and attract additional cargo operations.
- The alternative allows for forecast growth throughout and beyond the planning period.
- The proposed development conforms to the intent of FAA design standards and other planning guidelines for Runway 18-36.
- The alternative does not propose development that negatively affects existing infrastructure, thus providing an aspect of operational balance between Runway 18-36 and Runway 8-26.

Weaknesses:

- The alternative must utilize declared distances to be feasible and thus does not fully utilize the runway extension for operational purposes.
- The alternative may have several potential social and environmental implications (See Section 6.3.6).

6.3.6 Preliminary Environmental Analysis for Runway 18-36 Alternatives

Table 6-6 presents a summary of the potential for environmental impacts associated with the Runway 18-36 alternatives as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

Table 6-6 Preliminary Environmental Analysis – Runway 18-36 Alternatives

Environmental Resource Categories	Runway 18-36 No Action Alternative	North Extension Alternative #1	North Extension Alternative #2	South Extension Alternative #1	South Extension Alternative #2
Noise	-	✓	✓	✓	✓
Compatible Land Use	-	✓	✓	✓	✓
Socioeconomics	-	✓	-	✓	-
Fish, Wildlife, and Plants	-	✓	✓	✓	✓
Water Quality	-	✓	✓	✓	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

The Runway 18-36 No Action Alternative represents a no-build scenario, and therefore serves as the baseline for the comparison of development alternatives. Potential impacts identified for the build alternatives (North Extension Alternative #1, North Extension Alternative #2, South Extension Alternative #1, and South Extension Alternative #2) include the following:

- Temporary construction-related impacts (e.g., construction noise, dust, heavy equipment traffic, construction debris, air pollution, water pollution).
- Potential to alter the Airport's aviation noise contours thereby affecting compatible land uses (i.e., residential land uses) surrounding the Airport.
- Ground disturbing activities such as clearing, grading, and paving could affect threatened and/or endangered species in the area (e.g., gopher tortoises). Field investigations by a qualified biologist would be required to quantify potential impact.
- Increase the amount of impervious surface on Airport property, potentially increasing stormwater runoff, which may impact water quality. Stormwater management systems may be required to reduce potential water quality impacts.
- The North Extension Alternative #1 or South Extension Alternative #1 alteration of the RPZ could result in potential socioeconomic impacts. Specifically, the realignment of State Road 40 (North Extension Alternative #1) or South West 38th Street (South Extension Alternative #1) would require the Airport to acquire property within the altered RPZ. The realignment of either road could also disrupt local traffic patterns. Therefore, these two alternatives have the potential for socioeconomic impacts.

Overall, North Extension Alternative #1 has the greatest potential for environmental impacts due to the altered RPZ and associated Runway 8-26 improvements. Of the four build alternatives, South Extension Alternative #2 has the least potential for environmental impacts since it would not alter the RPZ or affect Runway 8-26.

6.3.7 Preliminary Fiscal Considerations for Runway 18-36 Alternatives

The Runway 18-36 north and south build alternatives propose developments that aim to meet projected demands before operational issues arise. Additionally, they address the long-term financial self-sufficiency of the Airport by providing facilities to attract additional aviation activity.

The costs associated with the proposed alternatives are a direct result of this proactive approach to airfield and Airport development.

Initial evaluation of alternatives must consider preliminary cost estimates to identify the economic viability of the alternatives. An alternative that is beyond the realistic fiscal capably of the Airport will not provide a benefit if carried forward into the Airport Development Plan (ADP).

Table 6-7 below presents cost estimate opinions for the north and south Runway 18-36 build alternatives. Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order-of-magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors. Table 6-7 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-7 Planning Level Development Costs – Runway 18-36 Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
Runway 18-36: North Extension #1	$6,052,688	$159,281	$159,281	**$10,371,250**
Runway 18-36: North Extension #2	$6,052,688	$159,281	$159,281	**$6,371,250**
Runway 18-36: South Extension #1	$7,854,011	$206,737	$206,737	**$8,269,485**
Runway 18-36: South Extension #2	$4,022,761	$105,862	$105,862	**$4,234,485**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.4 AIRFIELD ALTERNATIVES - RUNWAY 8-26

Runway 8-26 is a secondary runway that provides appropriate wind coverage for small general aviation aircraft when local meteorological conditions make operations on Runway 18-36 unsuitable. Though historical wind data from the Airport's AWOS-III does not support Runway 8-26 justification, there is strong anecdotal evidence (See Section 5.1.3.1) that the metrological readings from this equipment may be inaccurate, and that a crosswind runway may be justified following a recommended wind study.

In addition to providing appropriate runway wind coverage, Runway 8-26 is also an important part of the runway system that adds to the overall safety, utility, and operational flexibility of the Airport. With the emphasis placed on making Runway 18-36 a cargo runway, Runway 8-26 will likely receive increased operations by GA aircraft. Given the aviation demand forecasts project aircraft size and number of operations to increase, it is important the Airport maintain reliable assurances to meet the needs of users. Additionally, it is desirable the Airport maintain a certain degree of operational balance to the Airport's facilities, especially when required to accommodate unpredictable circumstances.

Constructing the necessary improvements to Runway 8-26 to meet FAA design criteria would grant OCF the ability to consistently provide a majority of aircraft the availability of a runway. This would continue to enhance the safety, utility, and operational flexibility of the Airport.

This section presents and analyzes the runway alternatives for the crosswind Runway 8-26 at OCF. The alternatives presented in this section focus on and include:

- Runway 8-26 No-Action Alternative
- Single Direction Extension Alternative
- Dual Direction Extension Alternative

6.4.1 Runway 8-26 No Action Alternative

As previously discussed, the wind coverage based on available metrological data currently does not support the need for a crosswind or additional runway at OCF. Therefore, improvements to Runway 8-26 are not eligible for federal funding until the appropriate level of justification indicates the need for the runway.

The Runway 8-26 No-Action Alternative intends to preserve the features and characteristics of Runway 8-26 as they currently exist until and unless such appropriate level of justification is obtained. This includes maintaining inefficient and non-standard design features presented in Table 6-8.

Table 6-8 Runway 8-26 No Action Alternative – Standards Deficiencies

Design Feature	Exiting Conditions: Runway 8-26	FAA Standard/Recommendation
Runway Length	3,009'	3,700'
Runway Width	50'	75'
Taxiway Width	25'	35'
Runway Centerline to Holding Position	125'	200'
Runway Centerline to Taxiway Centerline	225'	240'

Source: RS&H, 2013

As part of a Runway 8-26 No-Action Alternative, these standards deficiencies result in a number of concerns regarding the long-term performance of the secondary runway and the Airport, including:

- Reducing the overall capacity and utility of the Airport
- Not conforming to FAA airport design standards
- Not providing capability to support critical aircraft
- Not conforming to best practices for safety
- Not satisfying flexibility for unforeseen changes
- Not meeting user needs

6.4.2 Single Direction Extension Alternative

As a crosswind runway, it is crucial for Runway 8-26 to meet the appropriate standards and operational requirements for the general aviation aircraft utilizing the runway. The current length of 3,009 feet does not meet FAA recommendations for takeoff length of the current critical aircraft. The King Air 90, the RDC B-II critical aircraft representing the composite group of aircraft utilizing the runway, requires a minimum takeoff length of 3,700 feet.

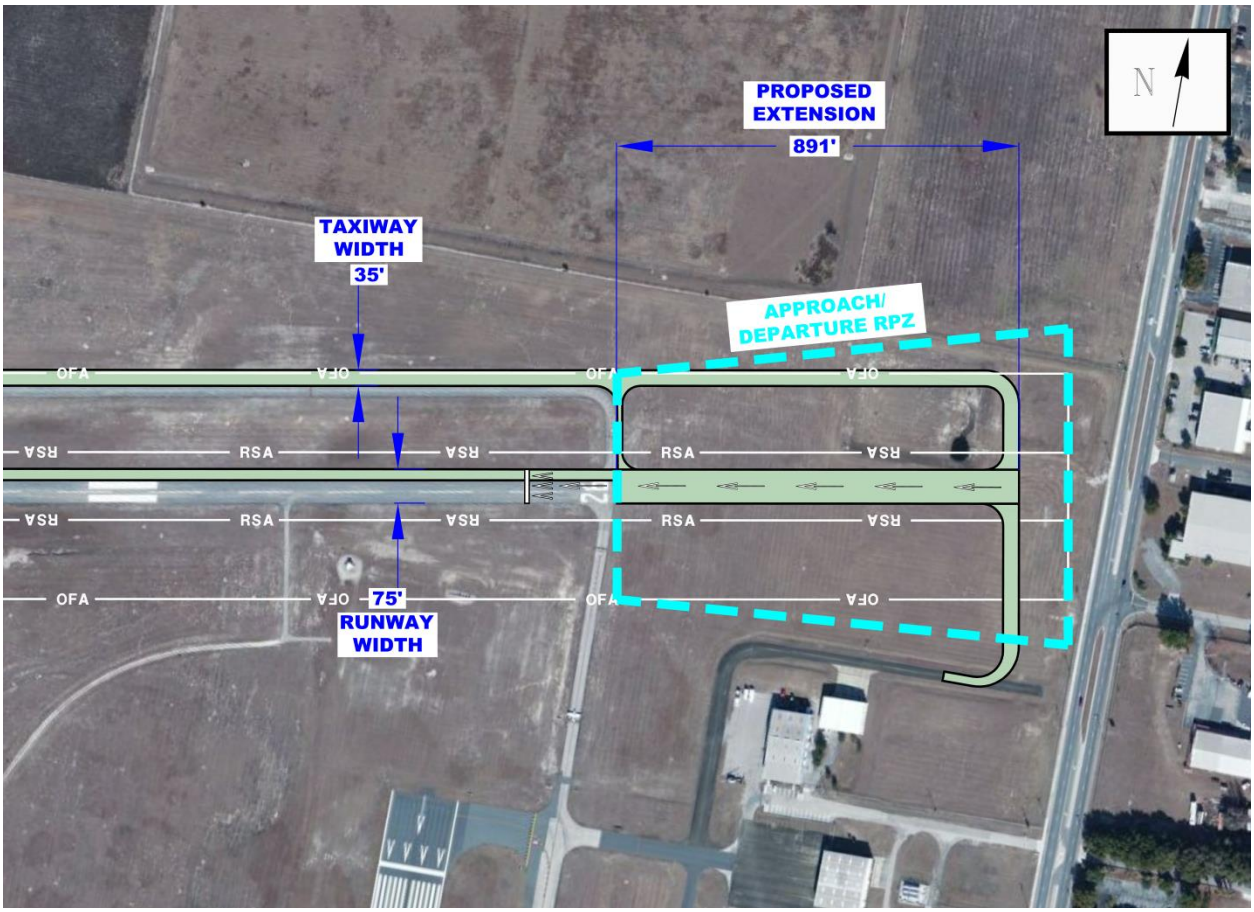
Additionally, future development must consider that for all practical purposes, the Airport is physically constrained by its existing property boundaries. Therefore, Runway 8-26 must meet the design requirements for the RSA, ROFA, and RPZ within the current property boundaries.

To accomplish this, the single direction extension alternative proposes to increase the physical length of the runway by 891 feet in one direction in order to meet takeoff requirements for the critical aircraft. The RSA, ROFA, and RPZ requirements will be accommodated through a displaced threshold and use of declared distances. Additionally, this alternative will fully correct other previously existing standards deficiencies of Runway 8-26, and see the natural extension of Taxiway B to access the relocated runway end.

Operationally, the single direction extension will fulfill takeoff requirements for the critical aircraft in only one direction. Therefore, the runway will periodically function as a directional runway for the requirements of the critical aircraft.

Exhibit 6-6 and Exhibit 6-7 present the design features of the Single Direction Extension Alternative for an east extension and west extension respectively. Table 6-9 and Table 6-10 present the proposed declared distances for the east/west Single Direction Extension Alternative demonstrating the maximum distances available for takeoff, rejected takeoff, and landing.

Exhibit 6-6 Single Direction Extension Alternative (East)



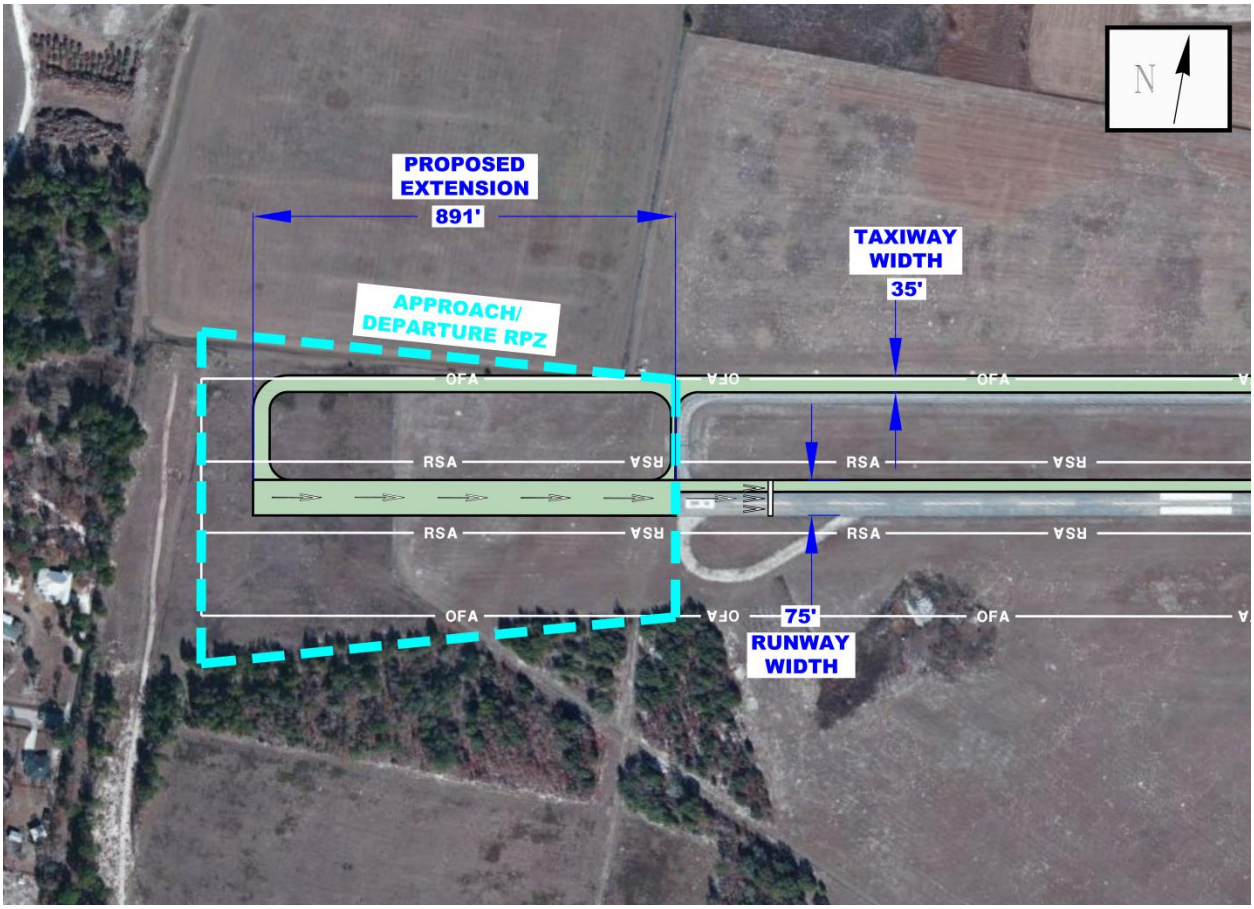
Source: RS&H, 2013

Table 6-9 Proposed Declared Distances – Single Direction Extension Alternative (East)

Declared Distance	RWY 8	RWY 26
Takeoff Run Available (TORA)	2,809'	3,700'
Takeoff Distance Available (TODA)	2,809'	3,700'
Accelerate-Stop Distance Available (ASDA)	3,711'	3,900'
Landing Distance Available (LDA)	3,711'	2,809'

Source: RS&H, 2013

Exhibit 6-7 Single Direction Extension Alternative (West)



Source: RS&H, 2013

Table 6-10 Single Direction Extension Alternative (West)

Declared Distance	RWY 8	RWY 26
Takeoff Run Available (TORA)	3,700'	2,809'
Takeoff Distance Available (TODA)	3,700'	2,809'
Accelerate-Stop Distance Available (ASDA)	3,900'	3,711'
Landing Distance Available (LDA)	2,809'	3,711'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the Single Direction Extension Alternative in regards to the established development evaluation criteria.

Strengths:

- The proposed alternative would bring Runway 8-26 up to FAA runway and taxiway standards and provide the capability of Runway 8-26 to accommodate RDC B-II critical aircraft.
- The proposed design features of the alternative conform to the intent of FAA design standards and other planning guidelines, thereby increasing safety.
- The alternative maintains the utility of Runway 8-26, thereby ensuring and further increasing the operational flexibility of Airport.

Weaknesses:

- The alternative must utilize declared distances to be feasible and thus does not fully utilize full runway extension for operational purposes.
- The alternative only fulfills takeoff requirements for critical aircraft in one direction and must utilize declared distances to be feasible. This does not make full use of infrastructure development.
- The alternative may have several potential social and environmental implications (see Section 6.4.4)

6.4.3 Dual Direction Extension Alternative

Runway 8-26 is a crucial part of the runway system at OCF, providing crosswind coverage for airplanes with lesser crosswind capabilities and adding operational balance to the Airport's facilities. However, as previously indicated, the existing conditions of the runway do not meet all FAA design standards, and the runway is currently not capable of accommodating the 3,700-foot takeoff distance required for the critical aircraft.

Additionally, as discussed in Section 6.4.2, future development must consider that for all practical purposes, the Airport is physically constrained to the east and west by its existing property boundaries. Therefore, a Runway 8-26 alternative must meet the design requirements for the RSA, ROFA, and RPZ within the current airport property.

The Dual Direction Extension Alternative aims to address these considerations by proposing a 891-foot extension to both ends of the runway, bringing the total physical runway length to 4,791 feet. This alternative will make use of displaced thresholds and declared distances in order to accommodate the RSA, ROFA, and RPZ within the current airport property boundaries. Additionally, this alternative will fully correct other previously existing standards deficiencies of Runway 8-26 and its associated parallel taxiway, and see the natural extension of the taxiway system to access the relocated runway ends.

Exhibit 6-8 depicts the features associated with the Dual Direction Extension Alternative.

Table 6-5 presents the proposed declared distances for the alternative demonstrating the maximum distances available for takeoff, rejected takeoff, and landing.

Exhibit 6-8 Dual Direction Extension Alternative

Source: RS&H, 2013

Table 6-11 Proposed Declared Distances – Dual Direction Extension Alternative

Declared Distance	RWY 8	RWY 26
Takeoff Run Available (TORA)	3,700'	3,700'
Takeoff Distance Available (TODA)	3,700'	3,700'
Accelerate-Stop Distance Available (ASDA)	4,600'	4,600'
Landing Distance Available (LDA)	3,510'	3,510'

Source: RS&H, 2013

The following are the primary strengths and weaknesses of the Dual Direction Extension Alternative in regards to the established development evaluation criteria.

Strengths:

- The proposed alternative would bring Runway 8-26 up to FAA standards and provide the capability of Runway 8-26 to accommodate both east and west departures of the critical aircraft.

- The proposed design features of the alternative conform to the intent of FAA design standards and other planning guidelines, thereby increasing safety.

- The alternative maintains the utility of Runway 8-26, thereby ensuring and further increasing the operational flexibility of Airport.

Weaknesses:

- The alternative must utilize declared distances to be feasible and thus does not fully utilize full runway extension for operational purposes

- The alternative may have several potential social and environmental implications (see Section 6.4.4).

6.4.4 Preliminary Environmental Analysis for Runway 8-26 Alternatives

Table 6-12 presents a summary of the potential for environmental impacts associated with the Runway 8-26 alternatives as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

Table 6-12 Preliminary Environmental Analysis – Runway 8-26 Alternatives

Environmental Resource Categories	Runway 8-26 No Action Alternative	Single Direction Extension Alternative	Dual Direction Extension Alternative
Noise	-	✓	✓
Compatible Land Use	-	✓	✓
Socioeconomics	-	-	-
Fish, Wildlife, and Plants	-	✓	✓
Water Quality	-	✓	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

The Runway 8-26 No Action Alternative represents a no-build scenario, and therefore acts as the baseline against which the other alternatives are compared. Potential impacts identified for the build alternatives (Single Direction Extension Alternative and the Dual Direction Extension Alternative) include the following:

- Temporary construction-related impacts (e.g., construction noise, dust, heavy equipment traffic, construction debris, air pollution, water pollution)

- Potential to alter the Airport's aviation noise contours thereby affecting compatible land uses (i.e., residential land uses) surrounding the Airport.

- Ground disturbing activities such as clearing, grading, and paving could affect threatened and/or endangered species in the area (e.g., gopher tortoises). Field investigations by a qualified biologist would be required to quantify potential impact.

- Increase the amount of impervious surface on Airport property, potentially increasing stormwater runoff, which may impact water quality. Stormwater management systems may be required to reduce potential water quality impacts.

Of the two build alternatives, the Dual Direction Extension Alternative has a greater potential for environmental impacts given the larger amount of additional impervious surface associated with the alternative.

6.4.5 Preliminary Fiscal Considerations for Runway 8-26 Alternatives

The costs associated with the proposed Runway 8-26 development alternatives are a direct result of developments that aim to provide optimal and efficient facilities for the runway system to accommodate projected demand in accordance with FAA design standards.

Table 6-13 below presents cost estimate opinions for the Runway 8-26 build alternatives. Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order-of-magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors.

Table 6-13 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund, assuming a future wind analysis provides appropriate justification for the need of a crosswind runway at OCF.

Table 6-13 Planning Level Development Costs – Runway 8-26 Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
Runway 8-26: Single Direction Extension	$2,390,438	$62,906	$62,906	**$2,516,250**
Runway 8-26: Dual Direction Extension	$4,632,438	$121,906	$121,906	**$4,876,250**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.5 AIRFIELD ALTERNATIVES – TAXIWAY SYSTEM

The taxiway system is a critical part of the airfield as it serves the purpose of providing a link between the terminal area and the runway system. Optimal taxiway layouts both enhance airfield safety and enable efficient taxiing of airplanes.

Currently, full-length parallel taxiways serve Runway 18-36 and Runway 8-26. A full-length parallel taxiway represents a basic and efficient design, which the FAA recommends for non-precision approaches with visibility minimums less than 1 statute mile, and is a requirement for precision approaches. To comply with the operational requirements and ensure operational efficiency, the Airport will maintain the full-length parallel taxiway system associated with both Runways 18-36 and 8-26 as part of any proposed development.

The existing Taxiway A maintains a runway separation of 300 feet from A1 to A7, transitioning to a 400-foot separation between A7 and A8. This creates a "dogleg" feature that affects the operational performance of Taxiway A. This design both constrains aircraft from exiting the runway and results in pavement stress and deterioration from the maneuvering of aircraft through the dogleg transition. Not only is this inefficient, but pilots are not typically expecting to encounter such a feature, and must use a high steer angle to negotiate the dogleg. As shown in Exhibit 6-9, the transition alters the aircraft line of sight raising additional safety concerns.

Exhibit 6-9 Taxiway A "Dogleg" Transition

Source: RS&H, 2013

Within the planning period, the aviation demand forecasts project substantial use by large cargo aircraft. Therefore, the airfield and the taxiway system must plan to accommodate the future critical aircraft, the Boeing 767-200ER. This requires a Runway Design Code (RDC) D-IV, and Taxiway Design Group (TDG) 5 standards.

The following sections present the optimal taxiway alternatives for OCF that provide for enhanced safety and efficiency of the airfield, conform to FAA standards, and accommodate the forecast aviation activity.

6.5.1 Full-length Taxiway A Realignment

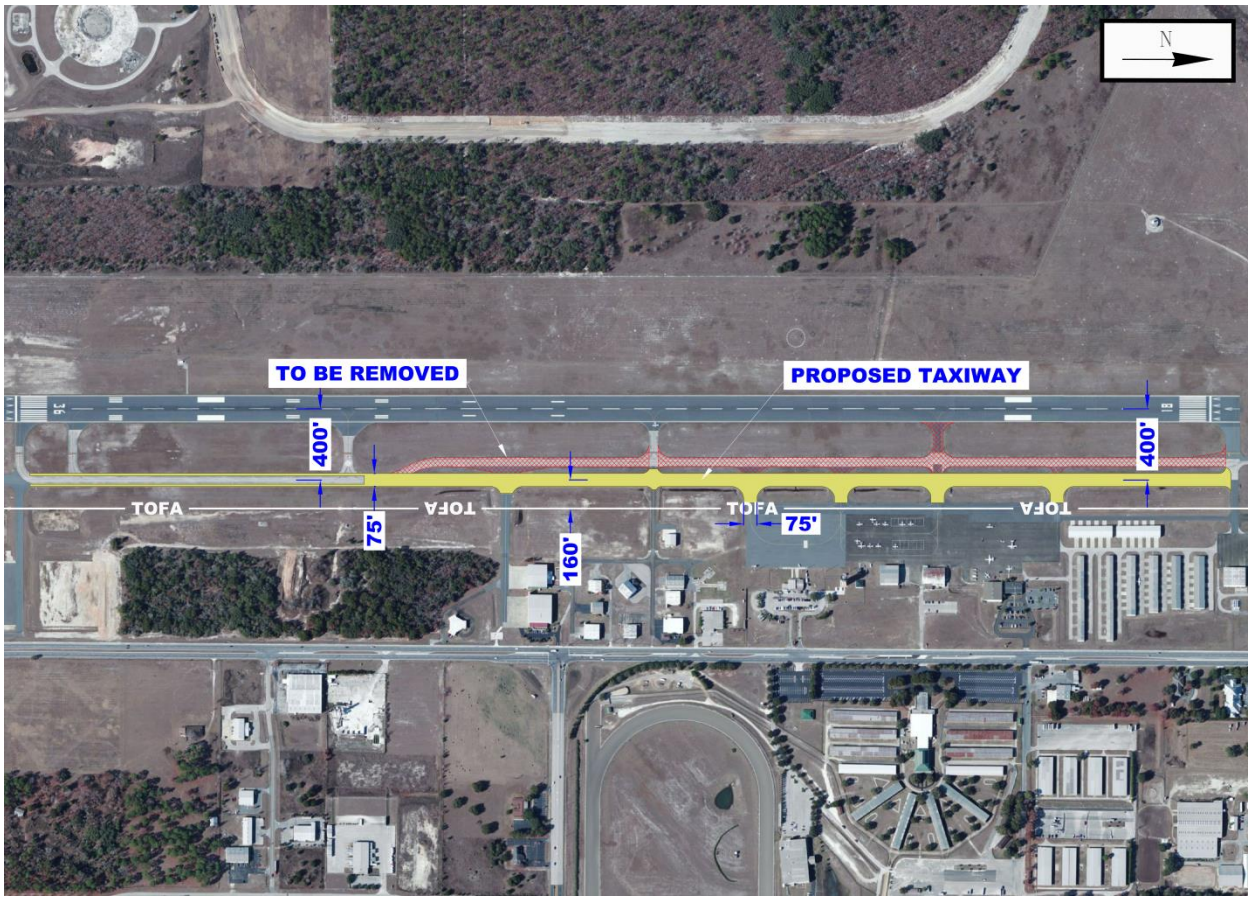
One taxiway alternative that both accommodates the larger critical aircraft and addresses the operational inefficiencies of Taxiway A is the Full-length Taxiway A Realignment.

This alternative, previously identified on the 2011 FAA approved ALP, consists of realigning approximately 4,900 of Taxiway A from A1 to A7 to a 400-foot separation from Runway 18-36. This action would fully remove the dogleg design feature and conform to the standards for the critical aircraft. As part of this alternative, the fillets and connectors expected to serve the critical aircraft will be widened. Additionally, the pavement of Taxiway A and connectors will be strengthened to accommodate the heavier aircraft.

The proposed realigned taxiway will require additional development of the Airport's existing main stormwater drainage swale. Additionally, the taxiway safety areas associated with the TDG 5 critical aircraft will overlap the terminal area apron by approximately 30 feet, effectively reducing the terminal apron area by over 5,000 square yards.

Exhibit 6-10 depicts the features associated with the Full-length Taxiway A Realignment.

Exhibit 6-10 Full-length Taxiway A Realignment



Source: RS&H, 2013

The following are the primary strengths and weaknesses of the Full-length Taxiway A Realignment in regards to the established development evaluation criteria.

Strengths:

- The proposed design features of the alternative conform to the intent of FAA design standards and recommendations.
- An east-side taxiway system provides the most efficient route from terminal environment to runway system.
- The alterative proposes development that fully removes the dogleg design feature. This will result in operational increases in safety, efficiency, and capacity.
- The alternative allows for forecast growth throughout and beyond the planning period.
- The development would provide the Airport with the operational capability to support large cargo aircraft, and is therefore compatible with the Airport's strategic vision.

Weaknesses:

- Due to safety area requirements, the alternative negatively impacts existing facilities by reducing the usable apron area.
- The proposed alternative does not contribute to additional balance between the Airport's uses. Varying aircraft types, characteristics, and requirements of general aviation, charter, corporate, and cargo (both equine and non-equine) will all still operate in the same environment.
- Additional design complexity, cost, and potential environmental impacts may result from affecting the prime airfield stormwater drainage.

6.5.2 Partial Taxiway A Realignment

The projected forecasts previously discussed in this Master Plan detail that the majority of operations at OCF are associated with general aviation. Throughout the planning period, general aviation represents approximately 70 percent of the total activity of the Airport. While the Airport expects and is appropriately positioning for increased levels of equine and non-equine air cargo, it is important to provide the appropriate facilities for the largest projected users of the Airport, general aviation.

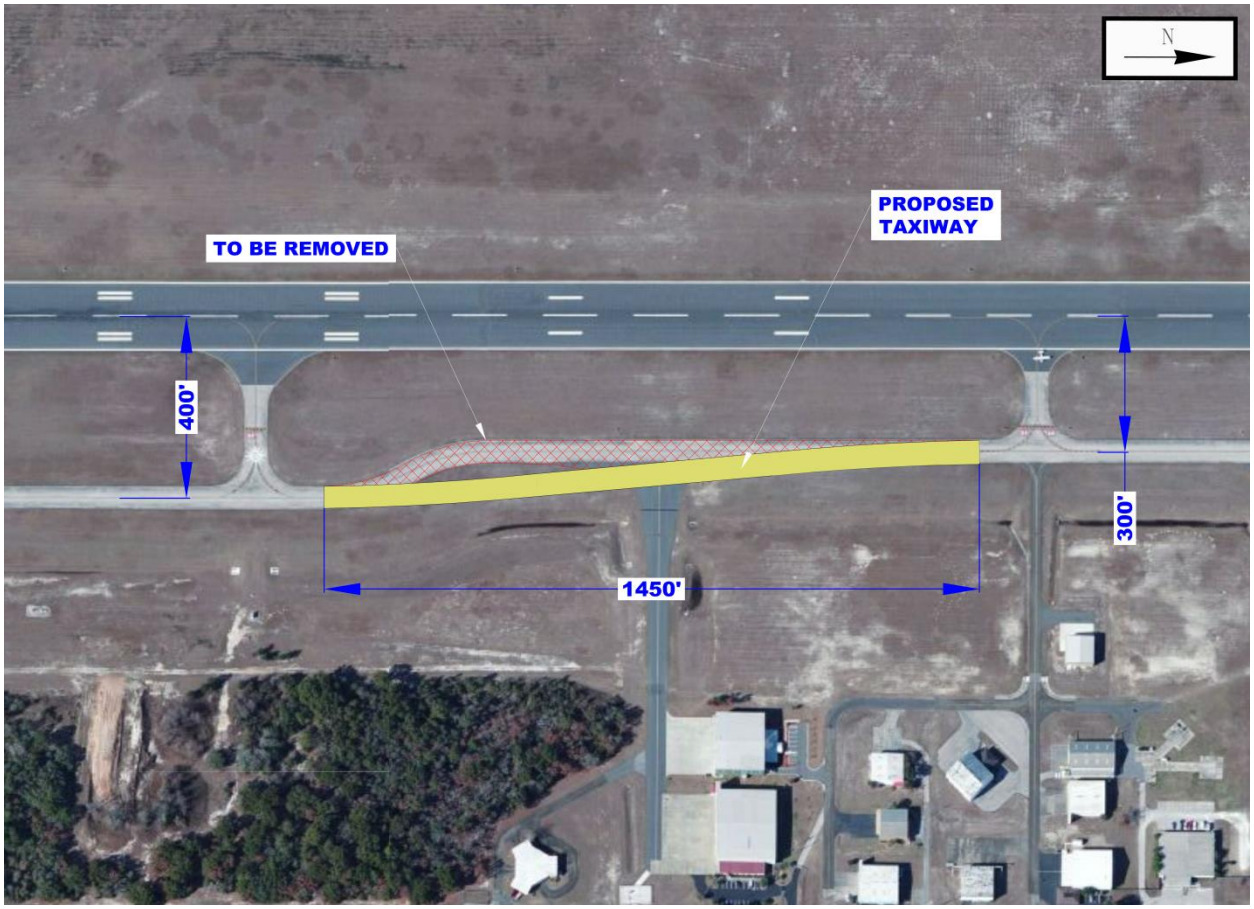
FAA Advisory Circular 150/5300-13A *Airport Design* provides guidance that it is often more practical and economical to design some airport elements to a different design groups than the most demanding RDC/TDG.

The Partial Taxiway A Realignment alternative considers this guidance by addressing the operational issues and concerns with Taxiway A, but not the accommodation of the future critical aircraft. The alternative proposes to realign approximately 1,500 feet of Taxiway A to decrease the steering angle required for taxiing aircraft and enhance taxiway line of sight.

This alternative would maintain the design standards for the previous critical aircraft representing the requirements for general aviation aircraft (RDC D-II, TDG 3). Therefore, another part of the airfield would need to be developed to accommodate the future critical aircraft (RDC D-IV, TDG 5) associated with cargo operations.

Exhibit 6-11 depicts the design features associated with the Partial Taxiway A Realignment.

Exhibit 6-11 Partial Taxiway A Realignment



Source: RS&H, 2013

The following are the primary strengths and weaknesses of the Partial Taxiway A Realignment in regards to the established development evaluation criteria.

Strengths:

- The proposed development will result in a reduction of steer angle and increase line of sight, thereby increasing safety, efficiency, capacity, and operational performance of Taxiway A.
- The design features of the alternative comply with FAA design standards for the majority of general aviation aircraft.
- The alternative proposes a feasible and cost effective airfield improvement alternative.
- As the alternative would require cargo to be supported by another area of the airfield, it provides balance between airfield elements.
- The proposed development does not adversely affect existing infrastructure, drainage, or require fillet or pavement strength improvement.

Weaknesses:

- The proposed alternative only provides an incremental safety and operational improvement, as it does not completely remove the dogleg design feature from Taxiway A.

- As previously discussed, this proposed alternative itself does not accommodate substantial use by the future critical aircraft.

6.5.3 West-Side Parallel Taxiway

As previously presented, the existing parallel taxiway for Runway 18-36, Taxiway A, maintains a 300-foot runway to taxiway separation for more than 4,900 feet of its length. While this separation is suitable to accommodate the FAA design standards for most general aviation aircraft, it will not accommodate the required 400-foot runway to taxiway separation for the future critical aircraft.

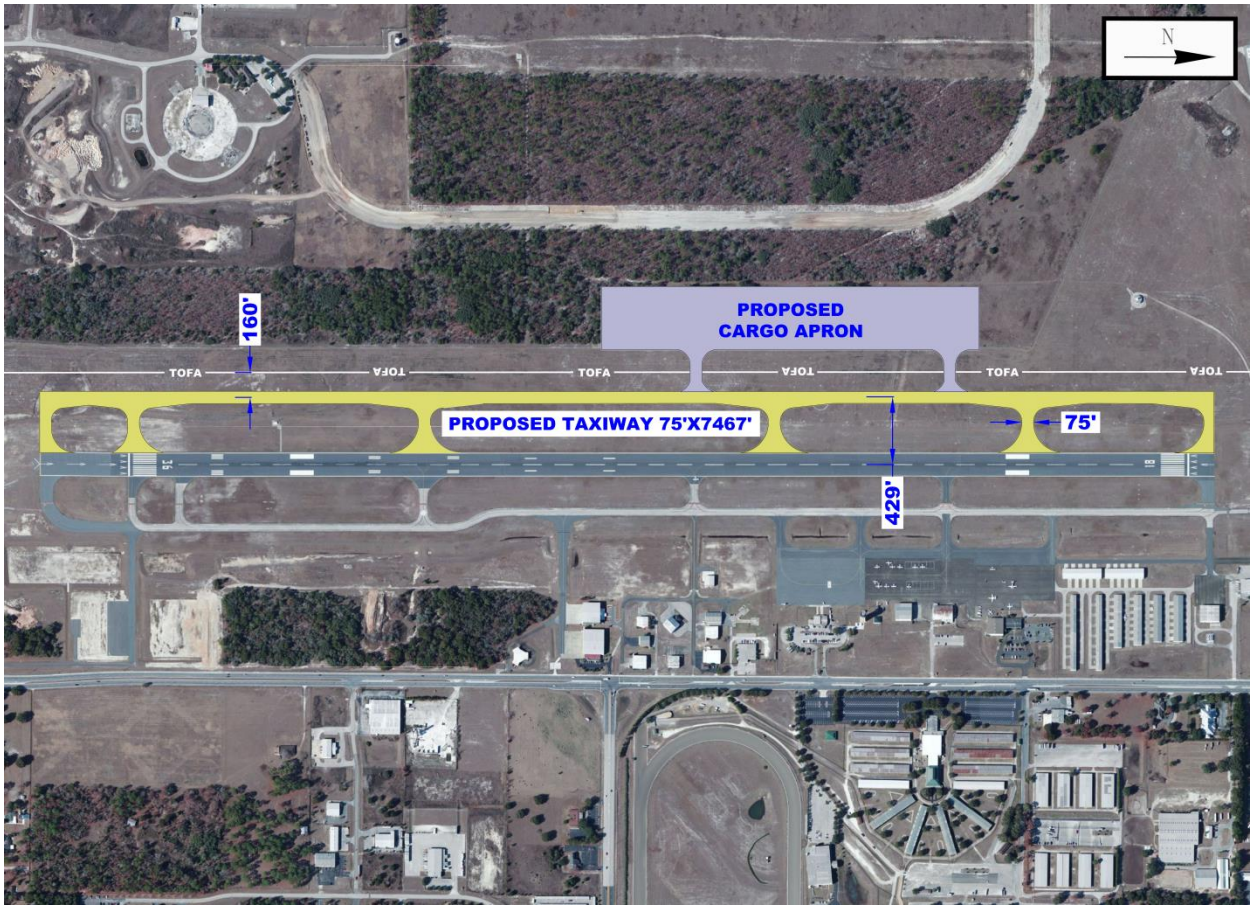
With the future emphasis of growth of cargo activity in conjunction with the forecast aviation activity and the Airport's strategic vision, the airfield and taxiway system must be suitable to accommodate the substantial use of these aircraft.

On the 2011, FAA approved ALP, the Airport identified a west-side parallel taxiway as means to address these design and operational issues. Construction of a full length West-Side Parallel Taxiway, would serve the purpose of augmenting the existing taxiway system at OCF. It would also accommodate the critical aircraft as well as providing operational balance to the airfield.

Additionally, a west-side parallel taxiway will also aim to support the continued aviation and industrial development on the west side of the airfield. This proposed taxiway may be phased through construction of "stub" taxiways at key locations along the runway. These "stub" taxiways will be connected over time and as demand warrants, with the ultimate development to be a full west parallel taxiway to Runway 18-36.

Exhibit 6-12 depicts the design features of the West-Side Parallel Taxiway shown in conjunction with the West Cargo Alternative, detailed on the 2011 ALP.

Exhibit 6-12 West-Side Parallel Taxiway



Source: RS&H, 2013

The following are the primary strengths and weaknesses of the West-Side Parallel Taxiway in regards to the established development evaluation criteria.

Strengths:

- The proposed alternative accommodates the future critical aircraft
- The proposed development does not affect existing airfield infrastructure, provides balance between airfield elements, and increases safety and efficiency of the airfield.
- The proposed alternative conforms to the continued aeronautical and non-aeronautical west-side development, supporting long-term financial self-sufficiency of the Airport.
- The alternative allows for forecast growth throughout and beyond the planning period.
- The alternative represents proactive and not reactive development that allows the airport to grow while providing the flexibility to adjust for unforeseen changes.
- Satisfies the needs of both general aviation and cargo users, thus supporting the strategic vision of the Airport to maintain current operations and attract additional cargo operations.

Weaknesses:

- The alternative would have operational restrictions when ADG IV utilize the runway due to inadequate wingtip separation from Taxiway A
- The alternative may have several potential social and environmental implications (See Section 6.5.4).
- Overall, the alternative represents a large and complex, undertaking.

6.5.4 Preliminary Environmental Analysis for Taxiway Alternatives

Table 6-14 presents a summary of the potential for environmental impacts associated with the taxiway system alternatives as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

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Table 6-14 Preliminary Environmental Analysis – Taxiway Alternatives

Environmental Resource Categories	Full-length Taxiway A Realignment	Partial Taxiway A Realignment	West-Side Parallel Taxiway
Noise	-	-	-
Compatible Land Use	-	-	-
Socioeconomics	-	-	-
Fish, Wildlife, and Plants	✓	✓	✓
Water Quality	-	-	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

The Full-length Taxiway A Realignment, Partial Taxiway A Realignment, and West-Side Parallel Taxiway alternatives would have potential temporary construction-related impacts. The taxiway alternatives could also have the potential to impact threatened and endangered species (i.e., gopher tortoises) due to associated ground disturbing activities such as clearing, grading, and paving. However, field investigations by a qualified biologist would be required to determine if there are threatened and endangered species which could be potentially impacted by either of these build alternatives.

The West-Side Parallel Taxiway alternative has the potential to add impervious surfaces on Airport property, which could potentially increase stormwater runoff and affect water quality. Stormwater management systems would be developed and constructed in order to reduce potential water quality impacts.

The West-Side Parallel Taxiway would add the most area of impervious surface to Airport property. Therefore, of the three alternatives, the West-Side Parallel Taxiway would have the greatest potential for environment impacts. The Partial Taxiway A Realignment would include the least amount of ground disturbing activities, and would therefore have less potential for environmental impacts than the other taxiway alternatives.

6.5.5 Preliminary Fiscal Considerations for Taxiway System Alternatives

The costs associated with the proposed taxiway alternatives are a direct result of developments that aim to provide optimal and efficient facilities for the taxiway system to accommodate projected demand in accordance with FAA design standards. In addition to considering the operational, best planning factors, and environmental considerations, the evaluation of alternatives must consider the fiscal advantages and disadvantages.

Table 6-15 presents cost estimate opinions for the taxiway system alternatives. Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order of- magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors. Table 6-15 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-15 Planning Level Development Costs – Taxiway System Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
Full-length Taxiway A Realignment	$6,157,188	$162,031	$162,031	**$6,481,250**
Partial Taxiway A Realignment	$1,340,391	$35,273	$35,273	**$1,410,937**
West-Side Parallel Taxiway	$6,980,126	$183,687	$183,687	**$7,347,500**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.6 CARGO ALTERNATIVES

Cargo and equine transport represent an important segment of aviation activity at OCF, crucial to the Airport's strategic vision and supporting the long-term financial self-sufficiency of the Airport.

The aviation demand forecasts presented in Section 4.3.2 forecast a steady increase of cargo operations throughout the planning period. By 2032, this increase in activity will result in over 500 cargo-related operations of the Boeing 767-200ER critical aircraft. Additionally, as discussed in Section 5.3.6, the state of Florida is advancing a statewide initiative to transform Florida into a "global hub for trade." This initiative aims to develop logistics, freight, and export oriented activities at strategic locations throughout the state. Given its central location and the ease of access relative to highway and rail infrastructure, the Airport desires to position for increased air cargo activates relative to this initiative.

Therefore, the cargo alternatives aim to accommodate the long-term needs of large cargo aircraft associated with the projected demand while providing facilities that will attract new cargo operations. This section presents and evaluates the selected and refined cargo alternatives for the Airport to meet this goal.

6.6.1 No Action Cargo Alternative

Currently the Airport accommodates the parking and loading of large equine and non-equine cargo aircraft at the terminal area apron. One potential cargo alternative consists of evaluating

the existing area to accommodate future cargo operations. Therefore, a No Action Cargo Alternative represents a no-build development alternative.

The existing terminal apron consists of approximately 21,400 square yards of pavement configured and marked by an apron taxilane to allow an ADG IV aircraft to park parallel with the terminal. This apron area also has a 20 foot-by-40 foot concrete pad in order to support the increased weight of heavy cargo aircraft.

From an operational and design standards standpoint, this area has sufficient capability to support the dimensional characteristics of the critical aircraft, the Boeing 767-200ER. However, it is important to note that this area would only be able to support a single aircraft of this size at any one time. Therefore, the cargo capabilities of the Airport would immediately be at capacity when one aircraft occupies the apron. Additionally, with increased operations, pavement condition adjacent to the concrete hard stand would suffer from increased wear and degradation.

The following are the primary strengths and weaknesses of the No Action Cargo Alternative in regards to the established development evaluation criteria.

Strengths:

- The No Action Cargo Alternative fully accommodates the current and future critical aircraft and conforms to FAA design standards and recommendations.
- The alternative maintains cargo operations on the east side of the airfield, thereby maintaining the most efficient route from the terminal environment to the runway system.
- The area has proven to be capable of accommodating cargo aircraft and activities associated with both equine and non-equine cargo.
- The existing terminal area used for equine air cargo is in close proximity to activity associated with Ocala Breeders' Sales Company.

Weaknesses:

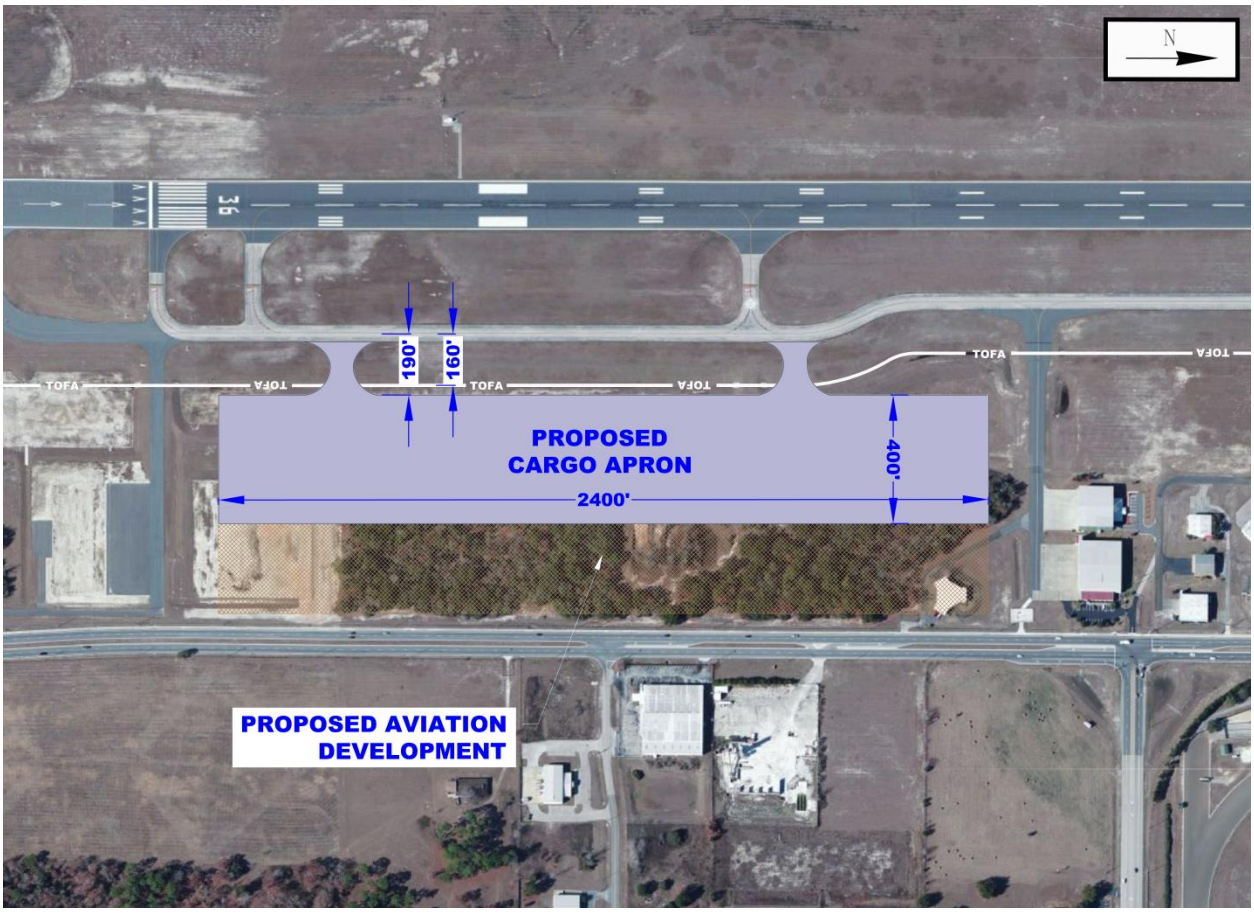
- Increased cargo on the east side of the airfield does not provide operational balance between general aviation and cargo activities.
- Alternative is unable to accommodate growth throughout the planning period.
- The existing area cannot support additional cargo operations, and is therefore is not ultimately compatible with the Airport's strategic vision.

6.6.2 East Cargo Alternative

The construction of a dedicated cargo facility at OCF will ensure that the increases in cargo activity are not limited by inadequate facilities. A dedicated facility will provide the best means of accommodating the critical and other large cargo aircraft, thereby allowing the Airport to appropriately support cargo activity. This approach not only meets the strategic vision of the Airport, but also aims to utilize additional infrastructure development to increase revenue sources.

An East Cargo Alternative proposes the construction of a dedicated cargo apron on the southeast side of the airfield. As shown in Exhibit 6-13, the proposed alternative consists of a 2,400 foot x 400 foot cargo apron centered approximately 1,800 feet northeast of the Runway 36 threshold. This apron meets the facility requirements by providing apron envelope dimensions capability of supporting independent parking and movement of two cargo aircraft. Additionally, it will provide capability to accommodate equine and non-equine related cargo hangars, buildings, and other facilities.

Exhibit 6-13 East Cargo Alternative



Source: RS&H, 2013

The following are the primary strengths and weaknesses of the East Cargo Alternative in regards to the established development evaluation criteria.

Strengths:

- The proposed development alternative provides the appropriate facilities for the Airport to accommodate the critical aircraft, the projected cargo activity, and to attract additional cargo operations.
- The alternative allows the Airport the ability to make use of an underutilized portion of Airport property.

- The proposed east-side cargo apron is in close proximity to activity associated with Ocala Breeders' Sales Company.

Weaknesses:

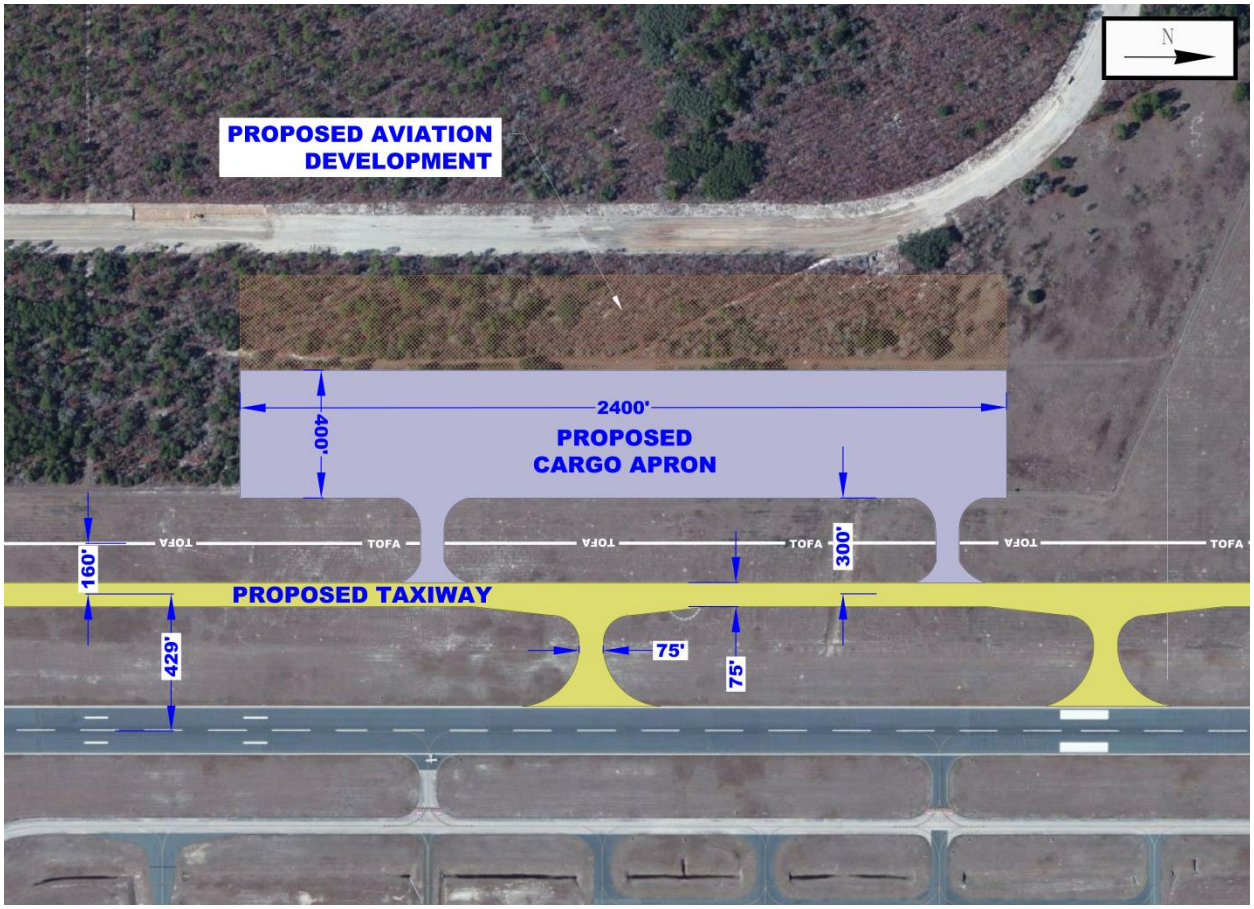
- The proposed cargo apron is situated between existing and proposed infrastructure and therefore does not have the ability to expand beyond the proposed development.
- An east-side cargo development does not support continued West-Side industrial/commercial aeronautical and non-aeronautical development.
- The proposed alternative does not provide separation of cargo and general aviation areas and activities. Therefore, the Airport would not gain additional operational performance.
- The proposed development is in close proximity to existing community infrastructure and activities to the east of SW 60th Ave. East-side cargo development may potentially result in increased aviation noise and truck traffic on SW 60th Ave.

6.6.3 West Cargo Alternative

The construction of a dedicated cargo facility at OCF will ensure that the increases in cargo activity are not limited by inadequate facilities. A dedicated facility would provide the best means of accommodating the critical and other large cargo aircraft, thereby allowing the Airport to appropriately support cargo activity. This approach not only meets the strategic vision of the Airport, but also aims to utilize additional infrastructure development to increase revenue sources.

The West Cargo Alternative proposes the construction of a dedicated cargo apron located on the West-Side of the airfield, centered approximately 2,600 feet southwest from the Runway 18 threshold. The alternative proposes the same physical apron infrastructure as the East Cargo Alternative, consisting of a 2400 foot x 400 foot cargo apron. This apron would provide the capability of supporting independent parking and movement of two cargo aircraft, as well as equine and non-equine buildings. Exhibit 6-14 presents the West Cargo Alternative.

Exhibit 6-14 West Cargo Alternative



Source: RS&H, 2013

The following are the primary strengths and weaknesses of the West Cargo Alternative in regards to the established development evaluation criteria.

Strengths:

- The proposed development alternative provides the appropriate facilities for the Airport to accommodate the future critical aircraft, the projected cargo activity, and attract additional cargo operations.
- The proposed development provides a separate location for large cargo aircraft away from general aviation activities on the east side, thereby allowing balance to airfield purposes, better meeting the needs of users.
- Large commercial trucks supplying cargo area would access via SW 67th Ave, thereby avoiding interactions/traffic with SW 60th Ave.
- A West Cargo Alternative supports further West-Side industrial/commercial aeronautical and non-aeronautical development and is thereby compatible with the Airport's strategic vision.

- Alternative makes use of an underutilized land area on Airport property, which provides for highest on-airport land use. Additionally, the area has ability to expand beyond the planning horizon.

Weaknesses:

- The alternative may have several potential social and environmental implications (See Section 6.6.4).
- Overall, the alternative represents a large, complex, and costly undertaking.
- Requires additional infrastructure (West-Side parallel taxiway).

6.6.4 Preliminary Environmental Analysis for Cargo Apron Alternatives

The preliminary environmental analysis for the cargo alternatives considered the environmental impact categories described in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures.* Table 6-16 presents an overview of the potential for environmental impacts associated with each cargo alternative.

Table 6-16 Preliminary Environmental Analysis – Cargo Alternatives

Environmental Resource Categories	No Action Cargo Alternative	East Cargo Alternative	West Cargo Apron Alternative
Noise	-	✓	✓
Compatible Land Use	-	✓	✓
Socioeconomics	-	-	-
Fish, Wildlife, and Plants	-	✓	✓
Water Quality	-	✓	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

The No Action Cargo Alternative represents a no-build scenario, and represents the baseline against which the other developments should be compared. Potential impacts identified for the build alternatives (West Cargo Alternative and East Cargo Alternative) include the following:

- Temporary construction-related impacts (e.g., construction noise, dust, heavy equipment traffic, construction debris, air pollution, water pollution).
- The development of cargo aprons at the Airport could allow for larger aircraft to taxi and park in areas not currently utilized at the Airport. Both the West Cargo Alternative and the East Cargo Alternative have the potential to alter the lateral aviation ground noise at the Airport thereby affecting compatible land uses (i.e., residential land uses) near the Airport.
- Ground disturbing activities such as clearing, grading, and paving could affect threatened and/or endangered species in the area (e.g., gopher tortoises). Field investigations by a qualified biologist would be required to quantify potential impact.

- Increase the amount of impervious surface on Airport property, potentially increasing stormwater runoff, which may impact water quality. Stormwater management systems may be required to reduce potential water quality impacts.

Overall, the East Cargo Alternative would have more potential impacts to noise and compatible land use due to the close proximity of the residential area east of the Airport. However, both build alternatives have similar potential for environmental impacts to fish, wildlife, and plants, and water quality.

6.6.5 Preliminary Fiscal Considerations for Cargo Alternatives

The build cargo alternatives presented in Sections 6.6.2 and 6.6.3, propose developments that aim to meet projected demand before operational issues arise. Additionally, they address the long-term financial self-sufficiency of the Airport by providing facilities to attract additional aviation activity. Though these proposed facilities are in line with the strategic vision of the Airport, they still must be considered from a cost standpoint to ensure that they are responsive to the fiscal constraints of the Airport.

Table 6-17 below presents cost estimate opinions for the cargo alternatives. Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order of- magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors. Table 6-17 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund. The development costs for the West Cargo Alternative only takes into consideration the cargo apron but not the taxiway system used to connect it to Runway 18-36.

Table 6-17 Planning Level Development Costs – Cargo Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
East Cargo Alternative	$10,479,688	$275,781	$275,781	**$11,031,250**
West Cargo Alternative	$11,667,188	$307,031	$307,031	**$12,281,250**

**Denotes potential eligibility only and not federal or state agencies' commitments*
Source: RS&H, 2013

6.7 LANDSIDE/SUPPORT ALTERNATIVES

Whereas the airside components of an airport include those airfield elements directly related to the operation of aircraft, the landside component are facilities readily accessible by the users of the Airport, and other members of the public. The support facilities provide a broad set of functions for both airside and landside, ensuring the smooth, safe, and efficient operation of the Airport.

At OCF, the landside and support facilities encompass a number of activities crucial to continued operation, financial stability, and future development of the Airport, including:

- Terminal Facility and Fixed-Base Operator
- General Aviation Hangars

- Aircraft Rescue and Firefighting (ARFF)
- Air Traffic Control Tower
- Aircraft Fuel Storage
- Administration and Maintenance Facilities

This section presents the selected landside and support alternatives for OCF that satisfy the needs identified in the facility requirements for the planning period. The alternatives were first evaluated using subjective criteria, after which several were eliminated. The remaining element alternatives, some with only one alternative, are presented in Sections 6.7.1 through 6.7.4.

6.7.1 Terminal/Parking Alternative

As discussed in Section 5.3.3, a conceptual development study was conducted for the general aviation terminal facility at OCF between 2005 and 2007. This study utilized a process of consultation and research, staff interviews, and stakeholder and community input to determine appropriate conceptual design alternatives for the terminal facility.

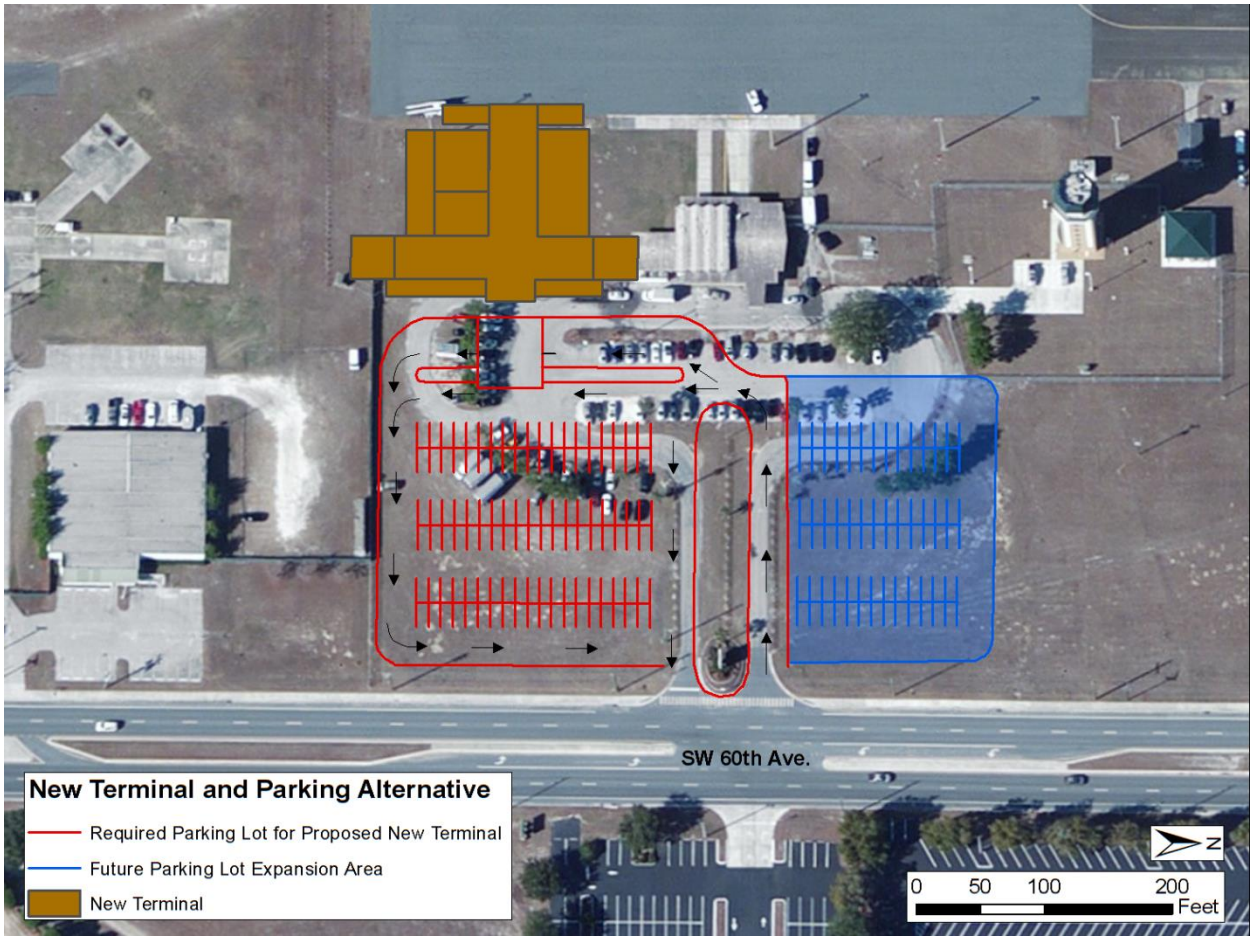
Based on this information, the study developed the building program requirements incorporating customer, office, lease, and administration and support areas. The study then evaluated multiple terminal concept designs against criteria that included:

- Interior Flexibility
- Simplicity of Expansion
- Construction Cost
- Cost of Maintenance
- Cost of Operation
- Aesthetics

The selected design incorporated the space requirements capable of supporting the future activity at the Airport in a rectangular floor plan designed for the ability to expand as demand warrants. Though the design is conceptual in nature and requires additional revision, refinement, program confirmation, and further input from potential users and tenants, it is part of the vision of the Airport to proceed with this overall concept. Additionally, the facility requirements recommended the construction of 40,000 square feet of vehicle parking lot sufficient to accommodate projected demand, to coinciding with a terminal construction.

Exhibit 6-15 presents the overall conceptual layout of the Terminal/Parking Alternative. As shown, the terminal building is proposed to be constructed immediately south of the existing terminal. This location and appropriate phasing will allow the existing terminal to remain functional during construction of the new terminal facility. After the new terminal is constructed, the former terminal would be demolished. The proposed parking area would accommodate the 114 spaces identified in the facility requirements, as well as providing space for circulation and vehicle flow. Additionally, adequate space exists for future expansion of both the terminal and the parking areas.

Exhibit 6-15 Terminal/Parking Alternative



Source: RS&H, 2013

6.7.1.1 Preliminary Environmental Analysis for Terminal/Parking Alternative

Table 6-18 presents a summary of the potential for environmental impacts associated with the terminal and parking alternative as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

Table 6-18 Preliminary Environmental Analysis – Terminal/Parking Alternative

Environmental Resource Categories	Terminal/Parking Area Alternative
Noise	-
Compatible Land Use	-
Socioeconomics	-
Fish, Wildlife, and Plants	-
Water Quality	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

Potential impacts identified for the Terminal/Parking Alternative include the following:

- Temporary construction-related impacts (e.g., construction noise, dust, heavy equipment traffic, construction debris, air pollution, water pollution).
- The Terminal/Parking Alternative have the potential to increase stormwater runoff and affect water quality by increasing the amounts of impervious surface. Stormwater management systems may be required to reduce potential water quality impacts.

6.7.1.2 Preliminary Fiscal Considerations for Terminal/Parking Alternative

Table 6-19 below presents cost estimate opinions for the Terminal/Parking Alternative.

Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order-of-magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors.

Table 6-19 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-19 Planning Level Development Costs – Terminal/Parking Alternative

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
Terminal/Parking Alternative	$600,000	$1,700,000	$1,700,000	**$4,000,000**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.7.2 Aircraft Rescue and Firefighting/Airport Maintenance

OCF is required as part of its Airport Operating Certificate to provide Aircraft Rescue and Firefighting capabilities pursuant to the requirements of FAR Part 139. As detailed in Sections 2.4.2 and 5.4.2, the Airport currently utilizes offsite equipment and personnel to meet these requirements and does not have an onsite ARFF capability.

In support of continued limited charter operations, the future growth of air cargo, and the overall increase in operations of the Airport, the facility requirements identified the need for an on-site aircraft rescue and firefighting (ARFF) facility. For planning purposes, this facility consists of a three-bay 4,700-square-foot building capable of supporting ARFF Index A/B requirements and storage for Airport maintenance equipment, with the potential to expand as demand necessitates.

The three potential site locations identified are:

- **Site 1:** Approximately 2,600 feet northeast of Runway 36 end at Taxiway A8.
- **Site 2:** Located at terminal apron area, situated between the existing terminal building and ATCT.

- **Site 3:** Approximately 1,200 feet southwest of the on-site VORTAC.

Exhibit 6-16 shows the co-located ARFF/Maintenance facility alternatives (Sites 1, 2, and 3) within the core airfield area.

Exhibit 6-16 ARFF/Maintenance Alternatives

Source: RS&H, 2013

The alternatives analysis and evaluation of the potential ARFF/Maintenance alternatives at OCF must consider a number of evaluation criteria that take into account the future operation and performance of the facility. In addition to considerations for response times, initial planning guidance and requirements of FAA Advisory Circular 150/5210-15 *Aircraft Recue and Firefighting Station Building Design*, including:

- Operational Factors
- Site Size
- Proximity to Utilities and Roads
- Topography and Station Orientation

Table 6-20 presents a comparative evaluation of the ARFF alternative sites at OCF based on selected FAA recommended site evaluation criteria, and the planned development of the Airport:

Table 6-20 Evaluation of ARFF/Maintenance Alternatives

FAA Site Evaluation Criteria	Site 1	Site 2	Site 3
Operational Factors			
Immediate Access to Airfield System/Direct Routes	✓	✓	✓
Direct GA Terminal Area Access		✓	
Direct Access to Future Cargo Terminal Area			✓
Maximum Surveillance of Airfield			✓
Minimum Obstructions/Interference	✓		✓
Site Size			
Future Expansion Ability/Increase in Index	✓		✓
Allow Exterior Amenities: Parking, Servicing Area, etc.	✓	✓	✓
Apron Ability to Support Largest Vehicle	✓	✓	✓
Proximity to Utilities and Roads			
Existing Water, Sewer, Electrical, Natural Gas Connections	✓	✓	
Access to Essential Communications Networks	✓	✓	✓
Direct Access to Airfield Service Roads			✓
Topography and Station Orientation			
Approximately Level Site Area	✓	✓	✓
Provides Orientation for Proper Response	✓	✓	✓
Adherence to Building Restriction Line	✓	✓	✓

Source: RS&H, 2013

6.7.2.1 Preliminary Environmental Analysis for ARFF/Maintenance Alternatives

Table 6-21 presents a summary of the potential for environmental impacts associated with the terminal and parking alternatives as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

Table 6-21 Preliminary Environmental Analysis – ARFF/Maintenance Alternatives

Environmental Resource Categories	Site #1	Site #2	Site #3
Noise	-	-	-
Compatible Land Use	-	-	-
Socioeconomics	-	-	-
Fish, Wildlife, and Plants	✓	-	✓
Water Quality	✓	✓	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

Alternative Sites #1, #2, and #3 would have potential temporary construction-related impacts. Development of the ARFF/Maintenance Facility in any of the three locations would create additional impervious surface and potentially increase stormwater runoff. Therefore, all three

alternatives also have the potential to impact water quality. Stormwater management systems would be developed and constructed in order to reduce potential water quality impacts.

Alternative Sites #1 and #3 would potentially impact threatened and endangered species (i.e., gopher tortoises). It is not likely alternative Site #2 would impact threatened and endangered species given the existing ground disturbance and maintenance at the proposed location. Field investigations by a qualified biologist would be required to determine if there are threatened and endangered species that could be potentially impacted by either of these alternatives.

Alternatives #1 and #3 would have similar potential for fish, wildlife, and plant impacts. Since the footprints of all three alternatives are approximately the same size, the potential for water quality impacts is also similar. Therefore, alternative Sites #1 and #3 have a greater potential for overall environmental impacts than alternative Site #2.

6.7.2.2 Preliminary Fiscal Considerations for ARFF/Maintenance Alternatives

Table 6-22 below presents cost estimate opinions for the ARFF/Maintenance Alternatives.

Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order of- magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors. Table 6-22 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-22 Planning Level Development Costs – ARFF/Maintenance Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
ARFF/Maintenance Site 1	$712,500	$18,750	$18,750	**$750,000**
ARFF/Maintenance Site 2	$665,000	$17,500	$18,750	**$700,000**
ARFF/Maintenance Site 3	$760,000	$20,000	$20,000	**$800,000**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.7.3 General Aviation Hangar Alternatives

Within the planning period, the aviation demand forecasts project the overall aviation activity of the Airport to increase. This increase in activity will see growth in both total operations, as well as in numbers of based aircraft. Historically at OCF, more than 85 percent of based aircraft, which include small piston aircraft, multi-engine aircraft, and turbine-powered aircraft, are hangared.

The facility requirements, detailed in Section 5.1.6, identified that demand for both small T-hangars, and larger conventional hangars will exceed the existing supply within the planning period. By 2032, 28 additional T-hangar units and four conventional hangars will be needed. As hangar fees, rents, and leases are important financial contributors for the Airport, future airport development should include general aviation hangar construction that accommodates demand while maximizing revenue potential. The following sections present the general aviation hangar alternatives, consisting of one alternative for T-hangar development, and three alternatives for

conventional hangar development. Section 6.7.3.5 presents a comparative analysis of the conventional hangar development alternatives.

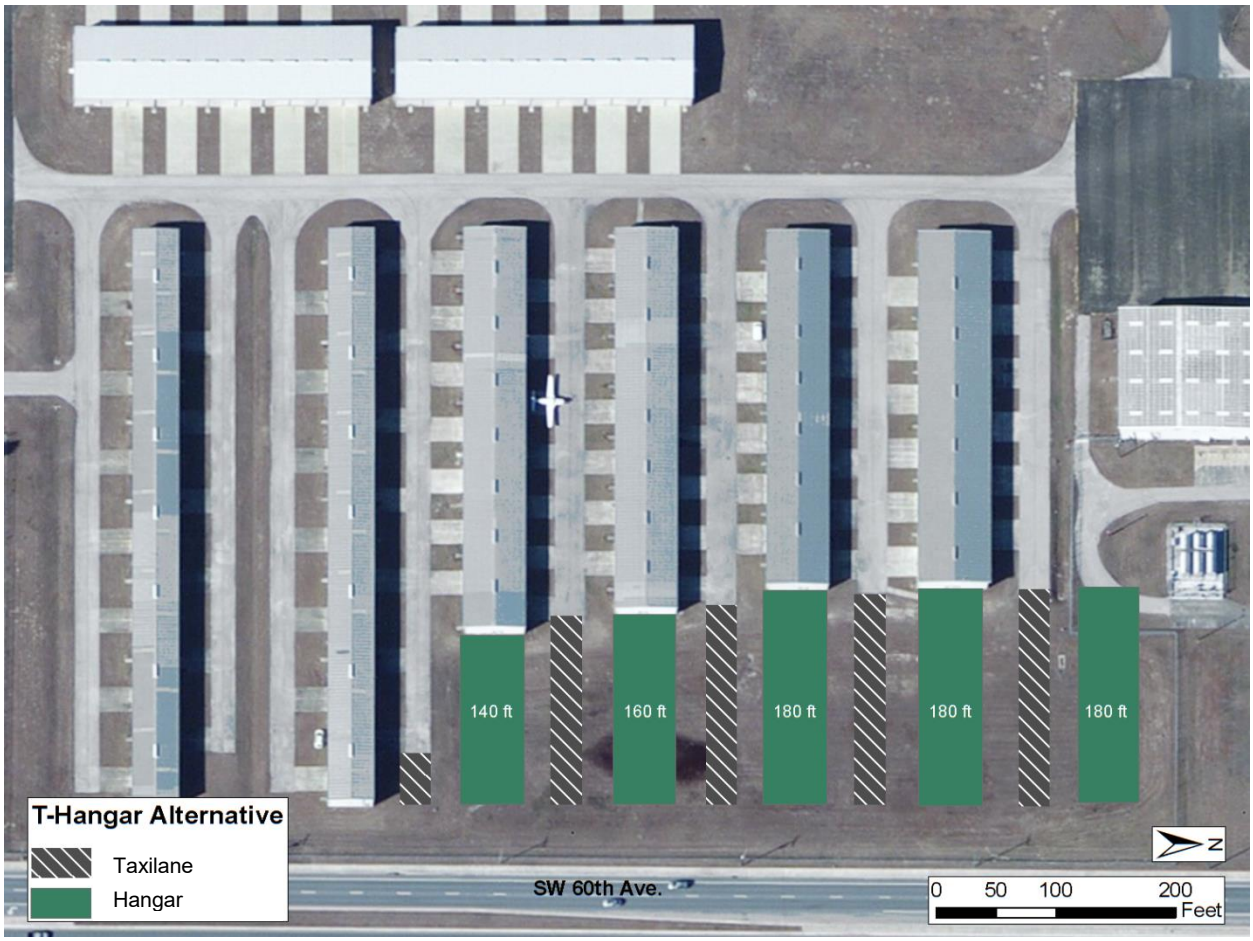
6.7.3.1 T-hangar Alternative

The T-hangar Alternative consists of expanding the capabilities of the T-hangar bank through hangar additions to meet demand in and beyond the planning period.

As demonstrated in Exhibit 6-17 the T-hangar Alternative proposes to extend the existing east-west T-hangars to their maximum extent toward SW-60th Ave. This expansion will include the removal of the stormwater detention area that currently occupies the site. Depending on the individual T-hangars, this addition will consist of adding between 165 to 185 lineal feet to the existing hangar structures. This addition will accommodate approximately 22 additional aircraft.

Furthermore, Exhibit 6-17 shows the ultimate construction of a new 14 unit east-west T-hangar, located north of the existing t-hangar buildings near the existing fuel farm. These units will exceed projected demand and will be phased for construction as development warrants.

Exhibit 6-17 T-hangar Alternative



Source: RS&H, 2013

6.7.3.2 Conventional Hangar Alternative #1

The Conventional Hangar Alternative #1 aims to meet demand and address the needs of larger corporate general aviation aircraft through development on the south side of the airfield.

This area would focus on further developing the existing area at Taxiway A10. Located approximately 1,000 feet east of the Runway 36 threshold, this area currently represents the prime development-ready site for corporate hangars at the Airport. To provide the infrastructure needed to attract corporate/maintenance tenants, this alternative proposes the construction of a new 345 foot x 135 foot apron and two 345 foot x 135 foot hangars.

Exhibit 6-18 presents the development associated with the Conventional Hangar Alternative #1.

Exhibit 6-18 Conventional Hangar Alternative #1

Source: RS&H, 2013

6.7.3.3 Conventional Hangar Alternative #2

The Conventional Hangar Alternative #2 proposes additional development located on the east side of the airfield off Taxiway A6 and A7. This alternative aims to aid in the further development of the existing corporate aviation complex, which provides a distinct and separate area for high value corporate aviation users at the Airport.

As presented in Exhibit 6-19, this alternative consists of constructing three 100 foot x 100 foot hangars and associated aprons directly adjacent to Taxiway A7. These hangars would utilize Taxiway A7 to access the runway and taxiway system. Two additional 60 foot x 60 foot hangars and associated aprons would be constructed approximately 100 feet and 300 feet respectively from Taxiway A6. These hangars would utilize Taxiway A6 to access the runway and taxiway system.

Exhibit 6-19 presents the development associated with the Conventional Hangar Alternative #2.

Exhibit 6-19 Conventional Hangar Alternative #2

Source: RS&H, 2013

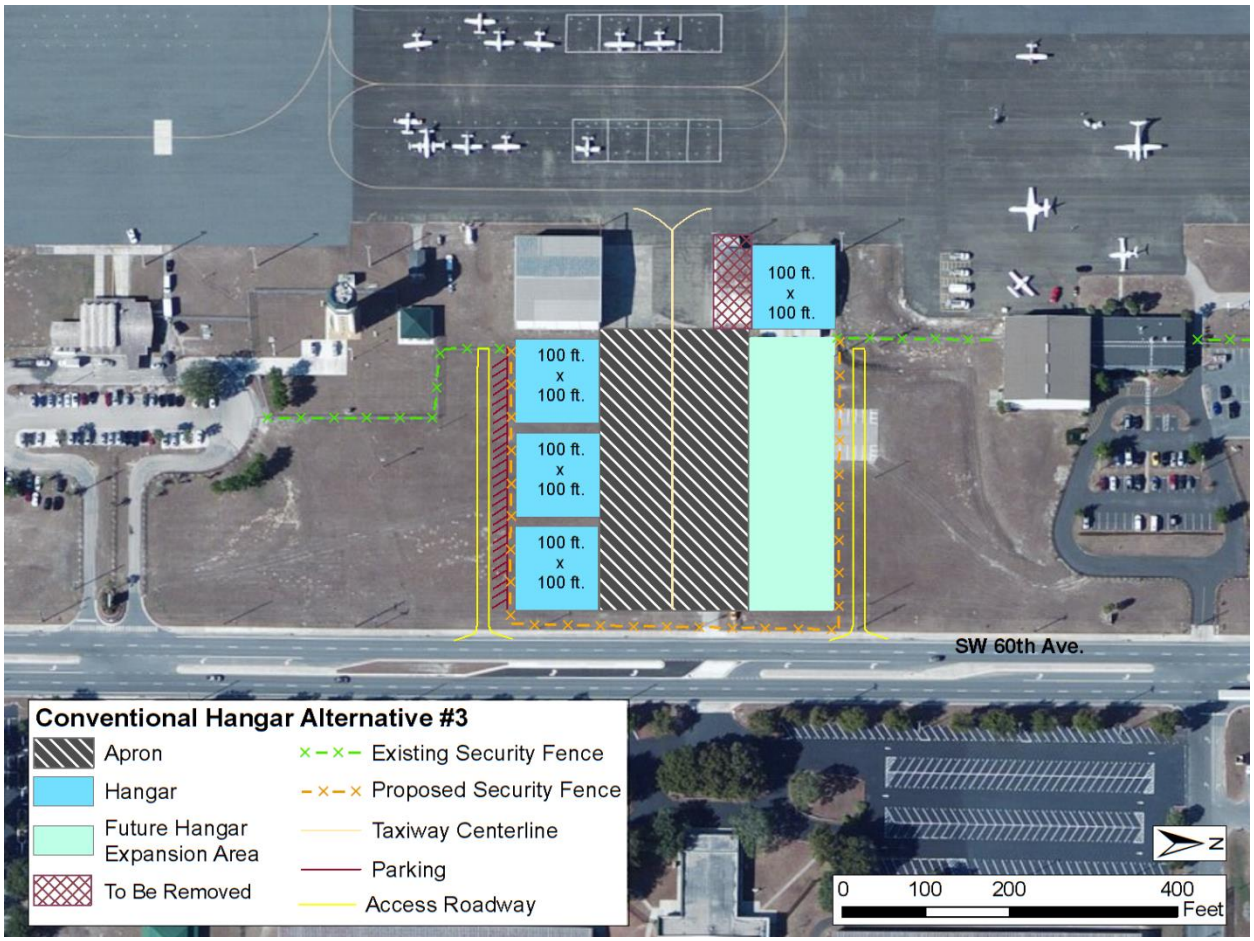
6.7.3.4 Conventional Hangar Alternative #3

The Conventional Hangar Alternative #3 proposes conventional hangar development located to the east of the general aviation apron approximately equidistant between the terminal and FBO facilities. This area is desirable to potential tenants as it is immediately adjacent to the general aviation activity and readily accessible to the services of the Airport.

As presented in Exhibit 6-20, this alternative consists of development space capable of constructing four 100 foot x 100 foot hangars directly to the east of the Ocala Aviation/Quest Avionics and Landmark hangars. The existing Ocala Aviation/Quest Avionics hangar would be relocated as part of this alternative. Additionally there would be sufficient space to construct an additional three hangars when demand warrants. For aircraft access, approximately 45,000 square feet of apron would be constructed with an associated ADG II, TDG 3 Taxilane. This taxilane would be capable of supporting corporate turbine aircraft, such as the Gulfstream IV. The Airport perimeter fence would also be re-configured to allow all vehicle parking to be outside the movement area. This is in conformance to limiting vehicle access to movement and safety areas as part of the FAR Part 139 requirements.

Exhibit 6-20 presents the development associated with the Conventional Hangar Alternative #3.

Exhibit 6-20 Conventional Hangar Alternative #3



6.7.3.5 Comparative Evaluation of Conventional Hangar Alternatives

The conventional hangar alternatives in Sections 6.7.3.1 through 6.7.3.4, presented refined development alternatives that both meet demand and address the needs of larger corporate general aviation in the planning period. Table 6-23 presents a comparative evaluation of the three conventional hangar alternatives.

Table 6-23 Comparative Evaluation of Conventional Hangar Alternatives

Criteria	Conventional Hangar Alternative #1	Conventional Hangar Alternative #2	Conventional Hangar Alternative #3
Total Number of Hangars	2	5	4
Total Conventional Hangar Area (Square feet)	93,150	42,000	40,000
New Apron Area (Square feet)	47,250	42,000	45,000
New Vehicle Parking Area (Square feet)	0	0	10,000
Linear Distance to Central Terminal Area	5,100'	2,200'	250'
Approximate Taxi Distance to Runway 18	7,700'	4,300'	2,600'
Approximate Taxi Distance to Runway 36	1,000'	3,600'	6,200'
Approximate Taxi Distance to Runway 8	11,600'	8,300'	6,500'
Approximate Taxi Distance to Runway 26	8,200'	4,800'	3,100'
Part 139 Tenant Driver Training Required	Yes	Yes	No
Expansion Potential Beyond Planning Period	Yes	Yes	Yes

Source: RS&H, 2013

6.7.3.6 Preliminary Environmental Analysis for General Aviation Hangar Alternatives

Table 6-24 presents a summary of the potential for environmental impacts associated with the general aviation hangar alternatives as determined from applicable environmental impact categories detailed in FAA Order 1050.1E *Environmental Impacts: Policies and Procedures*.

Table 6-24 Preliminary Environmental Analysis – General Aviation Hangar Alternatives

Environmental Resource Categories	Conventional Hangar Alternative #1	Conventional Hangar Alternative #2	Conventional Hangar Alternative #3	T-Hangar Alternative
Noise	✓	✓	✓	✓
Compatible Land Use	-	-	-	-
Socioeconomics	-	-	-	-
Fish, Wildlife, and Plants	✓	✓	✓	✓
Water Quality	✓	✓	✓	✓

- = No impact
✓ = Potential impact
Source: RS&H, 2013

The Conventional Hangar Alternatives #1, #2, #3, and the T-Hangar Alternative would have potential impacts including:

- Temporary construction-related impacts (e.g., construction noise, dust, heavy equipment traffic, construction debris, air pollution, water pollution).

- The implementation of general aviation hangar alternatives, in conjunction with the projected aviation demand forecasts, has the potential to change the overall noise characteristics of the Airport. The increase in available hangar space enables the additional operations and therefore additional noise. The potential impact would depend on the particular aircraft utilizing the proposed hangars and the associated number of operations.
- Ground disturbing activities such as clearing, grading, and paving could affect threatened and/or endangered species in the area (e.g., gopher tortoises). Field investigations by a qualified biologist would be required to quantify potential impact.

- Increase the amount of impervious surface on Airport property, potentially increasing stormwater runoff, which may impact water quality. Stormwater management systems may be required to reduce potential water quality impacts.

The areas of disturbance and impervious surface associated with the general aviation hangar alternatives are approximately the same size and would be constructed on areas that are not currently developed. Therefore, the potential for environmental impacts is approximately similar for each alternative.

6.7.3.7 Preliminary Fiscal Considerations for General Aviation Hangar Alternatives

Table 6-25 below presents cost estimate opinions for the general aviation hangar alternatives.

Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order of magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors.

Table 6-25 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-25 Planning Level Development Costs – General Aviation Hangar Alternatives

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
T-Hangar Alternative	$0	$400,000	$400,000	**$900,000**
Conventional Hangar Alternative #1	$0	$1,000,000	$1,000,000	**$6,054,750**
Conventional Hangar Alternative #2	$0	$1,050,000	$1,050,000	**$4,993,087**
Conventional Hangar Alternative #3	$0	$1,000,000	$1,000,000	**$5,270,486**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.7.4 Aircraft Fuel Storage Alternative

Airport Fuel Farms are facilities for the storage and/or distribution of aircraft fuels. At OCF, both aviation gasoline (avgas) and jet fuel (Jet-A) are required to satisfy the needs of local and itinerant users. Additionally fuel sales are important generators of revenue for the airport, which are crucial to its long-term financial self-sufficiency.

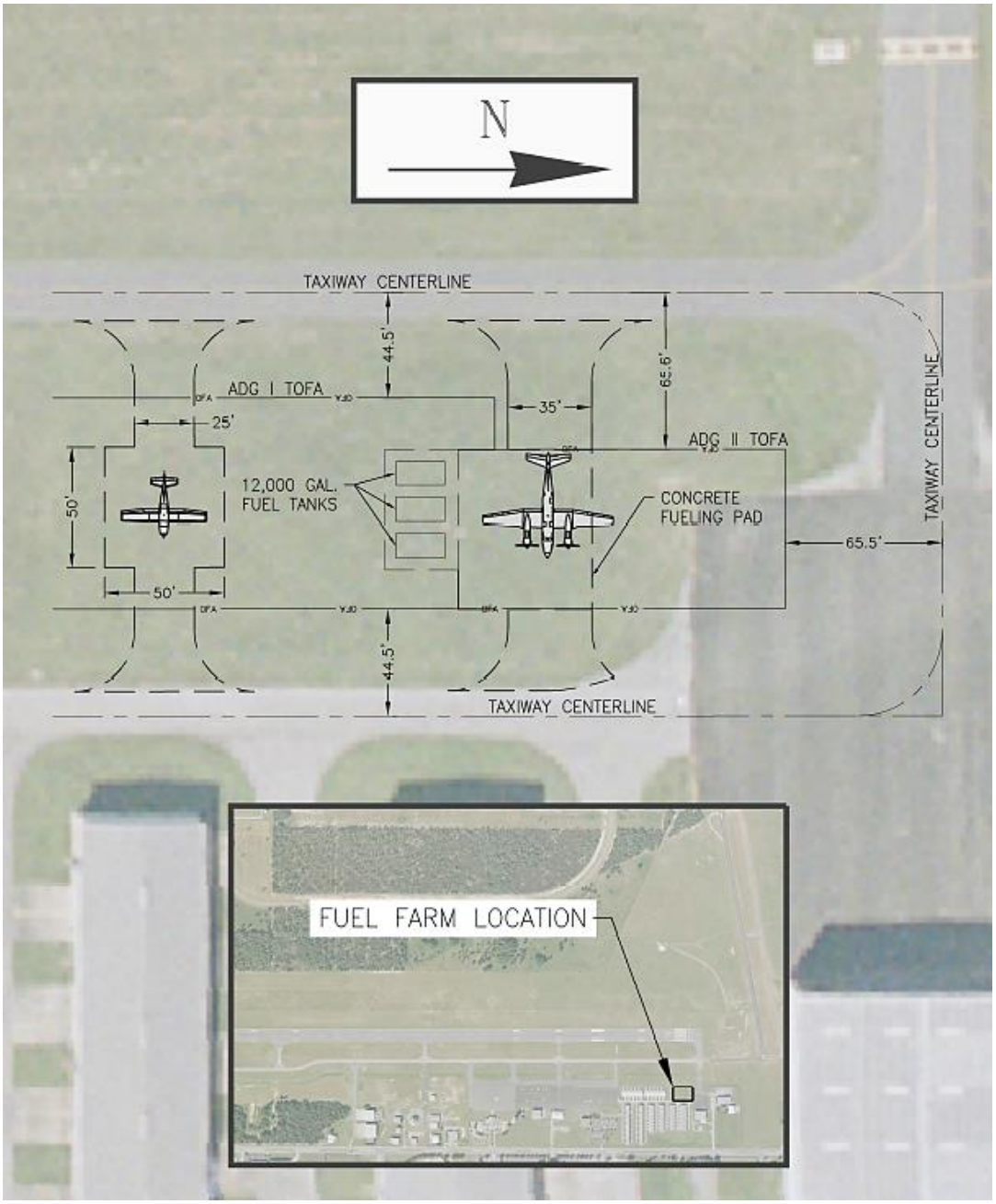
Though the existing fuel farm facilities contains sufficient capacity to meet the short and medium term demands of the Airport, the location, age, and condition issues of the current facility warrant the immediate construction of a new fuel storage facility.

Based on the needs of the Airport and its users, a proposed fuel farm must be suitable to accommodate three 12,000-gallon above-ground storage tanks, with co-located self-serve avgas and aircraft circulating area for ADG-II, TDG 2 aircraft. Evaluation criteria for a fuel farm alternative include:

- Compliance with federal, state, and local regulations
- The ability of the fuel facility to expand as demand warrants
- The impact of the location on future Airport development
- User convenience
- Fuel delivery logistics
- Potential environmental effects
- Community aesthetic standards

Based on the immediate need, a preliminary analysis of potential locations was conducted in March 2013. A number of various locations and configurations were subsequently evaluated and presented to Airport Management and the Master Plan Advisory Committee. The preferred location selected is located adjacent to the north-south T-hangar. This site allows the Airport to make use of an underutilized area, meet users' needs, and provide the ability to expand the number of tanks to meet future fuel demands. Additionally the Airport desired to locate an aircraft wash pad adjacent to the fuel farm to accommodate the wants of users. Exhibit 6-21 illustrates the design of the fuel farm alternative.

Exhibit 6-21 Proposed Aircraft Fuel Storage Alternative



Source: RS&H, 2013

6.7.4.1 Preliminary Environmental Analysis for Aircraft Fuel Storage Alternative

Environmental impact categories described in FAA Order 1050.1E, Change 1, Appendix A were considered for applicability in defining environmental criteria for the evaluation of development alternatives.

The increase in impervious surface associated with the Aircraft Fuel Storage Alternative has the potential to increase stormwater runoff on Airport property. Therefore, there is the potential to

affect water quality. Stormwater management systems would be developed and constructed in order to reduce potential water quality impacts, as well as compliance with federal, state, and local regulations regarding hazardous materials.

6.7.4.2 Preliminary Fiscal Considerations for Aircraft Fuel Storage Alternative

Table 6-26 below presents cost estimate opinions for the Aircraft Fuel Storage Alternative.

Developed by unit pricing, the cost estimate opinions presented are based on unadjusted 2013 dollars and calculated for order of- magnitude purposes only. Actual construction costs will vary based on inflation, variations in labor, materials, construction cost and other competitive bidding, negotiating, and economic factors.

Table 6-26 also shows potential funding sources under the FAA Airport Improvement Program (AIP) and the State of Florida Transportation Trust Fund.

Table 6-26 Planning Level Development Costs – Aircraft Fuel Storage Alternative

Development Alternative	Eligible Share of Development Costs*			
	Federal	State	Local	Total
Aircraft Fuel Storage Alternative	0$	$250,000	$250,000	**$500,000**

**Denotes potential eligibility only and not federal or state agencies commitments*
Source: RS&H, 2013

6.8 PREFERRED ALTERNATIVE

The previous sections of this chapter presented the alternative developments for OCF for the planning period of 2012-2032 and beyond. These alternatives represent the individual element concepts identified and evaluated to comply with FAA regulations, facility requirements, and the Airport's strategic vision. The alternative elements considered include:

- Airfield Alternatives
- Cargo/Apron Alternatives
- Landside/Support Facility Alternatives

In total, this chapter presented 19 individual element alternatives developed to meet the need of the Airport, its users, and the local community based on projected demand within the planning period. Airport Management and the Master Plan Advisory Committee subsequently refined these alternatives through multiple iterations. During this process, the positive and negative aspects of the alternatives were evaluated both individually and collectively. The final elements selected as part of the preferred Airport development alternative include the following. The development of these preferred alternatives is not recommended to correspond with calendar dates, but rather with certain "triggering" events. Table 6-27 below details the preferred alternatives selected and their respective triggering events.

Table 6-27 Preferred Alternatives and Triggering Events

Preferred Alternative	Triggering Event
Runway 18-36 South Extension Alternative #2	Increased size and/or stage length of cargo aircraft requiring operational distances greater than declared
Runway 8-26 Dual Direction Alternative	Runway justification is provided
West-Side Parallel Taxiway	ARC D-IV TDG 5 Critical Aircraft requires 400' increased standards
West Cargo Alternative	ARC D-IV TDG 5 Critical Aircraft requires 400' increased standards
Terminal/Parking Alternative	Demand for terminal/parking facilities exceeds capacity
ARFF/Maintenance Site #3	No dedicated on-site ARFF facility
T-hangar Alternative	All hangars are full with sufficient demand for development
Conventional Hangar Alternative #1	All hangars are full. Specific tenant requires facility.
Aircraft Fuel Storage Alternative	Condition of facility is inadequate

Source: RS&H, 2013

The preferred individual element alternatives above will carry forward to the Airport Layout Plan (ALP). The ALP will graphically depict, in accordance with FAA guidelines, the current and future facilities of the Airport. The preferred alternatives will also carry forward into the facilities implementation plan and the Airport Capital Improvement Plan (ACIP). In this plan, the preferred alternatives will break into individual projects combining with other facility requirements and maintenance projects. These projects will include a planning level cost estimate be phased to appropriately and orderly implement the recommendations of the Master Plan.

CHAPTER 7
FACILITIES IMPLEMENTATION PLAN

The previous elements of the Master Plan identified the developments needed for Ocala International – Jim Taylor Field (OCF) to meet the needs of users based on projected levels of demand and aid in the long-term financial stability of the Airport.

The facilities implementation plan provides guidance on accomplishing the findings and recommendations of the Master Plan. The facilities implementation plan includes the development of the Airport's Capital Improvement Program (ACIP). The facilities implementation plan and ACIP are the primary planning tools that serve to identify and prioritize airport developments. The plan also integrates the development projects identified in the Master Plan with the existing facilities and continuing maintenance activities at the Airport.

The following sections describe the typical sources of project funding for OCF and detail the facilities implementation for the 20-year planning period from 2012-2032.

7.1 POTENTIAL FUNDING SOURCES

An airport does not typically fund capital development with internal sources alone. Federal, state, and local resources combine to produce the capital needed to undertake a development project. For OCF, sources of development funding generally include the FAA, FDOT, and local funding mechanisms.

It is important to note that the specific project eligibility for federal and state funds varies depending on the type of project and source. It is necessary to examine the planned development projects in the ACIP to determine each project's eligibility for each funding source or program. Additionally, levels of both federal and state funding are subject to modification by the authorizing entity. The following sections detail the typical funding sources for development projects at OCF.

7.1.1 Federal Aviation Administration

The Federal Aviation Administration (FAA) funds development of public use airports through a grant program known as the Airport Improvement Program (AIP). This program provides grants to public agencies for the planning and development of public use Airports listed in the National Plan of Integrated Airport Systems (NPIAS).

AIP is established by the Airport and Airway Improvement Act of 1982. It is authorized by Congress and funded by the Airport and Airway Trust Fund. Congress amends the Act from time to time, as required, to authorize and appropriate funding levels on an annual or multi-year basis.

AIP provides funding through entitlement and discretionary funds. OCF receives AIP discretionary funding for federally eligible projects. Eligible project, typically funded at 90% by the FAA, are typically reserved for projects such as:

- New runways and taxiways
- Reconstruction of runways and taxiways
- Non-exclusive aprons
- Navigation aids
- Air traffic control towers
- Passenger terminal buildings (non-revenue areas only)
- Primary airport access roads
- Land acquisition

Currently, OCF is not eligible for general FAA AIP entitlement funds because it is a general aviation (GA) airport. Only airports with scheduled passenger airline service are eligible for general FAA AIP entitlement funding. However, in 2004, the reauthorization of the AIP legislation (AIR 21) set aside funding specifically reserved for GA airports. Known as GA entitlement funding, eligible airports (including OCF) are eligible to receive up to $150,000 per year for eligible FAA projects.

7.1.2 Florida Department of Transportation

The State of Florida provides funding for airport development projects through the Florida Department of Transportation (FDOT) aviation grant program. This program, funded from the State Transportation Trust Fund, is available to all publicly owned Florida airports that are open for public use and under public operational and developmental control.

Funding is available for Florida Department of Transportation (FDOT) eligible projects, including matching FAA grants. In general, FDOT eligibility criteria are much broader than FAA's, including funding of hangars, GA terminal buildings, parking lots, and projects referred to as economic development projects (e.g. industrial parks). FDOT aviation grant program includes the following:

- Airport Planning
- Airport Capital Improvement
- Land Acquisition
- Airport Economic Development

The state classifies OCF as a GA airport. Through this designation, the Airport is eligible for up to 80 percent funding on most FDOT projects that do not include federal funds. Where the FAA provides 90 percent of funding, FDOT may provide up to 8 percent of project costs. Projects determined to be for on-airport revenue-producing economic development may receive up to 50 percent of funding from FDOT.

In order to be eligible for FDOT funding, projects need to be included in the Joint Automated Capital Improvement Program (JAICP), which is a cooperative funding program mechanism used by the FAA and FDOT for coordination of annual funding and programming of Florida airport projects. From JACIP, the FDOT will program projects in the Department's 5-year work program based on priority and funding availability.

7.1.3 Local Share

To develop the proposed Master Plan program, the Airport and City of Ocala will need to provide the remaining costs not covered by federal and state grants. The most likely funding

mechanism would be through the issuance of bonds. Airports typically obtain general airport revenue bonds (GARB), which are secured by the Airport's future revenues. Past evidence demonstrates that the Airport has significant revenue generating potential. This is likely sufficient to finance the issuance of debt and the associated debt service. However, the Airport should seek professional financial advice on bonding requirements and opportunities.

Revenues generated by the Airport will come primarily from commissions on services provided, hangar and building rental fees, and land leases. Additionally, the undeveloped and underutilize land areas on the Airport represent the greatest opportunity to generate the additional revenues necessary to implement the Master Plan development program. The success of the Airport to qualify for bonding and attaining financial sustainability rests with the successful marketing of these areas.

7.2 FACILITIES IMPLEMENTATION PLAN AND CAPITAL IMPROVEMENT PROGRAM

The Facilities Implementation Plan and the Capital Improvement Plan systematically address the Airport's planned capital projects to ensure that adequate fiscal, scheduling, and other resources are available throughout the planning period. The objective of this section is to outline the Facilities Implementation Plan and the Capital Improvement Plan for OCF for the next 20 years.

For OCF, the development of this plan considered the facility requirements, the preferred alternatives, and other recommendations and findings of the Master Plan. The existing Airport improvement, repair, and continuing maintenance projects are also integrated with proposed developments. These items are then prioritized in a way to meet federal and state regulatory issues, increases in aviation demand, and concerns relative to economic development.

For purposes of developing a list of priorities, this section outlines a basic master schedule to the proposed Airport development projects, grouped by short-term, intermediate, long-term, and ultimate development. Short-term projects are typically of greatest importance and are the least tolerant of delay. Projects included in short and intermediate phases may be a prerequisite for other planned improvements in the long-term phase. Ultimate projects are ones anticipated to occur past the 20-year planning period (2012-2032). The basic master schedule is divided into four phases as follows:

- Short-term (0 to 5 years)
- Intermediate (6 to 10 years)
- Long-term (11 to 20 years)
- Ultimate (20+ years)

Special attention has been placed on Phase I of the ACIP. These projects, identified to take place within the next five years, are the most critical in terms of correcting substandard facilities and attracting new business to the Airport.

The phasing of individual projects should undergo periodic review to determine the need for changes based on variations in forecast demand, available funding, economic conditions and/or other factors that influence airport development. It should be noted that future projects not foreseen in this report may be identified in the future that may necessitate changes in the phasing of projects and thus the overall Capital Improvement Program.

In addition to the basic master schedule, the Facilities Implementation Plan and Capital Improvement Program identify critical planning information such as:

- Project Identification
- Project Description
- Project Objective
- Project Schedule
- Key Activities and Responsibilities
- Planning Level Cost Estimates

All planning level cost estimates consider the relative cost of each respective project adjusted for inflation in the project implementation year. Based on historical inflation rate trends from the U.S. Bureau of Labor Statistics, and projected information from the Federal Reserve Bank the average projected rate of inflation anticipated over the next twenty years is 3 percent per year.

Because the lead-time associated with many projects is significant, the implementation plan, as described in the list above, includes the identification of key activities and responsibilities. This helps ensure that appropriate preparations are completed on a timely basis to enable projects to proceed. The implementation plan identifies the following categories of activities and responsibilities defined in FAA Advisory Circular 150/5070-6b *Airport Master Plans*.

- **Sponsor:** Sponsor-specific project approval and implementation activities including Airport board, city council, or other administrative body approvals; various budgetary approvals and funding appropriations; and designing and constructing the projects.

- **Tenant:** Tenant approvals, lease modifications, and other tenant coordination.

- **Funding:** Project funding activities such as FAA, FDOT, other agency grant applications, and long-term debt financing.

- **Environmental:** Environmental processing activities including complying with current versions of FAA Order 1050.1, Environmental Impacts: Policies and Procedures and FAA Order 5050.4, FAA Airports guidance for complying with NEPA.

- **Land:** Land acquisition activities

- **Agency:** Agency coordination activities including the FAA, FDOT, Marion County/Ocala Transportation Planning Organization (TPO), and other agencies that have direct involvement with the Airport

- **Public:** Public Coordination activities for projects that carry the public involvement process into the project implementation phase.

The following tables detail the Facilities Implementation Plan and Capital Improvement Program for OCF for the next 20 years and beyond as described above. The potential funding source represents potential eligibility only and not federal or state commitments. Figures for each phase of development are included in Appendix I.

Table 7-1 OCF Implementation Plan/ACIP Short-term Development

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Potential Funding Source	Total
1	2014-1	--	Design & Const	**Design and Construct Fuel Farm** Design and construct new fuel farm and aircraft wash rack approximately 500' south of Building 750. Facility to consist of three (3) 12,000 gallon tanks, with co-located self-serve accommodating B-II aircraft	• Sponsor • Tenant • Agency	Federal	$ -
						State	$ 226,097
						Local	$ 226,097
						Total	**$ 452,194**
2	2015-1	--	Maint.	**Runway 18-36 Markings** Re-stripe Runway 18-36 markings. Project required due to current marking age and condition	• Sponsor • Agency	Federal	$ -
						State	$ 96,886
						Local	$ 24,221
						Total	**$ 121,107**
3	2015-2	--	Design & Const.	**Design and Construct Parking Facilities** Design and Construct General Aviation Terminal Parking Facilities located adjacent to existing terminal. Design to include a total of 114 parking spaces and appropriate circulation to meet future demand. Parking lot will serve existing General Aviation Terminal and Future General Aviation Terminal	• Sponsor • Funding • Tenant • Public • Agency	Federal	$ 450,000
						State	$ 22,500
						Local	$ 22,500
						Total	**$ 495,000**
4	2016-1	--	Design	**TWY A Rehabilitation and Improvements- Design** Design of Taxiway A pavement rehabilitation and improvements. Project includes ensuring conformance with FAA design standards, 2011 FDOT recommendations, and the requirements and development alternatives detailed in the Master Plan.	• Sponsor • Funding • Agency	Federal	$ 680,000
						State	$ 34,000
						Local	$ 34,000
						Total	**$ 748,000**
5	2017-1	--	Planning & Design	**Design General Aviation Terminal** Design approximately 7,876 SF General Aviation Terminal. Terminal will include an FBO, pilot lounge, airport administrative offices, rental car facilities, & restaurant. Design will consider access, circulation, and parking requirements	• Sponsor • Tenant • Public • Agency	Federal	$ -
						State	$ 265,225
						Local	$ 265,225
						Total	**$ 530,450**
6	2017-2	--	Const.	**Construct General Aviation Terminal** Construct General Aviation Terminal and Parking Facilities located adjacent to existing terminal. Existing terminal will stay operational until new General Aviation Terminal is completed. Includes removal of existing terminal.	• Sponsor • Funding • Tenant • Public • Agency	Federal	$ -
						State	$ 2,000,000
						Local	$ 2,000,000
						Total	**$ 4,000,000**
7	2017-3	--	Const. & Maint.	**TWY A Rehabilitation and Improvements - Construction** Project includes the reconstruction and widening (to 35') of the Taxiway A/Runway 8-26 connector; pavement rehabilitation of Taxiway A; relocation of A8; partial realignment of "dogleg"; removal of A6; construction of new connector between A5 and A4; relocation of A3.	• Sponsor • Funding • Agency	Federal	$ 6,848,223
						State	$ 608,731
						Local	$ 152,183
						Total	**$ 7,609,137**
8	2017-4	--	Design & Const	**Taxiway B Improvements** Project to provide improvements for Taxiway B to meet FAA B-II standards/recommendations including taxiway width, runway-taxiway separation, and runway-holding position separation.	• Sponsor • Funding • Agency	Federal	$ 950,000
						State	$ 25,000
						Local	$ 25,000
						Total	**$ 1,000,000**

Source: RS&H, 2014

Table 7-2 OCF Implementation Plan/ACIP Intermediate Development

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Potential Funding Source	Total
1	2018-1	--	Planning	**Environmental Assessment - Runway 18-36 Extension & Pavement Strengthening** FAA requires an EA be prepared for major runway extensions and/or pavement strengthening. The EA for the Runway 18-36 extension will consider the impacts of the proposed extension/strengthening and provide the basis for the preparation of an EIS or a Finding Of No Significant Impact. The EA will be conducted and processed in accordance with Order 1050.1 and 5050.4.	• Sponsor • Env. • Public • Agency	Federal	$ 342,000
						State	$ 9,000
						Local	$ 9,000
						Total	**$ 360,000**
2	2018-2	--	Const.	**West Industrial Park Roads (North)** Construct north portion of the west industrial park roads for non-aeronautical development.	• Sponsor • Funding • Agency • Public	Federal	$ -
						State	$ 250,000
						Local	$ 250,000
						Total	**$ 500,000**
3	2018-3	--	Planning	**Conduct Wind Study** Conduct one year wind study as detailed in AC 150/5300-13A to determine reliability of existing AWOS-III and wind data.	• Sponsor • Agency	Federal	$ -
						State	$ 40,000
						Local	$ 10,000
						Total	**$ 50,000**
4	2018-4	--	Const.	**Relocate AWOS & Lightning Detector** Relocate AWOS & Lighting Detector to provide for more accurate meteorological data collection and make area available for aeronautical development. To be sited in accordance with FAA Order 6560.20B	• Sponsor • Agency	Federal	$ -
						State	$ 80,000
						Local	$ 20,000
						Total	**$ 100,000**
5	2018-5	--	Const.	**West Industrial Park Roads (South)** Construct approximately 0.5 miles of roadway on the southern end of the West Industrial Park off SW 67th Ave for non-aeronautical development	• Sponsor • Funding • Agency • Public	Federal	$ -
						State	$ 825,403
						Local	$ 206,351
						Total	**$ 1,031,754**
6	2018-6	--	Property	**Property Acquisition adjacent to SW 60th Ave.** Acquire approximately 5 acres adjacent to SW 60th Ave to maintain continuity of Airport property and position Airport for future development of this area.	• Sponsor • Land • Agency • Public	Federal	$ -
						State	$ 800,000
						Local	$ 200,000
						Total	**$ 1,000,000**
7	2018-7	--	Planning	**Environmental Assessment - Runway 18-36 ARC D-IV** FAA requires an EA to review impacts is required when changing an airport's ARC. The EA will consider the impacts of the ARC modification & provide the basis for the preparation of an EIS or a Finding Of No Significant Impact.	• Sponsor • Env. • Public • Agency	Federal	$ 180,000
						State	$ 16,000
						Local	$ 4,000
						Total	**$ 200,000**
8	2018-8	Phase 1	Const.	**Building 750 Taxilane Improvements** Re-construct Taxilane adjacent to Building 750 to provide appropriate OFA/wingtip clearance for Group II aircraft	• Sponsor • Funding • Agency	Federal	$ 381,924
						State	$ 33,949
						Local	$ 8,487
						Total	**$ 424,360**
9	2018-9	--	Maint.	**Fog Seal Runway 18-36 with Asphalt Rejuvenator** Apply diluted asphalt emulsion (Fog seal) with an Asphalt Rejuvenator on Runway 18-36. This will restore pavement flexibility and postpone need of a surface treatment or overlay.	• Sponsor • Agency	Federal	$ 354,738
						State	$ 31,532
						Local	$ 7,883
						Total	**$ 394,153**
10	2019-1	--	Property	**Property Acquisition (North of SW 38th Street)** Acquire approximately 36 Acres north of SW 38th Street to position Airport for airspace/safety area protection and potential ultimate runway extension.	• Sponsor • Land • Agency • Public	Federal	$ -
						State	$ 4,050,000
						Local	$ 450,000
						Total	**$ 4,500,000**

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Potential Funding Source	Total
11	2019-2	--	Design & Const.	**Runway 18-36 South Extension** Extend Runway 18-36 south by 933' in accordance with the preferred Master Plan Alternative. This extension serves to increase capability of airfield and accommodate future demand of cargo aircraft. The glide slope and MALSR equipment relocation will coincide with the extension.	• Sponsor • Agency • Funding • Public	Federal	$ 5,850,000
						State	$ 155,000
						Local	$ 155,000
						Total	**$ 6,160,000**
12	2019-3	--	Maint.	**Runway 8-26 Designator Markings** It is anticipated based on magnetic declination that the designation of Runway 8-26 will change to Runway 9-27 in 2019. Runway is to be re-designated once change occurs.	• Sponsor • Agency	Federal	$ 53,732
						State	$ 4,776
						Local	$ 1,194
						Total	**$ 59,703**
13	2019-4	--	Const. & Maint.	**FBO/Terminal Apron Pavement Rehab./Maint.** Rehabilitate FBO/Terminal Aprons in accordance with 2011 FDOT recommendations. This includes mill and overlay rehabilitation of the FBO apron and maintenance of the central apron by crack and surface sealing.	• Sponsor • Funding • Tenant • Agency	Federal	$ 1,013,392
						State	$ 90,079
						Local	$ 22,520
						Total	**$ 1,125,991**
14	2019-5	--	Const.	**Relocate Dry Stormwater Pond** Relocate and fill in the dry stormwater pond located adjacent to the T-hangars and SW 60th Ave in preparation for T-hangar additions. Project will include re-routing of existing drainage to relocated dry stormwater pond, design of stormwater pond, construction of new dry stormwater pond.	• Sponsor • Agency	Federal	$ 214,929
						State	$ 19,105
						Local	$ 4,776
						Total	**$ 238,810**
15	2019-6	--	Const.	**West Industrial Park Roads (North)** Construct approximately 0.75 miles of roadway on the North Industrial Park non-aeronautical development.	• Sponsor • Funding • Agency • Public	Federal	$ -
						State	$ 568,369
						Local	$ 142,092
						Total	**$ 710,461**
16	2019-7	--	Const.	**Extend West Side Access Road (North)** Project includes extension of the northern portion of the west side access road.	• Sponsor • Funding • Agency • Public	Federal	$ -
						State	$ 106,250
						Local	$ 106,250
						Total	**$ 212,500**
17	2020-1	--	Design, Const., & Maint	**Construct (10) T-hangar Units** Construct (10) additional T-hangar units to meet anticipated demand. Project involved extending middle two east-west T-hangars by 140' and 160 ' respectively as described in the Master Plan. Project also includes reconstruction of existing taxilane pavement per FDOT 2011 recommendations and addition of new taxilane to serve new units.	• Sponsor • Agency • Funding • Tenant	Federal	$ -
						State	$ 245,975
						Local	$ 245,975
						Total	**$ 491,950**
18	2020-2	--	Const.	**Construct Airport Perimeter Service Road** Construct non-paved, stabilized perimeter service road to facilitate maintenance and security access to airport facilities as recommended in the Master Plan.	• Sponsor • Funding • Agency	Federal	$ 2,213,773
						State	$ 196,780
						Local	$ 49,195
						Total	**$ 2,459,748**
19	2020-3	--	Const. & Maint.	**T-hangar Taxilanes Pavement Rehabilitation** Rehabilitate the four south T-hangar taxilanes, and the north-south T-hangar taxilane in accordance with 2011 FDOT recommendations. Project involves the reconstruction of the four south T-hangar taxilanes, and the mill and overlay of the north-south T-hangar taxilane.	• Sponsor • Agency	Federal	$ 553,443
						State	$ 49,195
						Local	$ 12,299
						Total	**$ 614,937**
20	2020-4	--	Planning	**Environmental Assessment – West Side Apron/Taxiway** Conduct an EA for the Cargo Apron/West Side Parallel Taxiway. The EA will consider the impacts of the proposed development & provide the basis for the preparation of an EIS or a Finding Of No Significant Impact. The EA will be conducted and processed in accordance with Order 1050.1 and 5050.4	• Sponsor • Env. • Public • Agency	Federal	$ 276,722
						State	$ 24,597
						Local	$ 6,149
						Total	**$ 307,468**

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Potential Funding Source	Total
21	2021-1	Phase 1	Design & Const.	**Design and Construct West Side Apron and Taxiway – Phase 1** Design and construct the initial phase of the West Cargo Apron and West parallel taxiway. This project will consist of construction approximately 27,000 square yards of apron, connector taxiways, and 2,000' of the west parallel taxiway.	• Sponsor • Funding • Agency	Federal	$ 5,622,655
						State	$ 499,792
						Local	$ 124,948
						Total	**$ 6,247,395**
22	2021-2	--	Design & Const.	**Design and Construct ARFF/Maintenance Building** Design and Construct Three-bay combined ARFF/Maintenance facility at Master Plan Alternative Site #3 located on the West Apron approximately 1,200 feet southwest of the VORTAC. This facility is to be capable of supporting Index B equipment. Facility will be designed and constructed in accordance with FAA AC 150/5210-15A.	• Sponsor • Agency • Funding	Federal	$ 912,074
						State	$ 81,073
						Local	$ 20,268
						Total	**$ 1,013,415**
23	2021-3	--	Maint.	**Runway 18-36 Designator Markings** It is anticipated based on magnetic declination that the designation of Runway 18-36 will change to Runway 1-19 in 2021. Runway is to be re-designated once change occurs.	• Sponsor • Agency	Federal	$ 57,005
						State	$ 5,067
						Local	$ 1,267
						Total	**$ 63,339**
24	2022-1	--	Design. & Const.	**Expand Fuel Farm** Install (2) additional 12,000 gallon fuel tanks to accommodate projected demand.	• Sponsor • Agency	Federal	$ -
						State	$ 521,909
						Local	$ 130,477
						Total	**$ 652,387**
25	2022-2	--	Design. & Const.	**Design and Construct (1) Multi-use/Corporate Hangar at A10** Design and Construct (1) conventional multi-use/corporate hangar at A10 apron area to meet growing demand.	• Sponsor • Agency • Funding	Federal	$ -
						State	$ 1,975,019
						Local	$ 1,975,019
						Total	**$ 3,950,038**

Source: RS&H, 2014

Table 7-3 OCF Implementation Plan/ACIP Long-term Development

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Potential Funding Source	Total
1	2024-1	--	Const. & Maint.	**Construct (12) T-hangar Units** Construct (12) additional T-hangar units to meet anticipated demand. Project involved extending northern two east-west T-hangars by 180' each as described in the Master Plan. Project also includes reconstruction of existing taxilane pavement per FDOT 2011 recommendations and addition of new taxilane to serve new units.	• Sponsor • Agency • Funding • Tenant	Federal	$ -
						State	$ 276,847
						Local	$ 276,847
						Total	**$ 553,694**
2	2025-1	Phase 2	Design & Const.	**Design & Construct West Side Apron and Taxiway – Phase 2** Design and construct the second phase of the West Cargo Apron and West parallel taxiway to meet projected demand. This project will consist of construction of approximately 53,000 square yards of apron and 3,000' of the west parallel taxiway.	• Sponsor • Funding • Agency	Federal	$ 11,336,336
						State	$ 1,007,674
						Local	$ 251,919
						Total	**$ 12,595,929**
3	2026-1	--	Design & Const.	**Design and Construct (1) Multi-use/Corporate Hangar at A10** Design and Construct (1) conventional multi-use/corporate hangar at A10 apron area to meet growing demand.	• Sponsor • Agency • Funding	Federal	$ -
						State	$ 2,222,901
						Local	$ 2,222,901
						Total	**$ 4,445,802**
4	2028-1	--	Design & Const.	**Construct Equine Quarantine Facility** Construct a USDA equine quarantine facility on the west side of the airfield adjacent to the Cargo Apron.	• Sponsor • Agency • Funding	Federal	$ -
						State	$ 4,673,902
						Local	$ 4,673,902
						Total	**$ 9,347,804**
5	2029-1	--	Planning	**Environmental Assessment - Runway 8-26 Extension & Reconstruction** FAA requires an EA be prepared for major runway extensions. The EA for the Runway 8-26 extension will consider the impacts of the proposed development and provide the basis for the preparation of an EIS or a Finding Of No Significant Impact. The EA will be conducted and processed in accordance with Order 1050.1 and 5050.4.	• Sponsor • Env. • Public • Agency	Federal	$ 361,059
						State	$ 32,094
						Local	$ 8,024
						Total	**$ 401,177**
6	2030-1	--	Design & Const.	**Reconstruct Runway 8-26** Reconstruct and extend Runway 8-26 according to the Dual Direction Extension Alternative detailed in the Master Plan. Project includes adding MIRL to accommodate future RNAV approach. Cost estimates assume FAA justification of Runway 8-26 is provided.	• Sponsor • Agency • Funding • Public	Federal	$ 7,253,728
						State	$ 644,776
						Local	$ 161,194
						Total	**$ 8,059,698**
7	2031-1	Phase 3	Design & Const.	**Design and Construct West Side Apron and Taxiway – Phase 3** Design and construct the third phase of the West Cargo Apron and West parallel taxiway. This project will consist of construction approximately 27,000 square yards of apron and 2000' of the west parallel taxiway.	• Sponsor • Funding • Agency	Federal	$ 8,963,597
						State	$ 796,764
						Local	$ 199,191
						Total	**$ 9,959,552**

Source: RS&H, 2014

Table 7-4 OCF Implementation Plan/ACIP Ultimate Development

Number	FAA FY & Project Number	Project Phase	Project Type	Project Title and Description	Key Activities and Resp.	Funding Source	Total
1	Future	Phase 4	Design & Const.	**Design and Construct West Side Apron and Taxiway – Phase 4** Design and construct the fourth phase of the West Cargo Apron and West parallel taxiway. This project involves the extension of the West side taxiway to the extended Runway 36 end. No additional apron area is proposed in Phase 4.	• Sponsor • Agency • Funding	Federal	$ -
						State	$ -
						Local	$ -
						Total	$ -
2	Future	--	Design & Const.	**Construct new East-West T-hangar Building** Construct new east west T-hangar building located at the previous fuel farm location. Hangar will consist of (10) T-hangar units to meet future demand. Project also includes addition of new taxilane to serve new units.	• Sponsor • Agency • Funding • Tenant	Federal	$ -
						State	$ -
						Local	$ -
						Total	$ -
3	Future	--	Design & Const.	**Runway 18-36 Pavement Rehabilitation** Rehabilitate Runway 18-36 Pavement and strengthen to 300,000 lbs. to accommodate projected increasing cargo payloads and loadings.	• Sponsor • Agency • Funding • Public	Federal	$ -
						State	$ -
						Local	$ -
						Total	$ -
4	Future	--	Design & Const.	**Construct GA Terminal Apron Extension** Construct a 250' southern expansion of the general aviation terminal apron.	• Sponsor • Agency • Funding	Federal	$ -
						State	$ -
						Local	$ -
						Total	$ -

Source: RS&H, 2014

CHAPTER 8 AIRPORT LAYOUT PLAN

An Airport Layout Plan (ALP) graphically depicts the current and future facilities at an airport. This includes airport development as recommended by the facility requirements and preferred alternatives identified in the Master Plan. The ALP is an important document because it allows an airport and the FAA to anticipate the needs for future development. It also serves as a public document to demonstrate aeronautical requirements and as a community reference regarding airport development. Additionally, the ALP is a blueprint of airport development that serves as a working tool for the airport and maintenance staff. Due to its importance, keeping the ALP current is a legal requirement for any airport that receives federal assistance (United States Code 47107(a) and FAA Grant Assurance 29).

8.1 ALP DESCRIPTION

The following sections present the ALP for Ocala International – Jim Taylor Field (OCF) with a brief discussion of each sheet. The Airport Layout Plan set in Appendix A is provided in conjunction with this report document and has been prepared according to the design requirements set forth in this document, the Federal Aviation Administration Advisory Circulars, and the Florida Department of Transportation Guidebook for Airport Master Planning. The set of plans includes the following sheets:

- Sheet 1: Title Sheet
- Sheet 2: Airport Data Sheet
- Sheet 3: Declared Distances Drawing
- Sheet 4: Existing Facilities Plan
- Sheet 5: Future Facilities Plan
- Sheet 6: Airport Layout Plan
- Sheet 7: Airport Traffic Control Tower Line of Sight Study
- Sheet 8: Airport Airspace Drawing
- Sheet 9: Airport Airspace Drawing (Extended Precision Instrument Approach)
- Sheet 10: Inner portion of the Approach Surface Runway 18
- Sheet 11: Inner portion of the Approach Surface Runway 36
- Sheet 12: Inner portion of the Approach Surface Runway 8
- Sheet 13: Inner portion of the Approach Surface Runway 26
- Sheet 14: Departure Surface Drawing Runway 18-36
- Sheet 15: Terminal/General Aviation Area Plan
- Sheet 16: Land Use Drawing
- Sheet 17: Airport Property Map

The ALP also incorporates the development projects completed since the last ALP. For OCF, the last ALP was completed and approved by the FAA in 2011. The following developments have occurred at the Airport since 2011:

- Construction of SW 67th Ave located along the western property line of the airport. Southwest 67th avenue provides access to future aviation and non-aviation related business development.

- New runway and taxiway lighting for Runway 18-36, Taxiway "A" and associated connector taxiways. New airfield signage associated with Runway 18-36, Taxiway "A" and associated taxiways.

- Rehabilitation of Runway 8-26 including cold-in place recycling of pavement and new pavement markings.

8.1.1 Title Sheet

The cover sheet serves as an introduction to the Airport Layout Plan set. It includes the name of the Airport, location map, the FAA AIP number, an index of drawings, and other pertinent data.

8.1.2 Airport Data Sheet

The Airport Data Sheet contains detailed information regarding the existing and future facilities at an Airport. The information includes the following:

- Airport characteristics
- Design standards
- Modification to standards
- Runway characteristics
- Taxiway characteristics
- Wind coverage
- Navigational aids

8.1.3 Declared Distances Drawing

Declared distances represent the maximum takeoff and landing distances of a runway that are available for use. The declared distances defined by the FAA are:

- Takeoff Run Available (TORA)
- Takeoff Distance Available (TODA)
- Accelerate-Stop Distance Available (ASDA)
- Landing Distance Available (LDA)

The TORA and TODA distances apply to takeoff distances available, while LDA applies to landing distances available. The ASDA distance applies to a rejected takeoff. Declared distances are also utilized as an incremental improvement technique to meet FAA airport design standards such as the RSA and ROFA. For OCF, this technique is employed in the existing condition to obtain the sufficient RSA and ROFA on the Runway 18 end due to the presence of the localizer. The declared distances sheet for OCF graphically depicts the existing and future TORA, TODA, ASDA, and LDA for Runway 18 and Runway 36.

8.1.4 Existing Facilities Plan

The Existing Facilities Plan is a graphic representation, to scale, of the existing facilities Airport in their current configuration in September 2013. This drawing shows all existing Airport facilities, their location, pertinent dimensions, clearance information, and the runway and taxiway infrastructure. The existing facilities as well as other sheets in the ALP detail the Runway Protection Zone (RPZ). The RPZ is an imaginary trapezoidal area located at ground

level prior to the runway ends. This area is designated for the protection and people on the ground. Currently, the RPZs of Runway 8-26 extend over the adjacent public roadway. Current land use guidance issued by the FAA details that public roadways are not compatible land uses within the RPZ.

8.1.5 Future Facilities Plan

The Future Facilities Plan is a graphic representation, to scale, of the future facilities Airport as proposed as part of the Master Plan and other studies. This drawing shows all future Airport facilities, their location, pertinent dimensions, clearance information, and the runway and taxiway infrastructure.

8.1.6 Airport Layout Plan

The Airport Layout Plan (ALP) is a graphic representation, to scale, of existing and proposed airport facilities. This includes the infrastructure location, dimensional and clearance data, and the overall infrastructure of the airport including runways, taxiways and aprons.

The information and analysis presented in the Facility Requirements and Alternatives analysis details the design requirements that pertain to OCF.. These have been incorporated in the ALP. It should be noted that the existing nonstandard runway to taxiway separations on Runway 18-36 and Runway 8-26 are currently addressed through Modification of Standards (MOS). For the future condition, these issues have been addressed in the ALP to eliminate the need for MOS to FAA airport design standards. It is also important to note that there are no incompatible land uses inside the existing or future Runway Protection Zones.

8.1.7 ATCT Line of Sight Study

The Airport Traffic Control Tower (ATCT) Line of Sight Study is a graphical study, which analyzes the line of sight of the Airport's ATCT. The study takes into consideration the eye height of the controller and the resulting line of sight to controlled movement areas of the Airport. The line of sight study for OCF revealed unobstructed views to all current controlled areas of the Airport including the runway ends, runway/taxiway intersections, and landing area. The tower provides complete line of sight to all future conditions with the exception of the eastern end of Runway 26. Consideration may be made to mitigate this condition, at the appropriate time of design and construction of the Runway 8-26 dual direction extension.

8.1.8 Airport Airspace Drawing

Federal Aviation Regulation (FAR) Part 77, "Objects Affecting Navigable Airspace," prescribes airspace standards, which establish criteria for evaluating navigable airspace. Airport Imaginary Surfaces are established relative to the Airport and runways. The size of each imaginary surface is based on the runway category with respect to the existing and proposed visual, non-precision or precision approaches for that runway. The slope and dimensions of the respective approach surfaces are determined by the most demanding (existing or proposed) approach for each runway. The imaginary surfaces definitions include:

- **Primary Surface** – A rectangular area symmetrically located about the runway centerline and extending a distance of 200 feet beyond each runway threshold. Its elevation is the same as that of the runway.

- **Horizontal Surface** – An oval shaped, flat area situated 150 feet above the published airport elevation. Its dimensions are determined by using a 10,000-foot arc, which is centered 200 feet beyond each runway end, then connecting the arcs with a line tangent to those arcs. The horizontal surface elevation for OCF is 240 feet above mean sea level (msl), given an Airport elevation of 90 feet msl.

- **Conical Surface** – A sloping area whose inner perimeter conforms to the shape of the horizontal surface. It extends outward for a distance of 4,000 feet measured horizontally, and slopes upward at 20:1.

- **Transitional Surface** – There are three different Transitional Surfaces. The first is off the sides of the Primary Surface, the second is off the sides of the Approach Surface, and the last is outside the Conical Surface and pertains to precision runways only. All Transitional Surfaces have slopes of 7:1 that are measured perpendicular to the runway centerline.

- **Approach Surface** – This surface begins at the ends of the primary surface and slopes upward at a predetermined ratio while at the same time flaring out horizontally. The width and elevation of the inner ends conform to that of the primary surface, while the type of approach to each runway end determines the slope, length and outer width.

The Airport Airspace Drawing also depicts the Threshold Siting Surface. As the name implies, this surface guides in the siting of the threshold location on the runway. The threshold siting surface is an imaginary polygon with two segments and a specified slope. The inner segment is an elongated trapezoid; the outer segment is a long rectangle. The size of the segments and the slope varies based on the existing and future approach type, visibility minimums, and size of aircraft.

8.1.9 Airport Airspace Drawing (Extended Precision Instrument Approach)

The extended Precision Instrument Approach sheet depicts the limits of approach surface for the precision instrument approach on Runway 36. All other information depicted is the same as in the Airport Airspace drawing sheet.

8.1.10 Inner portion of the Approach Surface Runway 18

The inner portion of the approach surface drawing is a required and critical drawing that depicts the trapezoidal Runway Protection Zones (RPZ) and the approach profiles of each runway. The Runway 18 drawing depicts the 34:1 approach slope for the current and future non-precision instrument approach. The RPZ dimensions are based on the current and future critical aircraft for the Airport. Existing and potential obstructions to runway approach surfaces and air navigation are depicted are identified as applicable.

8.1.11 Inner portion of the Approach Surface Runway 36

The inner portion of the approach surface drawing is a required and critical drawing that depicts the trapezoidal Runway Protection Zones (RPZ) and the approach profiles of each runway. The Runway 36 drawing depicts the 34:1 approach slope for the current and future precision instrument approach. The RPZ dimensions are based on the current and future critical aircraft for the Airport. Existing and potential obstructions to runway approach surfaces and air navigation are depicted are identified as applicable.

8.1.12 Inner portion of the Approach Surface Runway 8

The inner portion of the approach surface drawing is a required and critical drawing that depicts the trapezoidal Runway Protection Zones (RPZ) and the approach profiles of each runway. The Runway 8 drawing depicts the 20:1 approach slope for the current and future non-precision instrument approach. The RPZ dimensions are based on the current and future critical aircraft for the Airport. Existing and potential obstructions to runway approach surfaces and air navigation are depicted are identified as applicable.

8.1.13 Inner portion of the Approach Surface Runway 26

The inner portion of the approach surface drawing is a required and critical drawing that depicts the trapezoidal Runway Protection Zones (RPZ) and the approach profiles of each runway. The Runway 26 drawing depicts the 20:1 approach slope for the current and future non-precision instrument approach. The RPZ dimensions are based on the current and future critical aircraft for the Airport. Existing and potential obstructions to runway approach surfaces and air navigation are depicted are identified as applicable.

8.1.14 Departure Surface Sheet

The departure surface drawing shows the plan view and profile view of the departure surface(s) required for runways designated for instrument departures. As runway 18-36 is an instrument procedure runway, the departure surface is a trapezoidal surface, which has an inner width of 1,000 feet, and outer width of 6,466 feet and a length of 10,200 feet. The surface slopes up at a slope of 40:1 beginning at each runway end. Runway 8-26 is not an instrument procedure runway and therefore does not have departure surfaces.

Obstructions to these surfaces typically include trees, instrument landing systems, towers, fences, buildings and traverse ways, such as roads and railroads. The main obstructions for the departure surfaces at OCF consist of one tree, the localizer, and an access road.

8.1.15 Terminal/General Aviation Area Plan

The Terminal and General Aviation (GA) Area Plan presents a large-scale depiction of the terminal and other general aviation areas of the Airport. This plan is an enlargement of the respective areas found on the ALP sheet. Specifically, it demonstrates the proposed T-hangar expansion and the areas for conventional hangar expansion.

8.1.16 Land Use Drawing

The Airport land use drawings depict the existing and future land use of all land in and within the vicinity of the Airport. The utilization of this land is represented by several use categories, which are labeled in the legend of each drawing. The land use plans have been developed through coordination with the City of Ocala to include existing city plans and ensure accuracy. Additionally, the most current Airport noise contours have been superimposed on the appropriate drawing. This will give local authorities guidance and help ensure appropriate aviation-compatible zoning in the future.

8.1.17 Airport Property Map

The Airport Property Map presents the Airport property line and a history of Airport land purchases and acquisitions. Bearings and approximate distances from cardinal points define the airport property line. The types of property acquisitions or transactions are presented in a table on the map and include the date of each property acquisition and the federal project number where applicable.

APPENDIX A
AIRPORT LAYOUT PLAN

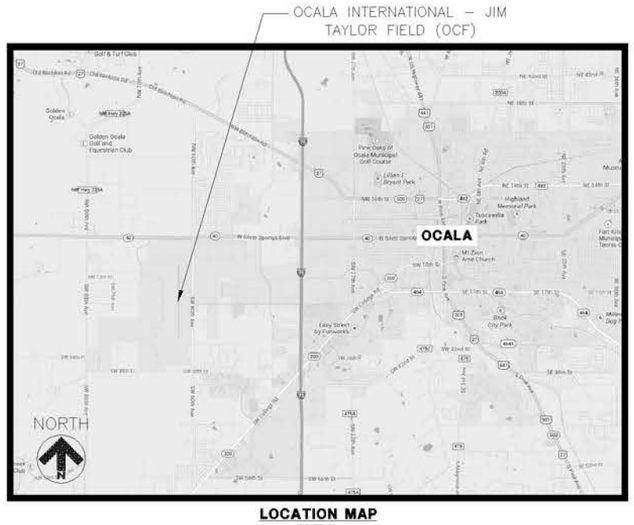
OCALA INTERNATIONAL - JIM TAYLOR FIELD

OCALA, FLORIDA

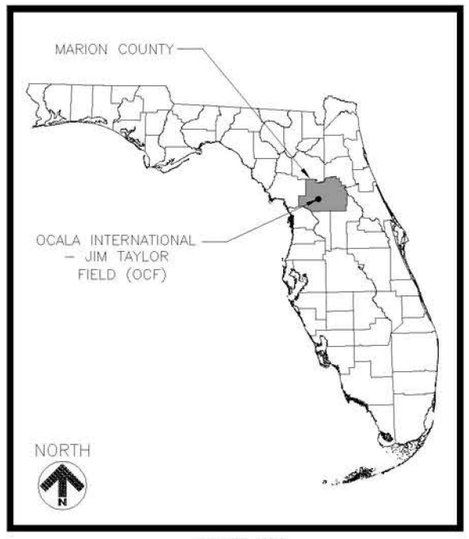
AIRPORT LAYOUT PLAN

MAY 2014

VICINITY MAP
N.T.S.



LOCATION MAP
N.T.S.



STATE MAP
N.T.S.

INDEX OF DRAWINGS

SHEET NO.	DESCRIPTION	REVISION DATE
1	TITLE SHEET	
2	AIRPORT DATA SHEET	
3	DECLARED DISTANCES DRAWING	
4	EXISTING FACILITIES PLAN	
5	FUTURE FACILITIES PLAN	
6	AIRPORT LAYOUT PLAN	
7	AIR TRAFFIC CONTROL TOWER LINE OF SIGHT STUDY	
8	AIRPORT AIRSPACE DRAWING (1 OF 2)	
9	AIRPORT AIRSPACE DRAWING (2 OF 2)	
10	INNER PORTION OF THE APPROACH SURFACE RUNWAY 18	
11	INNER PORTION OF THE APPROACH SURFACE RUNWAY 36	
12	INNER PORTION OF THE APPROACH SURFACE RUNWAY 8	
13	INNER PORTION OF THE APPROACH SURFACE RUNWAY 26	
14	DEPARTURE SURFACE RUNWAY 18–36	
15	TERMINAL/GENERAL AVIATION AREA PLAN	
16	LAND USE DRAWING	
17	AIRPORT PROPERTY MAP	

REVISIONS

NO.	DESCRIPTION	DATE

FDOT WPI NUMBER: 432760 1 94 01
RS&H PROJECT NUMBER: 201-4527-106
FAA AIP NUMBER: 3-12-0055-023-2012

CITY OF OCALA CITY COUNCIL

MAYOR - KENT GUINN
COUNCIL PRESIDENT - JOHN McLEOD
COUNCILMAN - JAMES P. HILTY SR.
COUNCILWOMAN - MARY S. RICH
COUNCILMAN - BRENT MALEVER
COUNCILMAN PRESIDENT PRO-TEM - JAY MUSLEH

OCALA INTERNATIONAL - JIM TAYLOR FIELD

CITY MANAGER - MATTHEW BROWER
AIRPORT DIRECTOR - MATTHEW GROW

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FDOT SPONSOR APPROVAL
THIS AIRPORT DRAWING IS APPROVED BY:
(SIGNATURE)_____ DATE:_____
NAME:_____
TITLE:_____

AIRPORT SPONSOR APPROVAL
THIS AIRPORT DRAWING IS APPROVED BY:
(SIGNATURE)_____ DATE:_____
NAME:_____
TITLE:_____

RUNWAY DATA

	RUNWAY 18–36				RUNWAY 8–26			
	EXISTING		FUTURE		EXISTING		FUTURE	
RUNWAY DIMENSIONS (L x W)	7467' X 150'		8400' X 150'		3009' X 50'		4791' X 75'	
RUNWAY DESIGN CODE	D–II–4000		D–IV–4000		B–II–VIS		B–II–4000	
RUNWAY REFERENCE CODE	D–II–4000		D–IV–4000		B–II–VIS		B–II–4000	
CRITICAL AIRCRAFT	GULFSTREAM IV		BOEING 767–200ER		BEECHCRAFT KING AIR 90		BEECHCRAFT KING AIR 90	
EFFECTIVE GRADIENT	.04%		.04%		.67%		.67%	
PAVEMENT TYPE	ASPHALT		ASPHALT		ASPHALT		ASPHALT	
PAVEMENT STRENGTH (LBS)	S–60,000, D–125,000, DT–220,000		D–175,000, DT–300,000		S–30,000 LBS SW		S–30,000 LBS SW	
PAVEMENT SURFACE TREATMENT	GROOVED		GROOVED		NONE		NONE	
RUNWAY LIGHTING	HIRL		HIRL		NONE		MIRL	
RUNWAY MARKING	PRECISION INSTRUMENT		PRECISION INSTRUMENT		BASIC		NON–PRECISION INSTRUMENT	
	RWY 18	**RWY 36**	**RWY 18**	**RWY 36**	**RWY 8**	**RWY 26**	**RWY 8**	**RWY 26**
RUNWAY END COORDINATES LATITUDE	29°10'43.76"N	29°09'29.83"N	29°10'43.76"N	29°09'20.60"N	29°10'45.83"N	29°10'51.04"N	29°10'44.38"N	29°10'52.64"N
LONGITUDE	82°13'23.02"W	82°13'22.92"W	82°13'23.02"W	82°13'22.91"W	82°13'53.06"W	82°13'19.63"W	82°14'02.95"W	82°13'09.72"W
RUNWAY END ELEVATION (MSL)	81.0'	78.0'	81.0'	78.0'	86.9'	87.8'	86.9'	87.8'
ROFZ WIDTH	400'	400'	400'	400'	250'	250'	250'	250'
ROFZ LENGTH BEYOND RUNWAY END	200'	200'	200'	200'	200'	200'	200'	200'
INNER APPROACH OFZ LENGTH[1]	N/A	2400'	N/A	2400'	N/A	N/A	N/A	N/A
RSA WIDTH[1,2]	500'	500'	500'	500'	150'	150'	150'	150'
RSA LENGTH BEYOND RUNWAY END[1,2]	600'	1000'	600'	1000'	300'	300'	300'	300'
RSA LENGTH BEYOND DEPARTURE END[1,2]	1000'	1000'	1000'	1000'	300'	300'	300'	300'
RSA LENGTH PRIOR TO THRESHOLD[1,2]	600'	600'	600'	600'	300'	300'	300'	300'
ROFA WIDTH[1,2]	800'	800'	800'	800'	500'	500'	500'	500'
ROFA LENGTH BEYOND RUNWAY END[1,2]	1000'	1000'	1000'	1000'	300'	300'	300'	300'
ROFA LENGTH PRIOR TO THRESHOLD[1,2]	600'	600'	600'	600'	300'	300'	300'	300'
APPROACH RPZ LENGTH[1,2]	1700'	1700'	1700'	1700'	1000'	1000'	1000'	1000'
APPROACH RPZ INNER WIDTH[1,2]	1000'	1000'	1000'	1000'	500'	500'	500'	500'
APPROACH RPZ OUTER WIDTH[1,2]	1510'	1510'	1510'	1510'	700'	700'	700'	700'
DEPARTURE RPZ LENGTH[1,2]	1700'	1700'	1700'	1700'	1000'	1000'	1000'	1000'
DEPARTURE RPZ INNER WIDTH[1,2]	500'	500'	500'	500'	500'	500'	500'	500'
DEPARTURE RPZ OUTER WIDTH[1,2]	1010'	1010'	1010'	1010'	700'	700'	700'	700'
DISPLACED THRESHOLD COORDINATES	29°10'42.18"N	29°09'29.83"N	29°10'42.18"N	29°09'25.97"N	NONE	NONE	29°10'46.27"N	29°10'50.82"N
	82°13'23.02"W	82°13'22.92"W	82°13'23.02"W	82°13'22.92"W	NONE	NONE	82°13'50.89"W	82°13'21.79"W
DISPLACED THRESHOLD ELEVATION (MSL)	81.0'	78.0'	81.0'	78.0'	NONE	NONE	86.9'	87.8'
INSTRUMENT APPROACHES	RNAV	ILS–LOC/DME,RNAV,VOR	RNAV	ILS–LOC/DME,RNAV,VOR	NONE	NONE	RNAV	RNAV
APPROACH TYPE	NPI	PIR	NPI	PIR	VISUAL	VISUAL	NPI	NPI
14 CFR PART 77 APPROACH CATEGORY	34:1	50:1	34:1	50:1	20:1	20:1	34:1	34:1
VISIBILITY MINIMUMS (MILE)	3/4	3/4	3/4	3/4	N/A	N/A	1	1
TYPE OF AERONAUTICAL SURVEY REQ.	VERTICALLY GUIDED	VERTICALLY GUIDED	VERTICALLY GUIDED	VERTICALLY GUIDED	N/A	N/A	NON–VERTICALLY GUIDED	NON–VERTICALLY GUIDED
40:1 OBSTACLE CLEARANCE SURFACE APPLICABILITY	YES	YES	YES	YES	N/A	N/A	N/A	N/A
THRESHOLD SITING SURFACE (TSS) APPROACH SLOPE	20:1	34:1	20:1	34:1	20:1	20:1	20:1	20:1
OBJECTS PENETRATING TSS	NONE	NONE	LOCALIZER, TREE	NONE	NONE	NONE	NONE	NONE
VISUAL AND INSTRUMENT NAVAIDS	PAPI	ILS, MALSR, PAPI	PAPI	ILS, MALSR, PAPI	NONE	NONE	PAPI	PAPI
TOUCHDOWN ZONE ELEVATION (MSL)	80.4'	80.4'	80.4'	80.4'	90.0'	90.0'	90.0'	90.0'
PERCENT ALL WEATHER WIND COVERAGE (10.5 KNOTS)	88.09%	88.85%	N/A	N/A	86.93%	90.62%	N/A	N/A
PERCENT ALL WEATHER WIND COVERAGE (13 KNOTS)	89.24%	89.64%	N/A	N/A	87.64%	91.82%	N/A	N/A
PERCENT ALL WEATHER WIND COVERAGE (16 KNOTS)	90.27%	90.41%	N/A	N/A	88.45%	92.90%	N/A	N/A
PERCENT ALL WEATHER WIND COVERAGE (20 KNOTS)	90.46%	90.51%	N/A	N/A	88.55%	93.09%	N/A	N/A

RUNWAY DATA TABLE NOTES:
-BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18-36 IS ANTICIPATED TO CHANGE TO 1-19 IN 2021.
-BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 8-26 IS ANTICIPATED TO CHANGE TO 9-27 IN 2019.
[1]DIMENSIONS LISTED ARE EQUAL TO FAA STANDARDS UNLESS OTHERWISE NOTED.
[2]RUNWAY 18-36 MEETS CURRENT AND FUTURE RSA, ROFA, AND RPZ STANDARDS THROUGH DECLARED DISTANCES. RUNWAY 8-26 WILL MEET FUTURE RSA, ROFA, AND RPZ STANDARDS THROUGH DECLARED DISTANCES.

TAXIWAY DATA

TAXIWAY DESIGNATION	AIRPLANE DESIGN GROUP–TAXIWAY DESIGN GROUP		TAXIWAY WIDTH		TAXIWAY LIGHTING		TAXIWAY SAFETY AREA WIDTH		TAXIWAY OBJECT FREE AREA WIDTH		TAXIWAY SAFETY EDGE MARGIN WIDTH		DISTANCE TO OBJECTS IN TSA/TOFA	
	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE	EXISTING	FUTURE
A (A1 TO A11)	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A (A1 RWY 26)	II–2	II–2	25'	35'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A1 EAST	II–2	II–2	40'	40'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A1 WEST	II–2	II–2	80'	80'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A2	II–2	II–2	40'	40'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A3 EAST	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A3 WEST*	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A4	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A5	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A6 EAST	II–2	II–2	25'	35'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A6 WEST*	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A7	II–2	II–2	40'	40'	HITL	HITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
A8*	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A9	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A10 EAST	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A10 WEST	II–3	II–3	50'	50'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
A11	II–3	II–3	80'	80'	HITL	HITL	79'	79'	131'	131'	10'	10'	65.5'	65.5'
B	II–2	II–2	25'	35'	NONE	MITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
B1*	II–2	II–2	25'	35'	NONE	MITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
B2*	II–2	II–2	25'	35'	NONE	MITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
B3*	II–2	II–2	25'	35'	NONE	MITL	79'	79'	131'	131'	7.5'	7.5'	65.5'	65.5'
B4**	N/A	II–2	N/A	35'	N/A	MITL	N/A	79'	N/A	131'	N/A	7.5'	N/A	65.5'
B5**	N/A	II–2	N/A	35'	N/A	MITL	N/A	79'	N/A	131'	N/A	7.5'	N/A	65.5'
B6**	N/A	II–2	N/A	35'	N/A	MITL	N/A	79'	N/A	131'	N/A	7.5'	N/A	65.5'
TWY C**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C1**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C2**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C3**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C4**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C5**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C6**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C7**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'
C8**	N/A	IV–5	N/A	75'	N/A	HITL	N/A	171'	N/A	259'	N/A	15'	N/A	129.5'

* PROPOSED FUTURE RELOCATION
** PROPOSED TAXIWAY DESIGNATION

AIRPORT DATA

		EXISTING	FUTURE
AIRPORT REFERENCE CODE		D–II–4000	D–IV–4000
CRITICAL AIRCRAFT		G–IV	767–200ER
CRITICAL AIRCRAFT APPROACH SPEED (KNOTS)		141	142
CRITICAL AIRCRAFT WINGSPAN		77.8'	156.1'
CRITICAL AIRCRAFT MAIN GEAR WIDTH		18.6'	30.5'
AIRPORT ELEVATION (MSL)		90.0'	90.0'
MEAN MAX. TEMPERATURE OF HOTTEST MONTH*		93.2° F (JULY)	93.2° F (JULY)
AIRPORT REFERENCE POINT	LATITUDE	29°10'18.76"N	29°10'19.01"N
	LONGITUDE	82°13'26.81"W	82°13'27.82"W
AIRPORT NAVAIDS	AIRPORT OWNERSHIP	PAPI, BEACON, LIGHTED WINDCONE, SEGMENTED CIRCLE	PAPI, BEACON, LIGHTED WINDCONE, SEGMENTED CIRCLE
	FAA OWNERSHIP	VORTAC, GLIDE SLOPE LOCALIZER, MALSR	VORTAC, GLIDE SLOPE LOCALIZER, MALSR
MISCELLANEOUS FACILITIES		AWOS III (500' CRITICAL AREA) LIGHTNING DETECTOR	AWOS III (500' CRITICAL AREA) LIGHTNING DETECTOR
AIRPORT MAGNETIC VARIATION & ANNUAL DECLINATION CHANGE**		5.56° W 0.1° W PER YEAR	5.56° W 0.1° W PER YEAR
NPIAS SERVICE LEVEL		GENERAL AVIATION	GENERAL AVIATION

AIRPORT DATA TABLE NOTES:
*CLIMATOGRAPHY OF THE U.S. NO. 81
**SEPT. 2013 SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE - http://www.ngdc.noaa.gov/

MODIFICATIONS TO STANDARDS

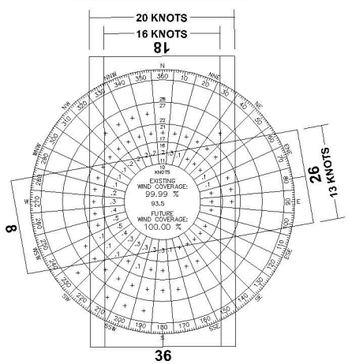
DESCRIPTION OF MODIFICATION	REQUIRED STANDARD	DATE OF MOD. APPROVAL	AIRSPACE CASE NO.

NOTES:

1. THE NAD 83 COORDINATE SYSTEM WAS USED FOR ALL LATITUDE AND LONGITUDE COORDINATES.

2. THE NAVD88 VERTICAL CONTROL DATUM WAS USED FOR ALL ELEVATIONS.

ALL-WEATHER WINDROSE

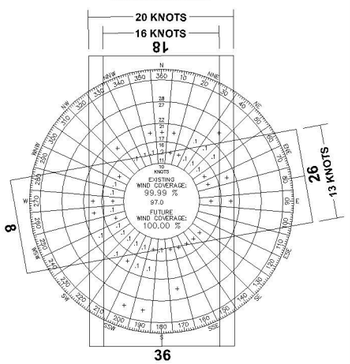


SOURCE: NOAA - NATIONAL CLIMATIC DATA CENTER
STATION: OCALA INTERNATIONAL - JIM TAYLOR FIELD WBAN 99999/12861
PERIOD: 11/1/02 - 11/1/12

WIND COVERAGE

RUNWAY	CROSSWIND COMPONENT-KNOTS(MPH)			
	10.5 (12.0)	13.0 (15.0)	16.0 (18.4)	20.0 (23.0)
18/36	97.22%	98.50%	99.78%	99.97%
8/26	97.26%	98.57%	99.76%	99.96%
COMBINED	99.76%	99.96%	100.00%	100.00%

IFR WINDROSE

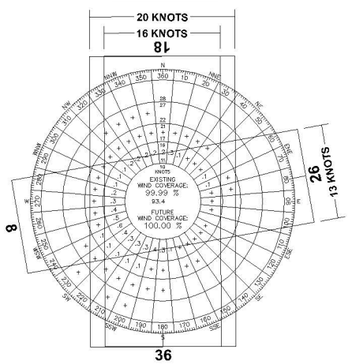


SOURCE: NOAA - NATIONAL CLIMATIC DATA CENTER
STATION: OCALA INTERNATIONAL - JIM TAYLOR FIELD WBAN 99999/12861
PERIOD: 11/1/02 - 11/1/12

WIND COVERAGE

RUNWAY	CROSSWIND COMPONENT-KNOTS(MPH)			
	10.5 (12.0)	13.0 (15.0)	16.0 (18.4)	20.0 (23.0)
18/36	98.85%	99.38%	99.81%	99.97%
8/26	98.46%	99.04%	99.87%	99.92%
COMBINED	99.78%	99.95%	99.99%	100.00%

VFR WINDROSE



SOURCE: NOAA - NATIONAL CLIMATIC DATA CENTER
STATION: OCALA INTERNATIONAL - JIM TAYLOR FIELD WBAN 99999/12861
PERIOD: 11/1/02 - 11/1/12

WIND COVERAGE

RUNWAY	CROSSWIND COMPONENT-KNOTS(MPH)			
	10.5 (12.0)	13.0 (15.0)	16.0 (18.4)	20.0 (23.0)
18/36	97.21%	98.55%	99.77%	99.97%
8/26	97.14%	98.57%	99.77%	99.97%
COMBINED	99.76%	99.96%	100.00%	100.00%

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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

AIRPORT DATA SHEET

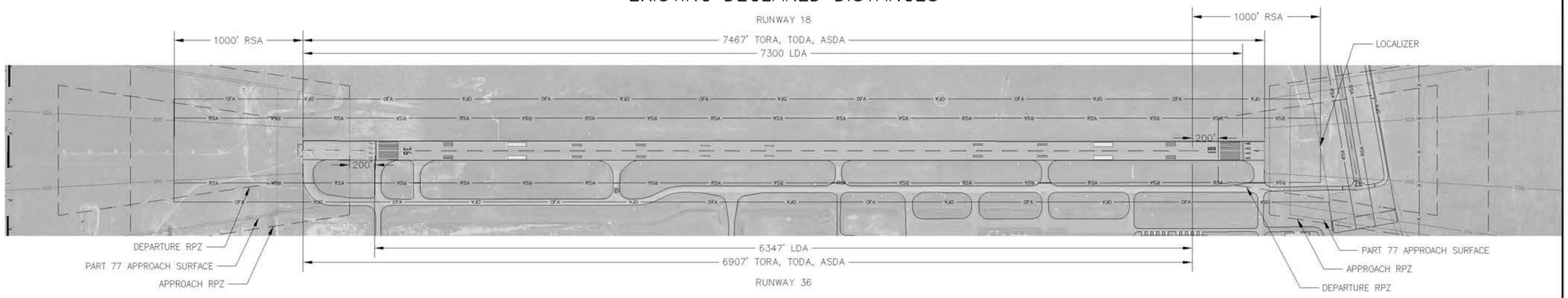
SHEET NUMBER

2

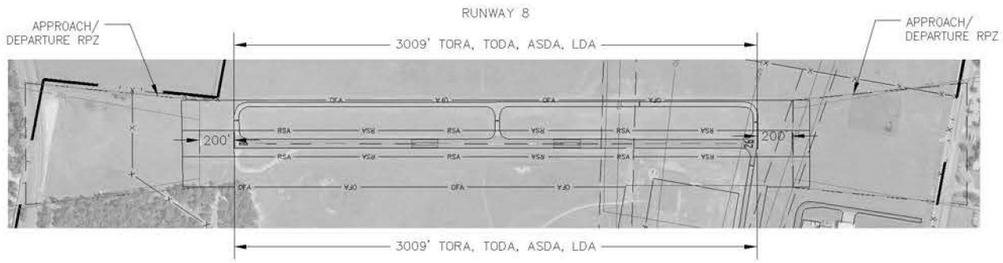
FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC002_DATA.dwg Plotted on: 5/20/2014 2:58 PM Plotted by: Morse, Ryan

EXISTING DECLARED DISTANCES

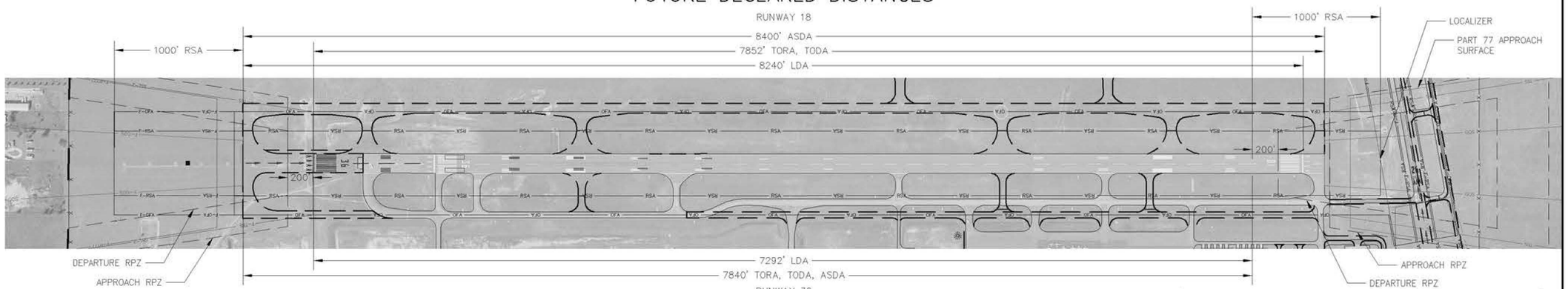


LEGEND	EXISTING	PROPOSED
AIRSIDE PAVEMENT		
AIRPORT PROPERTY		
SECURITY FENCE	x x	xx xx
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)		
THRESHOLD SITING SURFACE (TSS)	TSS	F-TSS
PART 77 APROACH SURFACE (PT77)	PT77	F-PT77
TERPS GLIDEPATH QUALIFICATION SURFACE (GQS)	GQS	F-GQS
RUNWAY SAFETY AREA (RSA)	RSA	F-RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	F-ROFA
PAVEMENT MARKINGS		

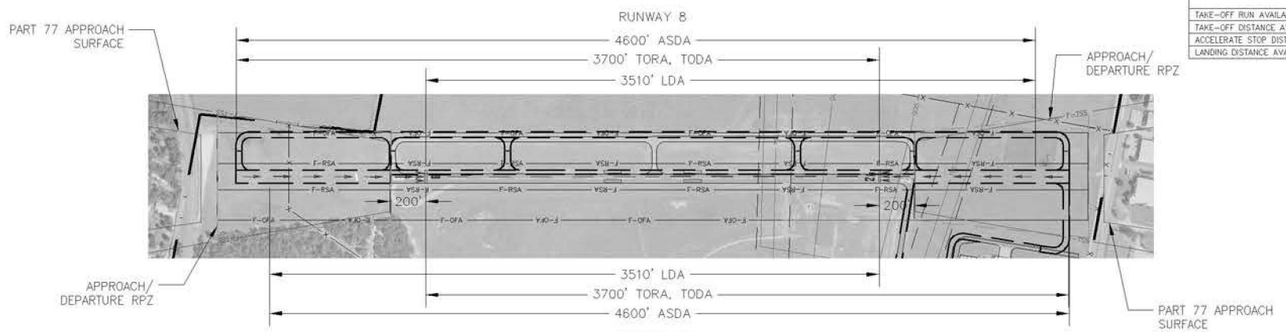


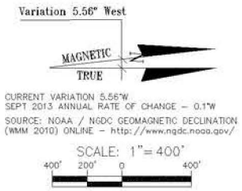
EXISTING DECLARED DISTANCES	RWY 18	RWY 36	RWY 8	RWY 26
TAKE-OFF RUN AVAILABLE (TORA)	7,467'	6,907'	3,009'	3,009'
TAKE-OFF DISTANCE AVAILABLE (TODA)	7,467'	6,907'	3,009'	3,009'
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	7,467'	6,907'	3,009'	3,009'
LANDING DISTANCE AVAILABLE (LDA)	7,300'	6,347'	3,009'	3,009'

FUTURE DECLARED DISTANCES



FUTURE DECLARED DISTANCES	RWY 18	RWY 36	RWY 8	RWY 26
TAKE-OFF RUN AVAILABLE (TORA)	7,852'	7,840'	3,700'	3,700'
TAKE-OFF DISTANCE AVAILABLE (TODA)	7,852'	7,840'	3,700'	3,700'
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	8,400'	7,840'	4,600'	4,600'
LANDING DISTANCE AVAILABLE (LDA)	8,240'	7,292'	3,510'	3,510'





CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"= 400'
400' 200' 0 400'

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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

DECLARED DISTANCES DRAWING

SHEET NUMBER
3

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC003_DECL_DIST.dwg Plotted on: 5/20/2014 2:59 PM Plotted by: Morse, Ryan

BLDG NO.	EXISTING AIRPORT FACILITIES
(716)	BOX HANGAR (72'X100')
(750)	AIRPORT ADMINISTRATION/BOX HANGAR (82'X120')
(770)	WATER SEWER LIFT STATION/PUMP STATION
(780)	VORTAC
(790)	LOCALIZER
(800)	BOX HANGAR (109'X124')
(804)	FUEL FARM (TO BE RELOCATED)
(900)	T-HANGARS (59'X300')
(904)	T-HANGARS (54'X300')
(908)	T-HANGARS (51'X323')
(912)	T-HANGARS (53'X340')
(916)	T-HANGARS (38'X484')
(920)	T-HANGARS (38'X482')
(924)	T-HANGARS (67'X247')
(928)	T-HANGARS (67'X247')
(1200)	FBO/BOX HANGAR (90'X105')
(1550)	OFFICE/BOX HANGAR (85'X125')
(1560)	BOX HANGAR (100'X100')
(1600)	SELF SERVE FUEL STATION
(1600)-100	STORAGE SHED
(1600)-200	ELECTRICAL VAULT
(1700)	AIR TRAFFIC CONTROL TOWER
(1720)	AIRPORT TERMINAL
(1820)	OFFICE
(1860)	BOX HANGAR (62'X62')
(1868)	BOX HANGAR (79'X102')
(1876)	BOX HANGAR (74'X82')
(1900)	OFFICE/ BOX HANGAR (80'X114')
(1934)	BOX HANGAR (70'X70')
(1938)	OFFICE/BOX HANGAR (70'X76')
(1962)	BOX HANGAR (62'X72')
(2000)	BOX HANGAR (82'X88')
(2010)	BOX HANGAR (60'X70')
(2032)	OFFICE/BOX HANGAR (108'X128')
(2040)	OFFICE/BOX HANGAR (140'X154')

GATE NO.	GATE DESCRIPTION	GATE TYPE
1	ATCT VEHICLE ACCESS TO AOA	MANUAL
1A	ATCT PEDESTRIAN	MANUAL
2	QUEST AVIONICS/FLIGHT SCHOOL VEHICLE GATE	ELECTRIC/CARD READER
2A	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN SOUTH	ELECTRIC/CARD READER
2B	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN NORTH	MANUAL
3	LANDMARK AVIATION (FBO) VEHICLE GATE	ELECTRIC/CARD READER
3A	LANDMARK AVIATION (FBO) PEDESTRIAN GATE - 24 HOUR ACCESS GATE	ELECTRIC/CARD READER
3B	T-HANGAR PEDESTRIAN GATE TO SW 60TH AVE	MANUAL
PC1	PRIVATE VEHICLE GATE MAINTENANCE FACILITY	PRIVATE
4	AIRPORT ADMINISTRATION VEHICLE GATE	ELECTRIC/CARD READER
4A	AIRPORT ADMINISTRATION PEDESTRIAN GATE	ELECTRIC/CARD READER
PC2	PRIVATE VEHICLE GATE	ELECTRIC/CARD READER
5	VEHICLE ACCESS EAST PERIMETER FENCE TO SW 60TH AVE	MANUAL
6	VEHICLE ACCESS NORTH PERIMETER FENCE	MANUAL
7	VEHICLE ACCESS NORTH PERIMETER FENCE	MANUAL
7A	PEDESTRIAN GATE NORTH PERIMETER FENCE	MANUAL
8	VEHICLE ACCESS GATE NORTHWEST CORNER TO SW 67TH AVE	MANUAL
9	VEHICLE ACCESS GATE	MANUAL
10	VEHICLE ACCESS GATE TO AWOS AREA	MANUAL
11	VEHICLE ACCESS GATE SOUTHWEST FENCE TO WATER SEWER LIFT STATION	MANUAL
12	VEHICLE ACCESS TO SOUTH PERIMETER FENCE	MANUAL
13	VEHICLE ACCESS SOUTHEAST PERIMETER FENCE	MANUAL
14	VEHICLE ACCESS GATE TO A-10 TWY	MANUAL
15	VEHICLE ACCESS GATE TO A-10 TWY	MANUAL
16	VEHICLE ACCESS GATE TO HEX-A-PORT	ELECTRIC/CARD READER
LS	LIFT STATION ACCESS GATE	MANUAL
PC3	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
EG	EMERGENCY GATE	ELECTRIC/CARD READER
17	VEHICLE ACCESS GATE CORPORATE HANGAR	ELECTRIC/CARD READER
PC4	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
18	VEHICLE ACCESS GATE	MANUAL
PC5	PRIVATE VEHICLE ACCESS GATE CORPORATE HANGAR	PRIVATE
19	VEHICLE ACCESS GATE (MCSO AREA)	ELECTRIC/CARD READER
20	VEHICLE ACCESS GATE TO DUMPSTER	MANUAL
21	VEHICLE ACCESS GATE CITY RAMP ACCESS	MANUAL
22	ATCT PUBLIC ENTRANCE	ELECTRIC/CARD READER

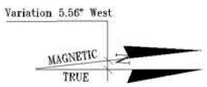
LEGEND	EXISTING
BUILDINGS	
AIRSIDE PAVEMENT	
PARKING	
ROADS	
AIRPORT PROPERTY	
SECURITY FENCE	x x
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)	
THRESHOLD SITING SURFACE (TSS)	TSS
PART 77 APROACH SURFACE (PT77)	PT77
TERPS GLIDEPATH QUALIFICATION SURFACE (GQS)	GQS
RUNWAY SAFETY AREA (RSA)	RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA
TAXIWAY EDGE SAFETY MARGIN (TESM)	TESM
TAXIWAY SAFETY AREA (TSA)	TSA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)	BRL 30'
AIRPORT REFERENCE POINT (ARP)	
USGS MONUMENT	
PRECISION APPROACH PATH INDICATOR (PAPI)	
RUNWAY LIGHT (THRESHOLD)	
BEACON	
WINDCONE	
SEGMENTED CIRCLE	
PAVEMENT MARKINGS	
AIRCRAFT TIE-DOWNS	
GATE LOCATION AND NUMBER	
TREES	
DRAINAGE	

NOTES:

1. TRAVERSE WAY ELEVATIONS ARE ACTUAL ELEVATIONS AND DO NOT INCLUDE THE TRAVERSE WAY ADJUSTMENT.

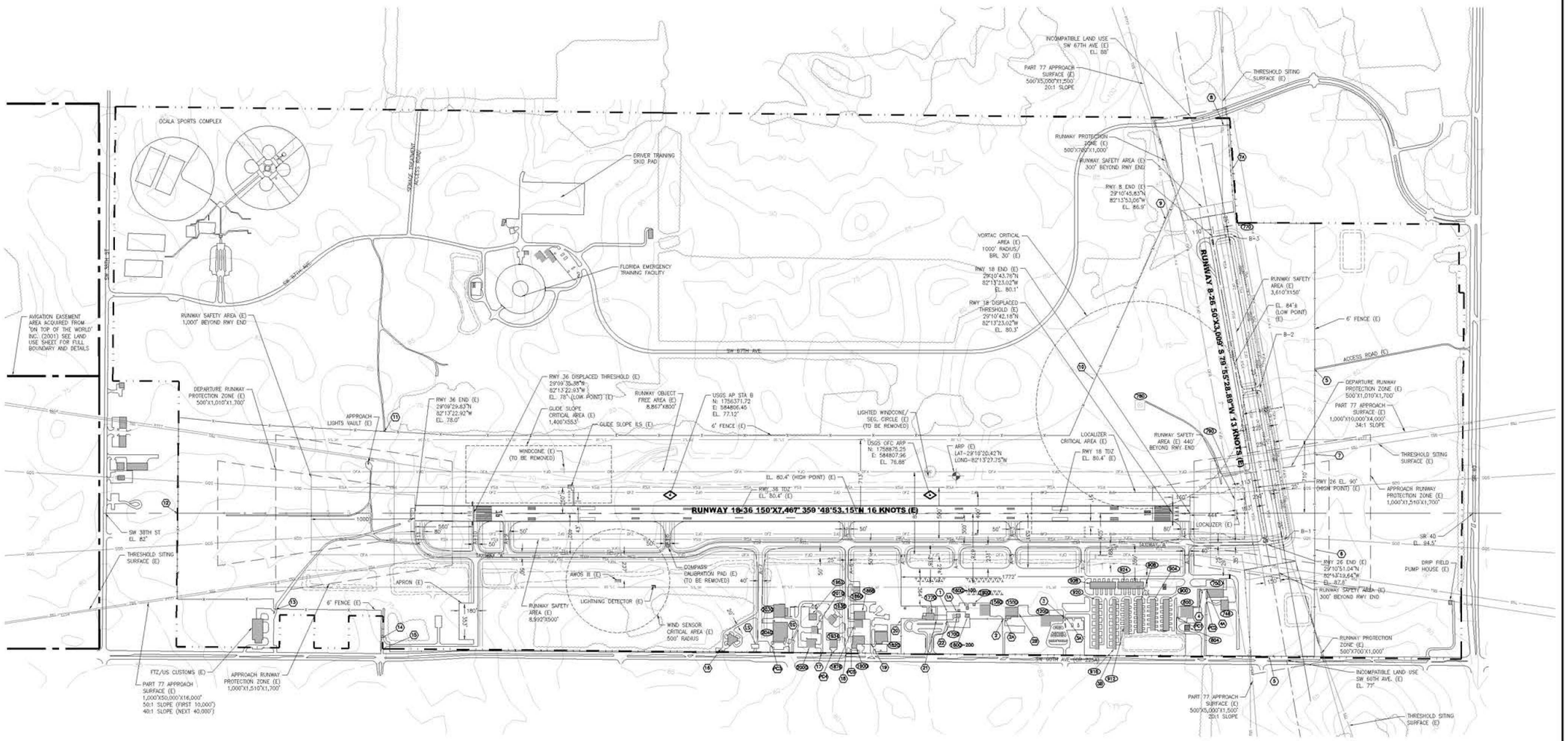
2. THE NAD 83 COORDINATE SYSTEM WAS USED FOR ALL LATITUDE AND LONGITUDE COORDINATES.

3. THE NAVD88 VERTICAL CONTROL DATUM WAS USED FOR ALL ELEVATIONS.



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE - 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE - http://www.ngdc.noaa.gov/

SCALE: 1"=500'
500' 250' 0 500'



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Ocala International Airport

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OCALA INTERNATIONAL - JIM TAYLOR FIELD

OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

EXISTING FACILITIES PLAN

SHEET NUMBER

4

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC004_EFP.dwg Plotted on: 5/20/2014 2:59 PM Plotted by: Morse, Ryan

LEGEND

	EXISTING	PROPOSED
BUILDINGS		
BUILDING DEMOLITION	N/A	
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
ROADS		
AIRPORT PROPERTY		
PROPERTY ACQUISITION	N/A	
SECURITY FENCE	X X	XX XX
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)		
THRESHOLD SITING SURFACE (TSS)	TSS	F-TSS
PART 77 APPROACH SURFACE (PT77)	PT77	F-PT77
TERPS GLIDEPATH QUALIFICATION SURFACE (GQS)	GQS	F-GQS
RUNWAY SAFETY AREA (RSA)	RSA	F-RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	F-ROFA
TAXIWAY EDGE SAFETY MARGIN (TESM)	TESM	F-TESM
TAXIWAY SAFETY AREA (TSA)	TSA	F-TSA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	F-TOFA
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)	BRL 30'	F-BRL 30'
AIRPORT REFERENCE POINT (ARP)		
USGS MONUMENT		N/A
PRECISION APPROACH PATH INDICATOR (PAPI)		
RUNWAY LIGHT (THRESHOLD)		
BEACON		N/A
WINDCONE		
SEGMENTED CIRCLE		
PAVEMENT MARKINGS		
HELICOPTER LANDING PAD	N/A	(H)
AIRCRAFT TIE-DOWNS		N/A
TREES		N/A
DRAINAGE POND		N/A

CONSTRUCTION NOTICE REQUIREMENT

TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH THE FAA DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

NOTES:

1. TRAVERSE WAY ELEVATIONS ARE ACTUAL ELEVATIONS AND DO NOT INCLUDE THE TRAVERSE WAY ADJUSTMENT.
2. THE NAD 83 COORDINATE SYSTEM WAS USED FOR ALL LATITUDE AND LONGITUDE COORDINATES.
3. THE NAVD88 VERTICAL CONTROL DATUM WAS USED FOR ALL ELEVATIONS.
4. PRIOR TO TAXIWAY 'A' RE-ALIGNMENT, ADG IV SEPARATION STANDARDS WILL BE ACCOMMODATED OPERATIONALLY WITH ATCT COORDINATION.

BLDG NO.	FUTURE AIRPORT FACILITIES
A	FUEL FARM
B	WASH RACK
C	T-HANGARS (LENGTHS=144',160',182',182',182')
D	ARFF/MAINTENANCE BUILDING
E	CARGO APRON (2400'X400')
F	TERMINAL
G	APRON EXPANSION
H	COMPASS CALIBRATION PAD
J	APRON EXPANSION (365'X243')
K	GLIDESLOPE ANTENNA

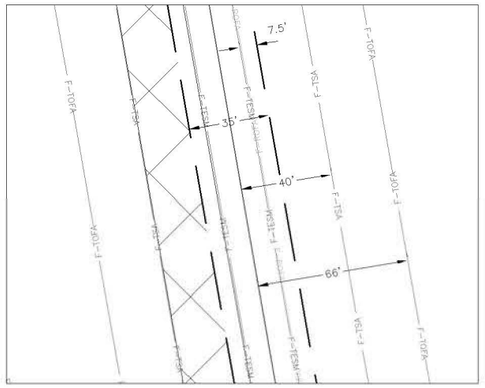
Variation 5.56° West

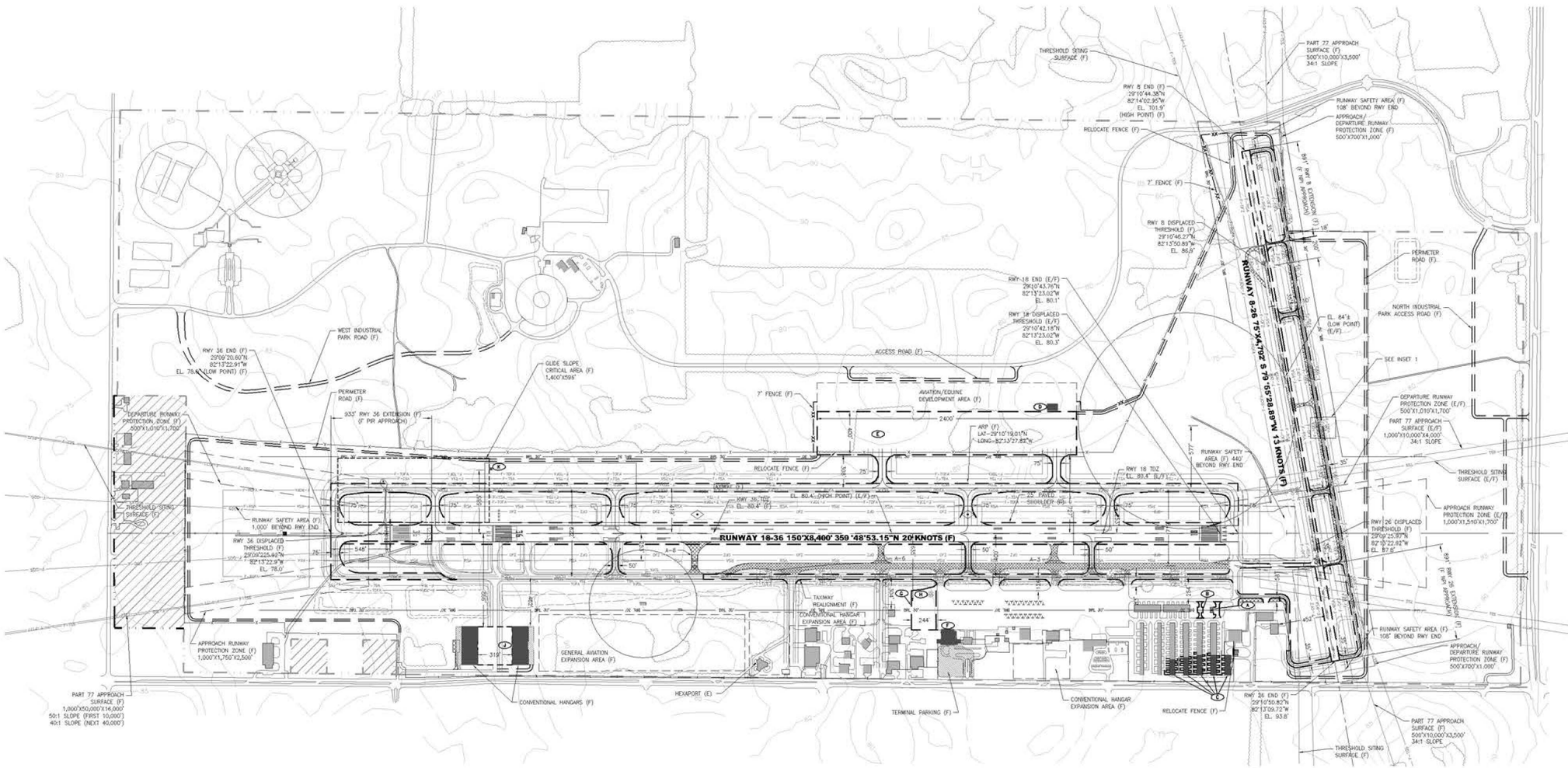
MAGNETIC
TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"=500'
500' 250' 0 500'

INSET 1





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Ocala International Airport

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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

FUTURE FACILITIES PLAN

SHEET NUMBER

5

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC005_FFP.dwg Plotted on: 5/20/2014 2:59 PM Plotted by: Morse, Ryan

BLDG NO.	EXISTING AIRPORT FACILITIES	BLDG EL.(MSL)
(74)	BOX HANGAR (72'X100')	112'
(75)	AIRPORT ADMINISTRATION/BOX HANGAR (82'X120')	116'
(77)	WATER SEWER LIFT STATION/PUMP STATION	93'
(78)	VORTAC	121'
(79)	LOCALIZER	97'
(80)	BOX HANGAR (109'X124')	115'
(84)	FUEL FARM (TO BE RELOCATED)	96'
(90)	T-HANGARS (59'X300')	101'
(94)	T-HANGARS (54'X300')	101'
(98)	T-HANGARS (51'X323')	101'
(912)	T-HANGARS (53'X340')	102'
(916)	T-HANGARS (38'X484')	104'
(920)	T-HANGARS (38'X482')	105'
(924)	T-HANGARS (67'X247')	105'
(928)	T-HANGARS (67'X247')	106'
(1200)	FBO/BOX HANGAR (90'X105')	121'
(1550)	OFFICE/BOX HANGAR (85'X125')	116'
(1560)	BOX HANGAR (100'X100')	119'
(1600)	SELF SERVE FUEL STATION	95'
(1600)–100	STORAGE SHED	101'
(1600)–200	ELECTRICAL VAULT	107'
(1700)	AIR TRAFFIC CONTROL TOWER	182'
(1770)	AIRPORT TERMINAL	110'
(1820)	OFFICE	107'
(1860)	BOX HANGAR (62'X62')	111'
(1864)	BOX HANGAR (79'X102')	117'
(1876)	BOX HANGAR (74'X82')	116'
(1900)	OFFICE/ BOX HANGAR (80'X114')	123'
(1934)	BOX HANGAR (70'X70')	118'
(1938)	OFFICE/BOX HANGAR (70'X76')	130'
(1962)	BOX HANGAR (62'X72')	117'
(2005)	BOX HANGAR (82'X88')	118'
(2010)	BOX HANGAR (60'X70')	119'
(2030)	OFFICE/BOX HANGAR (108'X128')	119'
(2040)	OFFICE/BOX HANGAR (140'X154')	119'

BLDG NO.	FUTURE AIRPORT FACILITIES
(A)	FUEL FARM
(B)	WASH RACK
(C)	T-HANGARS (LENGTHS=144',160',182',182',182')
(D)	ARFF/MAINTENANCE BUILDING
(E)	CARGO APRON (240'X400')
(F)	TERMINAL
(G)	APRON EXPANSION
(H)	COMPASS CALIBRATION PAD
(J)	APRON EXPANSION (365'X243')
(K)	GLIDESLOPE ANTENNA

GATE NO.	GATE DESCRIPTION	GATE TYPE
1	ATCT VEHICLE ACCESS TO AOA	MANUAL
1A	ATCT PEDESTRIAN	MANUAL
2	QUEST AVIONICS/FLIGHT SCHOOL VEHICLE GATE	ELECTRIC/CARD READER
2A	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN SOUTH	ELECTRIC/CARD READER
2B	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN NORTH	MANUAL
3	LANDMARK AVIATION (FBO) VEHICLE GATE	ELECTRIC/CARD READER
3A	LANDMARK AVIATION (FBO) PEDESTRIAN GATE – 24 HOUR ACCESS GATE	ELECTRIC/CARD READER
3B	T-HANGAR PEDESTRIAN GATE TO SW 60TH AVE	MANUAL
PC1	PRIVATE VEHICLE GATE MAINTENANCE FACILITY	PRIVATE
4	AIRPORT ADMINISTRATION VEHICLE GATE	ELECTRIC/CARD READER
4A	AIRPORT ADMINISTRATION PEDESTRIAN GATE	ELECTRIC/CARD READER
PC2	PRIVATE VEHICLE GATE	ELECTRIC/CARD READER
5	VEHICLE ACCESS EAST PERIMETER FENCE TO SW 60TH AVE	MANUAL
6	VEHICLE ACCESS NORTH PERIMETER FENCE	MANUAL
7	VEHICLE ACCESS NORTH PERIMETER FENCE	MANUAL
7A	PEDESTRIAN GATE NORTH PERIMETER FENCE	MANUAL
8	VEHICLE ACCESS GATE NORTHWEST CORNER TO SW 67TH AVE	MANUAL
9	VEHICLE ACCESS GATE	MANUAL
10	VEHICLE ACCESS GATE TO AWOS AREA	MANUAL
11	VEHICLE ACCESS GATE SOUTHWEST FENCE TO WATER SEWER LIFT STATION	MANUAL
12	VEHICLE ACCESS TO SOUTH PERIMETER FENCE	MANUAL
13	VEHICLE ACCESS SOUTHEAST PERIMETER FENCE	MANUAL
14	VEHICLE ACCESS GATE TO A-10 TWY	MANUAL
15	VEHICLE ACCESS GATE TO A-10 TWY	MANUAL
16	VEHICLE ACCESS GATE TO HEX-A-PORT	ELECTRIC/CARD READER
LS	LIFT STATION ACCESS GATE	MANUAL
PC3	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
EG	EMERGENCY GATE	ELECTRIC/CARD READER
17	VEHICLE ACCESS GATE CORPORATE HANGAR	ELECTRIC/CARD READER
PC4	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
18	VEHICLE ACCESS GATE	MANUAL
PC5	PRIVATE VEHICLE ACCESS GATE CORPORATE HANGAR	PRIVATE
19	VEHICLE ACCESS GATE (MC50 AREA)	ELECTRIC/CARD READER
20	VEHICLE ACCESS GATE TO DUMPSTER	MANUAL
21	VEHICLE ACCESS GATE CITY RAMP ACCESS	MANUAL
22	ATCT PUBLIC ENTRANCE	ELECTRIC/CARD READER

LEGEND	EXISTING	PROPOSED
BUILDINGS		
BUILDING DEMOLITION	N/A	
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
ROADS		
AIRPORT PROPERTY		
PROPERTY ACQUISITION	N/A	
SECURITY FENCE	X X	XX XX
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)		
THRESHOLD SITING SURFACE (TSS)	TSS	F-TSS
PART 77 APROACH SURFACE (PT77)	PT77	F-PT77
TERPS GLIDEPATH QUALIFICATION SURFACE (GQS)	GQS	F-GQS
RUNWAY SAFETY AREA (RSA)	RSA	F-RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	F-ROFA
TAXIWAY EDGE SAFETY MARGIN (TESM)	TESM	F-TESM
TAXIWAY SAFETY AREA (TSA)	TSA	F-TSA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	F-TOFA
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)	BRL 30'	F-BRL 30'
AIRPORT REFERENCE POINT (ARP)		
USGS MONUMENT		N/A
PRECISION APPROACH PATH INDICATOR (PAPI)		
RUNWAY LIGHT (THRESHOLD)		
BEACON		N/A
WINDCONE		
SEGMENTED CIRCLE		
PAVEMENT MARKINGS		
HELICOPTER LANDING PAD	N/A	H
AIRCRAFT TIE-DOWNS		N/A
GATE LOCATION AND NUMBER		N/A
TREES		N/A
DRAINAGE		N/A

CONSTRUCTION NOTICE REQUIREMENT

TO PROTECT OPERATIONAL SAFETY AND FUTURE DEVELOPMENT, ALL PROPOSED CONSTRUCTION ON THE AIRPORT MUST BE COORDINATED BY THE AIRPORT OWNER WITH THE FAA DISTRICT OFFICE PRIOR TO CONSTRUCTION. FAA'S REVIEW TAKES APPROXIMATELY 60 DAYS.

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THIS AIRPORT DRAWING IS APPROVED BY:

(SIGNATURE)_____ DATE:_____

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(SIGNATURE)_____ DATE:_____

NAME:_____

TITLE:_____

FAA APPROVAL STAMP

NOTES:

1. TRAVERSE WAY ELEVATIONS ARE ACTUAL ELEVATIONS AND DO NOT INCLUDE THE TRAVERSE WAY ADJUSTMENT.
2. THE NAD 83 COORDINATE SYSTEM WAS USED FOR ALL LATITUDE AND LONGITUDE COORDINATES.
3. THE NAVD88 VERTICAL CONTROL DATUM WAS USED FOR ALL ELEVATIONS.
4. BUILDING NUMBERS WERE ADOPTED FROM CITY OF OCALA FIRE DEPARTMENT.
5. PRIOR TO TAXIWAY 'A' RE-ALIGNMENT, ADG IV SEPARATION STANDARDS WILL BE ACCOMMODATED OPERATIONALLY WITH ATCT COORDINATION.

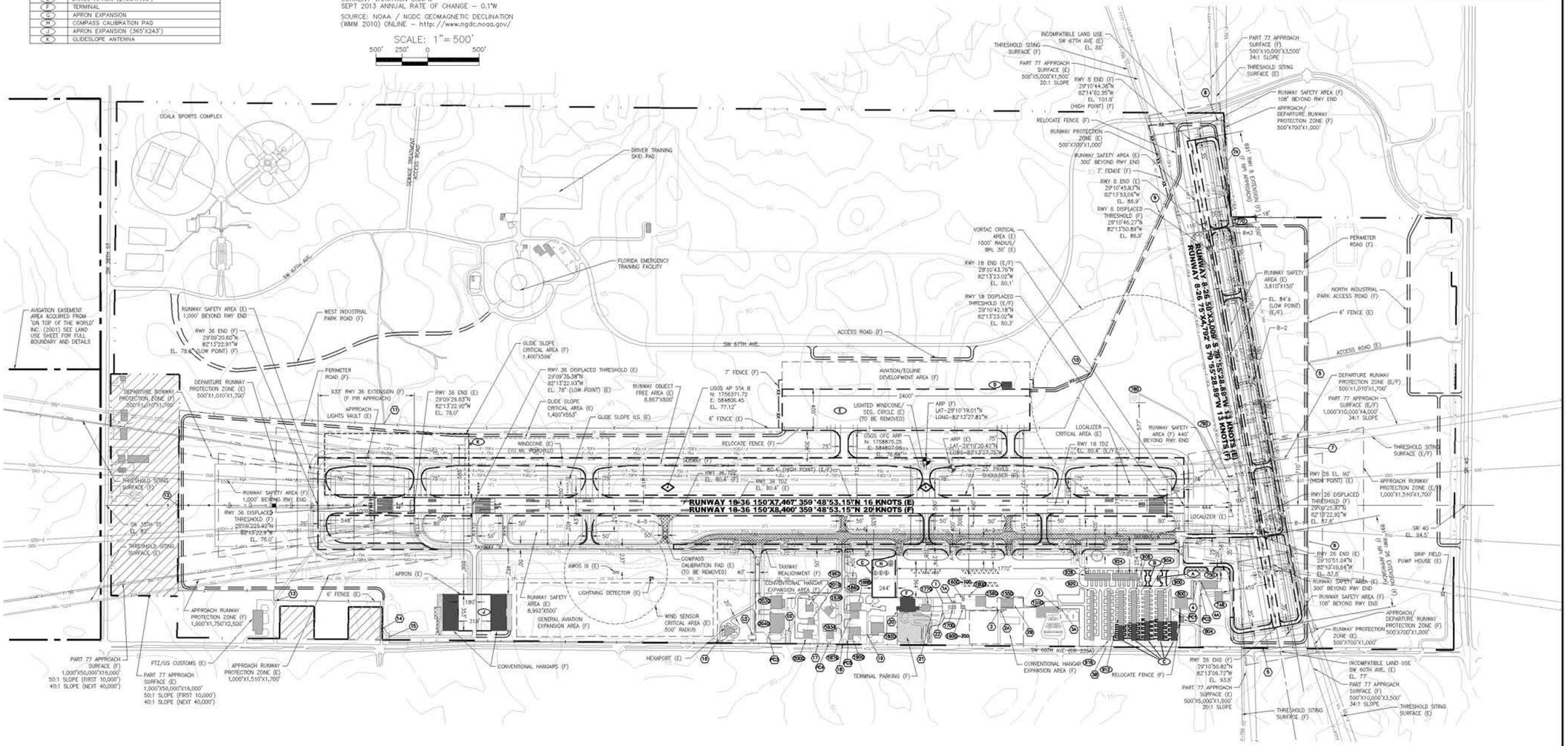
Variation 5.56° West

MAGNETIC TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"=500'

500' 250' 0 500'



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Ocala International Airport

OCALA

Find your place

CITY OF OCALA

OCALA INTERNATIONAL - JIM TAYLOR FIELD

OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

AIRPORT LAYOUT PLAN

SHEET NUMBER
6

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC006_ALP.dwg Plotted on: 5/20/2014 2:59 PM Plotted by: Morse, Ryan

BLDG NO.	EXISTING AIRPORT FACILITIES	BLDG EL.
748	BOX HANGAR (72'X100')	112'
750	AIRPORT ADMINISTRATION/BOX HANGAR (82'X120')	116'
770	WATER SEWER LIFT STATION/PUMP STATION	93'
780	VORTAC	121'
790	LOCALIZER	97'
800	BOX HANGAR (109'X124')	115'
804	FUEL FARM (TO BE RELOCATED)	96'
900	T-HANGARS (59'X300')	101'
904	T-HANGARS (54'X300')	101'
908	T-HANGARS (51'X323')	101'
912	T-HANGARS (53'X340')	102'
916	T-HANGARS (36'X484')	104'
920	T-HANGARS (38'X482')	105'
924	T-HANGARS (67'X247')	105'
928	T-HANGARS (67'X247')	106'
1200	FBO/BOX HANGAR (90'X105')	121'
1550	OFFICE/BOX HANGAR (85'X125')	116'
1560	BOX HANGAR (100'X100')	119'
1600	SELF SERVE FUEL STATION	95'
1600-100	STORAGE SHED	101'
1600-200	ELECTRICAL VAULT	107'
1700	AIR TRAFFIC CONTROL TOWER	182'
1770	AIRPORT TERMINAL	110'
1820	OFFICE	107'
1860	BOX HANGAR (62'X62')	111'
1868	BOX HANGAR (79'X102')	117'
1879	BOX HANGAR (74'X82')	116'
1900	OFFICE/ BOX HANGAR (80'X114')	123'
1934	BOX HANGAR (70'X70')	118'
1938	OFFICE/BOX HANGAR (70'X76')	130'
1962	BOX HANGAR (62'X72')	117'
2000	BOX HANGAR (82'X88')	118'
2010	BOX HANGAR (60'X70')	119'
2030	OFFICE/BOX HANGAR (108'X128')	119'
2040	OFFICE/BOX HANGAR (140'X154')	119'

BLDG NO.	FUTURE AIRPORT FACILITIES
A	FUEL FARM
B	WASH RACK
C	T-HANGARS (LENGTHS=144',160',182',182',182')
D	ARFF/MAINTENANCE BUILDING
E	CARGO APRON (240'X400')
F	TERMINAL
G	APRON EXPANSION
H	COMPASS CALIBRATION PAD
J	APRON EXPANSION (365'X243')
K	GLIDESLOPE ILS

LEGEND	EXISTING	PROPOSED
BUILDINGS		
BUILDING DEMOLITION	N/A	
AIRSIDE PAVEMENT		
OBSTRUCTED VIEW OF RUNWAY FROM ATCT		N/A
TREES		N/A

NOTES:

1. BUILDING ELEVATIONS AND GROUND PROFILES BASED ON CURRENT AVAILABLE INFORMATION

SCALE: 1"=400'

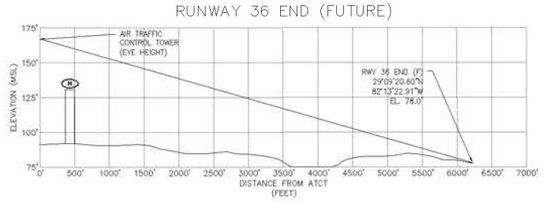
Variation 5.56° West

MAGNETIC

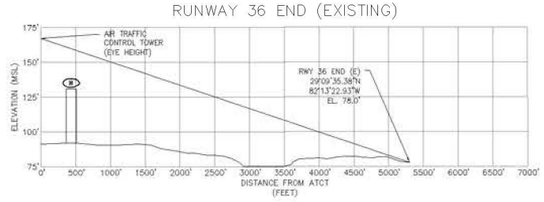
TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

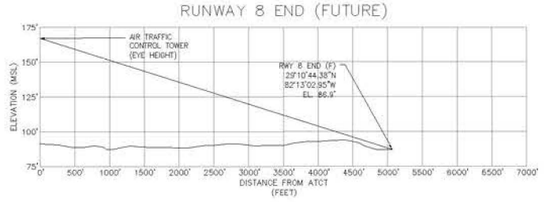
RUNWAY 36 END (FUTURE)



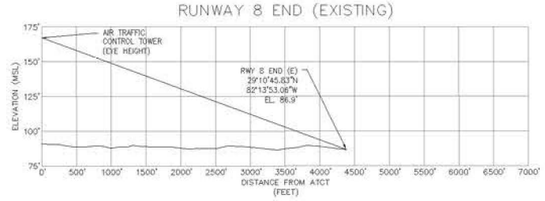
RUNWAY 36 END (EXISTING)



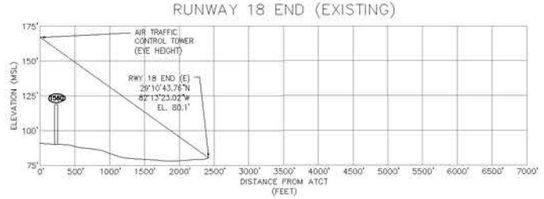
RUNWAY 8 END (FUTURE)



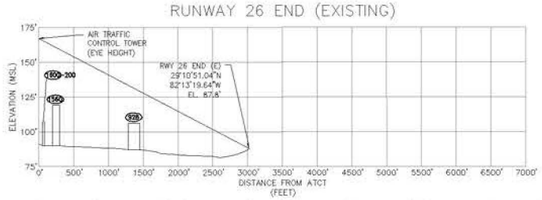
RUNWAY 8 END (EXISTING)



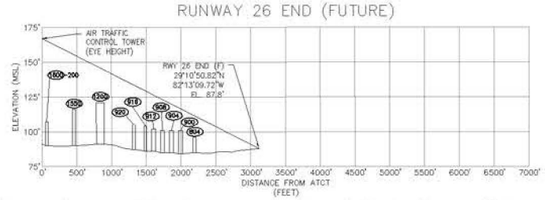
RUNWAY 18 END (EXISTING)



RUNWAY 26 END (EXISTING)



RUNWAY 26 END (FUTURE)



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REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

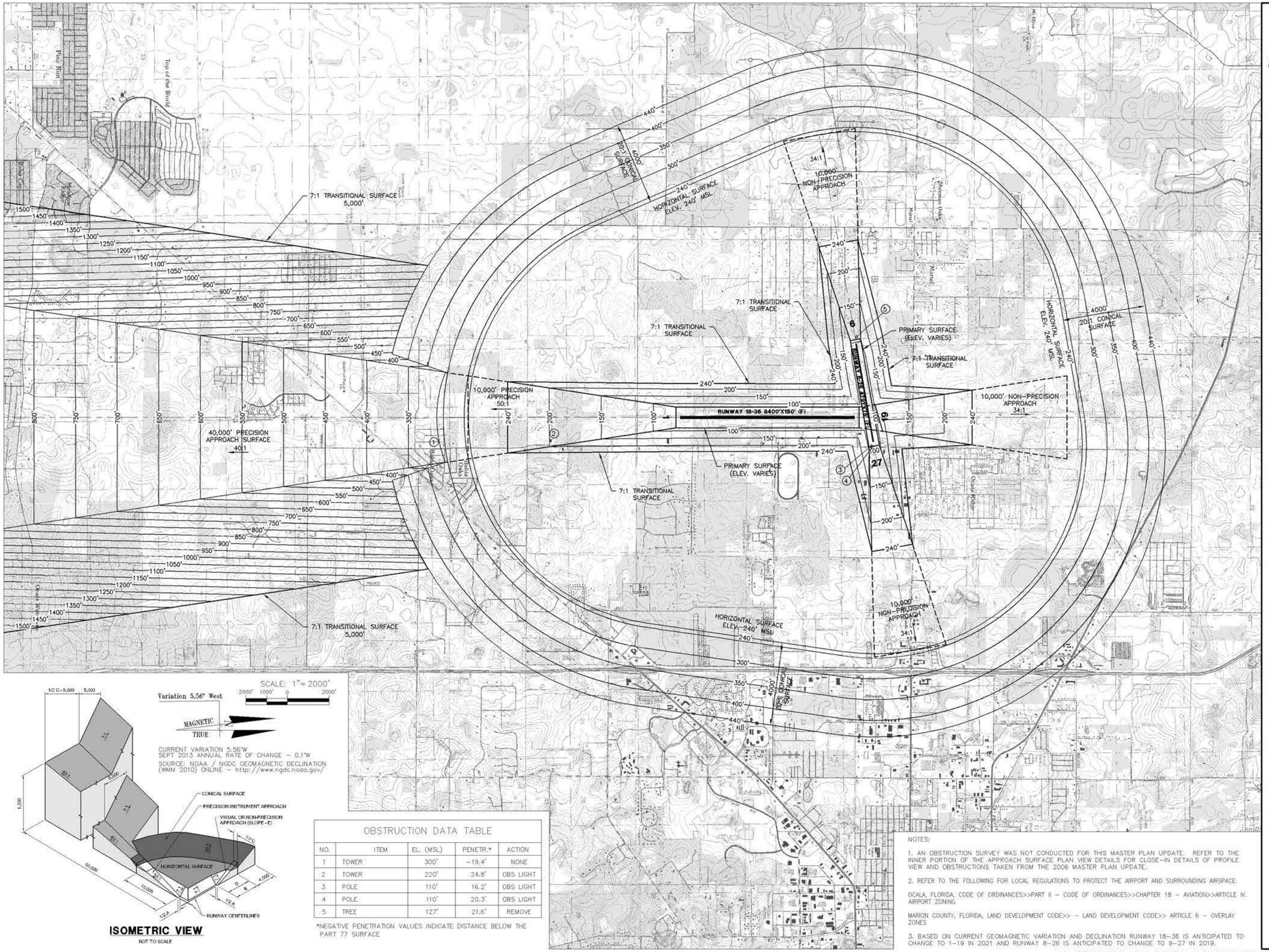
LINE OF SIGHT STUDY

SHEET NUMBER

7

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC007_LOS.dwg Plotted on: 5/20/2014 3:00 PM Plotted by: Morse, Ryan



ISOMETRIC VIEW

NOT TO SCALE

SCALE: 1"= 2000'

2000' 1000' 0 2000'

Variation 5.56° West

MAGNETIC

TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

OBSTRUCTION DATA TABLE

NO.	ITEM	EL. (MSL)	PENETR.*	ACTION
1	TOWER	300'	–19.4'	NONE
2	TOWER	220'	24.8'	OBS LIGHT
3	POLE	110'	16.2'	OBS LIGHT
4	POLE	110'	20.3'	OBS LIGHT
5	TREE	127'	21.6'	REMOVE

*NEGATIVE PENETRATION VALUES INDICATE DISTANCE BELOW THE PART 77 SURFACE

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. REFER TO THE INNER PORTION OF THE APPROACH SURFACE PLAN VIEW DETAILS FOR CLOSE-IN DETAILS OF PROFILE VIEW AND OBSTRUCTIONS TAKEN FROM THE 2006 MASTER PLAN UPDATE.

2. REFER TO THE FOLLOWING FOR LOCAL REGULATIONS TO PROTECT THE AIRPORT AND SURROUNDING AIRSPACE:

OCALA, FLORIDA, CODE OF ORDINANCES>>PART II – CODE OF ORDINANCES>>CHAPTER 18 – AVIATION>>ARTICLE IV. AIRPORT ZONING

MARION COUNTY, FLORIDA, LAND DEVELOPMENT CODE>> – LAND DEVELOPMENT CODE>> ARTICLE 6 – OVERLAY ZONES

3. BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18–36 IS ANTICIPATED TO CHANGE TO 1–19 IN 2021 AND RUNWAY 8–26 IS ANTICIPATED TO CHANGE TO 9–27 IN 2019.

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REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

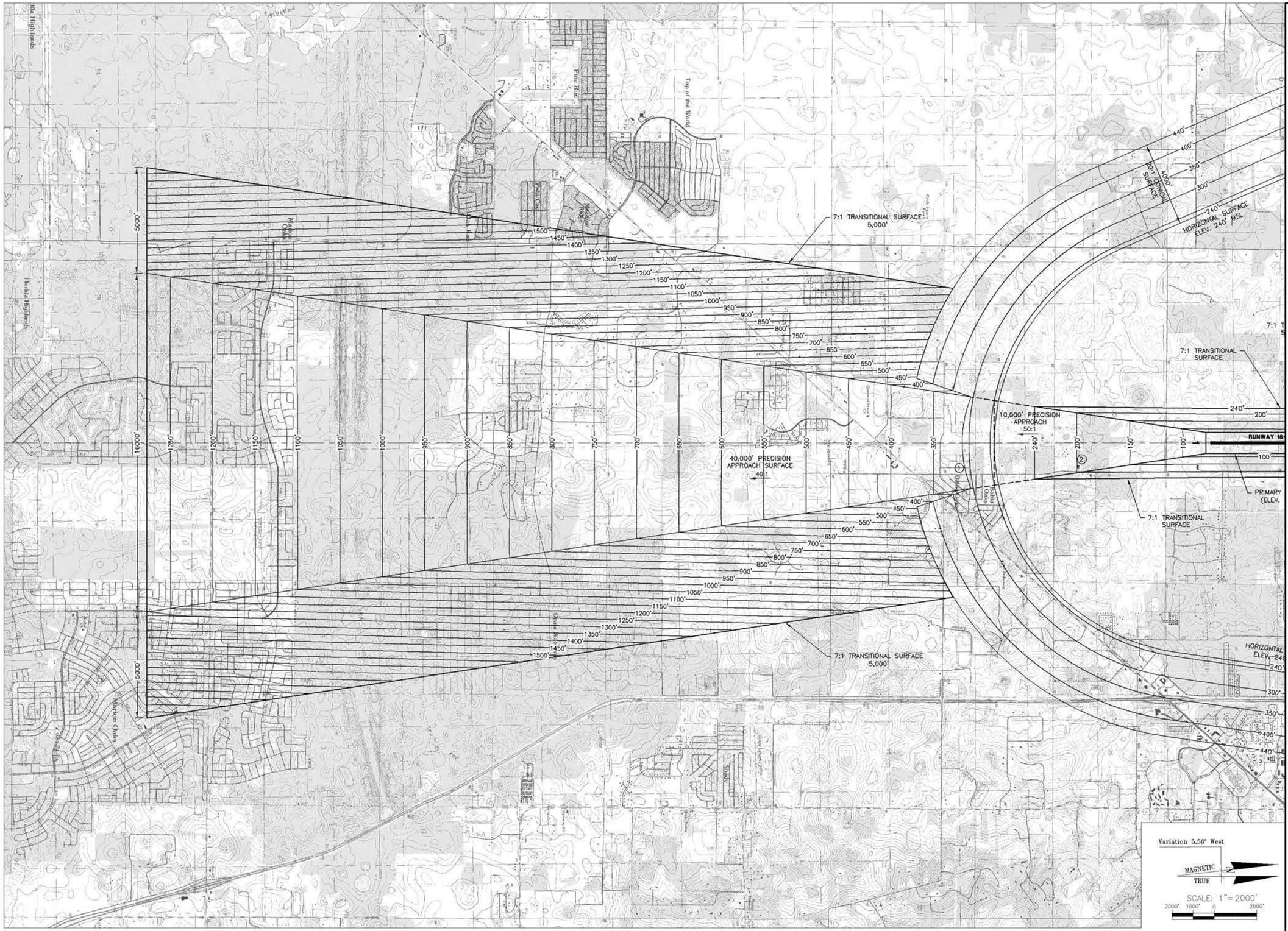
AIRPORT AIRSPACE DRAWING (1 OF 2)

SHEET NUMBER

8

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC008_AIRSPACE.dwg Plotted on: 5/20/2014 3:00 PM Plotted by: Morse, Ryan



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REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
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DESIGNED BY: MKT

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201-4527-106

SHEET TITLE

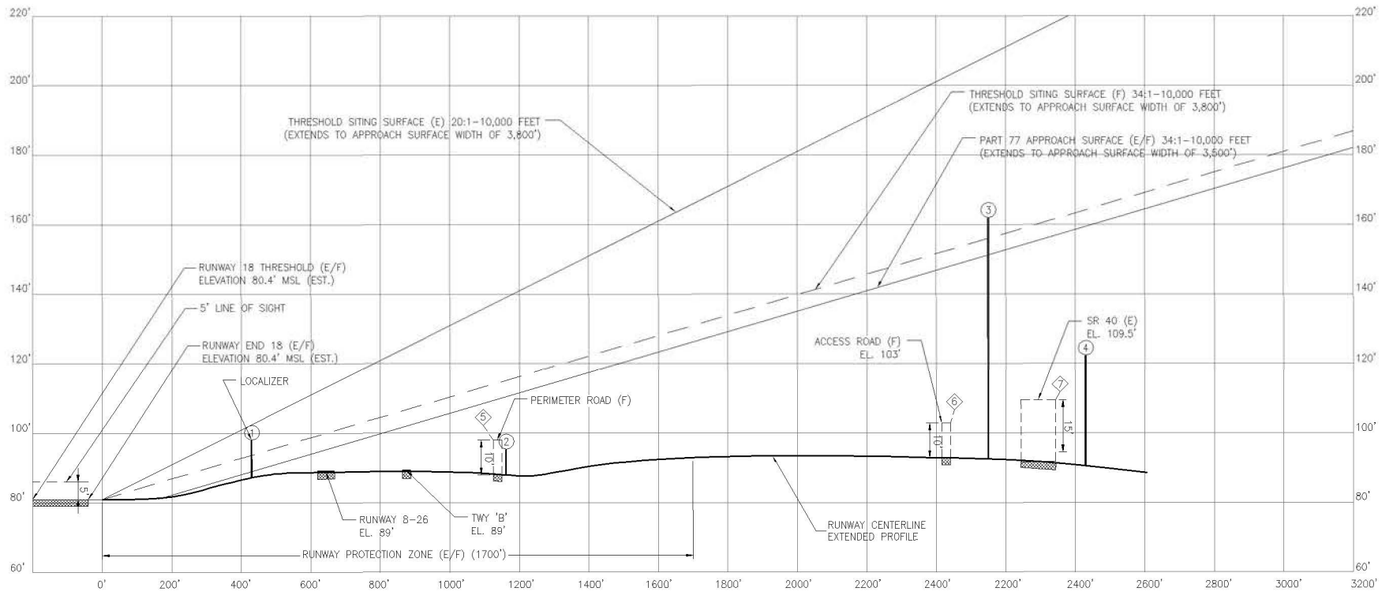
AIRPORT AIRSPACE DRAWING (2 OF 2)

SHEET NUMBER

9

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC00B_AIRSPACE.dwg Plotted on: 5/20/2014 3:00 PM Plotted by: Morse, Ryan



RUNWAY 18 INNER PROFILE VIEW (EXISTING AND FUTURE)

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. OBSTRUCTIONS AND TOPOGRAPHIC INFORMATION WERE TAKEN FROM THE 2006 MASTER PLAN UPDATE.
2. TRAVERSE WAY ELEVATIONS INCLUDE RECOMMENDED PART 77 TRAVERSE WAY ADJUSTMENT.
3. BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18-36 IS ANTICIPATED TO CHANGE TO 1-19 IN 2021 AND RUNWAY 8-26 IS ANTICIPATED TO CHANGE TO 9-27 IN 2019.

OBSTRUCTION CHART

OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION AGL	TYPE OF APPROACH	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	TRIGGERING EVENT	PROPOSED OBJECT DISPOSITION
LOCALIZER	1	98'	18'	NPI	TSS (F), PT77 (E/F)	4', 9'	NONE	NONE
FENCE	2	98'	6'	NPI	NONE	N/A	N/A	N/A
TREE	3	162'	71'	NPI	TSS (F), PT77 (E/F)	6', 11'	GROWTH	REMOVE
UTILITY POLE	4	123.7'	30.7'	NPI	NONE	N/A	N/A	N/A

TRAVERSE WAYS

ROAD NAME	ROAD NUMBER	ROAD ELEVATION	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
PERIMETER RD (F)	5	98'	NONE	N/A	N/A
ACCESS ROAD (F)	6	103'	NONE	N/A	N/A
SR 40	7	109.5'	NONE	N/A	N/A

OBSTRUCTION LEGEND

(7) OBSTRUCTION TO APPROACH SURFACE
(7) TRAVERSE WAY TO APPROACH SURFACE

Variation 5.56° West

MAGNETIC
TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"= 200'
200' 100' 0 200'
HORIZONTAL SCALE

SCALE: 1"= 20'
20' 10' 0 20'
VERTICAL SCALE

LEGEND

	EXISTING	PROPOSED
BUILDINGS		
PAVEMENT DEMOLITION	N/A	
PARKING		
DRAINAGE POND		N/A
AIRSIDE PAVEMENT		
ROADS		
AIRPORT PROPERTY		
RUNWAY PROTECTION ZONES (RPZ)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)		
RUNWAY OBJECT FREE AREA (ROFA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
SECURITY FENCE	X X	XX XX

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REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
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DRAWN BY: RJM
DESIGNED BY: MKT

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201-4527-106

SHEET TITLE

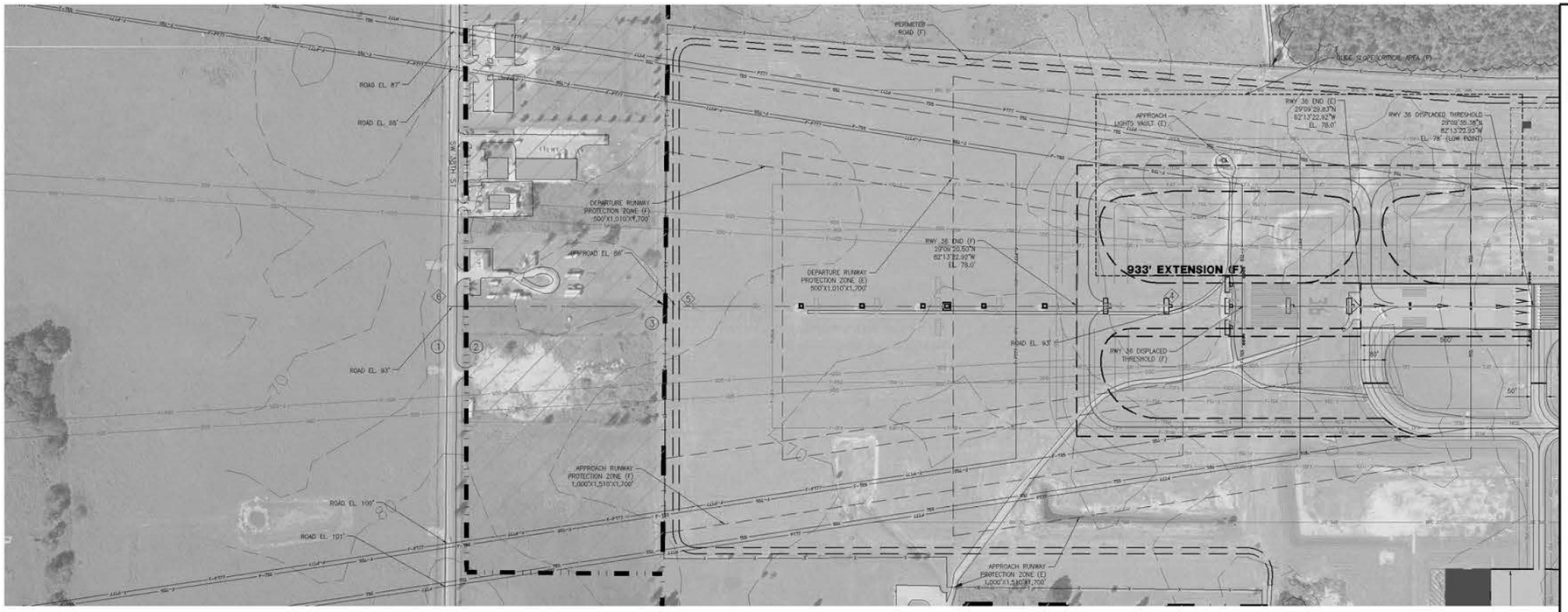
INNER PORTION OF THE APPROACH SURFACE RWY 18

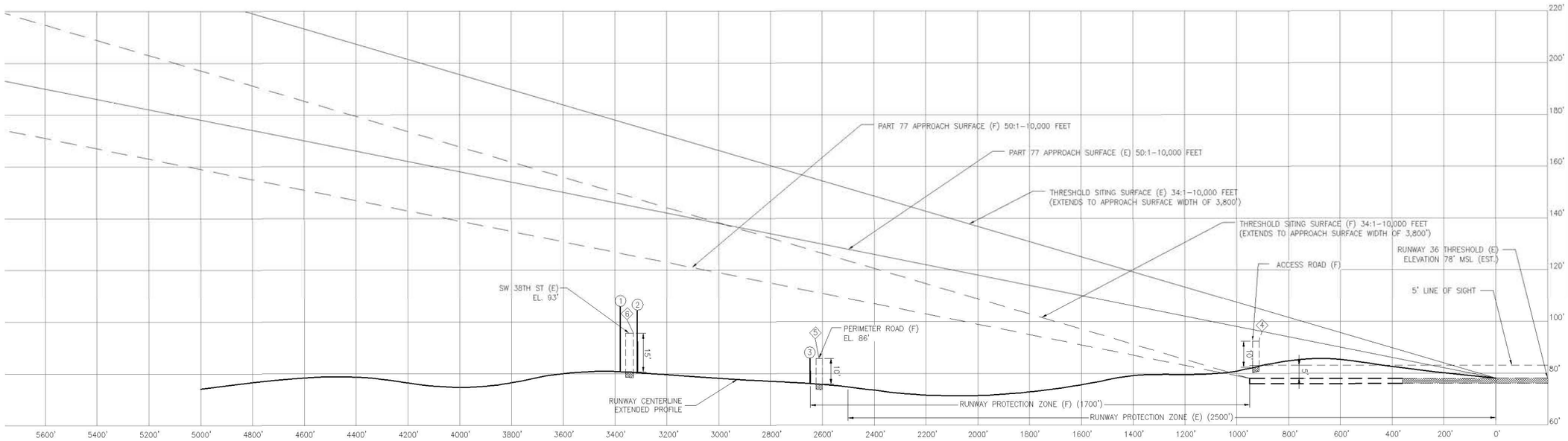
SHEET NUMBER

10

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC010_APPR_18.dwg Plotted on: 5/20/2014 3:01 PM Plotted by: Morse, Ryan





RUNWAY 36 INNER PROFILE VIEW (EXISTING AND FUTURE)

Variation 5.56° West

MAGNETIC TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"=200'
200' 100' 0 200'
HORIZONTAL SCALE

SCALE: 1"=20'
20' 10' 0 20'
VERTICAL SCALE

OBSTRUCTION CHART

OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION AGL	TYPE OF APPROACH	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	TRIGGERING EVENT	PROPOSED OBJECT DISPOSITION
UTILITY POLE	1	106'	31'	PRECISION	NONE	N/A	N/A	N/A
UTILITY POLE	2	104.5'	29.5'	PRECISION	NONE	N/A	N/A	N/A
FENCE	3	86'	6'	PRECISION	NONE	N/A	N/A	N/A

TRAVERSE WAYS

ROAD NAME	ROAD NUMBER	ROAD ELEVATION	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
ACCESS ROAD (E)	4	93'	NONE	N/A	N/A
PERIMETER RD (F)	5	86'	NONE	N/A	N/A
SW 38TH ST	6	93'	NONE	N/A	N/A

LEGEND

	EXISTING	PROPOSED
BUILDINGS		
AIRPORT PROPERTY		N/A
PROPERTY ACQUISITION	N/A	
PARKING		
DRAINAGE POND		N/A
AIRSIDE PAVEMENT		
ROADS		
RUNWAY PROTECTION ZONES (RPZ)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)		
RUNWAY OBJECT FREE AREA (ROFA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
SECURITY FENCE	X X	XX XX

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. OBSTRUCTIONS AND TOPOGRAPHIC INFORMATION WERE TAKEN FROM THE 2006 MASTER PLAN UPDATE.
2. TRAVERSE WAY ELEVATIONS INCLUDE RECOMMENDED PART 77 TRAVERSE WAY ADJUSTMENT.
3. BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18–36 IS ANTICIPATED TO CHANGE TO 1–19 IN 2021 AND RUNWAY 8–26 IS ANTICIPATED TO CHANGE TO 9–27 IN 2019.

OBSTRUCTION LEGEND
⑦ OBSTRUCTION TO APPROACH SURFACE
⑦ TRAVERSE WAY TO APPROACH SURFACE

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NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

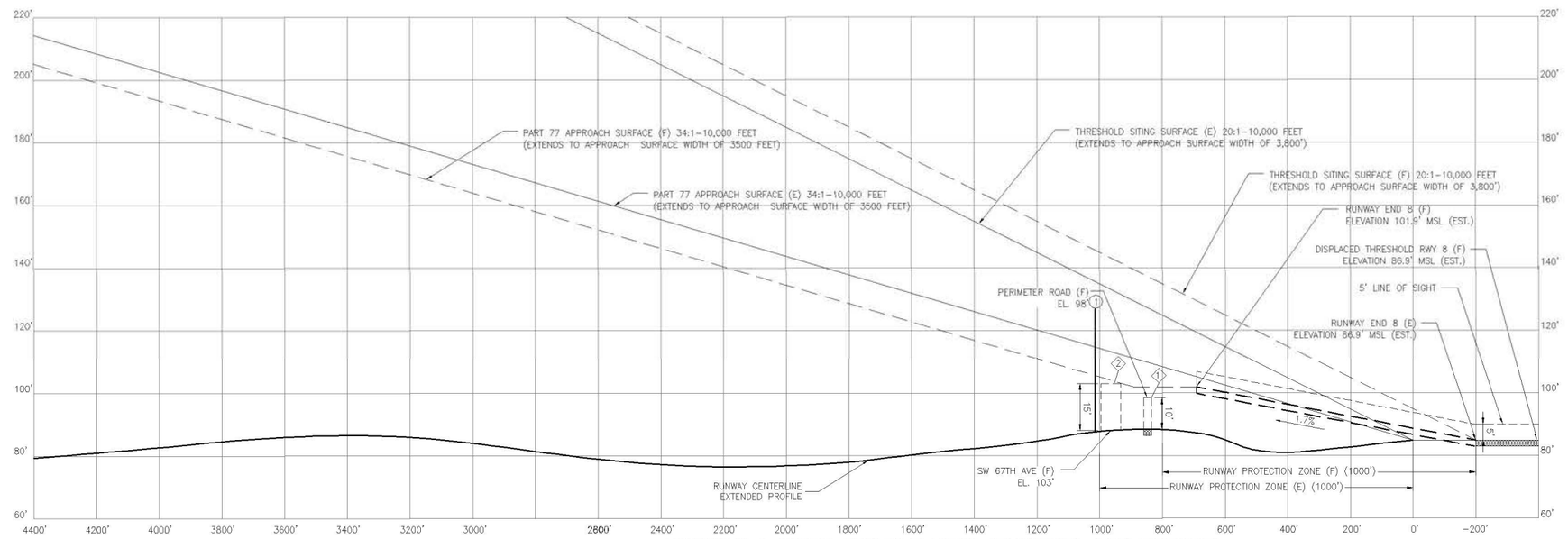
AEP PROJECT NUMBER
201-4527-106

SHEET TITLE
INNER PORTION OF THE APPROACH SURFACE RWY 36

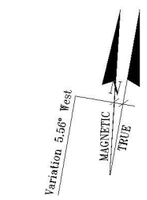
SHEET NUMBER
11

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC011_APPR_36.dwg Plotted on: 5/20/2014 3:01 PM Plotted by: Morse, Ryan

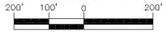


RUNWAY 8 INNER PROFILE VIEW (EXISTING AND FUTURE)



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W

SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/



OBSTRUCTION CHART

OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION AGL	TYPE OF APPROACH	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	TRIGGERING EVENT	PROPOSED OBJECT DISPOSITION
TREE	1	127'	40'	NPI	PT77 (E) , PT77 (F)	12' , 21'	GROWTH	REMOVE

TRAVERSE WAYS

ROAD NAME	ROAD NUMBER	ROAD ELEVATION	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
PERIMETER RD (F)	2	98'	NONE	NA	NA
SW 67TH AVE	3	103'	NONE	NA	NA

LEGEND

	EXISTING	PROPOSED
BUILDINGS		
PAVEMENT DEMOLITION	N/A	
PARKING		
DRAINAGE POND		N/A
AIRSIDE PAVEMENT		
ROADS		
AIRPORT PROPERTY		
RUNWAY PROTECTION ZONES (RPZ)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)		
RUNWAY OBJECT FREE AREA (ROFA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
SECURITY FENCE	X X	XX XX

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. OBSTRUCTIONS AND TOPOGRAPHIC INFORMATION WERE TAKEN FROM THE 2006 MASTER PLAN UPDATE.
2. TRAVERSE WAY ELEVATIONS INCLUDE RECOMMENDED PART 77 TRAVERSE WAY ADJUSTMENT.
3. BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18–36 IS ANTICIPATED TO CHANGE TO 1–19 IN 2021 AND RUNWAY 8–26 IS ANTICIPATED TO CHANGE TO 9–27 IN 2019.

OBSTRUCTION LEGEND

(7) OBSTRUCTION TO APPROACH SURFACE

(7) TRAVERSE WAY TO APPROACH SURFACE

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REVISIONS

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REVIEWED BY: KRI
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DESIGNED BY: MKT

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201-4527-106

SHEET TITLE

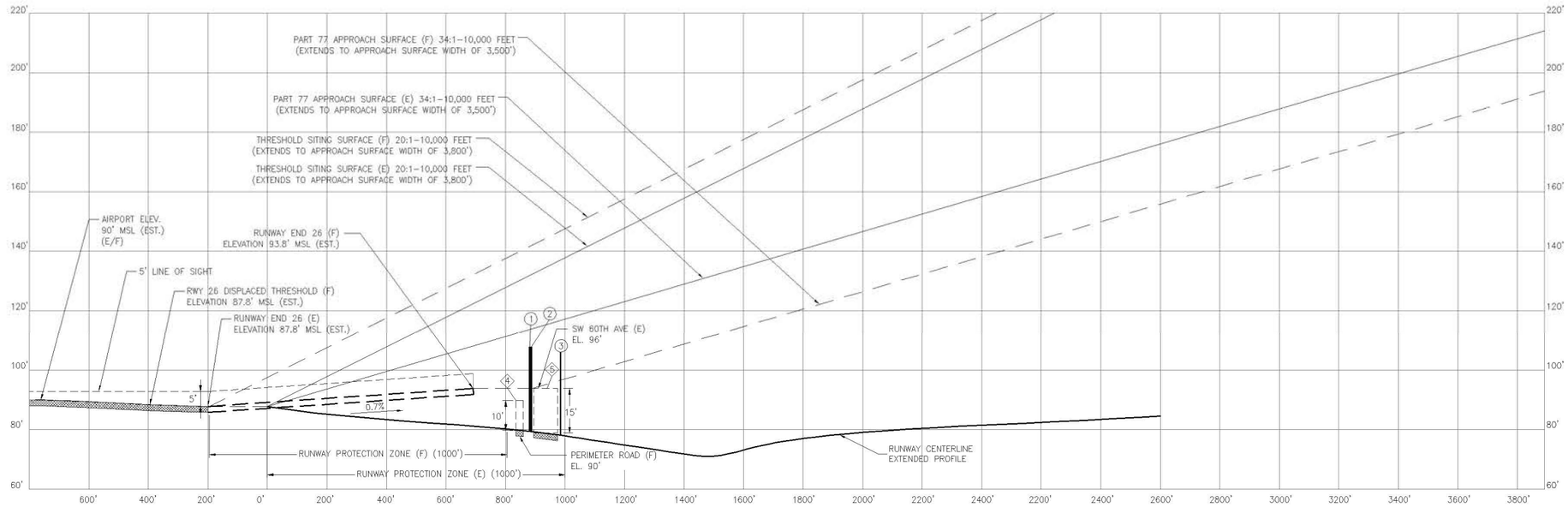
INNER PORTION OF THE APPROACH SURFACE RWY 8

SHEET NUMBER

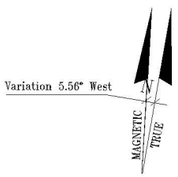
12

FINAL

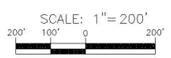
Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC012_APPR_8.dwg Plotted on: 5/20/2014 3:02 PM Plotted by: Morse, Ryan

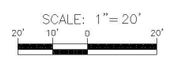


RUNWAY 26 INNER PROFILE VIEW (EXISTING AND FUTURE)



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/





OBSTRUCTION CHART

OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION AGL	TYPE OF APPROACH	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	TRIGGERING EVENT	PROPOSED OBJECT DISPOSITION
FENCE	1	106'	6'	NPI	34:1 P77 APPR. (F)	14'	RWY EXTENSION	NONE
UTILITY POLE	2	106'	28'	NPI	34:1 P77 APPR. (F)	14'	RWY EXTENSION	NONE
UTILITY POLE	3	103'	28'	NPI	34:1 P77 APPR. (F)	9'	RWY EXTENSION	NONE

TRAVERSE WAYS

ROAD NAME	ROAD NUMBER	ROAD ELEVATION	OBSTRUCTED APPROACH SURFACE(S)	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
PERIMETER RD (F)	4	90'	NONE	N/A	N/A
SW 60TH AVE	5	92'	NONE	N/A	N/A

LEGEND

	EXISTING	PROPOSED
BUILDINGS		
PAVEMENT DEMOLITION	N/A	
PARKING		
DRAINAGE		N/A
AIRSIDE PAVEMENT		
ROADS		
AIRPORT PROPERTY		
RUNWAY PROTECTION ZONES (RPZ)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)		
RUNWAY OBJECT FREE AREA (ROFA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
SECURITY FENCE	X X	XX XX

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. OBSTRUCTIONS AND TOPOGRAPHIC INFORMATION WERE TAKEN FROM THE 2006 MASTER PLAN UPDATE.
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OBSTRUCTION LEGEND

⑦ OBSTRUCTION TO APPROACH SURFACE

⑦ TRAVERSE WAY TO APPROACH SURFACE

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DATE ISSUED: 5-19-14
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DESIGNED BY: MKT

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201-4527-106

SHEET TITLE

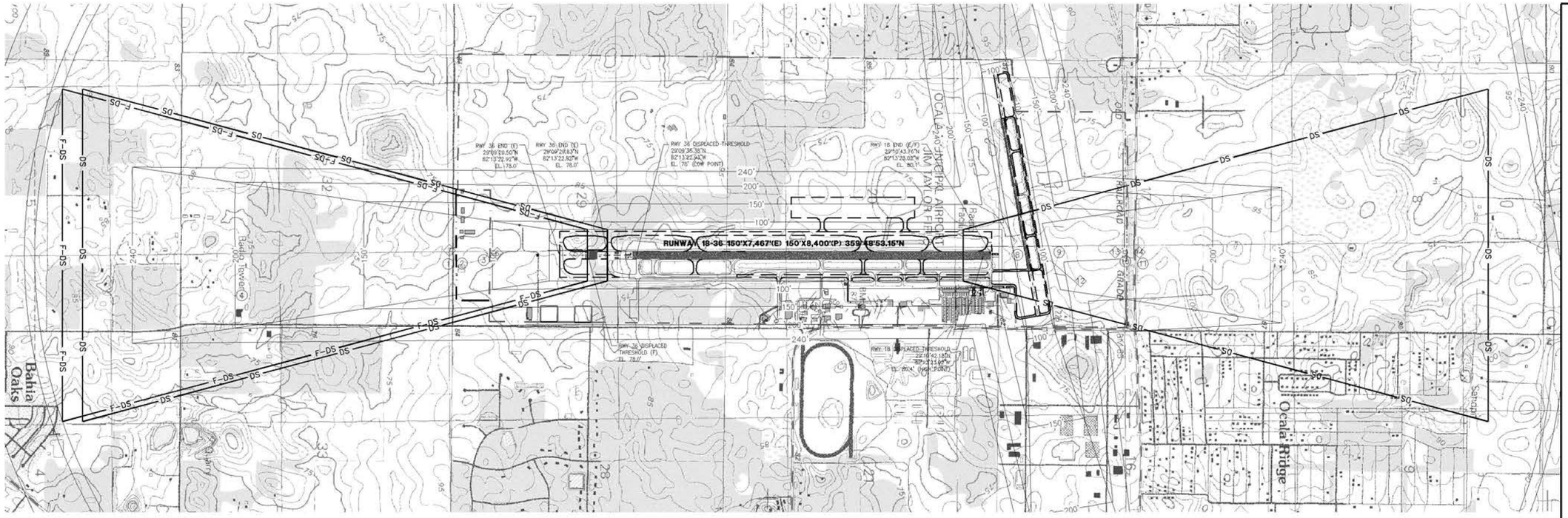
INNER PORTION OF THE APPROACH SURFACE RWY 26

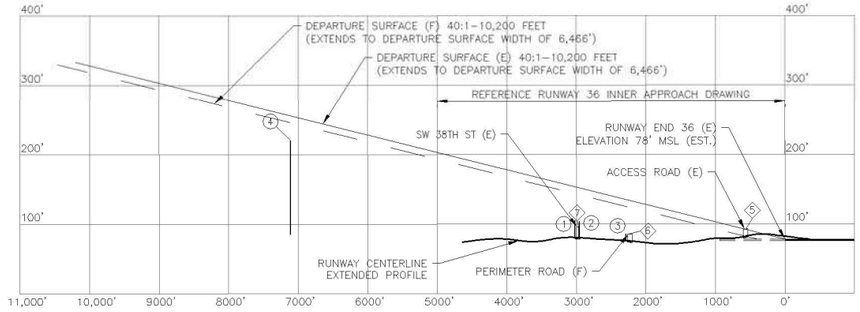
SHEET NUMBER

13

FINAL

Drawing: T:\P\2014527.106 Ocala Master Plan\CAD\ALP -2013\OCFC013_APPR_26.dwg Plotted on: 5/20/2014 3:02 PM Plotted by: Morse, Ryan





RUNWAY 36 DEPARTURE SURFACE PROFILE VIEW (EXISTING AND FUTURE)

OBSTRUCTION CHART					
OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION AGL	SURFACE PENETRATION	PROPOSED OBJECT DISPOSITION
UTILITY POLE	1	106'	31'	NONE	N/A
UTILITY POLE	2	104.5'	29.5'	NONE	N/A
FENCE	3	96'	6'	NONE	N/A
TOWER	4	220'	135'	NONE	N/A

TRAVERSE WAYS				
ROAD NAME	ROAD NUMBER	ROAD ELEVATION	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
ACCESS ROAD (E)	5	93'	-0.3' (E)	NONE
PERIMETER RD (F)	6	86'	NONE	N/A
SW 38TH ST	7	93'	NONE	N/A

OBSTRUCTION LEGEND
(7) OBSTRUCTION TO APPROACH SURFACE
(7) TRAVERSE WAY TO APPROACH SURFACE

Variation 5.56° West

MAGNETIC
TRUE

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

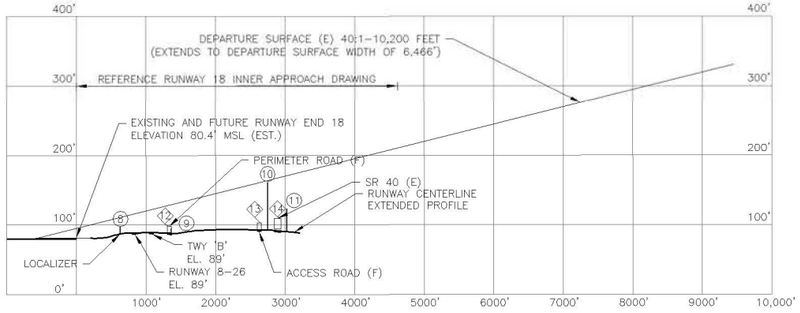
SCALE: 1"= 200'
200' 100' 0 200'
HORIZONTAL SCALE

SCALE: 1"= 20'
20' 10' 0 20'
VERTICAL SCALE

NOTES:

1. AN OBSTRUCTION SURVEY WAS NOT CONDUCTED FOR THIS MASTER PLAN UPDATE. OBSTRUCTIONS AND TOPOGRAPHIC INFORMATION WERE TAKEN FROM THE 2006 MASTER PLAN UPDATE.
2. TRAVERSE WAY ELEVATIONS INCLUDE RECOMMENDED PART 77 TRAVERSE WAY ADJUSTMENT.
3. BASED ON CURRENT GEOMAGNETIC VARIATION AND DECLINATION RUNWAY 18-36 IS ANTICIPATED TO CHANGE TO 1-19 IN 2021 AND RUNWAY 8-26 IS ANTICIPATED TO CHANGE TO 9-27 IN 2019.
4. SEE AIRPORT AIRSPACE DRAWING FOR COMPLETE PART 77 SURFACE DETAILS.

LEGEND		
	EXISTING	PROPOSED
BUILDINGS		N/A
AIRSIDE PAVEMENT		
PROPERTY LINE		
DEPARTURE SURFACE	DS	F-DS



RUNWAY 18 DEPARTURE SURFACE PROFILE VIEW (EXISTING AND FUTURE)

OBSTRUCTION CHART					
OBJECT DESCRIPTION	OBJECT NUMBER	OBJECT ELEVATION MSL	OBJECT ELEVATION MSL	SURFACE PENETRATION	PROPOSED OBJECT DISPOSITION
LOCALIZER	8	98'	18'	NONE	N/A
FENCE	9	98'	6'	NONE	N/A
TREE	10	163'	71'	NONE	REMOVE
UTILITY POLE	11	114'	30.7'	NONE	N/A

TRAVERSE WAYS				
ROAD NAME	ROAD NUMBER	ROAD ELEVATION	SURFACE PENETRATION	PROPOSED ROAD DISPOSITION
PERIMETER RD (F)	12	98'	NONE	N/A
ACCESS ROAD (F)	13	103'	NONE	N/A
SR 40	14	109'	NONE	N/A

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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

DEPARTURE SURFACE RUNWAY 18-36

SHEET NUMBER

14

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BLDG NO.	EXISTING AIRPORT FACILITIES	BLDG EL(MSL)
746	BOX HANGAR (72'X100')	112'
750	AIRPORT ADMINISTRATION / BOX HANGAR (82'X120')	116'
800	BOX HANGAR (109'X124')	115'
804	FUEL FARM (TO BE RELOCATED)	96'
880	T-HANGARS (59'X300')	101'
904	T-HANGARS (54'X300')	101'
908	T-HANGARS (51'X323')	101'
912	T-HANGARS (53'X340')	102'
916	T-HANGARS (38'X484')	104'
920	T-HANGARS (38'X482')	105'
924	T-HANGARS (67'X247')	105'
928	T-HANGARS (67'X247')	106'
1200	TERMINAL/BOX HANGAR (90'X105')	121'
1550	OFFICE/BOX HANGAR (85'X125')	116'
1560	BOX HANGAR (100'X100')	119'
1600	SELF SERVE FUEL STATION	95'
1600-100	STORAGE SHED	101'
1600-200	ELECTRICAL VAULT/BEACON TOWER	107'
1700	AIR TRAFFIC CONTROL TOWER (OBST. LIGHTING)	182'
1770	AIRPORT TERMINAL	110'
1820	OFFICE (FORMELY SHERIFF DEPT.)	107'
1860	BOX HANGAR (62'X62')	111'
1868	BOX HANGAR (79'X102')	117'
1876	BOX HANGAR (74'X82')	116'
1900	OFFICE/ BOX HANGAR (80'X114')	123'
1934	BOX HANGAR (70'X70')	118'
1938	OFFICE/BOX HANGAR (70'X76')	130'
1962	BOX HANGAR (62'X72')	117'
2000	BOX HANGAR (82'X88')	116'
2010	BOX HANGAR (60'X70')	119'
2030	OFFICE/BOX HANGAR (108'X128')	119'
2040	OFFICE/BOX HANGAR (140'X154')	119'

CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM) ONLINE – http://www.ngdc.noaa.gov/

Variation 5.56° West
MAGNETIC
TRUE

KEY MAP

SCALE: 1"= 100'

BLDG NO.	FUTURE AIRPORT FACILITIES
A	FUEL FARM
B	WASH RACK
C	T-HANGARS (LENGTHS=144',160',182',182',182')
F	TERMINAL
G	APRON EXPANSION
H	COMPASS CALIBRATION PAD
J	APRON EXPANSION (365'X243')

MATCHLINE THIS SHEET

GATE NO.	GATE DESCRIPTION	GATE TYPE
1	ATCT VEHICLE ACCESS TO AOA	MANUAL
1A	ATCT PEDESTRIAN	MANUAL
2	QUEST AVIONICS/FLIGHT SCHOOL VEHICLE GATE	ELECTRIC/CARD READER
2A	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN SOUTH	ELECTRIC/CARD READER
2B	QUEST AVIONICS/FLIGHT SCHOOL PEDESTRIAN NORTH	MANUAL
3	LANDMARK AVIATION (FBO) VEHICLE GATE	ELECTRIC/CARD READER
3A	LANDMARK AVIATION (FBO) PEDESTRIAN GATE – 24 HOUR ACCESS GATE	ELECTRIC/CARD READER
3B	T-HANGAR PEDESTRIAN GATE TO SW 60TH AVE	MANUAL
PC1	PRIVATE VEHICLE GATE MAINTENANCE FACILITY	PRIVATE
4	AIRPORT ADMINISTRATION VEHICLE GATE	ELECTRIC/CARD READER
4A	AIRPORT ADMINISTRATION PEDESTRIAN GATE	ELECTRIC/CARD READER
PC2	PRIVATE VEHICLE GATE	ELECTRIC/CARD READER
16	VEHICLE ACCESS GATE TO HEX-A-PORT	ELECTRIC/CARD READER
LS	LIFT STATION ACCESS GATE	MANUAL
PC3	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
EG	EMERGENCY GATE	ELECTRIC/CARD READER
17	VEHICLE ACCESS GATE CORPORATE HANGAR	ELECTRIC/CARD READER
PC4	PRIVATE VEHICLE GATE CORPORATE HANGAR	PRIVATE
18	VEHICLE ACCESS GATE	MANUAL
PC5	PRIVATE VEHICLE ACCESS GATE CORPORATE HANGAR	PRIVATE
19	VEHICLE ACCESS GATE (MCSO AREA)	ELECTRIC/CARD READER
20	VEHICLE ACCESS GATE TO DUMPSTER	MANUAL
21	VEHICLE ACCESS GATE CITY RAMP ACCESS	MANUAL
22	ATCT PUBLIC ENTRANCE	ELECTRIC/CARD READER

LEGEND	EXISTING	PROPOSED
BUILDINGS		
PAVEMENT DEMOLITION	N/A	
PARKING		
AIRSIDE PAVEMENT		
ROADS		
AIRPORT PROPERTY		
RUNWAY PROTECTION ZONES (RPZ)		
RUNWAY SAFETY AREA (RSA)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)		
RUNWAY OBJECT FREE AREA (ROFA)		
TAXIWAY OBJECT FREE AREA (TOFA)		
SECURITY FENCE		

NOTE:
TAXILANE CENTERLINES ARE SHOWN FOR REPRESENTATIVE PURPOSES ONLY, NOT A TAXILANE MARKING PLAN.

APPROX. 2000' BETWEEN INSETS

MATCHLINE THIS SHEET

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EB0005620 * LCC000210 * GB238

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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

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DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE
TERMINAL/ GENERAL AVIATION AREA PLAN

SHEET NUMBER
15

FINAL

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LAND USE LEGEND (OFF AIRPORT PROPERTY)

LAND USE (COUNTY)	DEPICTION
RURAL	
INDUSTRIAL	
COMMERCIAL	
LOW DENSITY RESIDENTIAL	
MEDIUM DENSITY RESIDENTIAL	
HIGH DENSITY RESIDENTIAL	

URBAN COMMERCE DISTRICT	
PUBLIC (CITY/COUNTY)	
LAND USE (CITY)	DEPICTION
LOW INTENSITY	
MEDIUM INTENSITY	
NEIGHBORHOOD	
EMPLOYMENT CENTER	

NOTE:
1. NO KNOWN PUBLIC FACILITIES WITHIN 65 DNL CONTOUR

2. THE EASTERNMOST HALF OF 'ON TOP OF THE WORLD, INC.' AVIGATION EASEMENT CONTAINS NON RESIDENTIAL AND RESIDENTIAL CONSTRUCTION STANDARDS AREAS. REFER TO CITY OF OCALA EASEMENT AGREEMENT DATED 6/7/2001. FILE NO. 2001058425

3. REFER TO THE FOLLOWING FOR LOCAL REGULATIONS TO PROTECT THE AIRPORT AND SURROUNDING AIRSPACE:

OCALA, FLORIDA, CODE OF ORDINANCES>>PART II – CODE OF ORDINANCES>>CHAPTER 18 – AVIATION>>ARTICLE IV. AIRPORT ZONING

MARION COUNTY, FLORIDA, LAND DEVELOPMENT CODE>> – LAND DEVELOPMENT CODE>> ARTICLE 6 – OVERLAY ZONES

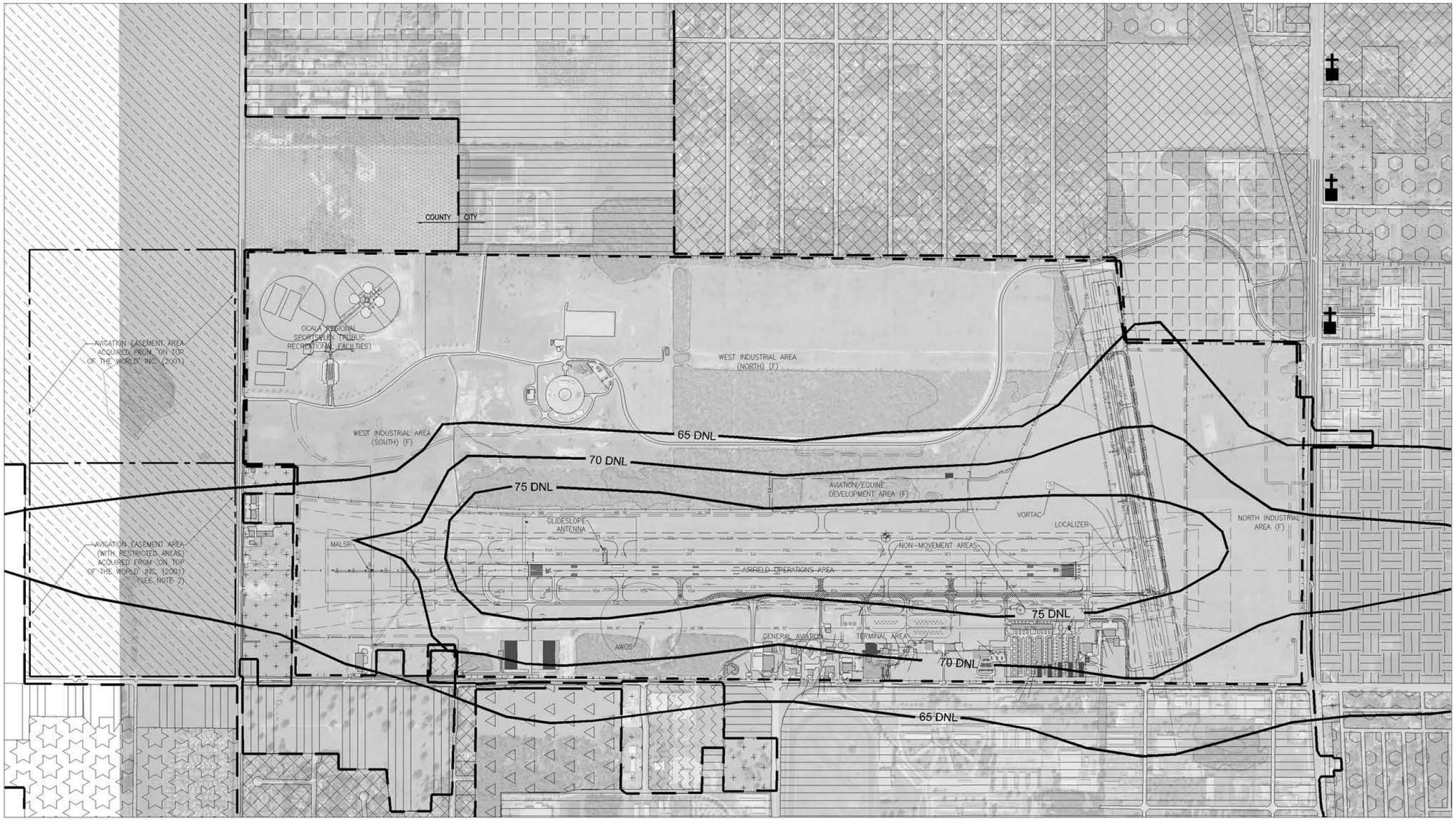
SOURCE:
1. CITY OF OCALA PLANNING DEPARTMENT FUTURE LAND USE MAP 2035 (2013)
2. MARION COUNTY INFORMATION SYSTEMS
3. 2005 NOISE STUDY, MEA GROUP

SCALE: 1"= 600'
600' 300' 0 600'

Variation 5.56° West
MAGNETIC
TRUE
CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

LEGEND (ON AIRPORT PROPERTY)

	EXISTING	PROPOSED
BUILDINGS		
BUILDING DEMOLITION	N/A	
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
AIRPORT PROPERTY		
CITY BOUNDARY		N/A
SECURITY FENCE	X X	XX XX
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)		
THRESHOLD SITING SURFACE (TSS)	TSS	F-TSS
PART 77 APROACH SURFACE (PT77)	PT77	F-PT77
TERPS GLIDEPATH QUALIFICATION SURFACE (GQS)	GQS	F-GQS
RUNWAY SAFETY AREA (RSA)	RSA	F-RSA
RUNWAY OBJECT FREE AREA (ROFA)	ROFA	F-ROFA
TAXIWAY EDGE SAFETY MARGIN (TESM)	TESM	F-TESM
TAXIWAY SAFETY AREA (TSA)	TSA	F-TSA
TAXIWAY OBJECT FREE AREA (TOFA)	TOFA	F-TOFA
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)	BRL 30'	F-BRL 30'
AIRPORT REFERENCE POINT (ARP)		
PRECISION APPROACH PATH INDICATOR (PAPI)		
BEACON		N/A
CHURCH		N/A



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OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

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REVISIONS

NO.	DESCRIPTION	DATE

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DESIGNED BY: MKT

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SHEET TITLE

EXISTING/FUTURE LAND USE DRAWING

SHEET NUMBER
16

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PROPERTY DATA TABLE							
PARCEL	SIZE	REMARKS	GRANTOR	GRANTEE	INSTR	BOOK / PAGE	DATE
A	627 AC.	REIMBURSED BY FAA, PROJECT NO. 6001	N/A	CITY OF OCALA	DEED NC	D350 / 0342	3/6/1957
B	33.3 AC.	REIMBURSED BY FAA, PROJECT NO. 6502	N/A	CITY OF OCALA	DEED NC	D350 / 0342	3/1/1957
C	228 AC.	PURCHASED BY CITY OF OCALA	N/A	CITY OF OCALA	DEED NC	D350 / 0342	3/7/1957
D	50.9 AC.	PURCHASED BY CITY OF OCALA	N/A	CITY OF OCALA	N/A	N/A	6/19/1981
E*	5.52 AC.	PURCHASED BY CITY OF OCALA	N/A	CITY OF OCALA	N/A	N/A	5/13/1984
F	10.7 AC.	FAA/FDOT WPI 5823357 (REIMB) FED. AID PROJ NO. – AIP 3-12-0055-02	MCALISTER, WILLIAM & FRANCES	CITY OF OCALA	07 WARRANTY	1319 / 1028	4/1985
F1	9.34 AC.	FAA/FDOT WPI 5823357 (REIMB) FED. AID PROJ NO. – AIP 3-12-0055-02	VIKING INC. (INDIANA)	CITY OF OCALA	07 WARRANTY	1503 / 1931	5/1988
G	8.37 AC.	FAA/FDOT WPI 5823357 (REIMB) FED. AID PROJ NO. – AIP 3-12-0055-02	MCALISTER, WILLIAM & FRANCES	CITY OF OCALA	07 WARRANTY	1229 / 1731	3/1984
G1	10.63 AC.	FAA/FDOT WPI 5823357 (REIMB) FED. AID PROJ NO. – AIP 3-12-0055-02	VIKING INC. (INDIANA)	CITY OF OCALA	07 WARRANTY	1503 / 1931	5/1988
G2	1.0 AC.	FAA/FDOT WPI 5823357 (REIMB) FED. AID PROJ NO. – AIP 3-12-0055-02	MCALISTER, WILLIAM & FRANCES	CITY OF OCALA	07 WARRANTY	1420 / 1310	1/1987
H	10.0 AC.	FED. AID PROJ NO. – AIP 3-12-0055-02	DISIMONE, ANTHONY & THERESA MYERS	CITY OF OCALA	07 WARRANTY	1502 / 914	5/1988
H1	4.89 AC.	FED. AID PROJ NO. – AIP 3-12-0055-02	HAMILTON, JOSEPH	CITY OF OCALA	07 WARRANTY	1509 / 1681	5/1988
H2	4.89 AC.	FED. AID PROJ NO. – AIP 3-12-0055-02	HAMILTON, CLINT & DARRYL	CITY OF OCALA	07 WARRANTY	1509 / 1683	5/1988
K	82.5 AC.	FDOT WPI 5823357 (REIMB)	ROBINSON, GEORGE W.	CITY OF OCALA	07 WARRANTY	1679 / 1644	8/1990
L	40.1 AC.	FDOT WPI 5823357 (REIMB)	ROBINSON, GEORGE W.	CITY OF OCALA	07 WARRANTY	1716 / 0338	2/1991
M	19.8 AC.	FDOT WPI 5823357 (REIMB)	HESS, RUTH	CITY OF OCALA	07 WARRANTY	1884 / 1552	12/1992
N	17.4 AC.	FDOT WPI 5823357 (REIMB)	HAMILTON, JIMMY H.	CITY OF OCALA	07 WARRANTY	1885 / 1368	12/1992
O	19.8 AC.	FDOT WPI 5823357 (REIMB)	TONA, CHARLES	CITY OF OCALA	07 WARRANTY	1893 / 195	1/1993
P	19.8 AC.	FDOT WPI 5823357 (REIMB)	BARBERA, CHARLES & PHILLIP	CITY OF OCALA	07 WARRANTY	1893 / 814	1/1993
Q	19.8 AC.	FDOT WPI 5823357 (REIMB)	KHANI, HOWARD	CITY OF OCALA	07 WARRANTY	1896 / 986	1/1993
R	17.4 AC.	FDOT WPI 5823357 (REIMB)	MANGANIELLO, LOUIS JR.	CITY OF OCALA	07 WARRANTY	1896 / 992	1/1993
S	19.8 AC.	FDOT WPI 5823357 (REIMB)	CLAY, DONALD CHARLES & FOLA B	CITY OF OCALA	07 WARRANTY	1896 / 989	1/1993
T	19.8 AC.	FDOT WPI 5823357 (REIMB)	TONA, FRANK J	CITY OF OCALA	07 WARRANTY	1932 / 1404	6/1993
U	82.5 AC.	FDOT WPI 5823357 (REIMB)	TONA, FRANK J	CITY OF OCALA	07 WARRANTY	1932 / 1395	6/1993
V	40.2 AC.	FDOT WPI 5823357 (REIMB)	HASTY, JIMMIE EST.	CITY OF OCALA	25 PER REP	1981 / 1600	11/1993
W	3.03 AC.	FDOT (REIMB)	HOLDEN PROPERTIES INC	CITY OF OCALA	07 WARRANTY	4807 / 332	6/2007

*FDOT ACQUIRED 7.28 ACRES OF PARCEL E IN 4/04 (43 R-O-W, BOOK 3801 PG 0141)

NOTE:
1. REFER TO THE FOLLOWING FOR LOCAL REGULATIONS TO PROTECT THE AIRPORT AND SURROUNDING AIRSPACE:

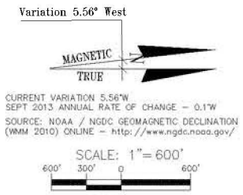
OCALA, FLORIDA, CODE OF ORDINANCES>>PART II – CODE OF ORDINANCES>>CHAPTER 18 – AVIATION>>ARTICLE IV. AIRPORT ZONING

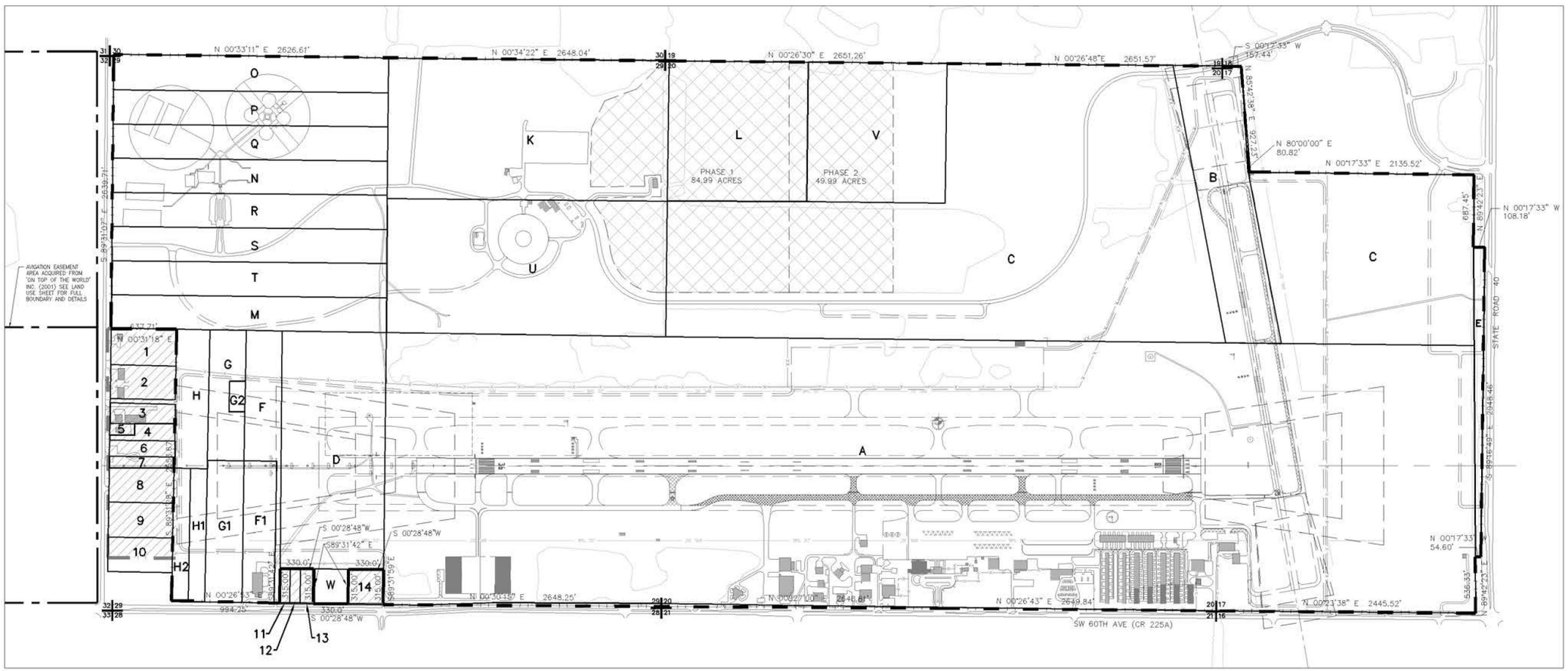
MARION COUNTY, FLORIDA, LAND DEVELOPMENT CODE>> – LAND DEVELOPMENT CODE>> ARTICLE 6 – OVERLAY ZONES

SOURCE:
*MARION COUNTY PROPERTY APPRAISER, 2013
*CITY OF OCALA PUBLIC RECORDS, 2000
*EXHIBIT 'A' PROPERTY MAP BY GREINER INC. 8/1988
*EXHIBIT 'A' PROPERTY MAP BY CITY OF OCALA ENGINEERING DEPT – 12/1994

FUTURE PROPOSED PROPERTY ACQUISITION		
PARCEL	SIZE	OWNER
1	4.83 AC.	MANDICH FAMILY TRUST
2	4.83 AC.	FOUR DOG LLC
3	2.48 AC.	EXECUTIVE AUTOMOTIVE SERVICES OF OCALA LLC
4	1.8 AC.	MARANDO PATRICIA A
5	0.61 AC.	DEFIO ALEXANDER E
6	2.41 AC.	C & C EQUIPMENT EXPORTS INC
7	1.83 AC.	M A F OCALA INC
8	4.82 AC.	M A F OCALA INC
9	4.82 AC.	M A F OCALA INC
10	4.83 AC.	M A F OCALA INC
11	1.01 AC.	CITY OF OCALA (NON AIRPORT OWNED)
12	0.92 AC.	CITY OF OCALA (NON AIRPORT OWNED)
13	1.1 AC.	CITY OF OCALA (NON AIRPORT OWNED)
14	3.03 AC.	KENYON JOHN WEST/LAURENCE I BLAIR PER REP

LEGEND (ON AIRPORT PROPERTY)		
	EXISTING	PROPOSED
BUILDINGS		
BUILDING DEMOLITION	N/A	
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
LAND PARCEL		N/A
LAND ACQUISITION	N/A	
LAND RELEASE		N/A
AIRPORT PROPERTY		
SECURITY FENCE	X X	XX XX
RUNWAY PROTECTION ZONES, AIRPORT OWNED (RPZ)		
BUILDING RESTRICTION LINE (BRL) (30' STRUCTURE)	BRL 30'	F-BRL 30'





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CITY OF OCALA
OCALA INTERNATIONAL - JIM TAYLOR FIELD

OCALA MASTER PLAN

AIRPORT LAYOUT PLAN

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED: 5-19-14
REVIEWED BY: KRI
DRAWN BY: RJM
DESIGNED BY: MKT

AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

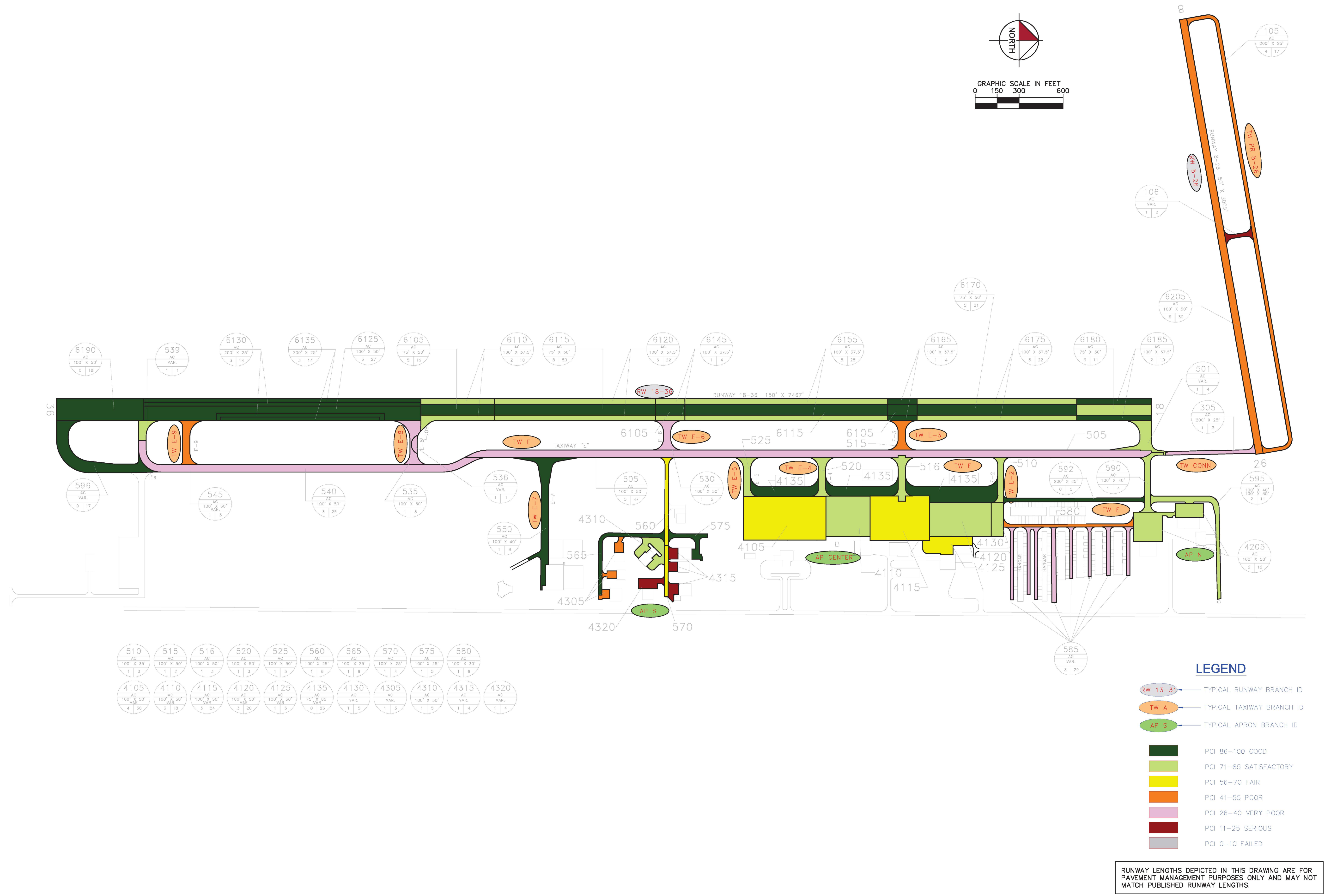
AIRPORT PROPERTY MAP

SHEET NUMBER
17

FINAL

Drawing: T:\P\20144527.106 Ocala Master Plan\CAD\ALP -2013\OCFC017_PROPERTY.dwg Plotted on: 5/20/2014 3:03 PM Plotted by: Morse, Ryan

APPENDIX B
2011 PAVEMENT CONDITION MAP



NUMBER	DATE	REVISIONS

DESIGNED: JP DRAWN: JCB CHECKED: DATE: MAY 2011

2011 CONDITION MAP

OCALA INTERNATIONAL-JIM TAYLOR FIELD
OCALA, MARION, FLORIDA

FLORIDA DEPARTMENT OF TRANSPORTATION - AVIATION OFFICE

IDENTIFIER **OCF**

FDOT DISTRICT 5

APPENDIX C
OCALA AIRPORT ZONING ORDINANCE

ARTICLE IV. AIRPORT ZONING [4]

Sec. 18-101. Title of article.

This article shall be known and may be cited as the Ocala Airport Zoning Ordinance.

(Code 1961, § 3A-21; Code 1985, § 6-46)

State law reference— *Authority to regulate and restrict heights of structures and objects of natural growth in vicinity of general aviation public use airports, F.S. § 333.03.*

Sec. 18-102. Definitions.

In addition to the definitions contained in section 122-2, the following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Airport means Ocala International Airport.

Airport elevation means the highest point of an airport's usable landing area, measured in feet above mean sea level, being established as 90 feet mean sea level for the purpose of this article.

Airport hazard means any structure or object or natural growth or use of land which would exceed the federal obstruction standards as contained in 14 CFR 77.21, 77.23, 77.25 and 77.28, and which obstructs the airspace required for flight of aircraft in landing and takeoff at an airport or is otherwise hazardous to such landing or takeoff of aircraft.

Airport noise zone means the area within the noise zone of the Ocala International Airport, as established by the city and county and depicted on the official airport zoning map.

Airport noise zone II is a geographical area defined in section 18-107 in which external noise levels are normally acceptable for all land uses other than residential. Land used for residential development is normally unacceptable.

Airport noise zone III is a geographical area defined in section 18-107 in which external noise levels are unacceptable for all residential development.

Airport obstruction means any structure or object of natural growth or use of land which would exceed the federal obstruction standards as contained in 14 CFR 77.21, 77.23, 77.25 and 77.28.

Airspace height. To determine the height limits in all zones set forth in this article, the datum shall be mean sea level elevation (MSLE) unless otherwise specified.

Decision height means the height at which a decision must be made, during an ILS instrument approach, to either continue the approach or to execute a missed approach.

FAA means the Federal Aviation Administration.

Minimum descent altitude means the lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circling-to-land maneuvering in execution of a standard instrument approach procedure when no electronic glide slope is provided.

Minimum en-route altitude means the lowest altitude in effect between the radio fixes which ensures acceptable navigational signal coverage and meets obstruction clearance requirements between those fixes.

Minimum obstruction clearance altitude means the lowest published altitude in effect between radio fixes or VOR airways, off airway routes, or route segments which meets obstruction clearance requirements for the entire route segment and which ensures acceptable navigational signal coverage only within 22 miles of a VOR.

Nonconforming use means any structure, object of natural growth or use of land which is inconsistent with the provisions of this article, or amendments thereto, which was in existence prior to May 14, 1981, or any amendment to this division.

Nonprecision instrument runway means a runway having a nonprecision instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved or planned, and for which no precision approach facilities are planned or indicated on an FAA planning document or military service's military airport planning document.

Precision instrument runway means a runway having an instrument approach procedure utilizing an instrument landing system (ILS) or a precision approach radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated on an FAA approved airport layout plan, a military service's approved military airport layout plan, any other FAA planning document, or a military service's military airport planning document. For the purposes of this article, Runway 36 at the Ocala International Airport shall be classified as a precision instrument runway.

Runway means a defined area on an airport prepared for landing and takeoff of aircraft along its length.

Structure means anything constructed or erected which requires location on the ground or attached to any item having a location on the ground, including but not limited to buildings, towers, smokestacks, utility poles and overhead transmission lines.

Utility runway means a runway that is constructed for and intended to be used by propeller-driven aircraft of 12,500 pounds maximum gross weight and less. Runway 8/26 at the Ocala International Airport shall be classified as a utility runway.

Visual runway means a runway intended solely for the operation of aircraft using visual approach procedures with no straight-in instrument approach procedure and no instrument designation indicated on an FAA approved airport layout plan, and no instrument designation indicated on an FAA approved airport layout plan document submitted to the FAA by competent authority. Runways 8/26 and 18 at the Ocala International Airport shall be classified as visual runways.

Zoning administrator means the administrative office or agency responsible for administering zoning within the city or the county.

(Code 1961, § 3A-22; Code 1985, § 6-47; Ord. No. 2758, § 8, 7-22-97; Ord. No. 2011-48, § 4, 3-15-11)
Cross reference— *Definitions generally, § 1-2.*

Sec. 18-103. Penalty.

Each violation of this article or of any regulation, order or ruling promulgated under this article shall constitute a misdemeanor of the second degree and be punishable by a fine of not more than $500.00 or imprisonment for not more than 60 days, or both. Each day a violation continues to exist shall constitute a separate offense.

(Code 1961, § 3A-31; Code 1985, § 6-56)
State law reference— *Penalty for violations, F.S. § 333.13.*

Sec. 18-104. Conflicting regulations.

Where there exists a conflict between any of the regulations or limitations prescribed in this article and any other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail.

(Code 1961, § 3A-32; Code 1985, § 6-57)
State law reference— *Similar provisions, F.S. § 333.04(2).*

Sec. 18-105. Airport zoning map; height limitations.

In order to carry out the provisions of this article, there are hereby created and established certain zones which include all of the land lying beneath the approach, transitional, horizontal and conical surfaces as they apply to the Ocala Regional Airport. Such zones are shown on the Ocala Airport Zoning Map and are hereby incorporated into this article and made a part thereof. Official copies of the maps are retained in the city building office. An area located in more than one of the following described zones is considered to be only in the zone with the more restrictive height limitation. The various zones are hereby established and defined as follows:

(1) *Primary zone.* An area longitudinally centered on a runway extending 200 feet beyond each end of that runway with the width so specified for each runway for the most precise approach existing or planned for either end of the runway. No structure or obstruction will be permitted within the primary zone that is not part of the landing and

takeoff area and is of a greater height than the nearest point on the runway centerline. The width of the primary zone is as follows:

a. Runway 8/26, 500 feet.

b. Runway 36, 1,000 feet.

c. Runway 18, 500 feet.

(2) *Horizontal zone.* The area around the Ocala Regional Airport with an outer boundary the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary zone of each airport runway and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

a. Runway 8/26, 5,000 feet.

b. Runway 18/36, 10,000 feet.

The radius of the arc specified for each end of the runways will have the same arithmetical value. That value will be the highest composite value determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-foot arc shall be disregarded on the construction of a perimeter of the horizontal zone. No structure or obstruction will be permitted in the horizontal zone that has a height greater than 150 feet above the airport elevation.

(3) *Conical zone.* The area extending outward from the periphery of the horizontal zone for a distance of 4,000 feet. Height limitations for structures in the conical zone are 150 feet above airport height at the inner boundary with permitted height increasing one foot vertically for every 20 feet of horizontal distance measured outward from the inner boundary to a height of 350 feet above airport height at the outer boundary.

(4) *Approach zone.* An area longitudinally centered on the extended runway centerline and extending outward from each end of the primary surface. An approach zone is designated for each runway based upon the type of approach available or planned for that runway end.

a. The inner edge of the approach zone is the same width as the primary zone and it expands uniformly to a width of:

1. Runway 8/26, 1,250 feet.
2. Runway 36, 16,000 feet.
3. Runway 18, 3,500 feet.

b. The approach surface extends for a horizontal distance of:

1. Runway 8/26, 5,000 feet.
2. Runway 36, 50,000 feet.
3. Runway 18, 10,000 feet.

c. The outer width of an approach zone to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

d. The permitted height limitation within the approach zones is the same as the runway end height at the inner edge and increases with horizontal distance outward from the inner edge as follows:

1. Runway 8/26, permitted height increases one foot vertically for every 20 feet of horizontal distance.
2. Runway 36, permitted height increases one foot vertically for every 50 feet of horizontal distance for the first 10,000 feet and then increases

one foot vertically for every 40 feet of horizontal distance for an additional 40,000 feet.

3. Runway 18, permitted height increases one foot vertically for every 34 feet of horizontal distance.

(5) *Transitional zone.* The area extending outward from the sides of the primary zones and approach zones connecting them to the horizontal zone. Height limits within the transitional zone are the same as the primary zone or approach zone at the boundary line where it adjoins and increases at a rate of one foot vertically for every seven feet horizontally, with the horizontal distance measured at right angles to the runway centerline and extended centerline, until the height matches the height of the horizontal zone or conical zone or for a horizontal distance of 5,000 feet from the side of the part of the precision approach zone that extends beyond the conical zone.

(6) *Other areas.* In addition to the height limitations imposed in subsections (1) through (5) of this section, no structure or obstruction will be permitted within the city or the county that would cause a minimum obstruction clearance altitude, a minimum descent altitude, or a decision height to be raised.

(Code 1961, § 3A-23; Code 1985, § 6-48; Ord. No. 2758, § 9, 7-22-97)

Sec. 18-106. Land use restrictions; hazard marking and lighting.

(a) Notwithstanding any other provision of this article, no use may be made of land or water within any zones established by this article in such a manner as to interfere with the operation of an airborne aircraft. The following special requirements shall apply to each permitted use:

(1) All lights or illumination used in conjunction with streets, parking, signs, or use of land and structures shall be arranged and operated in such a manner so that it is not misleading or dangerous to aircraft operating from the Ocala Regional Airport or in the vicinity thereof.

(2) No operations of any type, except operations owned, controlled, approved or conducted by the city, shall produce smoke, glare or other visual hazards within three statute miles of any usable runway of a public airport.

(3) No operations of any type shall produce electronic interference with navigation signals or radio communication between the airport and aircraft.

(b) Notwithstanding the provisions of subsection (a) of this section, the owner of any existing nonconforming structure or airport obstruction is hereby required to permit the installation, operation and maintenance thereon of such markers and lights as shall be deemed necessary by the zoning administrator in accordance with FAA Advisory Circular 70/7460-1, as amended, to indicate to the operators of aircraft in the vicinity of the airport the presence of such airport hazards or obstructions. Such markers and lights shall be installed, operated and maintained at the expense of the structure's owner or operator.

(Code 1961, § 3A-24; Code 1985, § 6-49; Ord. No. 2758, § 10, 7-22-97)

Sec. 18-107. Noise zones; noise regulations.

(a) The airport noise zone consists of all land lying within the noise impact areas of zones I and II as designated on the Ocala Airport Zoning Map maintained in the office of the city building official.

(b) Land uses permitted in airport noise zones are as follows:

(1) All construction in the area outlined as noise zone I is considered outside the noise impact area and all land uses are clearly acceptable.

(2) All new residential construction within the area outlined in noise zone II shall conform with the Noise Exposure Standards as set forth in ID Circular 1390.2, as amended.

(3) No new residential, school, church or hospital construction shall be authorized within the area outlined in noise zone III.

(4) All new residential construction within the areas outlined in subsection (a) of this section shall conform with the National Bureau of Standards provisions as set forth in the ID Guide to Noise Control in Multi-Family Dwellings, as amended.

(5) No new public use facilities shall be authorized within the areas outlined in subsection (a) of this section unless the inside to outside noise level difference is 15 decibels or less.

(6) The table of land uses attached to section 3A-25 of the city's 1961 Code as attachment 1 shall be attached to the airport zoning map maintained by the city building official. The land uses described in such table are authorized as indicated within the geographical areas outlined in noise zones I, II and III.

(7) A disclosure statement in the form provided by the city building official shall be conveyed to all purchasers or lessees of property located within the geographical areas outlined in subsection (a) of this section.

The attachments referred to in this section are recognized as continuing in full force and effect as if set out at length in this section.

(Code 1961, § 3A-25; Code 1985, § 6-50; Ord. No. 2758, § 11, 7-22-97)

Editor's note—

The Ocala Airport Zoning Map and attachment 1, as referenced above, have not been included herein, but copies may be found on file in the office of the city clerk.

Cross reference— *Noise generally, § 34-171 et seq.*

Sec. 18-108. Permits, nonconforming uses and variances.

(a) No permit shall be granted that would allow the establishment or creation of an airport hazard or permit a nonconforming use of a structure to become a greater hazard to air navigation than it was prior to May 14, 1981, or any amendment to this division, or a greater hazard than it is when the application for a permit is made. Except as indicated, applications for such a permit may be granted.

(b) No material change shall be made in the use of land and no structure shall be erected, altered or otherwise established in any zone created in this article unless a permit has been applied for and granted. Permit applications for tall structures shall use the format outlined in a form provided by the city building official. Each application for a permit shall indicate the purpose for which the permit is desired with sufficient particulars to determine whether the resulting use of the structure would conform to the regulations prescribed in this article. After a determination is rendered by the Federal Aviation Administration, a permit may be granted.

(c) The regulations prescribed in this section shall not be construed to require the removal, lowering or other change or alteration of any structure or obstruction not conforming to the regulations as of the effective date of the ordinance from which this section is derived (May 12, 1981), or otherwise interfere with the continuance of a nonconforming use. Nothing contained in this section shall require any change in the construction, alteration or intended use of any structure, other than those structures that constitute a hazard to an airport, if the

construction or alteration was begun prior to the effective date of the ordinance from which this section is derived, and is diligently prosecuted.

(d) Whenever the zoning administrator determines that a nonconforming structure has been abandoned or more than 80 percent torn down, physically deteriorated or destroyed, no permit shall be granted that would allow such structure to exceed the applicable height limit or otherwise deviate from the zoning regulations as stated in this article.

(e) Any person desiring to erect or increase the height of any structure or use his property not in accordance with the regulations prescribed in this article may apply to the zoning board of adjustment for a variance from such regulations. Such variances may be allowed where it is duly found that a literal application or enforcement of the regulations would result in practical difficulty or undue hardship and relief granted would not be contrary to the public interest but will do substantial justice and be in accordance with the intent of this article, except that no use variances may be granted by the board. No application for variance from the requirements of this article may be considered by the zoning board of adjustment unless a copy of the application has been furnished to the airport advisory board for a recommendation. If the airport advisory board does not respond to the request for a recommendation within 40 days after receipt, the zoning board of adjustment may act on its own to grant or deny the application. Any variances granted shall require the owner to mark and light the structure in accordance with FAA Advisory Circular 70-7460-1 or subsequent revisions.

(Code 1961, § 3A-26; Code 1985, § 6-51; Ord. No. 2758, § 12, 7-22-97)

State law reference— *Permits and variances, F.S. § 333.07.*

Sec. 18-109. Board of adjustment.

(a) *Established; powers and duties.* The city zoning board of adjustment will also be known as the airport zoning board of adjustment and shall have and will exercise the following powers on matters relating to areas within the territorial limits of the primary, horizontal, conical and approach zones as defined in this article:

(1) Hear and decide appeals from any order, requirement, decision or determination made by the zoning administrator in the enforcement of this article;

(2) Hear and decide special exceptions to the terms of this article upon which such board of adjustment may be required to pass; and

(3) Hear and decide specific variances.

(b) *Meetings and proceedings.* The airport zoning board of adjustment shall adopt rules for its governance in harmony with the provisions of this article. Meetings of the airport zoning board of adjustment shall be held at the call of the chairman and at such other times as the board may determine. The chairman, or in his absence the acting chairman, may administer oaths and compel the attendance of witnesses. All hearings of the airport zoning board of adjustment shall be public. The airport zoning board of adjustment shall keep minutes of its proceedings showing the vote of each member upon each question, or if absent or failing to vote, indicating such fact, and shall keep records of its examinations and other official actions, all of which shall immediately be filed in the office of the clerk of the circuit court for the county and the city clerk.

(c) *Decisions.* The airport zoning board of adjustment shall make written findings of facts and conclusions of law giving the facts upon which it acted, and its legal conclusions from such facts, in reversing, affirming or modifying any order, requirement, decision or determination which comes before it under the provisions of this article.

(d)

Required vote. The concurring vote of four of the members of the board of adjustment shall be required to reverse any order, requirement, decision or determination of the zoning administrator, or to decide in favor of the applicant on any matter upon which it is required to pass under this article, or to effect variation of this article.

(Code 1961, § 3A-27; Code 1985, § 6-52; Ord. No. 2758, § 13, 7-22-97)

Cross reference— *Boards, commissions and committees, § 2-101 et seq.*

State law reference— *Board of adjustment, F.S. § 333.08.*

Sec. 18-110. Administration and enforcement.

(a) The city building office is hereby designated the administrative agency charged with the duty of administering and enforcing the regulations prescribed in this article.

(b) It shall be the duty of the zoning administrator of the city to administer and enforce the regulations prescribed in this article within the territorial limits of the city and, pursuant to any interlocal agreements with the county, within the primary, horizontal, conical and approach zones of the Ocala Regional Airport outside of the territorial limits of the city.

(c) In the event of any violation of the regulations contained in this article, the person responsible for such violation shall be given notice in writing by the zoning administrator. Such notice shall indicate the nature of the violation and the necessary action to correct or abate the violation. A copy of the notice shall be sent to the zoning board of adjustment. The zoning administrator shall order discontinuance of the use of land or buildings; removal of trees to conform with height limitations set forth in this article; removal of buildings, additions, alterations or structures; or discontinuance of any work being done; or shall take any or all other actions necessary to correct violations and obtain compliance with all the provisions of this article.

(Code 1961, § 3A-28; Code 1985, § 6-53; Ord. No. 2758, § 14, 7-22-97)

Cross reference— *Administration, ch. 2.*

State law reference— *Administration of airport zoning regulations, F.S. § 333.09.*

Sec. 18-111. Appeals.

(a) Any person aggrieved or any person affected by any decision of the zoning administrator made in the administration of this article may appeal to the board of adjustment.

(b) All appeals under this article must be made within a reasonable time as provided by the rules of the board of adjustment, by filing with the zoning administrator a notice of appeal specifying the grounds thereof. The zoning administrator shall forthwith transmit to the board of adjustment all the papers constituting the record upon which the action appealed was taken.

(c) An appeal shall stay all proceedings in furtherance of the action appealed unless the zoning administrator certifies to the board of adjustment, after the notice of appeal has been filed, that by reason of the facts stated in the certificate, a stay would cause imminent peril to life or property. In such case, proceedings shall not be stayed except by order of the board of adjustment on notice to the zoning administrator and after due cause is shown.

(d) The board of adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the interested parties, and render a decision within a reasonable time. During the hearing, any party may appear in person, by agent or by attorney.

(e)

The board of adjustment may, in conformity with the provisions of this article, reverse or affirm, in whole or in part, or modify the order, requirement, decision or determination by the administrator as may be appropriate under the circumstances.

(Code 1961, § 3A-29; Code 1985, § 6-54)

State law reference— *Similar provisions, F.S. § 333.08.*

Sec. 18-112. Judicial review.

Any person aggrieved or any person affected by any decision of the board of adjustment under this article may appeal to the circuit court as provided in F.S. § 333.11.

(Code 1961, § 3A-30; Code 1985, § 6-55)

FOOTNOTE(S):

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Cross reference— *Zoning generally, ch. 122.* *(Back)*

State Law reference— *Airport Zoning Law of 1945, F.S. ch. 333.* *(Back)*

APPENDIX D
MARION COUNTY AIRPORT OVERLAY ZONE

DIVISION 1. AIRPORT OVERLAY ZONE (AOZ)

Sec. 5.1.1. Purpose and intent.

A. The Airport Overlay Zone is designed to provide for safe airport operations and development of uses in locations near airports which are compatible with the airport use.

B. The purpose of this overlay zone is to regulate heights of structures and vegetation and to regulate the uses of land within the vicinity of general aviation public use airports, in accordance with Ch. 333 FS, to avoid the creation of airport hazards and inhibit the development of uses which may be adversely affected by airport operations.

(Ord. No. 13-20, § 2, 7-11-2013)

Sec. 5.1.2. Land use restrictions.

A. Dunnellon Airport. Within the boundary of the Dunnellon Airport Overlay Zone as described below, the land uses following shall not be permitted.

(1) Description of Area: All lands lying within the transitional, approach, conical, horizontal and primary zones as defined and shown on Map 2.9, "Marion County Airport Layout Plan," of the Marion County Comprehensive Plan.

(2) Residential developments having a gross density greater than one dwelling unit per acre.

(3) The storage of explosive materials above the ground.

(4) Any use which interferes with the lawful operation of an airborne aircraft.

(5) Any permanent use of any type which produces electronic interference with navigation signals or with radio communication between aircraft and the airport.

(6) Any airport obstruction, as prohibited by the Federal Aviation Administration.

B. Ocala Airport.

Description of Area. All lands lying outside the corporate limits of the City of Ocala and within the transitional, approach, conical, horizontal and primary areas as defined and shown on Figure 3-7, "Airport Layout Plan, Ocala Municipal Airport" of the Marion County Comprehensive Plan; Port, Aviation and Related Facilities Sub-Element.

(Ord. No. 13-20, § 2, 7-11-2013)

Sec. 5.1.3. Lot and building standards.

A. Height Limitations, Dunnellon Airport.

(1)

No structure shall be erected, and no vegetation shall be permitted to grow, that exceeds any of the following height limitations:

(a) Primary Zone. The elevation of the nearest runway centerline excluding those structures which are part of the landing and take-off area.

(b) Horizontal Zone. One hundred fifty feet above airport elevation.

(c) Conical Zone. One hundred fifty feet above airport elevation at the inner boundary, with permitted height increasing one foot vertically for every 20 feet of horizontal distance measured outward from the inner boundary to a height of 350 feet above airport elevation at the outer boundary.

(d) Approach Zone. The runway centerline end height at the inner edge, with permitted height increasing with horizontal distance outward from the inner edge as follows:

1. Runways 14/32 and 9/27: one foot vertically for every 20 feet of horizontal distance.
2. Runway 5: one foot vertically for every 34 feet of horizontal distance.
3. Runway 23: one foot vertically for every 50 feet of horizontal distance for the first 10,000 feet, then one foot vertically for every 40 feet of horizontal distance thereafter.

(e) Transitional Zone. The same as for the primary zone or the approach zone where it adjoins, with permitted height increasing one foot vertically for every seven feet horizontally, measured at right angles to the runway centerline or extended centerline.

B. Height Limitations, Ocala Airport.

(1) No structure shall be erected, and no vegetation shall be permitted to grow, that exceeds any of the following height limitations:

(a) Primary Zone. The elevation of the nearest runway centerline excluding those structures which are part of the landing and take-off area.

(b) Horizontal Zone. One hundred fifty feet above airport elevation.

(c) Conical Zone. One hundred fifty feet above airport elevation at the inner boundary, with permitted height increasing one foot vertically for every 20 feet of horizontal distance measured outward from the inner boundary to a height of 350 feet above airport elevation at the outer boundary.

(d) Approach Zone. The runway centerline end height at the inner edge, with permitted height increasing with horizontal distance outward from the inner edge as follows:

1. Runway 08/26: One foot vertically for every 20 feet of horizontal distance.
2. Runway 36: One foot vertically for every 50 feet of horizontal distance for the first 10,000 feet, then one foot vertically for every 40 feet of horizontal distance.
3. Runway 18: One foot vertically for every 34 feet of horizontal distance.

(e) Transitional Zone. The same as for the primary zone or the approach zone where it adjoins, with permitted height increasing one foot vertically for every seven feet horizontally, measured at right angles to the runway centerline or extended centerline.

(Ord. No. 13-20, § 2, 7-11-2013)

APPENDIX E
FAA TERMINAL AERA FORECAST

APO TERMINAL AREA FORECAST SUMMARY REPORT
Forecast Issued January 2012

	Enplanements			AIRCRAFT OPERATIONS Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
1990	459,977,421	35,319,231	495,296,652	12,335,145	10,925,910	37,879,996	3,384,524	64,525,575	39,671,520	1,212,833	40,884,353	105,409,928	39,275,924	162,242
1991	450,514,965	38,536,647	489,051,612	12,678,171	12,099,147	40,888,320	3,424,342	69,089,980	42,651,089	1,336,315	43,987,404	113,077,384	37,537,306	159,537
1992	468,362,468	42,138,046	510,500,514	12,584,998	12,585,967	40,603,010	3,666,623	69,440,598	41,732,325	1,425,212	43,157,537	112,598,135	38,374,262	158,822
1993	472,991,424	46,961,131	519,952,555	12,742,225	12,821,659	39,587,547	3,624,679	68,776,110	40,819,527	1,337,079	42,156,606	110,932,716	38,817,101	154,427
1994	508,900,061	53,073,337	561,973,398	13,301,980	13,279,555	39,508,528	3,495,905	69,585,968	39,691,922	1,296,315	40,988,237	110,574,205	40,592,125	155,415
1995	528,645,082	53,318,218	581,963,300	13,766,667	13,271,839	38,715,112	3,479,875	69,233,493	38,501,671	1,363,407	39,865,078	109,098,571	42,778,060	157,828
1996	555,726,974	57,791,458	613,518,432	13,992,829	13,580,857	40,157,236	3,460,319	71,191,241	38,861,380	1,315,755	40,177,135	111,368,376	43,832,128	159,759
1997	577,661,486	59,977,941	637,639,427	14,355,428	13,401,655	41,035,045	3,415,307	72,207,435	38,963,766	1,323,169	40,286,935	112,494,370	45,591,474	167,799
1998	586,661,148	62,340,979	649,002,127	14,379,619	13,620,783	42,741,605	3,618,753	74,360,760	41,583,475	1,512,443	43,095,918	117,456,678	46,744,550	174,148
1999	604,766,241	70,759,080	675,525,321	14,713,789	14,030,864	43,311,210	3,692,620	75,748,483	42,114,875	1,643,884	43,758,759	119,507,242	48,563,497	176,295
2000	629,511,829	75,336,202	704,848,031	15,262,001	14,268,722	43,883,047	3,710,599	77,124,369	43,288,489	1,574,962	44,863,451	121,987,820	49,574,523	180,006
2001	612,819,766	80,328,254	693,148,020	14,825,090	14,324,762	42,873,966	3,797,102	75,820,920	43,114,497	1,565,215	44,679,712	120,500,632	47,885,553	187,037
2002	540,728,283	86,923,406	627,651,689	13,669,776	13,942,954	42,925,069	3,817,249	74,355,048	42,923,434	1,596,552	44,519,986	118,875,034	46,973,817	189,042
2003	537,601,149	105,623,966	643,225,115	12,878,495	15,015,037	41,791,458	3,803,965	73,488,955	41,730,415	1,575,138	43,305,553	116,794,508	46,637,015	190,386
2004	564,698,667	126,269,471	690,968,138	12,990,206	15,883,411	41,572,664	3,763,305	74,209,586	41,188,989	1,559,577	42,748,566	116,958,152	47,241,763	193,431
2005	586,310,575	147,096,219	733,406,794	13,681,339	15,559,002	40,298,704	3,533,240	73,072,285	40,920,749	1,525,413	42,446,162	115,518,447	47,130,373	197,464
2006	581,044,143	151,842,609	732,886,752	13,466,628	14,836,011	39,654,241	3,482,894	71,439,774	40,587,848	1,496,761	42,084,609	113,524,383	45,767,452	197,498
2007	601,904,237	154,621,228	756,525,465	13,885,887	14,578,997	39,453,608	3,401,875	71,320,367	40,859,189	1,488,808	42,347,997	113,668,364	45,374,542	200,064
2008	591,709,444	155,757,354	747,466,798	14,150,703	13,820,662	37,822,919	3,382,325	69,176,609	40,311,824	1,323,248	41,635,072	110,811,681	44,185,000	176,040
2009	543,226,015	152,262,559	695,488,574	13,193,825	12,279,615	35,539,202	3,619,326	64,631,968	38,272,231	1,356,347	39,628,578	104,260,546	39,373,107	177,875
2010	542,206,660	159,660,934	701,867,594	12,992,613	12,130,641	34,453,440	3,586,539	63,163,233	37,002,891	1,377,068	38,379,959	101,543,192	38,963,048	165,860
2011*	557,094,530	159,835,279	716,929,809	13,220,026	11,966,708	34,148,727	3,591,052	62,926,513	36,695,393	1,376,129	38,071,522	100,998,035	38,299,453	167,608
2012*	560,861,238	158,103,101	718,964,339	13,242,907	11,899,620	33,976,692	3,591,618	62,710,837	36,537,792	1,376,731	37,914,523	100,625,360	37,876,456	169,240
2013*	576,405,763	162,423,699	738,829,462	13,537,269	12,037,989	34,114,040	3,591,671	63,280,969	36,687,148	1,376,810	38,063,958	101,344,927	38,389,924	170,633
2014*	595,840,979	168,451,928	764,292,907	13,905,754	12,245,165	34,254,145	3,591,725	63,996,789	36,838,402	1,376,889	38,215,291	102,212,080	39,067,214	172,042
2015*	615,510,183	174,468,936	789,979,119	14,283,493	12,447,464	34,393,917	3,591,792	64,716,666	36,990,819	1,376,970	38,367,789	103,084,455	39,749,412	173,444
2016*	634,408,291	180,278,170	814,686,461	14,647,107	12,643,766	34,533,901	3,591,852	65,416,626	37,143,388	1,377,053	38,520,441	103,937,067	40,408,981	175,050
2017*	649,854,385	184,692,687	834,547,072	14,926,895	12,802,626	34,675,772	3,591,916	65,997,209	37,297,982	1,377,137	38,675,119	104,672,328	40,932,606	176,497
2018*	665,682,445	189,222,682	854,905,127	15,212,428	12,964,955	34,819,707	3,591,982	66,589,072	37,454,876	1,377,223	38,832,099	105,421,171	41,466,779	178,061
2019*	681,934,744	193,873,589	875,808,333	15,501,818	13,127,354	34,965,597	3,592,055	67,186,824	37,614,046	1,377,311	38,991,357	106,178,181	42,005,050	179,561
2020*	698,625,423	198,653,228	897,278,651	15,797,509	13,293,078	35,113,625	3,592,123	67,796,335	37,775,955	1,377,400	39,153,355	106,949,690	42,554,300	181,035
2021*	715,775,882	203,562,844	919,338,726	16,099,745	13,462,227	35,263,439	3,592,215	68,417,626	37,939,264	1,377,491	39,316,755	107,734,381	43,114,944	182,672
2022*	733,175,999	208,609,675	941,785,674	16,404,658	13,634,927	35,415,540	3,592,307	69,047,432	38,105,361	1,377,584	39,482,945	108,530,377	43,682,691	184,261
2023*	751,061,924	213,797,964	964,859,888	16,716,429	13,811,204	35,569,837	3,592,404	69,689,874	38,274,023	1,377,679	39,651,702	109,341,576	44,262,357	185,980

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	Enplanements			AIRCRAFT OPERATIONS Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
2024*	769,449,400	219,132,069	988,581,469	17,035,283	13,991,211	35,726,494	3,592,500	70,345,488	38,445,183	1,377,774	39,822,957	110,168,445	44,854,271	187,594
2025*	788,353,641	224,616,523	1,012,970,164	17,361,429	14,175,006	35,885,589	3,592,599	71,014,623	38,618,991	1,377,872	39,996,863	111,011,486	45,458,902	189,188
2026*	807,791,020	230,255,921	1,038,046,941	17,695,012	14,362,704	36,047,350	3,592,702	71,697,768	38,795,783	1,377,972	40,173,755	111,871,523	46,076,460	190,779
2027*	827,778,348	236,055,399	1,063,833,747	18,036,138	14,554,415	36,211,740	3,592,803	72,395,096	38,975,437	1,378,074	40,353,511	112,748,607	46,707,104	192,397
2028*	848,333,010	242,019,895	1,090,352,905	18,385,064	14,750,234	36,378,803	3,592,908	73,107,009	39,158,058	1,378,178	40,536,236	113,643,245	47,351,342	194,020
2029*	869,473,032	248,154,594	1,117,627,626	18,741,951	14,950,215	36,548,599	3,593,015	73,833,780	39,343,682	1,378,284	40,721,966	114,555,746	48,009,442	195,672
2030*	891,217,043	254,464,824	1,145,681,867	19,106,985	15,154,545	36,720,922	3,593,123	74,575,575	39,532,158	1,378,391	40,910,549	115,486,124	48,681,684	197,357
2031*	913,584,370	260,956,107	1,174,540,477	19,480,358	15,363,293	36,896,124	3,593,234	75,333,009	39,723,774	1,378,500	41,102,274	116,435,283	49,368,541	199,052
2032*	936,594,957	267,634,202	1,204,229,159	19,861,928	15,576,375	37,074,298	3,593,346	76,105,947	39,918,605	1,378,611	41,297,216	117,403,163	50,070,493	200,749
2033*	960,269,496	274,505,031	1,234,774,527	20,252,274	15,794,098	37,255,486	3,593,462	76,895,320	40,116,731	1,378,724	41,495,455	118,390,775	50,787,795	202,490
2034*	984,629,355	281,574,705	1,266,204,060	20,651,604	16,016,583	37,439,742	3,593,579	77,701,508	40,318,238	1,378,839	41,697,077	119,398,585	51,520,755	204,245
2035*	1,009,696,723	288,849,570	1,298,546,293	21,060,151	16,243,961	37,627,160	3,593,698	78,524,970	40,523,184	1,378,956	41,902,140	120,427,110	52,269,942	206,058
2036*	1,035,494,549	296,336,172	1,331,830,721	21,478,145	16,476,354	37,817,798	3,593,819	79,366,116	40,731,605	1,379,076	42,110,681	121,476,797	53,035,609	207,885
2037*	1,062,046,595	304,041,269	1,366,087,864	21,905,818	16,713,854	38,011,729	3,593,943	80,225,344	40,943,628	1,379,198	42,322,826	122,548,170	53,818,280	209,766
2038*	1,089,377,499	311,971,917	1,401,349,416	22,343,636	16,956,602	38,209,029	3,594,068	81,103,335	41,159,320	1,379,322	42,538,642	123,641,977	54,618,638	211,668
2039*	1,117,512,767	320,135,338	1,437,648,105	22,791,640	17,204,762	38,409,801	3,594,195	82,000,398	41,378,744	1,379,449	42,758,193	124,758,591	55,436,984	213,614
2040*	1,146,478,845	328,539,067	1,475,017,912	23,250,087	17,458,483	38,614,220	3,594,326	82,917,116	41,602,039	1,379,578	42,981,617	125,898,733	56,273,999	215,616

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	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
1990	96,419,580	8,278,587	104,698,167	2,678,116	1,998,852	7,582,639	980,640	13,240,247	7,412,687	244,369	7,657,056	20,897,303	10,428,103	27,366
1991	92,066,054	8,545,398	100,611,452	2,675,501	2,216,082	8,064,961	968,505	13,925,049	8,014,817	272,303	8,287,120	22,212,169	9,956,535	26,765
1992	95,624,426	9,748,981	105,373,407	2,648,018	2,317,052	8,179,371	1,130,455	14,274,896	7,705,430	255,781	7,961,211	22,236,107	10,194,196	26,463
1993	97,882,276	10,832,120	108,714,396	2,672,748	2,436,844	7,993,263	1,105,615	14,208,470	7,518,322	231,757	7,750,079	21,958,549	10,352,945	26,422
1994	107,601,975	12,163,802	119,765,777	2,838,613	2,554,344	7,993,805	1,119,958	14,506,720	6,909,075	264,928	7,174,003	21,680,723	10,552,554	25,991
1995	110,254,579	11,918,213	122,172,792	2,890,864	2,496,768	7,799,465	1,099,213	14,286,310	6,618,530	287,606	6,906,136	21,192,446	10,580,572	26,527
1996	118,006,251	12,917,585	130,923,836	2,868,106	2,486,746	8,477,285	1,171,386	15,003,523	7,239,254	327,481	7,566,735	22,570,258	10,570,532	28,551
1997	124,883,076	13,863,430	138,746,506	3,036,752	2,331,422	8,765,385	1,159,846	15,293,405	7,351,860	359,006	7,710,866	23,004,271	10,974,809	30,259
1998	127,438,260	14,325,916	141,764,176	3,091,720	2,384,976	9,318,819	1,317,619	16,113,134	7,854,645	388,663	8,243,308	24,356,442	11,206,984	31,417
1999	131,742,602	17,452,951	149,195,553	3,076,907	2,641,775	9,710,178	1,293,292	16,722,152	8,027,163	460,578	8,487,741	25,209,893	11,952,595	31,549
2000	137,628,455	18,577,781	156,206,236	3,279,271	2,676,984	9,899,900	1,308,187	17,164,342	8,151,496	416,672	8,568,168	25,732,510	12,263,731	31,961
2001	135,391,190	19,925,511	155,316,701	3,197,184	2,621,036	10,012,685	1,344,608	17,175,513	8,307,587	412,885	8,720,472	25,895,985	11,953,155	33,557
2002	119,746,823	22,470,994	142,217,817	2,918,517	2,716,860	10,008,399	1,299,458	16,943,234	8,347,599	407,888	8,755,487	25,698,721	11,780,662	33,840
2003	119,643,021	27,454,615	147,097,636	2,875,520	2,843,213	9,622,644	1,318,637	16,660,014	8,021,396	426,764	8,448,160	25,108,174	11,505,358	34,135
2004	126,646,394	31,818,623	158,465,017	2,960,292	3,000,887	9,609,231	1,325,532	16,895,942	7,933,101	429,788	8,362,889	25,258,831	11,797,539	35,314
2005	134,237,193	36,823,553	171,060,746	3,139,765	3,104,462	9,489,946	1,250,868	16,985,041	8,069,015	406,766	8,475,781	25,460,822	11,803,883	36,028
2006	127,072,820	38,358,287	165,431,107	2,974,965	2,943,760	9,380,417	1,246,102	16,545,244	7,853,652	391,875	8,245,527	24,790,771	11,401,879	36,549
2007	132,839,893	39,161,025	172,000,918	3,136,212	2,824,311	9,460,132	1,197,192	16,617,847	7,911,551	395,411	8,306,962	24,924,809	11,421,612	36,312
2008	133,991,210	39,159,385	173,150,595	3,249,465	2,669,762	9,220,283	1,255,164	16,394,674	7,896,882	360,113	8,256,995	24,651,669	10,941,722	32,504
2009	124,639,000	37,991,578	162,630,578	3,047,473	2,314,141	8,564,120	1,274,304	15,200,038	7,454,715	377,250	7,831,965	23,032,003	9,679,397	32,692
2010	125,234,793	37,467,036	162,701,829	3,026,197	2,269,687	8,227,210	1,287,173	14,810,267	7,217,802	415,165	7,632,967	22,443,234	9,537,773	30,874
2011*	131,704,688	35,914,057	167,618,745	3,090,228	2,166,523	8,218,192	1,292,919	14,767,862	7,305,095	402,914	7,708,009	22,475,871	9,476,742	31,101
2012*	134,264,763	35,046,539	169,311,302	3,130,387	2,140,907	8,174,664	1,292,919	14,738,877	7,345,068	402,914	7,747,982	22,486,859	9,412,706	31,385
2013*	138,624,427	36,074,789	174,699,216	3,215,882	2,163,084	8,196,611	1,292,919	14,868,496	7,373,630	402,914	7,776,544	22,645,040	9,543,557	31,637
2014*	143,390,656	37,367,337	180,757,993	3,310,583	2,199,368	8,220,403	1,292,919	15,023,273	7,402,658	402,914	7,805,572	22,828,845	9,705,646	31,890
2015*	148,218,312	38,727,643	186,945,955	3,409,059	2,238,032	8,244,522	1,292,919	15,184,532	7,432,159	402,914	7,835,073	23,019,605	9,874,680	32,132
2016*	152,886,819	40,059,232	192,946,051	3,503,607	2,276,807	8,268,975	1,292,919	15,342,308	7,462,148	402,914	7,865,062	23,207,370	10,039,082	32,439
2017*	156,731,457	41,089,361	197,820,818	3,579,434	2,312,503	8,293,752	1,292,919	15,478,608	7,492,632	402,914	7,895,546	23,374,154	10,177,137	32,699
2018*	160,683,242	42,148,884	202,832,126	3,657,326	2,349,457	8,318,875	1,292,919	15,618,577	7,523,626	402,914	7,926,540	23,545,117	10,319,001	32,988
2019*	164,745,440	43,238,702	207,984,142	3,734,800	2,384,024	8,344,343	1,292,919	15,756,086	7,555,138	402,914	7,958,052	23,714,138	10,457,755	33,258
2020*	168,921,459	44,359,751	213,281,210	3,814,091	2,419,387	8,370,170	1,292,919	15,896,567	7,587,173	402,914	7,990,087	23,886,654	10,599,553	33,529
2021*	173,214,808	45,512,987	218,727,795	3,895,232	2,455,569	8,396,360	1,292,919	16,040,080	7,619,749	402,914	8,022,663	24,062,743	10,744,487	33,832
2022*	177,629,100	46,699,431	224,328,531	3,978,268	2,492,606	8,422,930	1,292,919	16,186,723	7,652,874	402,914	8,055,788	24,242,511	10,892,457	34,126
2023*	182,168,069	47,920,102	230,088,171	4,063,243	2,530,508	8,449,868	1,292,919	16,336,538	7,686,565	402,914	8,089,479	24,426,017	11,043,713	34,448

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	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
2024*	186,835,598	49,176,072	236,011,670	4,150,201	2,569,301	8,477,199	1,292,919	16,489,620	7,720,815	402,914	8,123,729	24,613,349	11,198,309	34,762
2025*	191,635,686	50,468,451	242,104,137	4,239,199	2,609,010	8,504,917	1,292,919	16,646,045	7,755,650	402,914	8,158,564	24,804,609	11,356,385	35,055
2026*	196,572,470	51,798,391	248,370,861	4,330,286	2,649,666	8,533,044	1,292,919	16,805,915	7,791,088	402,914	8,194,002	24,999,917	11,518,002	35,348
2027*	201,650,226	53,167,060	254,817,286	4,423,518	2,691,295	8,561,577	1,292,919	16,969,309	7,827,129	402,914	8,230,043	25,199,352	11,683,226	35,648
2028*	206,873,381	54,575,670	261,449,051	4,518,940	2,733,905	8,590,519	1,292,919	17,136,283	7,863,786	402,914	8,266,700	25,402,983	11,852,182	35,948
2029*	212,246,499	56,025,501	268,272,000	4,616,612	2,777,534	8,619,887	1,292,919	17,306,952	7,901,083	402,914	8,303,997	25,610,949	12,024,953	36,255
2030*	217,774,318	57,517,845	275,292,163	4,716,584	2,822,206	8,649,686	1,292,919	17,481,395	7,939,030	402,914	8,341,944	25,823,339	12,201,608	36,571
2031*	223,461,733	59,054,060	282,515,793	4,818,919	2,867,949	8,679,914	1,292,919	17,659,701	7,977,637	402,914	8,380,551	26,040,252	12,382,286	36,888

2032*	229,313,809	60,635,544	289,949,353	4,923,672	2,914,793	8,710,597	1,292,919	17,841,981	8,016,920	402,914	8,419,834	26,261,815	12,567,070	37,206
2033*	235,335,786	62,263,742	297,599,528	5,030,907	2,962,764	8,741,736	1,292,919	18,028,326	8,056,898	402,914	8,459,812	26,488,138	12,756,090	37,538
2034*	241,533,078	63,940,150	305,473,228	5,140,685	3,011,909	8,773,335	1,292,919	18,218,848	8,097,580	402,914	8,500,494	26,719,342	12,949,435	37,866
2035*	247,911,293	65,666,313	313,577,606	5,253,072	3,062,243	8,805,406	1,292,919	18,413,640	8,138,992	402,914	8,541,906	26,955,546	13,147,248	38,209
2036*	254,476,232	67,443,827	321,920,059	5,368,129	3,113,807	8,837,964	1,292,919	18,612,819	8,181,137	402,914	8,584,051	27,196,870	13,349,620	38,556
2037*	261,233,885	69,274,348	330,508,233	5,485,925	3,166,633	8,871,009	1,292,919	18,816,486	8,224,038	402,914	8,626,952	27,443,438	13,556,685	38,916
2038*	268,190,476	71,159,588	339,350,064	5,606,536	3,220,745	8,904,551	1,292,919	19,024,751	8,267,714	402,914	8,670,628	27,695,379	13,768,575	39,277
2039*	275,352,429	73,101,325	348,453,754	5,730,026	3,276,194	8,938,609	1,292,919	19,237,748	8,312,167	402,914	8,715,081	27,952,829	13,985,444	39,654
2040*	282,726,406	75,101,391	357,827,797	5,856,466	3,333,012	8,973,179	1,292,919	19,455,576	8,357,424	402,914	8,760,338	28,215,914	14,207,398	40,043

APO TERMINAL AREA FORECAST SUMMARY REPORT
Forecast Issued January 2012

FL

	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	Air Carrier	Commuter	Total	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	Total Ops	Total Tracon Ops	Based Aircraft
1990	38,155,730	2,086,761	40,242,491	912,640	551,620	3,229,478	289,511	4,983,249	2,894,605	60,748	2,955,353	7,938,602	3,657,760	11,221
1991	37,490,308	1,885,399	39,375,707	920,549	642,238	3,532,887	257,288	5,352,962	3,278,829	66,778	3,345,607	8,698,569	3,595,816	10,820
1992	38,143,386	1,980,949	40,124,335	912,468	633,318	3,500,330	275,777	5,321,893	3,125,672	60,730	3,186,402	8,508,295	3,649,440	10,739
1993	39,679,492	2,530,107	42,209,599	932,001	716,684	3,380,831	261,165	5,290,681	3,017,766	57,684	3,075,450	8,366,131	3,624,409	10,740
1994	43,097,349	3,178,450	46,275,799	985,679	792,236	3,233,974	254,000	5,265,889	2,799,644	49,129	2,848,773	8,114,662	3,589,513	10,379
1995	43,314,568	3,730,595	47,045,163	974,736	834,351	3,157,174	235,177	5,201,438	2,712,789	49,690	2,762,479	7,963,917	3,618,151	10,666
1996	46,654,209	4,649,065	51,303,274	938,794	857,580	3,303,309	237,701	5,337,384	2,807,737	53,363	2,861,100	8,198,484	3,661,822	11,294
1997	50,219,241	4,497,055	54,716,296	983,050	761,641	3,457,955	243,333	5,445,979	2,931,421	52,868	2,984,289	8,430,268	3,901,922	11,677
1998	50,035,682	3,895,940	53,931,622	953,840	789,531	3,616,714	245,630	5,605,715	3,137,527	55,212	3,192,739	8,798,454	3,994,617	11,961
1999	52,243,642	4,409,974	56,653,616	1,048,538	680,391	3,932,226	262,255	5,923,410	3,295,768	102,721	3,398,489	9,321,899	4,330,094	11,938
2000	54,997,842	4,107,139	59,104,981	1,098,890	662,214	3,982,802	242,092	5,985,998	3,331,920	62,355	3,394,275	9,380,273	4,429,890	12,157
2001	55,463,452	4,156,828	59,620,280	1,113,832	637,756	4,094,873	250,997	6,097,458	3,374,076	101,451	3,475,527	9,572,985	4,431,070	12,854
2002	49,581,818	3,774,705	53,356,523	1,012,690	604,935	4,047,709	252,509	5,917,843	3,434,166	87,621	3,521,787	9,439,630	4,242,518	13,078
2003	51,048,417	4,340,101	55,388,518	1,043,509	571,585	3,834,627	254,397	5,704,118	3,180,382	105,451	3,285,833	8,989,951	4,098,181	13,334
2004	56,137,301	5,038,509	61,175,810	1,084,447	615,239	3,807,700	251,210	5,758,596	3,085,288	85,572	3,170,860	8,929,456	4,095,769	13,212
2005	60,352,549	6,122,960	66,475,509	1,153,571	663,668	3,723,094	239,895	5,780,228	3,221,671	85,019	3,306,690	9,086,918	4,073,498	13,152
2006	60,318,295	5,921,744	66,240,039	1,157,693	621,891	3,658,964	234,491	5,673,039	3,095,219	75,292	3,170,511	8,843,550	3,962,831	13,269
2007	63,562,159	5,364,096	68,926,255	1,216,371	592,033	3,740,402	231,616	5,780,422	3,145,298	86,804	3,232,102	9,012,524	3,991,548	13,170
2008	64,651,537	4,763,149	69,414,686	1,255,872	541,139	3,563,080	232,117	5,592,208	3,154,114	72,920	3,227,034	8,819,242	3,895,873	11,238
2009	60,917,000	3,824,807	64,741,807	1,164,897	373,508	3,361,477	232,609	5,132,491	2,948,005	82,052	3,030,057	8,162,548	3,529,637	10,624
2010	61,264,161	3,946,812	65,210,973	1,172,669	367,438	3,059,645	240,074	4,839,826	2,739,711	82,657	2,822,368	7,662,194	3,479,238	10,931
2011*	63,596,720	4,191,554	67,788,274	1,209,102	365,143	3,088,947	238,868	4,902,060	2,847,975	83,275	2,931,250	7,833,310	3,543,976	11,071
2012*	63,825,703	4,206,642	68,032,345	1,210,861	360,455	3,067,896	238,868	4,878,080	2,908,826	83,275	2,992,101	7,870,181	3,504,255	11,241
2013*	66,103,606	4,269,431	70,373,037	1,247,724	359,499	3,084,696	238,868	4,930,787	2,934,029	83,275	3,017,304	7,948,091	3,547,584	11,403
2014*	68,326,347	4,375,539	72,701,886	1,282,950	365,017	3,103,295	238,868	4,990,130	2,959,659	83,275	3,042,934	8,033,064	3,599,654	11,562
2015*	70,599,694	4,509,100	75,108,794	1,320,836	372,012	3,122,169	238,868	5,053,885	2,985,724	83,275	3,068,999	8,122,884	3,656,121	11,709
2016*	72,850,351	4,639,922	77,490,273	1,358,243	378,905	3,141,332	238,868	5,117,348	3,012,241	83,275	3,095,516	8,212,864	3,711,785	11,893
2017*	74,887,369	4,751,822	79,639,191	1,392,575	383,752	3,160,769	238,868	5,175,964	3,039,213	83,275	3,122,488	8,298,452	3,760,344	12,059
2018*	76,985,367	4,867,109	81,852,476	1,427,833	388,716	3,180,506	238,868	5,235,923	3,066,655	83,275	3,149,930	8,385,853	3,810,070	12,228
2019*	79,146,272	4,985,901	84,132,173	1,464,031	393,802	3,200,537	238,868	5,297,238	3,094,570	83,275	3,177,845	8,475,083	3,860,947	12,392
2020*	81,372,067	5,108,330	86,480,397	1,501,203	399,008	3,220,880	238,868	5,359,959	3,122,969	83,275	3,206,244	8,566,203	3,913,064	12,568
2021*	83,664,813	5,234,519	88,899,332	1,539,376	404,341	3,241,532	238,868	5,424,117	3,151,868	83,275	3,235,143	8,659,260	3,966,472	12,749
2022*	86,026,631	5,364,601	91,391,232	1,578,576	409,804	3,262,509	238,868	5,489,757	3,181,275	83,275	3,264,550	8,754,307	4,021,128	12,931
2023*	88,459,708	5,498,722	93,958,430	1,618,833	415,402	3,283,804	238,868	5,556,907	3,211,204	83,275	3,294,479	8,851,386	4,077,148	13,125

APO TERMINAL AREA FORECAST SUMMARY REPORT
Forecast Issued January 2012

FL

	AIRCRAFT OPERATIONS													
	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	Air Carrier	Commuter	Total	Air Carrier	Air Taxi & Commuter	GA	Military	Total	Civil	Military	Total	Total Ops	Total Tracon Ops	Based Aircraft
2024*	90,966,311	5,637,024	96,603,335	1,660,172	421,138	3,305,444	238,868	5,625,622	3,241,655	83,275	3,324,930	8,950,552	4,134,551	13,321
2025*	93,548,778	5,779,663	99,328,441	1,702,627	427,023	3,327,416	238,868	5,695,934	3,272,653	83,275	3,355,928	9,051,862	4,193,397	13,506
2026*	96,209,534	5,926,794	102,136,328	1,746,228	433,058	3,349,741	238,868	5,767,895	3,304,204	83,275	3,387,479	9,155,374	4,253,710	13,691
2027*	98,951,070	6,078,583	105,029,653	1,791,013	439,248	3,372,419	238,868	5,841,548	3,336,313	83,275	3,419,588	9,261,136	4,315,532	13,881
2028*	101,775,973	6,235,204	108,011,177	1,837,009	445,593	3,395,455	238,868	5,916,925	3,368,998	83,275	3,452,273	9,369,198	4,378,920	14,072
2029*	104,686,903	6,396,834	111,083,737	1,884,251	452,107	3,418,856	238,868	5,994,082	3,402,277	83,275	3,485,552	9,479,634	4,443,911	14,270

2030*	107,686,621	6,563,659	114,250,280	1,932,777	458,795	3,442,632	238,868	6,073,072	3,436,157	83,275	3,519,432	9,592,504	4,510,544	14,471
2031*	110,777,968	6,735,876	117,513,844	1,982,621	465,659	3,466,782	238,868	6,153,930	3,470,652	83,275	3,553,927	9,707,857	4,578,879	14,673
2032*	113,963,893	6,913,690	120,877,583	2,033,820	472,706	3,491,326	238,868	6,236,720	3,505,773	83,275	3,589,048	9,825,768	4,648,969	14,879
2033*	117,247,437	7,097,313	124,344,750	2,086,416	479,941	3,516,266	238,868	6,321,491	3,541,542	83,275	3,624,817	9,946,308	4,720,851	15,090
2034*	120,631,737	7,286,964	127,918,701	2,140,445	487,376	3,541,612	238,868	6,408,301	3,577,967	83,275	3,661,242	10,069,543	4,794,579	15,303
2035*	124,120,043	7,482,874	131,602,917	2,195,953	495,012	3,567,371	238,868	6,497,204	3,615,069	83,275	3,698,344	10,195,548	4,870,222	15,526
2036*	127,715,716	7,685,279	135,400,995	2,252,973	502,862	3,593,556	238,868	6,588,259	3,652,857	83,275	3,736,132	10,324,391	4,947,822	15,752
2037*	131,422,215	7,894,424	139,316,639	2,311,552	510,932	3,620,165	238,868	6,681,517	3,691,350	83,275	3,774,625	10,456,142	5,027,450	15,989
2038*	135,243,135	8,110,577	143,353,712	2,371,736	519,223	3,647,213	238,868	6,777,040	3,730,565	83,275	3,813,840	10,590,880	5,109,153	16,226
2039*	139,182,176	8,334,009	147,516,185	2,433,571	527,747	3,674,707	238,868	6,874,893	3,770,507	83,275	3,853,782	10,728,675	5,193,011	16,473
2040*	143,243,172	8,565,004	151,808,176	2,497,102	536,517	3,702,658	238,868	6,975,145	3,811,199	83,275	3,894,474	10,869,619	5,279,087	16,728

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued January 2012

OCF

AIRCRAFT OPERATIONS

	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
REGION:ASO **STATE:**FL **LOCID:**OCF														
CITY:OCALA **AIRPORT:**OCALA INTL-JIM TAYLOR FIELD														
1990	0	44	44	0	3,000	25,000	100	28,100	15,000	0	15,000	43,100	0	101
1991	53	0	53	0	104	17,500	100	17,704	13,800	0	13,800	31,504	0	73
1992	0	0	0	0	100	17,500	100	17,700	13,800	0	13,800	31,500	0	73
1993	0	0	0	0	100	17,500	100	17,700	13,800	0	13,800	31,500	0	73
1994	0	0	0	0	100	17,500	100	17,700	13,800	0	13,800	31,500	0	73
1995	0	0	0	0	110	17,000	70	17,180	14,300	0	14,300	31,480	0	75
1996	0	0	0	0	110	17,000	70	17,180	14,300	0	14,300	31,480	0	75
1997	0	0	0	0	0	46,647	2,628	49,275	16,425	0	16,425	65,700	0	97
1998	1,380	0	1,380	0	98	13,797	250	14,145	35,455	0	35,455	49,600	0	109
1999	0	0	0	0	88	31,451	220	31,759	12,241	0	12,241	44,000	0	104
2000	0	0	0	0	90	32,190	220	32,500	12,528	0	12,528	45,028	0	109
2001	33	0	33	0	92	32,288	220	32,600	12,565	0	12,565	45,165	0	104
2002	33	0	33	0	94	33,064	220	33,378	12,867	0	12,867	46,245	0	116
2003	0	0	0	0	96	33,840	220	34,156	13,169	0	13,169	47,325	0	128
2004	0	0	0	0	183	61,466	411	62,060	28,459	0	28,459	90,519	0	124
2005	90	0	90	0	206	69,407	454	70,067	32,131	0	32,131	102,198	0	124
2006	0	0	0	0	208	70,795	454	71,457	32,773	0	32,773	104,230	0	145
2007	0	0	0	0	210	72,211	454	72,875	33,429	0	33,429	106,304	0	145
2008	394	2	396	0	800	984	600	2,384	72,616	0	72,616	75,000	0	123
2009	0	0	0	4	1,200	8,460	800	10,464	76,137	0	76,137	86,601	0	142
2010	172	0	172	8	108	11,139	131	11,386	6,159	30	6,189	17,575	0	162
2011*	346	4	350	47	769	34,166	516	35,498	15,330	277	15,607	51,105	0	163
2012*	346	4	350	47	776	34,166	516	35,505	15,330	277	15,607	51,112	0	164
2013*	346	4	350	47	783	34,508	516	35,854	15,483	277	15,760	51,614	0	168
2014*	346	4	350	47	790	34,853	516	36,206	15,638	277	15,915	52,121	0	169
2015*	346	4	350	47	797	35,202	516	36,562	15,794	277	16,071	52,633	0	170
2016*	346	4	350	47	804	35,554	516	36,921	15,952	277	16,229	53,150	0	172
2017*	346	4	350	47	811	35,909	516	37,283	16,112	277	16,389	53,672	0	173
2018*	346	4	350	47	818	36,268	516	37,649	16,273	277	16,550	54,199	0	175
2019*	346	4	350	47	825	36,631	516	38,019	16,436	277	16,713	54,732	0	176

APO TERMINAL AREA FORECAST DETAIL REPORT
Forecast Issued January 2012

OCF

AIRCRAFT OPERATIONS

	Enplanements			Itinerant Operations					Local Operations					
Fiscal Year	**Air Carrier**	**Commuter**	**Total**	**Air Carrier**	**Air Taxi & Commuter**	**GA**	**Military**	**Total**	**Civil**	**Military**	**Total**	**Total Ops**	**Total Tracon Ops**	**Based Aircraft**
2020*	346	4	350	47	832	36,997	516	38,392	16,600	277	16,877	55,269	0	177
2021*	346	4	350	47	839	37,367	516	38,769	16,766	277	17,043	55,812	0	179
2022*	346	4	350	47	846	37,740	516	39,149	16,934	277	17,211	56,360	0	182
2023*	346	4	350	47	853	38,117	516	39,533	17,104	277	17,381	56,914	0	184
2024*	346	4	350	47	860	38,498	516	39,921	17,275	277	17,552	57,473	0	185
2025*	346	4	350	47	867	38,883	516	40,313	17,448	277	17,725	58,038	0	186
2026*	346	4	350	47	874	39,272	516	40,709	17,623	277	17,900	58,609	0	187
2027*	346	4	350	47	881	39,665	516	41,109	17,800	277	18,077	59,186	0	188
2028*	346	4	350	47	888	40,061	516	41,512	17,978	277	18,255	59,767	0	189
2029*	346	4	350	47	895	40,461	516	41,919	18,158	277	18,435	60,354	0	190
2030*	346	4	350	47	902	40,865	516	42,330	18,340	277	18,617	60,947	0	191
2031*	346	4	350	47	909	41,274	516	42,746	18,524	277	18,801	61,547	0	192
2032*	346	4	350	47	916	41,687	516	43,166	18,709	277	18,986	62,152	0	193
2033*	346	4	350	47	923	42,104	516	43,590	18,896	277	19,173	62,763	0	194
2034*	346	4	350	47	930	42,525	516	44,018	19,085	277	19,362	63,380	0	195
2035*	346	4	350	47	937	42,950	516	44,450	19,276	277	19,553	64,003	0	196
2036*	346	4	350	47	944	43,379	516	44,886	19,468	277	19,745	64,631	0	197
2037*	346	4	350	47	951	43,813	516	45,327	19,663	277	19,940	65,267	0	198
2038*	346	4	350	47	958	44,251	516	45,772	19,860	277	20,137	65,909	0	199
2039*	346	4	350	47	965	44,693	516	46,221	20,059	277	20,336	66,557	0	200
2040*	346	4	350	47	973	45,140	516	46,676	20,259	277	20,536	67,212	0	201

APPENDIX F
FORECAST APPROVALS

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

ORLANDO AIRPORTS DISTRICT OFFICE
5950 Hazeltine National Dr., Suite 400
Orlando, Florida 32822-5003
Phone: (407) 812-6331 Fax: (407) 812-6978

March 14, 2013

Mr. Matthew Grow
Airport Director
Ocala International Airport
750 SW 60th Street
Ocala, Florida 34474

Dear Mr. Grow,

RE: Ocala International Airport; Ocala, Florida
AIP Number 3-12-0055-023-2012
Approval of Airport Forecasts for Master Plan Study

This letter responds to your submittal of the "Airport Master Plan Update—Working Paper No. 1" dated January 31, 2013. The operations and enplanements forecasts shown in Table 3-11 of the report are found to be consistent with the 2013 Federal Aviation Administration (FAA) Terminal Area Forecasts (TAF.) Therefore, we approve the forecasts to be used in your on-going master planning efforts.

If you have any questions, please feel free to contact me at (407) 812-6331, ext. 122.

Sincerely,

ORIGINAL SIGNED BY

Rebecca R. Henry
Planning Specialist

Florida Department of Transportation

RICK SCOTT
GOVERNOR

133 S. Semoran Blvd.
Orlando, FL 32807

ANANTH PRASAD, P.E.
SECRETARY

February 28, 2013

Mr. Matthew Grow
Airport Director
Ocala International Airport
750 SW 60th Avenue
Ocala, Florida 34474

Subject: **Review of Working Paper No. 1**
Ocala International Airport
Financial Management (FM) Number: 432760 1 94 01
Contract Number: AQR49
Description: Conduct Airport Master Plan Update

Dear Mr. Grow:

The Department has reviewed the subject document and has no comments. The forecasts appear to be reasonable and are approved for planning purposes.

Please call if you have any questions.

Sincerely,

Jim Wikstrom
Supervisor, Aviation and Port Programs

JW/jw

APPENDIX G
WIND ANALYSIS

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 10.5 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 97.14 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 13.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 98.57 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 16.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.77 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 20.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.97 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 10.5 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 97.21 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 13.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 98.55 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 16.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.77 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 20.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.97 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	10.5	10.5	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.76 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	13.0	13.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.96 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	16.0	16.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 100.0 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for VFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	20.0	20.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 100.0 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	497	1087	460	217	6	0	0	0	0	2267
20°	535	1435	376	90	2	0	0	0	0	2438
30°	740	1581	204	29	1	0	0	0	0	2555
40°	831	1501	202	32	1	0	0	0	0	2567
50°	696	1535	266	35	0	0	0	0	0	2532
60°	547	1571	350	52	0	0	0	0	0	2520
70°	408	1321	334	80	1	0	0	0	0	2144
80°	432	1148	178	25	2	0	0	0	0	1785
90°	514	971	69	5	0	0	0	0	0	1559
100°	375	517	17	5	0	0	0	0	0	914
110°	294	395	11	0	0	0	0	0	0	700
120°	261	414	9	2	0	0	0	0	0	686
130°	278	465	22	5	0	0	0	0	0	770
140°	292	530	41	5	0	0	0	0	0	868
150°	334	678	51	5	1	0	0	0	0	1069
160°	378	779	66	5	2	0	0	0	0	1230
170°	415	873	163	45	0	0	0	0	0	1496
180°	457	1212	338	207	10	2	0	0	0	2226
190°	428	959	347	283	26	2	0	0	0	2045
200°	365	837	305	255	40	4	1	0	0	1807
210°	301	793	303	237	40	6	1	0	0	1681
220°	242	816	283	233	56	9	0	0	0	1639
230°	226	811	344	324	57	5	2	0	0	1769
240°	177	808	492	452	54	5	0	0	0	1988
250°	180	737	487	420	31	0	0	0	0	1855
260°	154	690	416	295	20	0	0	0	0	1575
270°	168	781	349	214	15	0	0	0	0	1527
280°	154	555	256	135	6	0	0	0	0	1106
290°	133	552	200	112	2	0	0	0	0	999
300°	132	563	217	110	3	0	0	0	0	1025
310°	121	608	234	101	11	0	0	0	0	1075
320°	136	593	254	147	9	1	0	0	0	1140
330°	132	566	244	153	9	1	0	0	0	1105
340°	145	619	264	135	10	1	0	0	0	1174
350°	227	656	259	166	8	2	0	0	0	1318
360°	281	790	348	195	7	0	0	0	0	1621
Calm	23073									23073
TOTAL	35059	30747	8759	4811	430	38	4	0	0	79848

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 10.5 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 98.85 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	DEGREE
CROSSWIND COMPONENT:	13.0	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 99.38 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	DEGREE
CROSSWIND COMPONENT:	16.0	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 99.81 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 20.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.97 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	79.92	DEGREE
CROSSWIND COMPONENT:	10.5	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 98.46 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	79.92	DEGREE
CROSSWIND COMPONENT:	13.0	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 99.04 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	79.92	DEGREE
CROSSWIND COMPONENT:	16.0	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 99.67 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	79.92	DEGREE
CROSSWIND COMPONENT:	20.0	KNOTS
TAILWIND COMPONENT:	60.0	KNOTS

WIND COVERAGE: 99.9 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	10.5	10.5	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.78 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	13.0	13.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.95 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	16.0	16.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.99 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for IFR

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	20.0	20.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 100.0 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	42	44	19	1	1	0	0	0	0	107
20°	45	46	9	1	0	0	0	0	0	101
30°	53	46	7	2	3	0	0	0	0	111
40°	60	46	1	3	2	1	0	0	0	113
50°	38	31	2	3	3	0	0	0	0	77
60°	40	33	2	1	0	0	0	0	0	76
70°	11	20	2	1	1	0	0	0	0	35
80°	12	11	1	0	0	0	0	0	0	24
90°	8	3	0	1	1	0	0	0	0	13
100°	2	2	0	0	0	0	0	0	0	4
110°	5	8	0	0	0	0	0	0	0	13
120°	6	7	2	0	0	0	0	0	0	15
130°	1	7	2	1	0	0	0	0	0	11
140°	6	7	3	1	0	0	0	0	0	17
150°	10	6	2	1	0	0	0	0	0	19
160°	16	9	3	1	0	0	0	0	0	29
170°	29	24	1	1	0	1	0	0	0	56
180°	48	64	12	5	0	0	0	0	0	129
190°	49	50	5	1	2	0	1	0	0	108
200°	35	45	8	5	2	0	1	0	0	96
210°	32	39	4	2	1	0	0	0	0	78
220°	16	28	9	5	2	0	0	0	0	60
230°	18	18	5	5	0	0	0	0	0	46
240°	6	10	5	2	2	0	0	0	0	25
250°	10	8	1	1	0	0	0	0	0	20
260°	4	9	3	5	1	0	0	0	0	22
270°	2	4	3	1	1	0	0	0	0	11
280°	0	10	0	4	0	0	0	0	0	14
290°	8	12	2	5	0	0	0	0	0	27
300°	4	6	1	1	0	0	0	0	0	12
310°	3	3	5	0	0	0	0	0	0	11
320°	6	6	6	0	1	0	0	0	0	19
330°	0	12	3	5	0	0	0	0	0	20
340°	5	13	6	2	0	0	0	0	0	26
350°	11	21	7	5	1	0	0	0	0	45
360°	19	40	11	6	1	0	0	0	0	77
Calm	1960									1960
TOTAL	2620	748	152	78	25	2	2	0	0	3627

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 10.5 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 97.22 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 13.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 98.6 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 16.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.78 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 179.81 DEGREE
CROSSWIND COMPONENT: 20.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.97 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 10.5 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 97.26 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	79.92 DEGREE
CROSSWIND COMPONENT:	13.0 KNOTS
TAILWIND COMPONENT:	60.0 KNOTS
WIND COVERAGE:	98.57 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION: 79.92 DEGREE
CROSSWIND COMPONENT: 16.0 KNOTS
TAILWIND COMPONENT: 60.0 KNOTS

WIND COVERAGE: 99.76 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	79.92 DEGREE
CROSSWIND COMPONENT:	20.0 KNOTS
TAILWIND COMPONENT:	60.0 KNOTS
WIND COVERAGE:	99.96 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	10.5	10.5	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.76 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	13.0	13.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 99.96 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	16.0	16.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 100.0 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

Standard Wind Analysis Results for ALL_WEATHER

TITLE: OCF

RUNWAY ORIENTATION:	179.81	79.92	DEGREE
CROSSWIND COMPONENT:	20.0	20.0	KNOTS
TAILWIND COMPONENT:	60.0	60.0	KNOTS

WIND COVERAGE: 100.0 %

HOURLY OBSERVATIONS OF WIND SPEED (KNOTS)

DIRECTION	0-3	4-6	7-10	11-16	17-21	22-27	28-33	34-40	> 41	TOTAL
10°	539	1131	479	218	7	0	0	0	0	2374
20°	580	1481	385	91	2	0	0	0	0	2539
30°	793	1627	211	31	4	0	0	0	0	2666
40°	891	1547	203	35	3	1	0	0	0	2680
50°	734	1566	268	38	3	0	0	0	0	2609
60°	587	1604	352	53	0	0	0	0	0	2596
70°	419	1341	336	81	2	0	0	0	0	2179
80°	444	1159	179	25	2	0	0	0	0	1809
90°	522	974	69	6	1	0	0	0	0	1572
100°	377	519	17	5	0	0	0	0	0	918
110°	299	403	11	0	0	0	0	0	0	713
120°	267	421	11	2	0	0	0	0	0	701
130°	279	472	24	6	0	0	0	0	0	781
140°	298	537	44	6	0	0	0	0	0	885
150°	344	684	53	6	1	0	0	0	0	1088
160°	394	788	69	6	2	0	0	0	0	1259
170°	444	897	164	46	0	1	0	0	0	1552
180°	505	1276	350	212	10	2	0	0	0	2355
190°	477	1009	352	284	28	2	1	0	0	2153
200°	400	882	313	260	42	4	2	0	0	1903
210°	333	832	307	239	41	6	1	0	0	1759
220°	258	844	292	238	58	9	0	0	0	1699
230°	244	829	349	329	57	5	2	0	0	1815
240°	183	818	497	454	56	5	0	0	0	2013
250°	190	745	488	421	31	0	0	0	0	1875
260°	158	699	419	300	21	0	0	0	0	1597
270°	170	785	352	215	16	0	0	0	0	1538
280°	154	565	256	139	6	0	0	0	0	1120
290°	141	564	202	117	2	0	0	0	0	1026
300°	136	569	218	111	3	0	0	0	0	1037
310°	124	611	239	101	11	0	0	0	0	1086
320°	142	599	260	147	10	1	0	0	0	1159
330°	132	578	247	158	9	1	0	0	0	1125
340°	150	632	270	137	10	1	0	0	0	1200
350°	238	677	266	171	9	2	0	0	0	1363
360°	300	830	359	201	8	0	0	0	0	1698
Calm	25033									25033
TOTAL	37679	31495	8911	4889	455	40	6	0	0	83475

SOURCE: NOAA - Ocala International Airport WBAN 99999/12861 - 11/1/02 to 11/1/12

REFERENCE: Appendix 1 of AC 150/5300-13, Airport Design, including Changes 1 through 17.

APPENDIX H
AIRPORT STORMWATER MASTER PLAN

General Information and Conclusions

Project Summary

The City of Ocala (City) has tasked GPI Southeast, Inc (GPI) with developing a Stormwater Master Plan (SMP) for the Ocala International Airport property. The SMP incorporates all existing and future facilities into the design as described below. The purpose of the SMP is to provide a means to facilitate future development and permitting for potential industrial, commercial, and aviation parcels within the airport property. This goal is accomplished by combining existing stormwater permits related to the airport property under the Southwest Florida Water Management Districts (SWFWMD) Conceptual Plan Permit as well as providing a basis for design of future stormwater systems that are developed within the airport property.

The Task Order adopted by the Ocala City Council on February 7, 2012 stated that the proposed project includes the identification of existing closed basins and delineation of both natural and man-made drainage areas. The boundary of the study area generally matches the Airport Layout Plan (ALP) and airport property boundary. The study area is bounded by SW 38th Street, SW 60th Ave, and SR 40 along with the western airport property boundary. Basins that are identified outside of the project boundary and either contribute stormwater runoff to the study area or accept stormwater runoff from the study area is included in the SMP. Design and composite base map information are based on existing data provided by the City of which the primary source is the ALP. Supplementary data sources provided by the City include GIS data, aerial images, soil testing reports, construction plans and permits for existing facilities and roadways. Please refer to Section 5 for a listing of all data received from the City. In addition to the information received by the City there were 25 drainage borings taken in the locations of the existing and proposed Drainage Retention Areas.

Future Development is based on information provided by the City and is assumed to be at a maximum of 80% impervious area unless otherwise noted. Basin analysis is limited to the Drainage Retention Area (DRA) location and the amount of stormwater stored in each DRA. It is assumed for this SMP that the basins are graded in the post development condition to achieve maximum DRA utilization and efficiency in transporting stormwater to designated DRA areas. This is important because there are substantially fewer basins in the post development condition than in the pre development condition for the aviation, industrial and commercial portions of the plan. This Stormwater Master Plan is intended to function as an overall plan and not intended for construction purposes.

The post development basins generally adhere to the designated zoning criteria provided by the City. DRA locations are located in areas identified as appropriate by the City on the map received by GPI on 06/28/2012 and no DRAs are located outside of those areas unless approved by the City. Design stormevents for the sizing of post development DRAs are currently the 100yr/24hr, 25yr/24hr, and 10yr/24hr SWFWMD stormevents. DRAs are intended to function as dry retention basins and will attenuate the design stormevent stormwater runoff volume in the 14 day recovery time period required by SWFWMD for dry retention basins. Drainage for SW 67th Avenue is accounted for in the roadway design by others unless otherwise noted in this plan.

Based on review and analysis of the composite base map, GPI created an existing stormwater basins map using the contour information. Both natural and man-made basins are identified. Property that contributes stormwater flow to each basin is determined, including both pervious and impervious areas. Any off-site properties that contribute stormwater flows to airport property are also identified. There is no discharge offsite. This analysis holds the 100yr / 24hr post development stormevent. These properties may or may not be owned by the CITY.

The analysis differentiates between aviation and non-aviation land uses, and recognizes the need to keep the stormwater facilities separate. No flood prone property or other problem areas were identified by the CITY.

ICPR computer models have been developed to determine water quality and water quantity flows in each basin. Several storm events and durations are evaluated, as needed to meet SWFMWD criteria.

Future development is based on information provided by the CITY, including any potential projects currently in review or discussion. An ultimate build-out condition has been developed using the conceptual plan created by the City's economic development staff. The associated stormwater requirements have been determined for the ultimate build-out condition, and attempts have been made to accommodate these requirements within the property boundary. Joint use facilities are identified wherever possible.

Applicable Florida Department of Transportation (FDOT) and Federal Aviation Administration (FAA) requirements have been reviewed for relevant impact to the stormwater plan. This includes the results of the completed FDOT Statewide Airport Stormwater Study and the Best Management Practices Manual, dated December, 2010. (SWFWMD rules have not yet been adopted for these criteria, but they are being recognized and accepted in permit application submittals).

Project Revisions from Preliminary Stormwater Master Plan Review

During the review of the Preliminary Stormwater Master Plan, which was submitted on July 16, 2012, the following improvements were made to the master plan and incorporated into the final version.

1. Post Development Basin A-01 was reduced in size from 32.19 acres to 16.42 acres and the portion of stormwater runoff that was flowing to the previously designated DRA for basin A-01 located behind the T-Hangers has now been redirected to the DRA for Basin C-02. The stormwater is being redirected through a series of proposed ditch bottom inlets and pipes. Basin C-02 was expanded to include the 15.77 acres previously included in basin A-01. This revision was made to allow for the possible extension of the T-Hangers in the future. (See Exhibit F)
2. The DRA associated with Basin B-02 has been relocated along the road ROW of SW 67th Ave. (See Exhibit F)
3. Several notes have been added to the sheets and in this report indicating that the DRA locations, phasing of construction and location of existing infrastructure may vary from what is indicated on the plans and in this report. (See Exhibits D & F)
4. The DRA in Basin B-03 has been adjusted to avoid conflicts with existing 18" and 20" force mains and reuse mains that run within the western portion of the airport property. (See Exhibit D)
5. Historic flow patterns proceeding onsite through three (3) 28 inch culverts under SW 60th Ave have been added and are now a part of Basin A-09. The offsite basin has been designated A-09c. (See Exhibit F)
6. The DRA associated with Post Development Basin B-06 has been relocated to the northeast corner of the basin. (See Exhibit F)
7. The DRA associated with Post Development Basin B-05 has been relocated to the west property line (See Exhibit F)
8. The possible easement over property south of 38th Street has been noted as future drainage with a proposed DRA shown. (See Exhibit F)
9. The future width of 75' for the East-West runway has been included in the impervious area calculations.
10. The pervious area for all Runway Protection Zones has been reduced to a CN of 39
11. Soil borings were performed in the 25 proposed basins as shown in Exhibit H. These borings were direct push borings 20' in depth and the Estimated Seasonal High Water Table elevation, confining layer, and vertical percolation were measured. The vertical percolation rate reported in the soil boring was reduced by ½ from the rate measured in the field. For purposes of this analysis the field measured rate was used and the horizontal percolation rate was estimated to be twice the vertical percolation rate.

Project Narrative

The Ocala International Airport property is an existing operational airport and occupies approximately 1,600 acres of land. The airport property is bordered on the north, south, and east by SR 40, SW 38th Street, and SW 60 Avenue respectively. The active airport currently occupies the eastern half of this property but there are plans for proposed aviation and industrial parcels on the western portion of the property and proposed commercial parcels to the north fronting on SR 40.

SW 67th Avenue is a newly completed roadway that bisects the western portion of the airport property from SW 38th Street to SR 40 (approximately 3.1 miles). This roadway was designed in part by the City and in part by others. The northern portion of SW 67th Avenue (0.8 miles - designed by others) is curb and gutter and has been designed to allow for the storage of the 100yr/24hr stormevent in the roadway DRAs. The southern portion of SW 67th Avenue (2.3 miles - designed by City) is swale and ditch block and has been designed for the storage of the 10yr/24hr stormevent. The difference between the stormwater generated from the 100yr/24hr stormevent and the 10yr/24hr stormevent for the southern portion (2.3 miles) of SW 67th Avenue has been included in the SMP.

The topography of the area is sloping to hilly and, in most cases, naturally delineates the Drainage Basins. Vegetative cover consists of Bahia grass with sparse to heavy coverage of pine and oak trees with palmettos located throughout the site. Existing soils are predominantly Candler, type “A” hydrologic soils located in the uplands, which are well drained to excessively drained sands according to the National Resource Conservation Service (NRCS) classification. Additional soils present on site are Apopka and Arredondo type "A" hydrologic soils which are also well drained soils according to NRCS. (Please See Exhibit A for the NRCS Soils Map and the appendix for the Geotechnical Report dated 01/25/2012).

The project area is located in Flood Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Zone ‘C’ per 1983 Community Panel Nos. 12083C0511D and 12083C0513D. (Please See Exhibit B for the FEMA Flood Plain Map).

The Stormwater Master Plan includes a methodology that provides an inclusive drainage design that is adaptable to future development and allows for the incorporation of portions of the airport already permitted under SWFWMD. Currently the City has 6 SWFWMD Permits for the existing airport and aviation development. **SWFWMD permits are 44023778.004, 005, 006, 007, 008, and 009**. These permits are included in the SWFWMD Stormwater Conceptual Plan that will be applied for using this Stormwater Master Plan. The drainage analysis methodology used for the Stormwater Master Plan is detailed below

1. Create an existing stormwater basins map using the contour information and base maps received from the City
2. Identify existing natural and man-made basins
3. Identify proposed basins
4. Measure and calculate the existing basin area and impervious area
5. Measure and calculate the proposed basin area and impervious area
6. Insert approved DRA locations from City map received 6/28/2012
7. Compute weighted CN using NRCH technical release No TR55 Urban Hydrology for Watersheds for existing and proposed basins
8. Route the Basin through ICPR with Perc Pack for 100yr/24hr, 25yr/24hr, and 10yr/24hr stormevent
9. Compare required DRA from model with allowable DRA location area
10. Summarize results

This methodology was applied to the three main areas being analyzed (Aviation, Industrial, and Commercial) for this Stormwater Master Plan and the results are discussed below. These results are summarized in the Existing Conditions - Basin Performance Summary Table and the Post Development Basin Performance Summary Table. Please note that the basin numbers in the existing condition do not correspond to the basin numbers in the post development condition even though some share the same designation. In order to keep the discussion focused and concise, discussion on results has been limited to the 100yr/24hr stormevent as this is the largest stormevent and governs the design and sizing of the DRA.

There are Twenty (20) drainage basins associated with the aviation portion of the SMP in the existing condition and the basins are numbered A-01 through A-20. There are sixteen (16) drainage basins in the post development condition numbered A-01 through A-16. Basins in the post development condition do not correspond to basins in the existing condition due to changes in basin boundary and impervious area included in Basins. For Example Existing Basin A-01 is larger than Post development Basin A-01 but the post development basin has far more impervious area. The reduction in basins comes from the consolidation of four (4) basins on the western side of the runway where proposed aviation development is to occur. Basins and conditions on the eastern side of the runway remained largely unchanged between the existing and post development condition. It is on the eastern side of the runway where the existing permits are being applied and utilized. Please refer to Exhibits E & F for these Basins,

There are Twenty one (21) drainage basins associated with the industrial portion of the SMP in the existing condition and the basins are numbered B-1 through B-21. There are seven (7) drainage basins in the post development condition numbered B-01 through B-07. This area of the project resulted in the largest number of drainage basin consolidation due to the fact that this portion of the property is largely undeveloped and the topography is hilly. Please refer to Exhibits E&F for these Basins.

There is one (1) drainage basin associated with the commercial portion of the SMP in the existing condition which is labeled C-01. There are two (2) drainage basins in the post development condition which are numbered C-01 and C-02. Please refer to Exhibits E&F for these basins

In addition to these three areas (aviation, industrial, and commercial) there are basins that were separated for SW 67th Ave. There are nine (9) roadway basins in the existing condition numbered R-01 through R-09. These basins are delineated for the portion of SW 67th avenue designed by the City. This portion of the roadway is designed with swale and ditch blocks for stormwater storage. The roadway design allows for the storage of the 10yr/24hr stormevent. The difference in stormwater runoff volume generated between the 100yr/24hr stormevent and the 10yr/24hr stormevent is stored in the post development drainage basin DRA shown on Exhibit F. The remaining portion of SW 67th designed by others was designed for curb and gutter and has drainage capable of storing the 100yr/24hr stormevent.

Existing Condition

The impervious area for the aviation drainage basins (A-01 through A-20) ranges from 0% to 55% impervious on the aviation side of the project. The developed airport parcels have impervious areas in the range of 31% to 55%. Other portions of the airport property that either have less or no impervious area currently make up the remainder of the aviation portion of the SMP. The aviation basin A-09 receives offsite runoff from basin A-09c through 3 existing 28" pipes running under SW 60th Ave on the south end of the airport property. This inflow has been considered in the drainage system.

The impervious area for the industrial drainage basins (B-01 through B-21) ranges from 0% to 37% impervious. The majority of the basins have impervious areas from 0% to 5% except for two Basins. Basin B-08 is 37% impervious and this is due to the large paved area for what appears to be a truck driving school. Basin B-11 is comprised of 22% impervious area, but is inconsequential because this basin is an offsite basin that accepts runoff from the project. Our analysis shows that the Stormwater Master Plan does not discharge more runoff offsite than is currently being discharged.

The impervious area for the commercial drainage basins (C-01) is currently 0%. In the existing condition the airport property north of the runway is undeveloped which is the reason for the 0% impervious calculation.

Post Development Condition

When each post development basin was modeled the volume of stormwater generated showed to be less than the approved DRA areas except for one basin in the aviation area (A-09) and one basin in the industrial area (B-02). Post development basins A-09 and B-02 needed to have the available area for DRA construction doubled in order to attenuate the stormwater runoff generated with a basin impervious area of 80%. The City determined that the impervious area for Basin A-09 could be reduced to a CN of 39 for pervious area due to the presence of the runway protection zone throughout this basin. Basin B-02 was doubled in size to attenuate the required runoff volume. As discussed in the preliminary drainage report dated July 16, 2012, there was a need to add two drainage areas and related basins (B-5 and B-6) in the post development condition in the industrial area. It was necessary to add these basins because it is more economical to store the stormwater runoff generated by these areas in these areas, rather than transport the stormwater 2,200 feet north to a DRA located in an approved drainage area. The stormwater cannot be discharged to the roadway swales due to the slope of the swale flow-line in that area which flows south.

It is also not feasible to pipe the stormwater via gravity pipe due to the distance mentioned above.

In the post development condition for the aviation basins (basins A-01 through A-16) the impervious area ranges from 14% to 80%. All the basins in the post development condition are modeled at 80% impervious except for post development basin A-15, A-16, & A-09. Post development basin A-15 is located on the northern portion of the runway and much of this basin is designated as runway protection zone. Post development basin A-16 is the runway and the percent impervious is not anticipated to increase even with runway expansion. Basin A-09 was discussed previously. (See Exhibit F)

In the post development condition for the industrial basins (basins B-01 through B-07) the impervious area ranges from 32% to 80%. All the basins in the post development condition area modeled at 80% impervious area except for post development basins (B-01 and B-03). Post development basin B-01 is located in the northwest part of the property and includes approximately 96.5 acres of airport property that is not zoned for future aviation, industrial, or commercial use. Therefore this portion of the basin was not modeled at 80% impervious area but was instead modeled at the same impervious area as the existing condition. Post development basin B-03 includes approximately 67 acres of property outside of the airport boundary. Therefore this portion of the basin is not modeled at 80% impervious area but is instead modeled at the same impervious area as the existing conditions. Additionally, as mentioned above, post development basins B-05 and B-06 are additional basins and drainage areas that do not drain to a City approved DRA location. (See Exhibit F)

In the post development condition for the commercial basins (basins C-01 and C-02) the impervious area are 61% and 23% respectively. All of the proposed commercial and retail areas as shown on Exhibit F are modeled at 80% impervious, however the basins as a whole resulted in a total percent impervious of less than 80% due to the additional land included within the basin that is not zoned for development. This is very similar to basin B-01 as these basins are adjacent and all located in the north end of the project. Stormwater runoff generated in the 100yr/24hr stormevent is able to be discharged to the approved DRA areas and no additional area is needed. Additionally, Post Development Basin C-02 has been expanded to include the stormwater from the back half of Post Development Basin A-01. Basin A-01 and C-02 have been resized to account for this revised stormwater runoff flow.

The roadway drainage basins that were delineated in the existing condition are incorporated into the appropriate aviation or industrial post development basins. The basins have been incorporated as follows. Existing Basin (EB) R-01 was incorporated into post development basin (PDB) B-01. EB R-02 was incorporated into PDB B-01, A-13, and A12. EB R-03 was incorporated into PDB A-12 and B-02. EB R-04 was incorporated into PDB A-11 and B-02. EB R-05 was incorporated into PDB A-10 and B-02. EB R-06 was incorporated into PDB A-10 and B-09. EB R-07 was incorporated into PDB A-10, B-09, and B-07. EB R-08 was incorporated into PDB B-04 and B-07. EB R-09 was incorporated into PDB B-04, B-05, B-06, and B-07. As has been previously discussed the existing stormwater design for these roadway basins is for the 10yr/24hr stormevent. In the 100yr/24hr stormevent these basins need to be able to discharge to the DRAs that serve the aviation and industrial areas as listed. The current model accounts for this necessity.

Conclusions and Action Items

The results of this analysis indicate that the majority of the post development areas are able to be built out to 80% impervious. Those basins, that are not able to be built out to 80% impervious area, are not restricted by drainage design but by Runway Impact Zones or other areas that are not zoned for future development. The areas zoned for development include proposed aviation on the west side of the airport, expansion of aviation on the east side of the airport (if needed), Full build-out on the western portion of the property for industrial purposes, and Full build-out on the northern portion of the property for commercial and retail purposes as shown on Exhibits A-H. Each of the delineated post development basins are capable of storing the stormwater volume generated during the 100yr/24hr stormevent. The designated DRA areas provided by the City are capable of attenuating the 100yr/24hr stormwater volume.

Due to the existing topography and the need to consolidate 51 existing drainage basins into 25 post development drainage basins a certain amount of mass grading is necessary to render the post development DRAs functional for the basins in which they are shown. In addition to aiding in the basin drainage the mass grading helps to render the DRAs more efficient. This added efficiency is a result of DRA construction. Exhibit F shows a assumed rough grade elevation for each post development basin.

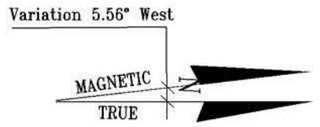
Action Items moving forward from this Preliminary Stormwater Master Plan are as follows.

1. Submit SWFWMD Permit (GPI)
2. City Council workshop presentation (City & GPI)

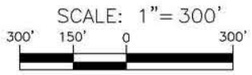
APPENDIX I
DEVELOPMENT PHASING FIGURES

PROJ NO.	ACIP PROJECT TITLE	FAA FY
1	DESIGN AND CONSTRUCT FUEL FARM	2014
2	RUNWAY 18-36 MARKINGS	2015
3	DESIGN AND CONSTRUCT PARKING FACILITIES	2015
4	TAXIWAY A PAVEMENT REHABILITATION DESIGN	2016
5	DESIGN GENERAL AVIATION TERMINAL	2017
6	CONSTRUCT GENERAL AVIATION TERMINAL	2017
7	TAXIWAY A PAVEMENT REHABILITATION*	2017
8	TAXIWAY B IMPROVEMENTS	2017

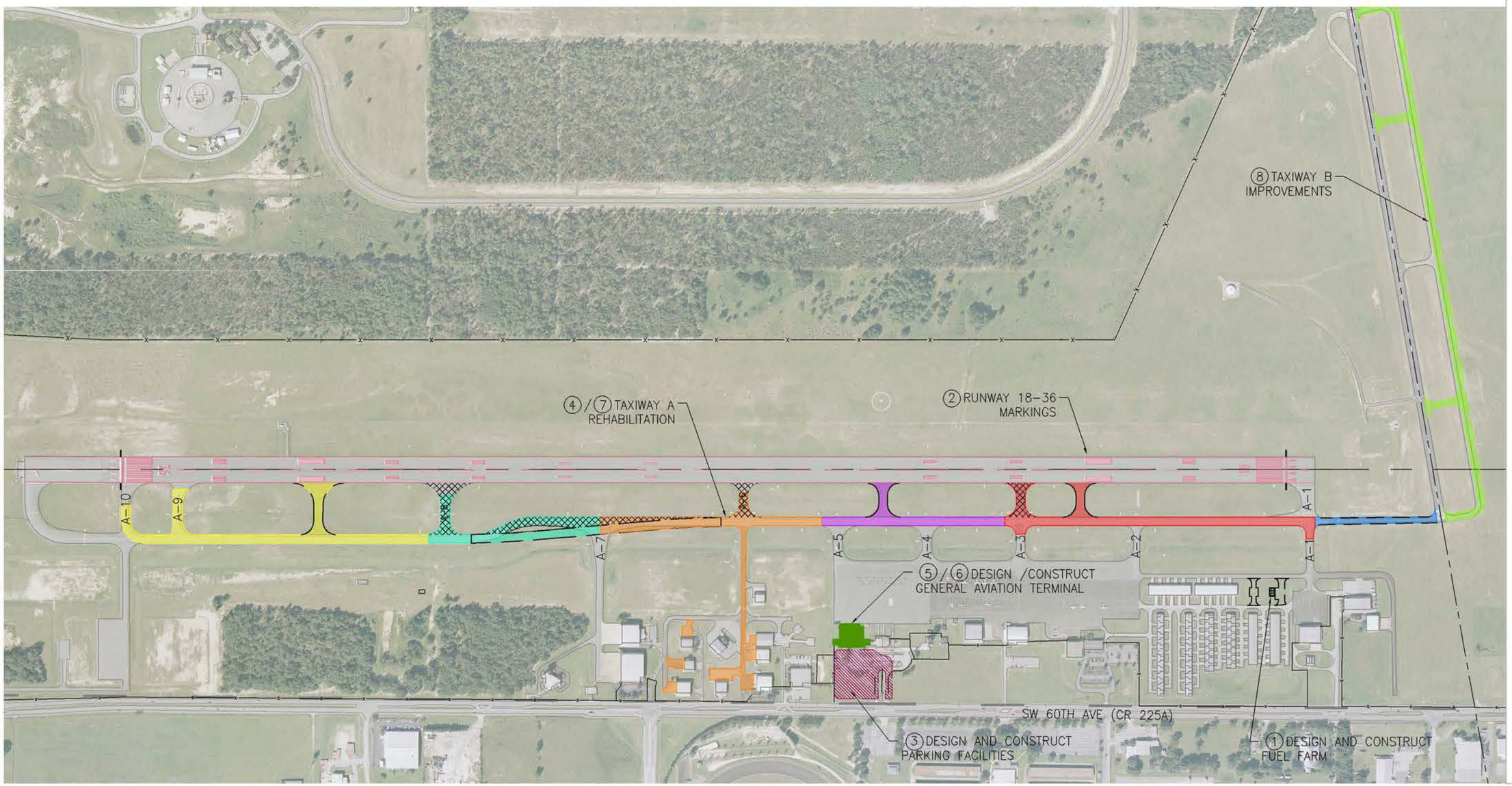
*TAXIWAY A DEPICTED IN PHASES FOR CONSTRUCTION PURPOSES



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/



LEGEND	EXISTING	PROPOSED
BUILDINGS		
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
AIRPORT PROPERTY		
SECURITY FENCE	x x	xx xx
TAXIWAY A REHABILITATION PHASE 1	N/A	
TAXIWAY A REHABILITATION PHASE 2	N/A	
TAXIWAY A REHABILITATION PHASE 3	N/A	
TAXIWAY A REHABILITATION PHASE 4	N/A	
TAXIWAY A REHABILITATION PHASE 5	N/A	
TAXIWAY A REHABILITATION PHASE 6	N/A	
TAXIWAY B IMPROVEMENTS	N/A	



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MASTER PLAN UPDATE

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: RBO
DRAWN BY: RJM
DESIGNED BY:

AEP PROJECT NUMBER
201-4527-106

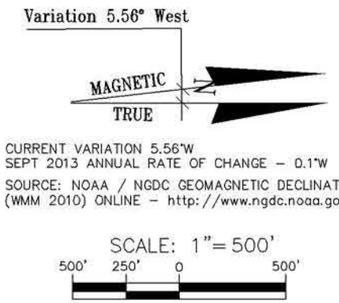
SHEET TITLE

ACIP SHORT TERM DEVELOPMENT

SHEET NUMBER

1 OF 4

PROJ NO.	ACIP PROJECT TITLE	FAA FY
1	ENVIRONMENTAL ASSESSMENT – RUNWAY 18–36 EXTENSION & PAVEMENT STRENGTHENING	2018
2	WEST INDUSTRIAL PARK ROADS (NORTH)	2018
3	CONDUCT WIND STUDY	2018
4	RELOCATE AWOS & LIGHTNING DETECTOR	2018
5	WEST INDUSTRIAL PARK ROADS (SOUTH)	2018
6	PROPERTY ACQUISITION ADJACENT TO SW 60TH AVE.	2018
7	ENVIRONMENTAL ASSESSMENT – RUNWAY 18–36 ARC D–IV	2018
8	BUILDING 750 TAXILANE IMPROVEMENTS	2018
9	FOR SEAL RUNWAY 18–36 WITH ASPHALT REJUVENATOR	2018
10	PROPERTY ACQUISITION (NORTH OF 38TH STREET)	2019
11	RUNWAY 18–36 SOUTH EXTENSION	2019
12	RUNWAY 8–26 DESIGNATOR MARKINGS	2019
13	FBO/TERMINAL APRON PAVEMENT REHAB./MAINT.	2019
14	RELOCATE DRY STORMWATER POND	2019
15	WEST INDUSTRIAL PARK ROADS (NORTH)	2019
16	EXTEND WEST SIDE ACCESS ROAD (NORTH)	2019
17	CONSTRUCT (10) T–HANGAR UNITS	2020
18	CONSTRUCT AIRPORT PERIMETER SERVICE ROAD	2020
19	T–HANGAR TAXILANES PAVEMENT REHABILITATION	2020
20	ENVIRONMENTAL ASSESSMENT – WEST SIDE APRON/TAXIWAY	2020
21	DESIGN AND CONSTRUCT WEST SIDE APRON AND TAXIWAY – PHASE 1	2021
22	DESIGN AND CONSTRUCT ARFF/MAINTENANCE BUILDING	2021
23	RUNWAY 18–36 DESIGNATOR MARKINGS	2021
24	EXPAND FUEL FARM	2022
25	DESIGN AND CONSTRUCT (1) MULTI–USE CORPORATE HANGAR AT A10	2022



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W

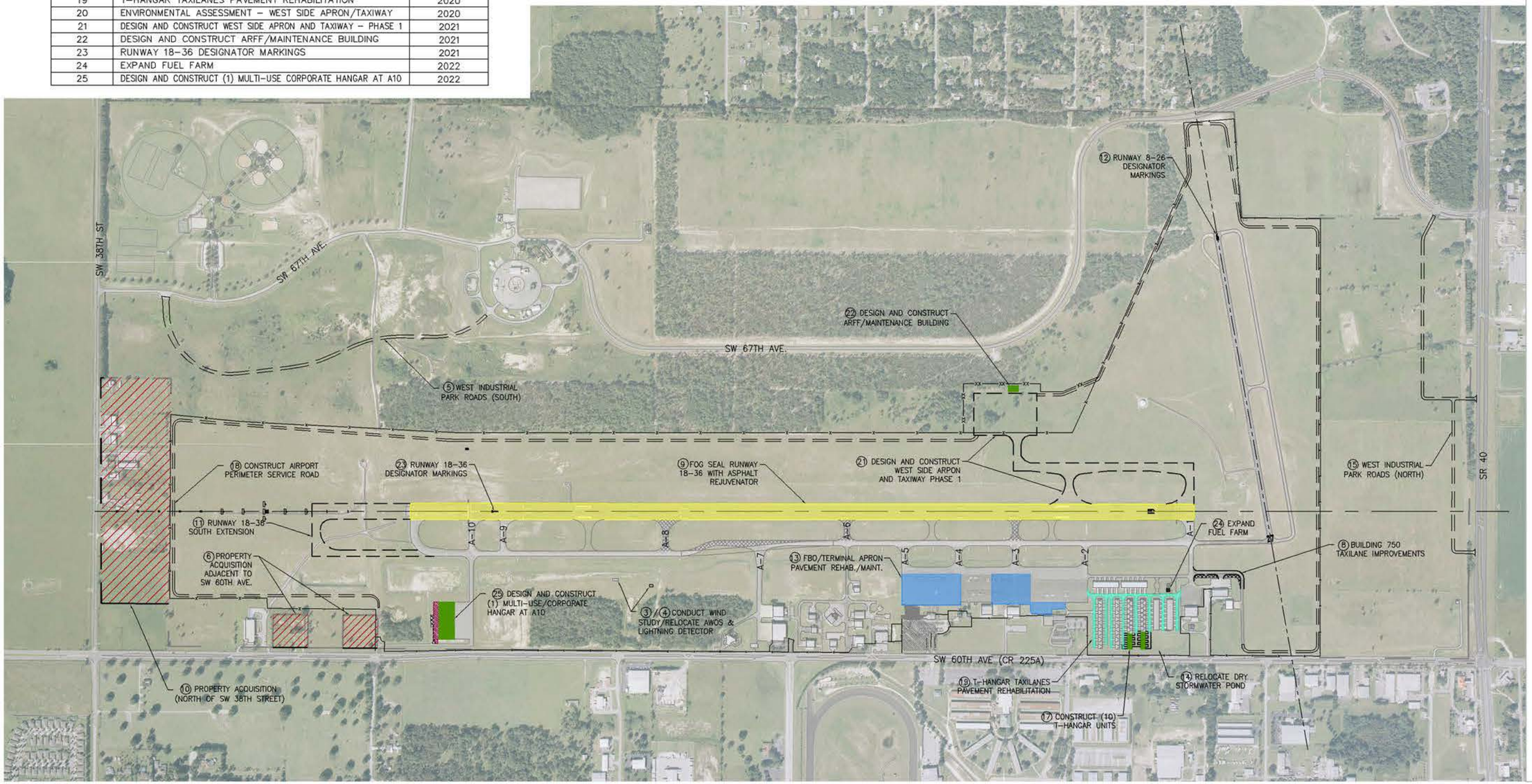
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"= 500'

500' 250' 0 500'

LEGEND	EXISTING	PROPOSED
BUILDINGS		
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
ROADS		
AIRPORT PROPERTY		
SECURITY FENCE	—— x —— x ——	——xx——xx——
PROPERTY ACQUISITION ADJACENT TO SW 60TH AVE.	N/A	
FBO/TERMINAL APRON PAVEMENT REHAB./MAINT.	N/A	
T–HANGAR TAXILANES PAVEMENT REHABILITATION	N/A	
FOG SEAL RUNWAY 18–36 WITH ASPHALT REJUVENATOR	N/A	

NOTE: DEVELOPMENTS PROPOSED IN PREVIOUS ACIP STAGES ARE SHOWN AS EXISTING



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MASTER PLAN UPDATE

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: RBO
DRAWN BY: RJM
DESIGNED BY:

AEP PROJECT NUMBER
201-4527-106

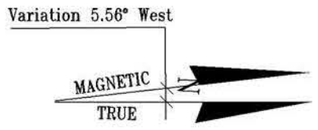
SHEET TITLE

ACIP INTERMEDIATE DEVELOPMENT

SHEET NUMBER

2 OF 4

PROJ NO.	ACIP PROJECT TITLE	FAA FY
1	CONSTRUCT (12) T-HANGAR UNITS	2024
2	DESIGN AND CONSTRUCT WEST SIDE APRON AND TAXIWAY – PHASE 2	2025
3	DESIGN AND CONSTRUCT (1) MULTI-USE/ CORPORATE HANGAR AT A10	2026
4	CONSTRUCT EQUINE QUARANTINE FACILITY	2028
5	ENVIRONMENTAL ASSESSMENT – RUNWAY 8-26 EXTENSION AND RECONSTRUCTION	2029
6	RECONSTRUCT RUNWAY 8-26	2030
7	DESIGN AND CONSTRUCT WEST SIDE APRON AND TAXIWAY – PHASE 3	2031



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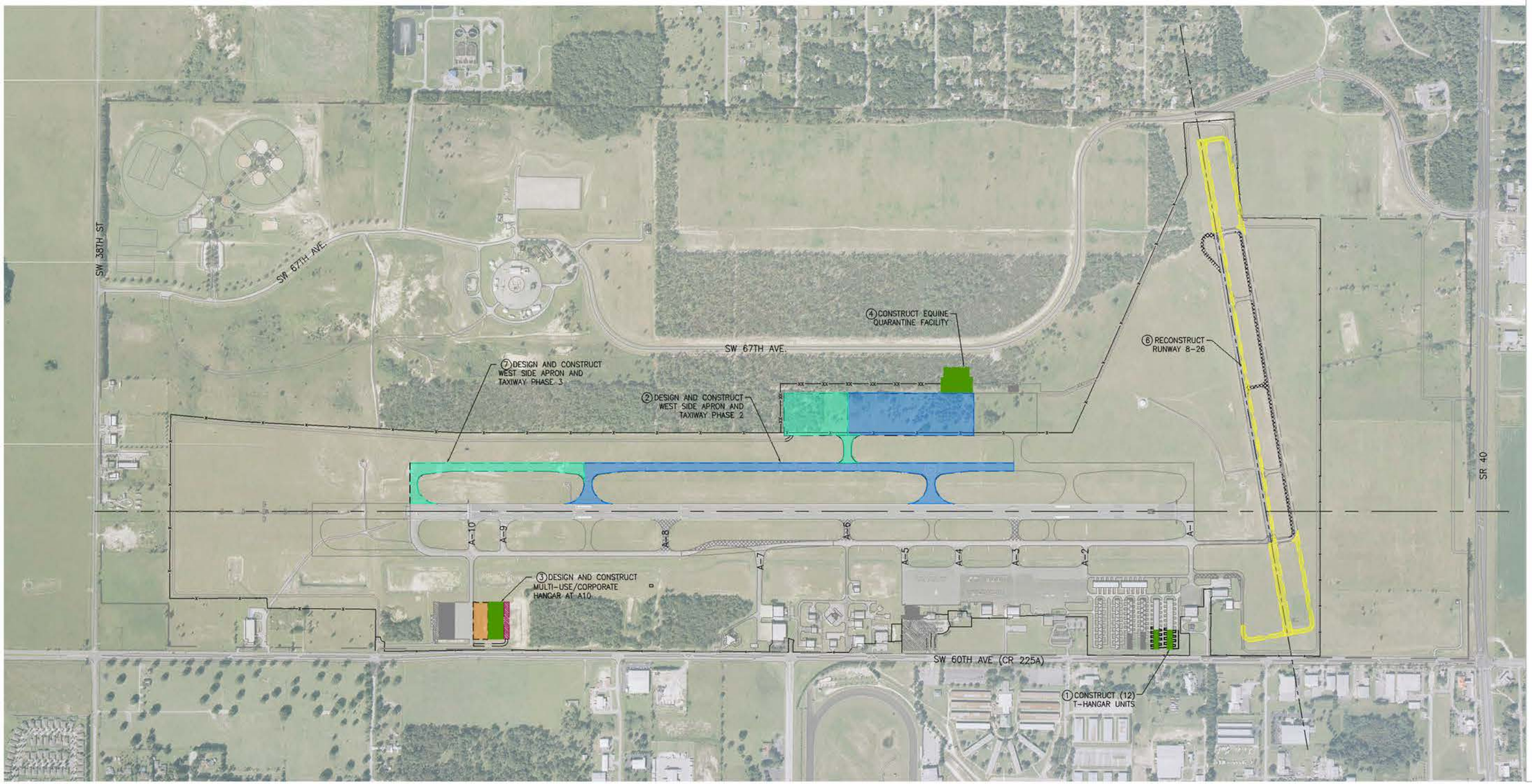
SCALE: 1"= 500'

500' 250' 0 500'

LEGEND		
	EXISTING	PROPOSED
BUILDINGS		
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
ROADS		
AIRPORT PROPERTY		
SECURITY FENCE	—— x —— x ——	——xx——xx——
PROPERTY ACQUISITION (NORTH OF SW 38TH STREET)	N/A	
WEST SIDE APRON AND TAXIWAY – PHASE 2	N/A	
WEST SIDE APRON AND TAXIWAY – PHASE 3	N/A	
RECONSTRUCT RUNWAY 8-26	N/A	

NOTE: DEVELOPMENTS PROPOSED IN PREVIOUS ACIP STAGES ARE SHOWN AS EXISTING



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MASTER PLAN UPDATE

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
REVIEWED BY: RBO
DRAWN BY: RJM
DESIGNED BY:

AEP PROJECT NUMBER
201-4527-106

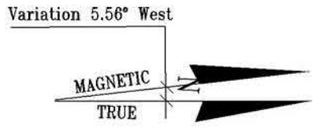
SHEET TITLE

ACIP LONG TERM DEVELOPMENT

SHEET NUMBER

3 OF 4

PROJ NO.	ACIP PROJECT TITLE	FAA FY
1	DESIGN AND CONSTRUCT WEST SIDE APRON AND TAXIWAY – PHASE 4	FUTURE
2	CONSTRUCT NEW EAST–WEST T–HANGAR BUILDING	FUTURE
3	RUNWAY 18–36 PAVEMENT REHABILITATION	FUTURE
4	CONSTRUCT GA TERMINAL APRON EXPANSION	FUTURE



CURRENT VARIATION 5.56°W
SEPT 2013 ANNUAL RATE OF CHANGE – 0.1°W
SOURCE: NOAA / NGDC GEOMAGNETIC DECLINATION (WMM 2010) ONLINE – http://www.ngdc.noaa.gov/

SCALE: 1"= 400'

400' 200' 0 400'

LEGEND		
	EXISTING	PROPOSED
BUILDINGS		
AIRSIDE PAVEMENT		
PAVEMENT DEMOLITION	N/A	
PARKING		
ROADS		
AIRPORT PROPERTY		
SECURITY FENCE	—— x —— x ——	—— xx —— xx ——
RUNWAY 18–36 PAVEMENT REHABILITATION	N/A	
WEST SIDE APRON AND TAXIWAY – PHASE 4	N/A	

NOTE: DEVELOPMENTS PROPOSED IN PREVIOUS ACIP STAGES ARE SHOWN AS EXISTING

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MASTER PLAN UPDATE

CONSULTANTS

REVISIONS

NO.	DESCRIPTION	DATE

DATE ISSUED:
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DRAWN BY: RJM
DESIGNED BY:

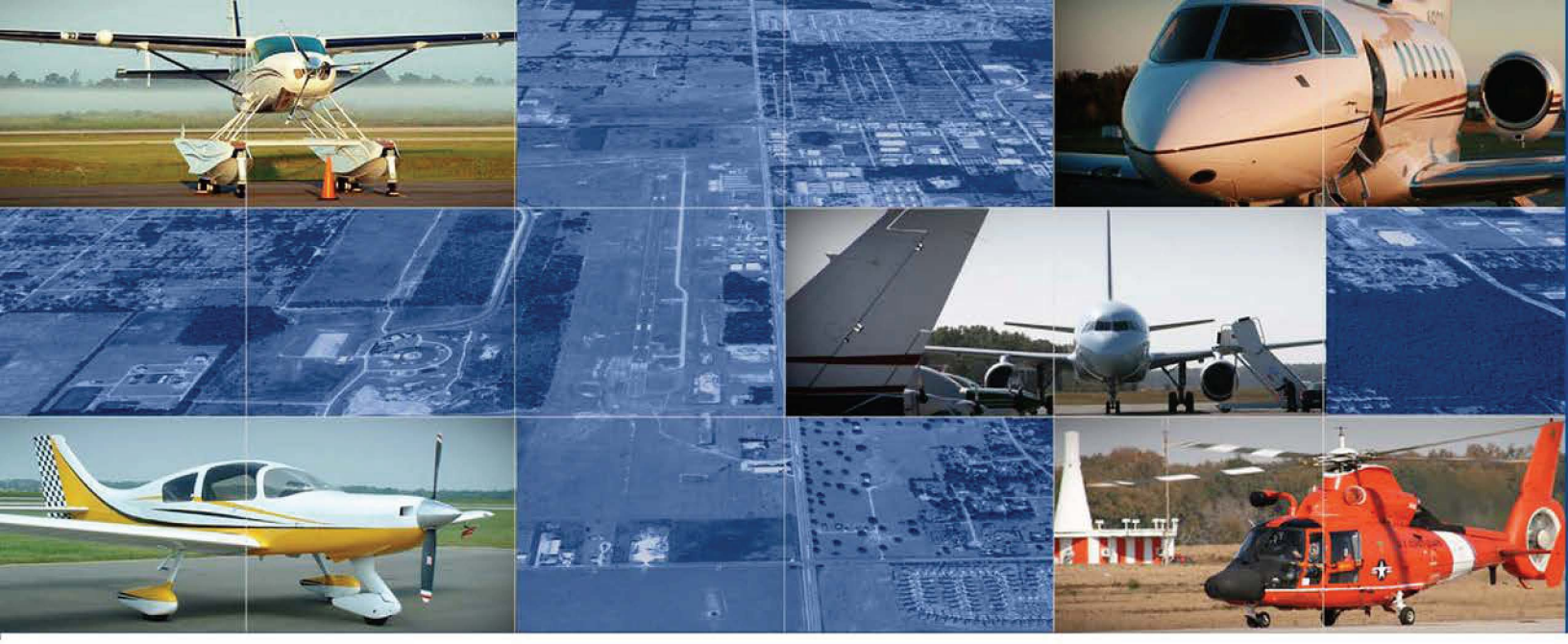
AEP PROJECT NUMBER
201-4527-106

SHEET TITLE

ACIP ULTIMATE DEVELOPMENT

SHEET NUMBER

4 OF 4



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