Master Plan Update

Hilliard Airpark Hilliard, Florida

Prepared for:



Town of Hilliard 15859 West County Road 108 Hilliard, FL 32046

Prepared by:



URS Corporation 7650 West Courtney Campbell Causeway Tampa, FL 33607-1462

August 2016

DRAFT MASTER PLAN UPDATE HILLIARD AIRPARK TABLE OF CONTENTS

SECTION 1.0 INTRODUCTION

1.1	Descrip	otion of the A	Airpark	1-1
	1.1.1	Location	· · · · · · · · · · · · · · · · · · ·	1-1
	1.1.2	Airpark Pro	operty and Field Elevation	1-1
	1.1.3	Aeronautio	al Role	1-1
		1.1.3.1	National Plan of Integrated Airport Systems	1-1
		1.1.3.2	Florida Aviation System Plan	1-1
		1.1.3.3	Airpark Ownership and Management	1-4
	1.1.4	History of	The Airpark	1-4
	1.1.5	Surroundir	ng Airports	1-5
1.2	Master	Plan Updat	e	1-5
1.3	Airpark	Layout Pla	n Drawing Set	1-5
1.4	Previou	us Airpark M	laster Plan and Airpark Layout Plan Updates	1-6
1.5	Update	of the Airpa	ark Master Plan Update and Airpark Layout Plan Drawing Set	1-6
1.6	Goals a	and Objectiv	ves of this Airpark Master Plan Update	1-7
	1.6.1	Goals		1-8
	1.6.2	Objectives		1-8
1.7	Organia	zation of thi	s Master Plan Update Report	1-8
1.8	Master	Planning G	uidance	1-9
1.9	Fundin	g of this Air	park Master Plan Update	1-9

SECTION 2.0 AIRPARK FACILITIES AND LOCAL DEVELOPMENT PLANS

2.1	Introduction2-1
2.2	General Characteristics of the Airpark2-1
2.3	Airfield Facilities
	2.3.1 Runway
	2.3.1.1 Displaced Threshold
	2.3.1.2 Declared Distance Criteria2-3
	2.3.2 Taxiway
	2.3.3 Aircraft Parking and Tie-Downs2-7
	2.3.4 Airfield Lighting
	2.3.5 Rotating Beacon2-7
	2.3.6 Taxiway Signage2-7
	2.3.7 Wind Cones
	2.3.8 Airpark Security Fencing2-7
	2.3.9 Visual Approach Aids
	2.3.10 Standard (Published) Instrument Approach procedures
2.4	Navigable Airspace
	2.4.1 Imaginary Approach Surfaces and Known Obstructions to Navigable Airspace 2-8
	2.4.1.1 Approach Surfaces
	2.4.1.2 Obstructions to Navigable Airspace
2.5	Runway Protection Zones2-10
2.6	Landside Facilities
	2.6.1 Fueling Services
	2.6.2 Passenger Terminal/FBO Building2-11
	2.6.3 Hangars
2.7	Airpark Utilities
2.8	Airpark Land Ownership and Surrounding Land Use

2.9	Local N	Veteorological Conditions2	2-15
	2.9.1	Seasonal Temperatures and Precipitation2	2-15
	2.9.2	Runway Orientation, Runway Wind Coverage, and Prevailing Wind Patterns.2	2-15

SECTION 3.0 AVIATION ACTIVITY FORECASTS

3.1	Introdu	ction	3-1
3.2	Reviev	v of FAA Aerospace Forecast FY 2014-2034	3-1
3.3	Reviev	v of FAA Terminal Area Forecast	3-2
3.4	Reviev	v of FDOT FASP Forecast	3-3
3.5	Selecti	on and Adoption of Forecasted Growth Rates of Aviation Activity	3-5
	3.5.1	Based Aircraft and Fleet Mix	3-5
		3.5.1.1 Design Aircraft	3-6
	3.5.2	Aircraft Operations	3-7
	3.5.3	Consideration of Air Taxi/Commuter, Air Cargo, and Military Operations	3-7
	3.5.4	Instrument Approach Procedure Operations	3-7
	3.5.5	Operational Peaking Characteristics	3-7
3.6	Derive	d Forecast of Aviation Activity	3-8
3.7	Requir	ed Comparison to FAA TAF	3-8

SECTION 4.0 AIRSIDE AND LANDSIDE FACILITY NEEDS REQUIREMENTS

4.1	Introdu	ction	4-1
4.2	Airpark	Planning Design Criteria	4-1
	4.2.1	Airpark Reference Code	4-1
	4.2.2	Identification of Critical Aircraft and Applicable Runway Design Geometry	
		Standards	4-1
	4.2.3	Runway Safety Areas	4-3
	4.2.4	Runway Object Free Area	4-3
	4.2.5	Runway Obstacle Free Zone	4-4
	4.2.6	Parallel Taxiway	4-4
	4.2.7	Taxiway Edge Lighting	4-4
	4.2.8	Runway Centerline-To-Parallel Taxiway Centerline Separation Standards	4-5
	4.2.9	Taxiway Safety Area	4-5
	4.2.10	Taxiway Clearance Requirements	4-6
4.3	Identifi	cation of Future Airside Facility Development Requirements	4-6
	4.3.1	Runway Length	4-6
	4.3.2	Runway Width	4-6
	4.3.3	Turf Runway Aircraft Load Bearing Strength	4-6
	4.3.4	Runway Edge Lighting	4-7
	4.3.5	Displaced Threshold Lighting and Signage	4-7
	4.3.6	Airfield Capacity	4-7
	4.3.7	Visual Navigational and Approach Aids	4-8
	4.3.8	Wind Cone	4-8
	4.3.9	Summary of Recommended Airside Facility Improvements	4-8
4.4	Landsi	de Facility Requirements	4-8
	4.4.1	FBO/Terminal Building Facilities	4-8
	4.4.2	Electrical Vault	4-8
	4.4.3	Hangars	4-9
	4.4.4	Aircraft Parking Apron	4-9
	4.4.5	Aviation Fuel Storage Facilities	4-9
	4.4.6	Airpark Maintenance Facility	4-9
	4.4.7	Airpark Utilities	4-9
	4.4.8	Vehicular Parking	4-9
	4.4.9	Airpark Security Fencing	4-9
	4.4.10	Airpark Surface Access	4-10
		•	

	4.4.11 Summary of Recommended Landside Facility Improvements	4-10
	AIRPARK DEVELOPMENT PLANS	
5 1		5-1
5.2	Previous 2006 Master Plan Recommendations	
5.3	Facilities Constructed Since Master Plan Undate	
5.4	Need for Continued Airpark Planning	5-3
5.5	Current and Anticipated Future Airpark Development	5-3
0.0	5.5.1 Continued On-Airpark Development	
	5.5.2 Phased Airpark Expansion and Development	5-3
5.6	On-Airpark Land Use	
	5.6.1 Airfield Operations Area	5-4
	5.6.2 Aviation-Related	5-4
	5.6.3 Non-Aviation-Related	5-4
	5.6.4 Non-Airpark-Owned RPZs	5-4
	5.6.5 Environmentally Sensitive/Protected	5-5
5.7	Airpark Development Areas	5-5
	5.7.1 Historical Airpark Development	5-5
5.8	Airpark Facility Improvements "Future" Planning Period	5-7
	5.8.1 Acquisition of Land Parcel South of the Airpark	5-7
	5.8.2 Planned "Interim" Relocation of Pea Farm Road	5-7
	5.8.2.1 Encroachment of Runway Safety and Object Free Areas	5-7
	5.8.2.2 Protection of Navigable Airspace	5-9
	5.8.2.3 Non-Compatible Land Uses Within RPZs	
5.0	5.8.3 East and West Side Future Development Opportunities	5-10
5.9	Future On-Airpark Land Use	5-10
5.10	Airport/ Eacility Improvemente "Ultimete" Dispaning Deriod	5-13 5 42
5.11	5 11 1 Extend Pupway 19/26 626 East to the North	5-13 5 12
	5.11.2 Second Polocation of Dog Form Pood	5-13 5 16
	5.11.2 Second Relocation of Fear and Road	5-10
5 1 2	Liltimate On-Airpark Land Lise	5-10
5.12	Illtimate Declared Distances	5-10 5-16
5 14	Anticipated Environmental Considerations and Permits	5 10
0.14	5 14 1 Potential Projects Environmental Impact Evaluation	5 10

SECTION 6.0 IMPLEMENTATION PROGRAM

Introdu	uction	6-1
Short-	Term Capital Improvements (0-5 Years)	6-4
6.2.1	Acquisition of Privately-Owned Land South of Airpark (2016)	6-4
6.2.2	Acquire Avigation Easement Within Remaining Non-Owned Portion of Runwa	ау
	18 Departure RPZ (2016)	6-4
6.2.3	Enviromental Due Diligence for the Clearing of the RPZ Portion of Newly	
	Acquired Land South of Airport (2016)	6-5
6.2.4	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Are	ound
	Newly Acquired Land South of Airpark (2016)	6-5
6.2.5	Relocate Displaced Runway 36 Threshold, Runway End Lighting, Taxipath	
	Entrance Lighting, and Signage (2016)	6-5
6.2.6	Acquisition of Privately-Owned Land North of Airpark (2017)	6-5
6.2.7	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Are	ound
	Newly Acquired Land North of Airpark (2017)	6-6
6.2.8	Engineering, Design, and Permitting for Realignment of Pea Farm Road Bey	ond
	Runway 36 Departure RPZ (2018)	6-6
6.2.9	Construct Maintenance Building Within Southeast Quadrant of the Airpark	
	(2018)	6-7
	Introdu Short- 6.2.1 6.2.2 6.2.3 6.2.4 6.2.5 6.2.6 6.2.7 6.2.8 6.2.9	 Introduction

	6.2.10	Construction of Realigned Pea Farm Road Beyond Runway 36 Departure RPZ (2019)
	6.2.11	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the
		Airpark (2019)
	6.2.12	Acquire Tractor and Rotary Mower Attachment (2020)
	6.2.13	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the
		Airpark (2020)
6.3	Interme	ediate-Term Capital Improvements (6-10 Years)6-10
	6.3.1	Construct Five-Unit Box Hangar Within Northeast Quadrant of the Airpark
		(2021)
	6.3.2	Acquisition of Privately-Owned Land Along East Side of Airpark (2021)6-10
	6.3.3	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around
	624	Construct Six Unit Box Honger Within Northwest Quadrant of the Airpark
	0.3.4	
	635	Construct Paved Aircraft Apron Tie-Down Apron Within Northwest Quadrant of
	0.5.5	the Airpark (2022) 6-11
	636	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the
	0.0.0	Airpark (2023)
	6.3.7	Construct Two Single-Unit Box Hangars Within Southeast Quadrant of the
		Airpark (2024)
	6.3.8	Install Electronic Surveillance System (2024)
	6.3.9	Replace Perimeter Fencing and Gates (2025)
	6.3.10	Replace Rotating Beacon, Runway Lighting, and Signage (2025)
6.4	Long-T	erm Capital Improvements (11-20 Years and Beyond)6-14
	6.4.1	Acquisition of Privately-Owned Land North of Airpark
	6.4.2	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around
	613	Extend Pupway to the North and Polocate Pupway 18 Threshold, Pupway End
	0.4.5	Lighting Taxinath Entrance Lighting and Signage 6-14
	644	Construct Five-Unit Box Hangar Within Northeast Quadrant of the Airpark 6-15
	6.4.5	Construct Paved Aircraft Apron Tie-Down Area Within Northeast Quadrant of the
		Airpark
	6.4.6	Construct Six-Unit Nested T-Hangar Within Northwest Quadrant of the
		Airpark
	6.4.7	Construct Six-Unit Nested T-Hangar Within Northwest Quadrant of the
		Airpark6-16
	6.4.8	Construct Four-Unit Nested T-Hangar Within Northwest Quadrant of the
	0.4.0	Airpark
	6.4.9	Construct Four-Unit Nested 1-Hangar Within Northwest Quadrant of the
	6 4 4 0	All Park
	0.4.10	108
	6411	Construct Relocated Pea Farm Road With Access to County Road 108 6-17
	0.4.11	Construct Relocated F ca Family Road With Access to County Road Too

SECTION 7.0 AIRPORT LAYOUT PLAN DRAWING SET

LIST OF APPENDICES

Appendix A	List of Acronyms
Appendix B	Airpark Buildings and Facilities
Appendix C	FAA Review Aviation Activity Forecast
Appendix D	FAA Review Draft ALP Drawing Set

LIST OF TABLES

1-1	Surrounding Airports Within 30 NM	1-5
2-1	Runway Characteristics	2-2
2-2	Runway Declared Distances	2-5
2-3	Approach End Departure Runway Protection Zone Dimensions	2-11
2-4	Runway Crosswind Component Limit By ARC	2-15
2-5	Runway Wind Coverage	2-16
3-1	FAA TAF Historical Based Aircraft and Aircraft Operations	
3-2	FAA TAF Based Aircraft and Aircraft Operations Forecast	3-3
3-3	FDOT FASP General Aviation Forecast (2011-2030)	3-4
3-4	Based Aircraft Forecasts	
3-5	Based Aircraft Forecast by Fleet Mix	
3-6	Aircraft Operations Forecasts	
3-7	Operational Peaking Characteristics	
3-8	Summary of Aviation Activity Forecast	
3-9	Comparison of Derived and FAA TAF Forecasts	3-10
4-1	Airpark Reference Code Components	4-1
4-2	Turf Runway 18/36 Design Geometric Requirements	4-3
4-3	Taxiway Design Geometric Standards	4-5
5-1	0-5 Year Short-Term Capital Improvements Projects	5-23
5-2	6-10 Year Intermediate-Term Capital Improvements Projects	5-26
5-3	11-20 Year Long-Term Capital Improvements Projects	5-28
6-1	Short-Term Capital Improvements (0-5 Years)	6-9
6-2	Intermediate-Term Capital Improvements (6-10 Years)	6-13
6-3	Long-Term Capital Improvements (11-20 Years)	6-18

LIST OF FIGURES

1-1 1-2	Airport Location Map
2-1 2-2 2-3 2-4 2-5 2-6	Existing Declared Distances2-6Airport Sectional Aeronuatical Chart2-9Airpark Layout and Facilities2-13Airpark Property Boundary Parcel Map2-14VMC Conditions Wind Rose2-17All-Weather Wind Rose2-18
5-1 5-2 5-3 5-4 5-5 5-6 5-7 5-8 5-9 5-10	Existing On-Airpark Land Use Plan5-6Future Development Concept South5-8Future Development Concept North5-11Future Airpark Land Use Plan5-12Future Application of Declared Distances5-14Ultimate Development Concept North5-15Ultimate On-Airpark Land Use5-17Ultimate Runway Configuration With Declared Distances5-18Project Locations Map5-21Floodplains and Wetlands5-22
6-1	Project Locations Map
Sheet 1 Sheet 2 Sheet 3 Sheet 4 Sheet 5 Sheet 6 Sheet 7	: Airport Layout Drawing 2: Airport Airspace Drawing 3: Inner Portion of the Approach Surface Drawing – Runway 18 4: Inner Portion of the Approach Surface Drawing – Runway 36 5: Building Area Plan 5: Land Use Plan 7: Airport Property Map

SECTION 1.0 INTRODUCTION

1.1 DESCRIPTION OF THE AIRPARK

1.1.1 LOCATION

The Hilliard Airpark is located in the Town of Hilliard, Nassau County, Florida within the northeast part of the state. The Airpark is approximately 30 miles northwest of Jacksonville, Florida and approximately 12 miles southeast of Folkston, Georgia. As shown in **Figure 1-1**, primary highway access to the Airpark from the north and south is via US 1/US 301. County Roads 108 and 115 provide access from the east and north respectively.

The official published geodetic location of the Airport Reference Point (ARP) is Latitude 30°41'09.4800" N, Longitude 81°54'22.8350" W. The Airpark three character Airpark Location Identifier, commonly known as the Airpark Code, for Hilliard Airpark is 01J.

1.1.2 AIRPARK PROPERTY AND FIELD ELEVATION

As shown in **Figure 1-2** (aerial photo of the Hilliard Airpark taken in 2014), the Airpark property encompasses 43.98 contiguous acres of land and has a reported above mean sea level (MSL) elevation of 59 feet.

1.1.3 AERONAUTICAL ROLE

1.1.3.1 National Plan of Integrated Airport Systems

The Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS 2013-2017) lists Florida as having 100 public use airports. Twenty of these airports are classified as Part 139 Certificated Air Carrier airports, the remaining 80 are classified as general aviation airports. The NPIAS lists the Hilliard Airpark as a General aviation airport. This NPIAS designation allows the Hilliard Airpark to be eligible to receive Federal funding participation from the FAA via the Airport Improvement Program (AIP). This funding is matched by state and/or local funding.

1.1.3.2 Florida Aviation System Plan

The State's Florida Aviation System Plan (FASP) 2025 identifies the Hilliard Airpark as one of Florida's 88 Public-Use General aviation airports. As explained within the FASP, "general aviation airports support over 80% of all aircraft operations within the state. General aviation airports relieve air traffic at commercial service airports, helping to reduce travel delays and improve service for air travelers. In Florida, general aviation airports provide emergency patient, physician, and biomedical transportation; search and rescue; environmental patrols; flight training; and drug enforcement aviation support." According to the FASP, the airport currently provides service for flight training, tourism, recreational/sport, and business/recreational aviation and will expand its aeronautical role over time to include corporate aviation.



Path: S:Projects_GIS\Tertiary/Projects\/inports\Hilliard Airpark/Master Plan Update 2012/applications/mxd/figures/Figure 1-1, Airport Location Map.mxd. Date Saved: 5/1/2015 8:23:17 AM



For the purpose of this Hilliard Airpark Master Plan Update, it is assumed that the Airpark will continue to serve as a public-use general aviation airpark throughout the 20-year Master Plan Update planning period.

1.1.3.3 Airpark Ownership and Management

Since the Airpark's initial development in 1969, the Airpark has been owned by the Town of Hilliard that establishes and enforces the operational policies of the Airpark. The administration of funding grants is also managed by the Town of Hilliard. Hilliard Airpark is operated by Hilliard Aviation, Inc., a Fixed Base Operator (FBO). The Hilliard Aviation staff provides aviation services such as aircraft parking and storage at the Airpark, and the day-to-day interaction with its users.

1.1.4 HISTORY OF THE AIRPARK

In 1969, a group interested in aviation set out to establish an airpark for the benefit of the Town of Hilliard and its surrounding communities. They found that Nassau County owned land, one mile east of the Town of Hilliard, which was large enough to establish an airpark. The County agreed to deed the land to the Town for use as a public airpark. The group was able to build the Airpark from donated funds. The Town of Hilliard agreed to maintain the facility and allow the group, Hilliard Flying Club, to manage it.

In 1979, the Hilliard Flying Club realized that the Airpark was a financial burden to the Town and its taxpayers. The Club met with the Town of Hilliard and offered to manage as well as maintain the Airpark at no cost to the Town. The Hilliard Flying Club formed a corporation known as Hilliard Aviation, Inc. and negotiated a lease with the Town in January 1980. The lease stated that the group would manage and maintain the facility. In return, Hilliard Aviation would pay the Town of Hilliard any profits made from managing the Airpark and would sub-let space for hangars to any aircraft owner requesting one. From this agreement, the Town of Hilliard and Hilliard Aviation both recognized that an aircraft owner would make a substantial investment on land that they did not own and, therefore, it was agreed that the lease term should be sufficient to allow any sub-lessor time to recover their investment; thus a 20-year lease was initiated. During this time period, the Hilliard Airpark was approximately 22 acres in size.

An additional 8 acres of land was acquired through the eminent domain process to provide for a usable 2,000 feet of turf runway. Hilliard Airpark provided a place for local and transient aviators to enjoy their sport until the Airpark was closed in the early 1990s due to tree growth on each runway end. At that time, tree clearing was not possible because the adjacent property owner did not willingly want to provide an easement to maintain the Airpark's 20:1 approach. In 1995, the Town of Hilliard began the process of reviving the facility, working once again with the Florida Department of Transportation (FDOT) Aviation Office and adjacent property owners to clear the trees and prepare the facility for FDOT's inspection and certification. The undertaking cost the Town of Hilliard and the FDOT over \$200,000 over a 5-year period. Through persistence and a great deal of hard work by community leaders and the FDOT, the Airpark was certified and re-opened in 2000 with a 3,169-foot turf runway. Since year 2000, the Airpark has constructed additional hangars for aircraft storage, installed a rotating beacon, wind cone, runway edge lights and threshold lights, Precision Approach Path Indicator (PAPI) lights at both runway ends, and

improved drainage system. In 2012 a new Terminal/FBO building and 3-unit box hangar were constructed.

1.1.5 SURROUNDING AIRPORTS

Four public-use general aviation airports are located within a 30-nautical-mile (nm) radius of the Hilliard Airpark and include: St. Marys Airport (4J6), Fernandina Beach Municipal Airport (FHB), Herlong Recreational Airport (HEG), and Cecil Airport (VQQ). There are no overlapping Airport Traffic Patterns or operational conflicts between Hilliard Airpark any of the four airports. The surrounding airports are listed in **Table 1-1**.

Airport	Airport Location Identifiers (Airport Codes)	Distance/ Relative Bearing	Longest Runway/Length and Width
St. Marys Airport	4J6	18 nm / E	4/22 5,021' x 100'
Fernandina Beach Municipal Airport	FHB	23 nm / SE	4/22 5,301' x 100'
Herlong Recreational Airport	HEG	23 nm / S	7/25 3,999' x 100'
Cecil Airport	VQQ	28 nm / S	18L/36R 12,504' x 200'

TABLE 1-1 SURROUNDING AIRPORTS WITHIN 30 NM

Source: Compiled by URS, 2012.

1.2 MASTER PLAN UPDATE

The Master Plan Update provides details regarding Town of Hilliard's envisioned strategic development plan for the Airpark, the proposed development program, and anticipated capital expenditures. The FAA recommends that airport owners update their Airport Master Plans periodically (every 5 to 7 years) to document the existing and future operational capabilities of the airport, to enhance safety, or to identify needed facility and capital improvements.

This update of the Master Plan covers a 20-year planning period that is presented in three separate planning horizons: Short-Term (0 to 5 years), Intermediate-Term (6 to 10 years), and Long-Term (11 to 20 years). The Intermediate- and Long-Term planning periods are typically considered strategic in nature and serve to identify future anticipated actions by the airport/airpark owner or airport/airpark development activities that would satisfy anticipated, but unquantifiable future levels of aviation activity, or associated commercial needs of the airport/airpark's users.

1.3 AIRPARK LAYOUT PLAN DRAWING SET

One of the key products of a Master Plan is a collection of drawings that comprise the Airpark Layout Plan (ALP) Drawing Set that serve as a record of aeronautical requirements, both present and future, and as a reference for community deliberations on land use proposals and budget resource planning. The

ALP creates a blueprint for Airpark development by depicting proposed facility improvements and provides a guideline by which the Airpark Sponsor (Town of Hilliard) can ensure that development maintains Airpark design standards and safety requirements, and is consistent with Airpark and community land use plans.

The primary drawing in this set is the Airpark Layout Drawing (ALD) that graphically depicts current and future Airpark facilities. The remaining drawings are considered supplemental and are appended to the ALD. The FAA-approved ALD enables the Airpark Sponsor and the FAA to plan for facility improvements at the Airpark. It also allows the FAA to anticipate budgetary and procedural needs.

An Airpark must keep its ALP Drawing Set current and follow that plan, since those are grant assurance requirements of the AIP and previous airport development programs, including the 1970 Airport Development Aid Program (ADAP) and Federal Aid Airports Program (FAAP) of 1946, as amended. For AIP funding eligibility proposes, the FAA recommends that ALDs be updated:

- On an "as needed" basis, or at least every 2 to 5 years,
- After completion of a major construction project,
- To identify new Airpark development projects, or
- To include potential future Airpark development projects that may be needed later.

The approved ALD allows the FAA to protect the airspace required for facility or approach procedure improvements. A graphically-reduced version of the ALP Drawing Set is typically included in the Master Plan Report.

1.4 PREVIOUS AIRPARK MASTER PLAN AND AIRPARK LAYOUT PLAN UPDATES

A Master Plan Update and ALP Drawing Set were previously developed for the Airpark in 2006 by Earth Tech Consulting, Inc. and submitted to, and conditionally-approved by, the FAA's Airport District Office (ADO) in Orlando, Florida.

1.5 UPDATE OF THE AIRPARK MASTER PLAN UPDATE AND AIRPARK LAYOUT PLAN DRAWING SET

The update of this Master Plan and ALP Drawing Set takes a selective and targeted approach to Airpark planning that focused on the identification of viable and prudent options that allow the Town of Hilliard to attain the highest and best use of existing on-Airpark lands. The update also serves to identify alternative Airpark development options that may utilize adjacent Airpark-compatible land areas that are not currently owned by the Town of Hilliard.

Accordingly, the following elements of the update of the Master Plan did not include detailed analysis of the following:

1. Development of Aviation Activity Forecasts. The Airpark accommodates an estimated 5,000 aircraft operations annually with an anticipated potential to experience modest growth in aircraft operational activity levels over the next 20 years. Accordingly, deficiencies in airfield capacity are not anticipated and future Airpark development will most likely not be dictated by the number of aircraft operations at the Airpark, but rather latent demand for additional aircraft storage and aircraft basing facilities, as well as the anticipated future need for enhanced levels of service that would be offered to the flying public.

The FDOT's Aviation Office prepares and publishes forecasts of general aviation operations and based aircraft for each Florida public-use airport. Because a FDOT aviation activity forecast developed for the Hilliard Airpark for the planning period 2013 through 2034 was considered to be reasonable and current, URS, Town of Hilliard, and the ADO selected and adopted the FDOT-generated Hilliard Airpark-specific aircraft operations and based aircraft forecasts for the development of this Master Plan Update.

2. Development of Detailed Financial Analysis. Town of Hilliard funds Airpark capital improvements through its General Fund (and/or other municipal funds) and does not rely solely on Airpark-generated revenue for matching FDOT and FAA Grants. The Town of Hilliard plans its future Airport Capital Projects funding through the FAA/FDOT Joint Airport Capital Improvement Program (JACIP). Because of this, a financial analysis to document cash flow and future Airpark revenues for capital projects were considered to be of minimal value over the 20-year study period. This Master Plan Update instead, focused on identifying an orderly and reasonable development plan, probable funding sources, and timing of required local funds.

1.6 GOALS AND OBJECTIVES OF THIS AIRPARK MASTER PLAN UPDATE

The objective of the Hilliard Airpark Master Plan Update is to provide a modern, safe, and efficient aviation facility for the local citizens, businesses, and the air traveling public in Nassau County and the northeast Florida region. To meet this objective, the planning process included a review of each proposed Airpark facility improvement against three primary planning criteria:

- **Safety** Airpark safety is of utmost concern and is best achieved by meeting applicable Federal and state airport design criteria.
- **Efficiency** Airpark development should satisfy aviation-related activities and demand in an efficient manner. Consideration was given to the different uses/demands placed on the airfield, the grouping of related facilities and activities and the optimization of aircraft movements and activities at and between facilities.
- **Utility** The development plan also considered the highest and best use of available land that would accommodate and support the Airpark's anticipated future development needs.

The goal of this Master Plan Update is to provide a reasonable plan that would meet the needs of the local community, enhance the Airpark's role as an integral component of the region's transportation network, and support local economic development initiatives.

The Town of Hilliard's expressed goals and objectives for this update of the Master Plan and ALP are described as follows:

1.6.1 GOALS

- Improve safety-related areas, runway protection zones and obstruction clearances at the Airpark,
- Promote the orderly and efficient development of aviation-related facilities at the Airpark, and
- Provide Airpark facility development that will efficiently and safely serve the flying public.

1.6.2 **OBJECTIVES**

- Identify, quantify and assess adjacent off-Airpark parcels located along the extended runway centerline that could fully accommodate the Runway Protection Zones that are located beyond each runway end. Such land acquisition could potentially serve to provide increased runway-take-off and runway landing lengths within the limits of the Airpark's existing turf runway.
- Evaluate conceptual layouts for realigning Pea Farm Road north of the Airpark to accommodate future runway safety area, runway protection zone and obstruction clearance to the approach end of Runway 18.
- Evaluate runway length and displaced thresholds on Turf Runway 18/36 and assess safety-related issues to provide safe and efficient operations at the Airpark.
- Review and update the Airpark's overall development plan to provide flexibility for the Airpark operator to respond to existing or future unforeseen Airpark facility demands.
- Evaluate facility layout alternatives for maximizing long-term development at the Airpark.
- Identify and prioritize Airpark development and to consider both Short-, Intermediate-, and Long-Term development plans that are considered to be reasonable given Federal, state, and local funding levels.

1.7 ORGANIZATION OF THIS MASTER PLAN UPDATE REPORT

This Master Plan Update Report was organized into seven sections, which are listed as follows:

- Section 1.0: Introduction
- Section 2.0: Airpark Facilities and Local Development Plans
- Section 3.0: Aviation Activity Forecasts
- Section 4.0: Airside and Landside Facility Needs Requirements
- Section 5.0: Airpark Development Plans
- Section 6.0: Implementation Program
- Section 7.0: Airpark Layout Plan Drawing Set Update

1.8 MASTER PLANNING GUIDANCE

The update of this Master Plan and ALP was prepared by URS in accordance with applicable FAA Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*; FDOT *Guidebook for Airport Master Planning*; and, *Florida Administrative Code* (F.A.C.) Chapter 14-60. The Master Plan Update was developed referencing FAA airport planning and design guidance included, but was not limited to:

FAA Advisory Circulars

- 150/5060-5, Airport Capacity and Delay;
- 150/5070-6B, Airport Master Plans;
- 150/5300-13A, Change 1, Airport Design;
- 150/5200-33B, Hazardous Wildlife Attractants on or Near Airports; and
- 150/5325-4B, Runway Length Requirements for Airport Design.

FAA Orders

- 5050, 4B, *National Environmental Policy Act of 1969* (NEPA) Implementing Instructions for Airport Actions;
- 1050.1E, Environmental Impacts: Policies and Procedures;
- 1000.1A, Policy Statement of the FAA;
- 5300.1F, Modifications to Agency Airport Design, Construction, and Equipment Standards;
- 5100.38C, Airport Improvement Program Handbook;
- 5190.6A, Airport Compliance Handbook;
- 5010.4, Airport Safety Data; and
- 5200.8, Runway Safety Area Program.

Other References

- FAA Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace.
- FAA Southern Region Airports Division, *Airport Layout Plan (ALP) Review and Approval -A Guide for ADO Program Managers*.

1.9 FUNDING OF THIS AIRPARK MASTER PLAN UPDATE

This Master Plan Update and ALP Drawing Set Update is funded by the FAA AIP Project No. 3-12-0099-007-2012 and FDOT Grant No. 42866519410.

SECTION 2.0 AIRPARK FACILITIES AND LOCAL DEVELOPMENT PLANS

2.1 INTRODUCTION

This section of the Hilliard Airpark Master Plan Update provides information regarding the existing conditions of the Airpark's various supporting facilities, utilities, and recorded prevailing local and regional meteorological conditions. This information is later used within this Master Plan Update to assist in formulating recommendations regarding future Airpark facility developments and establishing the financial and operational effects of each Airpark improvement recommendation. Existing data and information, as derived from other sources, were also compiled for reference and use within this Master Plan Update. Historical and current data and information documenting the estimated levels of aviation activity at the Airpark and current condition of Airpark facilities were provided by the Town of Hilliard staff and Fixed Based Operator (FBO), Hilliard Aviation, Inc.

Explanations of acronyms used in this Master Plan Update are provided in **Appendix A**.

2.2 GENERAL CHARACTERISTICS OF THE AIRPARK

The current Airpark Layout Plan (ALP) previously developed by Earth Tech Consulting, Inc. in 2006 lists the existing Airpark Reference Code (ARC) as B-I. The ARC represents two components related to the operational demands of the critical aircraft, or family of aircraft, that use the Airpark and provides a reference for determining applicable design standards for the Airpark. The first component of the coding system is the Aircraft Approach Category (AAC) designation "B," which is a grouping of aircraft that have similar approach speeds of 91 knots or more, but less than 121 knots. The second component is the Airplane Design Group (ADG) designation "I," which groups aircraft having wingspans less than 49 feet and tail heights less than 20 feet. This ARC will be reviewed and updated as necessary as part of this Master Plan Update.

2.3 AIRFIELD FACILITIES

2.3.1 RUNWAY

Runway 18/36 is the Airpark's single turf runway. The physical runway length is 3,600 feet and a width of 125 feet. The turf runway is capable of accommodating smaller general aviation aircraft. The characteristics of this runway are summarized in **Table 2-1**.

2.3.1.1 Displaced Threshold

The thresholds at each end of the runway are displaced to preclude penetrations of the applicable CFR Part 77 Visual Civil Airport Imaginary Surfaces. The Runway 18 threshold is displaced 400 feet to provide the required 15-foot vertical clearance over Pea Farm Road that serves to reduce the available landing length. The Runway 36 threshold is displaced 730 feet to provide the required clearance over tall trees located within the adjacent non-airport-owned land that also serves to reduce the available landing length.

Each of these threshold displacement actions required the application and use Declared Distance Criteria.

Item	Runway 18/36				
Runway Length (feet)	3,600				
Runway Width (feet)	125				
Runway Reference Code (by AR	C)	A/	A/B-I		
Critical Design Aircraft		Cessr	na 172		
Effective Gradient (percent)		0	.1		
% Wind Coverage (All Weather in	MPH and Knots)	91.51 (12 MP	H/10.5 Knots)		
Bunway Bayamant	Surface Type/ Friction	Turf			
Runway Pavement	Strength (000 lbs.)	N	N/A		
Maximum Runway Elevation [Nor (NAVD) 88] [Above Mean Sea Le	th American Vertical Datum vel (MSL)]	57	.50		
Runway Lighting		Medium Intensit (MI	y Runway Lights RLs)		
Runway Marking		No	one		
Runway Ends		18	36		
End Elevations (NAVD 99) (MSL)		54.10	51.30		
End Coordinates (NAV/D 83)	Latitude	30°41'27.2900"N	30°40'51.6700"N		
End Coordinates (NAVD 85)	Longitude	81°54'23.2200"W	81°54'22.4500"W		
Displaced Threshold (feet)	400	730			
Displaced Threshold End Elevation	ons (NAVD 99) (MSL)	57.50	53.60		
Displaced Threshold	Latitude	30°41'23.3400"N	30°40'58.9000"N		
End Coordinates (NAVD 83)	Longitude	81°54'23.1400"W	81°54'22.6100"W		
Burnway Brotaction Zona (BBZ)	Length (feet)	1,000	1,000		
	Width - Inner/Outer (feet)	500/700	500/700		
Approach Lighting	None	None			
14 CFR Part 77 Approach Category		Visual	Visual		
	Approach Surface Slopes	20:1	20:1		
	Electronic NAVAIDs	None	None		
Navigational Aids (NAVAIDs)	Visual Approach Aids	Precision Approach Path Indicator (PAPI-2L)	PAPI-2L		
Approach Visibility Minimums (St	N/A	N/A			
Bubwey Sefety Area (BSA) Width (feet)		120			
Runway Safety Area (RSA) Beyond Runway End (feet)		240			
Runway Object Free Area	Width (feet)	200			
(ROFA)	Beyond Runway End (feet)	240			
Runway Object Free Zone	Width (feet)	250			
(ROFZ)	Beyond Runway End (feet)	200			

TABLE 2-1 RUNWAY CHARACTERISTICS

Sources: FAA Form 5010-1 Airport Master Record, 2015. FAA Advisory Circular (AC) 150/5300-13A, Change 1, Airport Design. Compiled by URS Corporation (URS), 2015.

2.3.1.2 Declared Distance Criteria

Declared distances represent the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements. Generally, declared distances are more relevant for turbine powered aircraft. However, declared distances are an important factor in takeoff and landing calculations for any type of aircraft when the available runway length is less than the actual runway length, and operations are impacted by obstacle clearance or Runway Safety Area considerations. While a displaced threshold indicates where the landing threshold is, the available length on the far (rollout) end of the runway may be restricted due to safety area requirements without special marking.

Currently, the FAA Airport/Facility Directory reports a total runway length of 3,600 feet in each direction without the note of required or applicable need for declared distance criteria.

The north end of Runway 18/36 is located approximately 33 feet from the airfield fence bordering the south side of Pea Farm Road and its adjacent stormwater drainage swale. Per FAA Advisory Circular 150/5300-13A, portions of the Runway Safety Area and the Runway Object Free Area extend 240 feet beyond the end of the runway. Because these features traverse the RSA and ROFA they impose a non-standard runway design condition. When such situations exist, the FAA prescribed the application and use of Declared Distance Criteria to provide additional safety precaution information to pilots operating at the airport.

Declared distances represent the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements for turbine powered aircraft, or may be used to:

- To obtain additional RSA and/or ROFA prior to or beyond the end of the runway,
- To mitigate unacceptable incompatible land uses in the RPZ, to meet runway approach and/or departure surface clearance requirements, in accordance with airport design standards, or
- To mitigate environmental impacts.

However, declared distances may only be used for these purposes where it is impracticable to meet the airport design standards or mitigate the environmental impacts by other means, and the use of declared distances is practical.

Four applied declared distances are utilized for the determination of available runway length for take-off and landing purposes:

- Takeoff Run Available (TORA) the runway length declared available and suitable for the ground run of an aircraft taking off (e.g. distance available to accelerate from brake release to the point of liftoff.);
- Takeoff Distance Available (TODA) the TORA plus the length of any remaining runway or clearway beyond the far end of the TORA; the full length of TODA may need to be reduced

because of obstacles in the departure area, (e.g., distance available to accelerate from brake release past the liftoff point to the start of the climb.);

- Accelerate-Stop Distance Available (ASDA) the runway plus stopway length declared available and suitable for the acceleration and deceleration of an aircraft aborting a takeoff (e.g., distance to accelerate from brake release to V1 and then decelerate to a stop.); and
- Landing Distance Available (LDA) the runway length declared available and suitable for landing an aircraft. (e.g., distance from the threshold to complete the approach, touchdown, and decelerate to a stop.).

Resultant Declared Distances for Runway 18

Because there is sufficient land area to accommodate the 240-foot length of the RSA and ROFA beyond the runway end, the entire 3,600-foot TODA, TODA and ASDA lengths are available. The 400-foot displacement of the Runway 18 threshold is required to preclude CFR Part 77 Civil Airport Imaginary Approach Surface penetrations by a nearby fence and Pea Farm Road and thereby reduce the LDA to 3,200 feet.

The lands located beyond each end of the runway within the limits of the Runway 18 Approach RPZ and the Departure RPZ currently have non-incompatible land uses that include a single residential dwelling north of the runway and a small lake and a commercial warehouse south of the runway. Although not recommended as part of this Airport Master Plan Update, to remedy these non-compatible land use condition, the Departure RPZ would have to be shifted approximately northward beyond the limits of the pond thereby reducing the ASDA length by approximately 529. Similarly, the current 400-foot displaced \threshold would need to be relocated 354 feet farther south to shift the Approach RPZ beyond the limits of the residential dwelling.

Resultant Declared Distances for Runway 36

Because the nearby fence, Pea Farm Road and adjacent drainage swale features all located within 16 feet of the departure end of the runway, the TORA and ASDA have each been reduced to 3,376 feet to provide the required 240-foot extension of the RSA and ROFA that would typically be available beyond the departure end of the runway. Because the airport is closed during IMC conditions, no TERPS 40:1 Departure Surfaces are applicable to limit the full 3,600 foot length of the TODA. The LDA is reduced because of 730-foot displacement of the threshold to preclude CFR Part 77 Civil Airport Imaginary Approach Surface penetrations by 50-foot tall trees.

Table 2-2 lists the resultant existing, but not published, available declared distance runway lengths at Hilliard Airpark. Figure 2-1 graphically depicts the declared distances at the Airpark.

TABLE 2-2 **RUNWAY DECLARED DISTANCES**

Runway End	TORA	TODA	ASDA	LDA
18	3,600'	3,600'	3,600'	3,200'
36	3,376'	3,600'	3,376'	2,646'

Sources: URS, 2015.

S:\Projects_APPLAN\Hilliard Airpark\2012 Airport Master Plan Update\C-Technical Data\Praft MPU\SECTION 2 AIRPARK FACILITIES AND LOCAL DEVELOPMENT Master Plan Update PLANS.doc



	LEGEND
TORA	TAKE-OFF RUN AVAILABLE
TODA	TAKE-OFF DISTANCE AVAILABLE
ASDA	ACCELERATE STOP DISTANCE AVAILABL
LDA	LANDING DISTANCE AVAILABLE
RSA	RUNWAY SAFETY AREA
ROFA	RUNWAY OBJECT FREE AREA
RPZ	RUNWAY PROTECTION ZONE

2.3.2 TAXIWAY

Although not designated, the Airpark provides a turf "taxiway", hereafter referred to as a taxipath, providing access to both runway ends.

2.3.3 AIRCRAFT PARKING AND TIE-DOWNS

Hilliard Airpark has no designated areas for aircraft parking and tie-downs for based and transient aircraft.

2.3.4 AIRFIELD LIGHTING

<u>Runway Threshold Lights</u> – Threshold lights are installed on Runway 18/36 and are arranged symmetrically left and right of the runway centerline to identify the runway threshold.

<u>Runway Edge Lighting</u> – Runway 18/36 is equipped with Medium Intensity Runway Lights (MIRLs) to identify the edge of the runway during periods of low visibility.

Taxiway Lighting – Taxiway entrance and exit points are identified at each Runway end at the Airpark, although a taxiway is not identified.

2.3.5 ROTATING BEACON

The Airpark's rotating beacon was replaced in 2010 and is currently located on the west side of the runway. The rotating beacon identifies the location of the Airpark when viewed from the aircraft and emits alternating white and green flashes.

2.3.6 TAXIWAY SIGNAGE

The Airpark has two taxiway signs. These mandatory instruction signs (white inscription (legend) with a black outline on a red background) denote taxiway/runway entry/exit points and are adequate for current Airpark operations.

2.3.7 Wind Cones

Two wind cones are installed at the Airpark that serve to provide visual information of wind direction and velocity to aircraft operators (i.e., pilots) operating on the ground and when flying overhead in the Airpark Traffic Pattern. A primary wind cone is installed on the west side of Runway 18/36 adjacent to the Airpark's rotating beacon. A second supplemental wind cone is installed on top of a hangar.

2.3.8 AIRPARK SECURITY FENCING

A 6-foot chain link perimeter fence topped with 3-strand barbed wire encompasses the Airpark along its property boundary. One electrically-operated vehicular gate with key pad provides access to the airfield. In addition, three manually-operated vehicular gates provide access to other areas of the Airpark.

2.3.9 VISUAL APPROACH AIDS

Runway 18/36 is equipped with 2-Box Precision Approach Path Indicator (PAPI) light system. The PAPI lighting system for Runway 18 is located on the right side beyond the landing threshold while for Runway 36 the PAPI light system is located on the left side beyond the landing threshold.

2.3.10 STANDARD (PUBLISHED) INSTRUMENT APPROACH PROCEDURES

Hilliard Airpark has no published Instrument Approach Procedures (IAP) for Runway 18/36.

2.4 NAVIGABLE AIRSPACE

Hilliard Airpark is located in uncontrolled airspace below the 1,200-foot floor of Class E Airspace. Low altitude Federal Airways V-243 between Waycross Very High Frequency Omni-Directional Radio Range Tactical Air Navigation (VORTAC) (AYS) and Craig VORTAC (CRG) overlay the Hilliard Airpark with a floor of 2,300 feet (obstruction clearance). Low altitude Federal Airways V-441 between Brunswick Very High Frequency Omnidirectional Range (VOR) and Monia Intersection are located 3 nautical miles (nm) southeast of the Hilliard Airpark with a floor of 1,800 feet (obstruction clearance). The Jacksonville Sectional Aeronautical Chart dated February 5, 2015 depicts in **Figure 2-2** the following obstructions within a 3 nm radius of the Hilliard Airpark: tower 343 feet above Mean Sea Level (MSL) 2 nm northwest; tower (group obstruction) 406 feet above MSL 3 nm northwest; tower 285 feet above MSL 3 nm east-northeast; and tower 438 feet above MSL 3 nm southeast.

2.4.1 IMAGINARY APPROACH SURFACES AND KNOWN OBSTRUCTIONS TO NAVIGABLE AIRSPACE

The applicable 14 CFR Part 77 Safe, Efficient Use and Preservation of the Navigable Airspace, known obstructions to navigable airspace and RPZ are described below.

2.4.1.1 Approach Surfaces

Runway 18 and 36 ends have identical visual 14 CFR Part 77 imaginary approach surfaces. Because the runway is a turf runway, the approach surface begins at the runway threshold and extends outward upward at a rate of 20:1. The imaginary approach surfaces have an inner width of 250 feet, an outer width of 1,250 feet, and a length of 5,000 feet.

2.4.1.2 Obstructions to Navigable Airspace

The majority of documented obstructions to navigable airspace in proximity to the Airpark are comprised of trees and fencing. Based on the 2015 FAA Form 5010-1, *Airport Master Record*, a 7-foot fence is located approximately 26 feet prior to the approach end of Runway 18, situated on the extended centerline. For the Runway 36 end, 42-foot tall trees are located approximately 275 feet prior to the approach end of the runway, situated on the extended centerline.



- Figures/FIG 2-2.dwg Plan Update\C-Technical Data\C09 Airpark\2012 Airport Master S:\Projects_APPLAN\Hilliard

2.5 RUNWAY PROTECTION ZONES

A Runway Protection Zone (RPZ) is predefined area of land that is trapezoidal in shape and centered about the extended runway centerline. The RPZ is typically located 200 feet prior to the threshold (Arrival RPZ), or 200 feet beyond the departure end of the runway (Departure RPZ) and is designed to enhance the safety and protection of people and property on the ground. Examples of land uses prohibited from the RPZ include residences, places of public assembly, fuel storage facilities, and man-made or natural environs that may serve to attract wildlife hazards.

Control over land uses, activities, or local land use zoning is best achieved through acquisition of sufficient property interest in the land encompassing the extents of the RPZ and includes the clearing of land and elimination and prevention of incompatible objects and activities.

RPZ land use compatibility also is often complicated by ownership considerations. Airpark owner control over the RPZ land is highly encouraged by the FAA to achieve the desired protection of people and property on the ground. Although the FAA recognizes that in certain situations the airpark sponsor may not fully control land within the RPZ, the FAA expects airpark sponsors to take all possible measures to protect against and remove or mitigate incompatible land uses that would include, but are not limited to buildings, structures, residences, and public roads. In September 27, 2012, the FAA's Office of Planning and Programming issues a Memorandum titled: *Interim Guidance on Land Uses Within a Runway Protection Zone* to present interim policy guidance on compatible land uses within RPZ and to address recurrent questions about what constitutes a compatible land use and how to evaluate proposed land uses that would reside in an RPZ.

Because the Threshold for Runway 18 is displaced 400 to the south and the threshold for Runway 36 is displaced 730 to the north two RPZs are required, (i.e., an Arrival RPZ and a Departure RPZ.) The two RPZs normally overlap. Since each runway has Displaced Thresholds, the Arrival RPZ begins 200 prior to the respecting threshold locations. The Departure RPZ typically begins 200 feet beyond the runway, unless Declared Distance Criteria is required to mitigate non-standard RSA lengths beyond the runway. Currently, land area located beyond each end of the runway present incompatible land uses that include: a small lake and a commercial warehouse within the limits of the Runway 18 departure RPZ. Adjacent land areas north of the runway include one residential dwelling within the Runway 18 Approach RPZ and the Runway 36 Departure RPZ.

The approach RPZ dimensions are a function of the aircraft approach category and approach visibility minimum associated with the approach runway end. The departure RPZ is a function of the aircraft approach category and departure procedures associated with the runway. Runway 18/36 supports visual approaches to and visual departures from each end of the ARC B-I runway. The dimensions of each applicable RPZ are listed in **Table 2-3**.

TABLE 2-3 ARPPOACH END DEPARTURE RUNWAY PROTECTION ZONE DIMENSIONS

Runway End	Inner Width (feet)	Outer Width (feet)	Length (feet)
18	250	450	1,000
36	250	450	1,000

Sources: FAA AC 150/5300-13A, Change 1, *Airport Design* Appendix 7, Table A7-1, Runway Design Standards Matrix, A/B-I Small Aircraft. URS, 2015.

2.6 LANDSIDE FACILITIES

Landside general aviation facilities are located on the east side of the Airpark and include hangars, terminal/FBO facility and auto parking area. These facilities are identified in **Figure 2-3**. The descriptions of buildings located at the Airpark are provided in **Appendix B**.

2.6.1 FUELING SERVICES

A single 10,000-gallon (100-LL) self-serve fueling facility was constructed adjacent to and north of the FBO/terminal building in 2015.

2.6.2 PASSENGER TERMINAL/FBO BUILDING

The Airpark's 2,300 square-foot terminal building was constructed in 2012 and is located west of the Airpark. The terminal/FBO building provides space for general public, pilots, pilot instruction, reception area, FBO operations, office space, public restrooms, and self-serve vending area. The terminal has a dedicated turf vehicle parking area.

2.6.3 HANGARS

Hilliard Airpark has 21 hangar buildings that range in size from 1,280 to 2,500 square feet, and one 3-unit box hangar size of 5,220 feet. All hangar facilities are located on the east side of the Airpark.

2.7 AIRPARK UTILITIES

Electrical power is supplied to the Airpark and the surrounding community by the Florida Power and Light Corporation. Potable water is provided by an on-site well. Sewage is disposed of by a septic tank located on the Airpark. Data and voice communication services and infrastructure are supplied to the Airpark by Bell South.

2.8 AIRPARK LAND OWNERSHIP AND SURROUNDING LAND USE

Based upon surveyed and recorded land parcel ownership information, the Hilliard Airpark is comprised of five land parcels, three owned by the Town of Hilliard (39.64 acres), and one owned by Okefenokee II

LC (4.34 acres). An additional 1.6 acre portion of a larger land parcel, not included within the limits of the boundary survey, is owned by Nassau County and makes up the remainder of the Airpark.

The location, size, and current recorded ownership of land parcels located adjacent to and in proximity to the north, west and south boundaries of the Airpark are shown and partially listed in **Figure 2-4**. The land parcels adjacent to or in proximity to the Airpark were considered as part of the long-range strategic planning for land acquisition by the Town of Hilliard specific to the potential expansion of the Airpark and the associated development of on-Airpark facility improvements.

Ownership of lands located west of Eastwood Road are generally limited to residential and agricultural uses and as such, were considered compatible with the current and anticipated future operation of the Airpark. Theses land parcel ownerships or associated land uses were not identified or considered as part of this Airpark Master Plan Update.



	BUILDING INDEX				
N0.	DESCRIPTION		DESCRIPTION		
1	HANGAR (40'x42')	13	HANGAR (34'x60')		
2	HANGAR (56'x40')	14	TERMINAL/FBO (41'x61')		
3	HANGAR (40'x40')	(15)	HANGAR (50'x42')		
4	HANGAR (40'x40')	16	HANGAR (50'x42')		
5	HANGAR (40'x40')	17	HANGAR (50'x42')		
6	HANGAR (40'x40')	(18)	HANGAR (50'x42')		
7	HANGAR (40'x40')	(19)	ELECTRICAL VAULT (12'x12')		
8	HANGAR (40'x40')	20	HANGAR (50'x40')		
9	HANGAR (32'x40')	21	HANGAR (51'x44')		
10	HANGAR (41'x41')	22	HANGAR (50'x50')		
11	HANGAR (33'x41')	23	HANGAR (40'x60')		
12	HANGAR (40'x41')	24	HANGAR (130.5'x40')		



	PARCEL INFORMATION						
NO.	PARCEL ID	OWNER	DEED ACREAGE	NO.	PARCEL ID	OWNER	DEED ACREAGE
1	16-3N-24-2320-0006-0020	SEELEY RAYMOND E & MARGARET	7.76 AC.	$\overline{(3)}$	09-3N-24-0000-0009-0010	VANZANT JOHN E & MARY ANN	2.23 AC.
2	6-3N-24-2320-0008-0010	SEELEY ERIC	33.09 AC.	14	09-3N-24-0000-0008-0020	VANZANT EDWARD P & SUE B	33.09 AC.
(3)	16-3N-24-2320-0005-0020	HILLIARD CONGREGATION OF	6.21 AC.	15	09-3N-24-0000-0008-0000	GEIGER FREDDIE L & LINDA J	2.90 AC.
	40.714.04.0700.0004.0000	JEHOVAH S WITNESSES	10.00.10	16	09-3N-24-0000-0003-0010	VANZANT FLOYD L & MARY C	4.00 AC.
(4)	16-3N-24-2320-0004-0000	TOWN OF HILLIARD	10.00 AC.	(17)	09-3N-24-0000-0003-0000	VANZANT FLOYD L & MARY C	1.92 AC.
(5)	16-3N-24-2320-0001-0000	NYREN GERALD	16.54 AC.	18	09-3N-24-0000-0003-0020	YAWN LOUISE V	3.85 AC.
6	16-3N-24-2320-0003-0010	TOWN OF HILLIARD	0.91 AC.		09-3N-24-0000-0004-0060	MURRAY TERRY & MISTY	2.80 AC
$\overline{7}$	16-3N-24-2320-0002-0010	OKEFENOKEE II LC	4.34 AC.				2.00 AC.
8	16-3N-24-2320-0003-0020	NYREN GERALD	0.23 AC.	1 20	09-3N-24-0000-0004-0020	MURRAY IERRY & MISTY	2.80 AC.
	16 3N 24 2320 0001 0010		6.73 AC	2	09-3N-24-0000-0004-0040	NESS C WILLIAM	5.53 AC.
9	16-3N-24-2320-0001-0010	TOWN OF HILLIARD	6.73 AC.	22	09-3N-24-0000-0004-0100	FRANKLIN CALLIE KAY	1.88 AC.
(10)	16-3N-24-2320-0001-0020	NYREN GERALD	1.25 AC.	63	09-3N-24-0000-0004-0110	FRANKLIN BRENTON M	0.60 AC
11	09-3N-24-0000-0031-0000	NASSAU COUNTY BOARD OF COMMISSIONERS	58.00 AC.		09-3N-24-0000-0004-0070	TERRELL ALVIN D JR & BARBARA L	1.14 AC.
12	09-3N-24-0000-0031-0010	TOWN OF HILLIARD	22.00 AC.	25	09-3N-24-0000-0004-0080	HIGGINBOTHAM TWILA T	1.57 AC.

2.9 LOCAL METEOROLOGICAL CONDITIONS

The National Oceanic Atmospheric Administration (NOAA) records and compiles meteorological observation data for precipitation and temperature at various recording stations around the United States. This data is listed in the publication titled *Climatology of the United States, No. 81 for the State of Florida*. Since meteorological data is not available for Hilliard Airpark or the Town of Hilliard, for the purpose of updating this Airpark Master Plan Update, the historical meteorological data collected at NOAA ID: USW00013889, Jacksonville International Airport (located 20 miles southeast of Hilliard Airpark) was reviewed and utilized.

2.9.1 SEASONAL TEMPERATURES AND PRECIPITATION

The mean-maximum (hottest day) temperature is 92.0° Fahrenheit and occurs in July. The average minimum temperature is 41.4° Fahrenheit and occurs in January. The annual average precipitation (rain) is 52.4 inches, with September being the wettest month with 8.2 inches.

2.9.2 RUNWAY ORIENTATION, RUNWAY WIND COVERAGE, AND PREVAILING WIND PATTERNS

A factor influencing runway orientation and number of runways is wind direction and speed. Wind conditions affect all airplanes in varying degrees. Generally, the smaller the aircraft, the more it is affected by wind, particularly crosswinds. Runways should be aligned with the prevailing wind to reduce the effects of crosswind during take-offs and landings.

The crosswind component is the resultant vector of the runway direction and existing wind that acts at a right angle to the runway. FAA AC 150/5300-13A, Change 1, *Airport Design*, recommends that at least 95 percent wind coverage be provided by the runway system (one or more runways) at any airport/airpark. If the runway wind coverage is less than 95 percent, an additional runway is recommended, with an orientation such that the combination of all runways provides 95 percent or better wind coverage. The most desirable runway orientation provides the greatest runway wind coverage with the least crosswind components, as defined by the ARC for that airport/airpark. **Table 2-4** shows the relationship between the acceptable crosswind component limits and ARC. For the purpose of runway wind analyses, crosswind components limit of 10.5 knots (12 miles per hour [mph]) were used for analyzing a single runway system at Hilliard Airpark.

TABLE 2-4 RUNWAY CROSSWIND COMPONENT LIMIT BY ARC

Crosswind Speed	ARC	Example of Aircraft Make/Model
10.5 knots (12 mph)	A-I, B-I	Cessna 172, Piper PA-32 Cherokee, PA-18 Super Cub

Source: FAA AC 150/5300-13A, Change 1, Airport Design, Chapter 2, 203b Wind Conditions.

For the purpose of updating this Master Plan, surface meteorological observation data collected and recorded by the NOAA National Climatic Data Center (NCDC) at Asheville, North Carolina for the

Jacksonville International Airport (Station Number 722060) were reviewed and utilized. The Jacksonville International Airport is located approximately 20 miles southeast of Hilliard Airpark.

Utilizing this surface meteorological observation data, the runway wind coverage at Hilliard Airpark was calculated using the FAA's Wind Analysis Tool available on the Airports-GIS website. This tool provided the calculated wind coverage for the runways at Hilliard Airpark on a combined basis (bi-directional operations).

The calculated runway wind coverage, presented in **Table 2-5**, clearly illustrates that the alignment of Runway 18/36 provides combined (bi-directional) runway wind coverage of 95 percent or more during All-weather and Visual Meteorological Conditions (VMC).

TABLE 2-5 RUNWAY WIND COVERAGE

Meteorological Condition	Runway ¹	Runway Wind Coverage by Percent 10.5 knots (12 mph)
All-Weather ²	18/36	91.51 %
VMC ³	18/36	91.44 %

¹ Assumes bi-directional operations.

² All-Weather (121,541 Observations).

³ VMC: Ceiling \geq 1,000 feet and/or Visibility \geq 3 miles. (98,431 Observations).

Sources: U.S. Department of Commerce; NCDC Ashville, North Carolina, Wind Tabulation data; Weather Station No. 722060, Jacksonville International Airport. Jacksonville, Florida; Data Period 2004-2013. FAA Wind Analysis Tool available on Airports-GIS website (http://arp-govcloud.jvs.aero:8080/windRose/). FAA AC 150/5300-13A, Change 1, *Airport Design*. Compiled by URS, 2015.

The program also generated graphical depictions of the resultant wind coverage in the form of wind rose graphs. The wind rose is a graphical depiction of the relative percentile occurrence of observed winds by origin (relative to true north) and velocity (measured in nm per hour, or knots). The wind rose graphs were developed using meteorological data based on All-Weather conditions and VMC. The wind roses developed for the single runway system at Hilliard Airpark are depicted in **Figures 2-5** and **2-6**.

N 360 NNW 11111111 340 תתיוו NNE 20 350 10 0_{6'E} 30 ģ 28 Ā 320 27 7 22 21 + + 17 ę MNM 16 .1 .1 2 So. .1 11 .8 10 KNOTS .1 .6 280 .1 4 .1 8 .5 .7 + + .1 + .5 .6 wF12 81E + .1 .4 85.8 .5 + + + .3 .4 .1 WIND COVERAGE: + .4 4 260 Ē 91.44 % 8 .1 .5 + .3 .3 NSW .2 .2 .2 .2 Ezz + + + を 10.51 10 60 LULUL SSE 200 SSW 190 111 170 180 S

	RUNWAY USE	RUNWAY WIND COVERAGE BY PERCENT
		10.5 KNOTS
		(12 MPH)
VMC WEATHER	18/36	91.44

SOURCE: NOAA NATIONAL CLIMATIC DATA CENTER, ASHVILLE, N.C. STATION: 722060, JACKSONVILLE INTERNATIONAL AIRPORT PERIOD OF RECORD: 2004-2013 VMC OBSERVATIONS: 98,431

> WIND ROSE DEPICTED RELATIVE TO TRUE NORTH (NAD 83) RUNWAY 18 ORIENTATION: 178.92* RUNWAY 36 ORIENTATION: 358.94* MAGNETIC DECLINATION: 5*41'3"W (4.7*)

NOTES:

- 1. THIS CHART PLOTS, FOR THE DATA PERIOD, THE RECORDED OCCURENCES (IN PERCENT) OF WIND BY DIRECTION AND SPEED WHILE THE RECTANGULAR BOXES REPRESENT THE MAXIMUM ACCEPTABLE CROSSWIND COMPONENT FOR EACH RUNWAY, THE WIND COVERAGE CAPABILITY OF THE AIRFIELD IS THUS DETERMINED BY TOTALING ALL OCCURENCES FALLING WITHIN THE RECTANGLES.
- 2. RUNWAYS ARE NUMBERED USING MAGNETIC BEARINGS WHILE WIND DATA IS PRESENTED USING TRUE BEARINGS. THEREFORE, THERE IS APPROXIMATELY A 5°41'3" WEST DIFFERENCE BETWEEN THE RUNWAY BEARING AND THE WIND ROSE BEARING.





FIGURE

NORTH VAR. TRUE

5.41

ؠۨ

00

2-5

N NNE -11 360 -رور رو 10 NNN 350 34 20 KTS. 330 36 28 320 27 4 ŝ + 22 Ś 21 + 17 E MNM 16 .1 2ġ0 .3 .1 .8 .1 10 KNOTS .6 280 4 .1 .1 87 .5 .7 + .1 + .5 .6 WE22 .1 4 85.4 .4 + + 8-Е .4 .3 .1 WIND COVERAGE: + .4 .4 [6] + F80 91.51 % .1 .5 .3 .3 WSW .2 .2 .2 .2 ELL 220 + + Í LEO ¢ k + + $\langle \langle \dot{\gamma} \rangle$ ŝ 10. 4,270 200 60 170 190 1111 LILISE SSW 180 S

		RUNWAY WIND COVERAGE BY PERCENT
CONDITION	USE	10.5 KNOTS (12 MPH)
ALL WEATHER	18/36	91.51

SOURCE: NOAA NATIONAL CLIMATIC DATA CENTER, ASHVILLE, N.C. STATION: 722060, JACKSONVILLE INTERNATIONAL AIRPORT PERIOD OF RECORD: 2004–2013 ALL-WEATHER OBSERVATIONS: 121,541

> WIND ROSE DEPICTED RELATIVE TO TRUE NORTH (NAD 83) RUNWAY 18 ORIENTATION: 178.92' RUNWAY 36 ORIENTATION: 358.94' MAGNETIC DECLINATION: 5'41'3"W (4.7')

NOTES:

- 1. THIS CHART PLOTS, FOR THE DATA PERIOD, THE RECORDED OCCURENCES (IN PERCENT) OF WIND BY DIRECTION AND SPEED WHILE THE RECTANGULAR BOXES REPRESENT THE MAXIMUM ACCEPTABLE CROSSWIND COMPONENT FOR EACH RUNWAY. THE WIND COVERAGE CAPABILITY OF THE AIRFIELD IS THUS DETERMINED BY TOTALING ALL OCCURENCES FALLING WITHIN THE RECTANGLES.
- 2. RUNWAYS ARE NUMBERED USING MAGNETIC BEARINGS WHILE WIND DATA IS PRESENTED USING TRUE BEARINGS. THEREFORE, THERE IS APPROXIMATELY A 5'41'3" WEST DIFFERENCE BETWEEN THE RUNWAY BEARING AND THE WIND ROSE BEARING.





z

NORTH

TRUE

VAR.

5.41

ؠۨ

ဖ

FIGURE 2-6

SECTION 3.0 AVIATION ACTIVITY FORECASTS

3.1 INTRODUCTION

Forecasts of aviation activity provide the necessary information and data used for the assessment of the need and timing of airport development projects. The Federal Aviation Administration (FAA) Terminal Area Forecast (TAF), Aerospace Forecast, and the Florida Department of Transportation (FDOT) Florida Aviation System Plan (FASP) forecast were reviewed. The purpose of this review was to identify published aviation activity forecasts suitable for the development of a derived forecast of aviation activity for Hilliard Airpark Master Plan.

A derived forecast of based aircraft and aircraft operations for future planning periods was developed using the Compound Annual Growth Rate (CAGR) of FDOT FASP forecast. A derivative forecast of peak activity levels was also developed. Finally, a comparison was made between the derived aviation activity forecast developed for this Master Plan Update and the FAA TAF to satisfy FAA forecast review and acceptance requirements.

3.2 REVIEW OF FAA AEROSPACE FORECAST FY 2014-2034

The FAA Aerospace Forecast was referenced for possible use in the development of a forecast of aviation activity for the Master Plan Update. The FAA Aerospace Forecast contains projections of future aviation demand at the national level. This forecast publication provides a 21-year outlook and is updated every year in March. It is the official FAA view of the immediate future for aviation. The FAA Aerospace Forecast report examines future trends expected in the aerospace industry. The publication includes aggregate level forecasts of the following:

- Passenger enplanements, revenue passenger miles, fleet, and hours flown for large air carriers and regional/commuters;
- Cargo revenue ton miles and cargo fleet for large air carriers;
- Fleet, hours flown, and pilots for general aviation; and
- Activity forecasts for FAA and contract towers by major user category.

The FAA Aerospace Forecast also explores the economics of the aviation industry in general, as well as trends expected to affect the commercial and general aviation community. This FAA Aerospace Forecast was reviewed to ascertain the general health and prosperity of the general aviation industry as a whole and to provide a sense of future aviation activity growth that may occur at Hilliard Airpark throughout the 20-year Master Plan Update planning period.

General aviation industry continued its modest growth, especially with the help from strong growth in rotorcraft, multi-engine piston, and the agricultural aircraft segment of the turboprop deliveries, as well as a moderate growth in the single-engine piston sector. Slow economic recovery and economic uncertainties continued to impact the turbojet deliveries. Based upon the FAA Aerospace Forecast report

regarding the manufacture and utilization of general aviation aircraft within the U.S., it can be assumed that the annual growth of general aviation activity at Hilliard Airpark will continue. The forecast assumes that Hilliard Airpark will experience continued growth in the number of locally-based aircraft and similar increases in local and itinerant aircraft operations.

3.3 REVIEW OF FAA TERMINAL AREA FORECAST

The FAA Terminal Area Forecast (TAF) was referenced for possible use in the development of a forecast of aviation activity for the Master Plan Update. The TAF is a detailed FAA forecast planning database that the FAA Office of Aviation Policy and Plans (APO) produces each year covering airports in the National Plan of Integrated Airport Systems (NPIAS). The TAF contains both historical and forecast data and is prepared to assist the FAA in meeting its planning, budgeting, and staffing requirements. The TAF forecasts are made at the individual airport level and are based in part on the national FAA Aviation Forecast.

The TAF assumes a demand driven forecast for aviation services based upon local and national economic conditions as well as conditions within the aviation industry. In other words, an airport's forecast is developed independent of the ability of the airport and the air traffic control system to furnish the capacity required to meet demand. However, if the airport historically functions under constrained conditions, the FAA forecast may reflect those constraints since they are embedded in historical data. In statistical terms, the relationships between economic growth data and data representing growth in aviation activity reflect those constraints.

Although updated and published each year to reflect annual changes in levels of aircraft operations and based aircraft counts, the TAF generally does not reflect accurate forecasts of future activity levels for many small public use general aviation airports and airparks. Forecasts of itinerant and local general aviation operations are based on time series analysis. For small general aviation airport, historical data is derived from the Form 5010 data, due to the fact that small general aviation airports generally do not have an air traffic control tower or other standardized system for collecting and reporting operational data. Generally, the operations levels are held constant for the forecast unless specified by a local or regional FAA official. As shown in **Table 3-1 and 3-2**, the published TAF for Hilliard Airpark was found to reflect constant projections of aviation activity growth through the year 2040. As conclusion, the FAA TAF was determined to be unsuitable for the adoption or development of an aviation activity forecast for Hilliard Airpark.
			Itinerant			Local				
Year	Air Carrier	Air Taxi/ Commuter	General Aviation	Military	Total	Civil	Military	Total	TOTAL	Based Aircraft
2002	0	0	1,880	0	1,880	3,120	0	3,120	5,000	27
2003	0	0	0	0	0	0	0	0	0	27
2004	0	0	0	0	0	0	0	0	0	27
2005	0	0	1,880	0	1,880	3,120	0	3,120	5,000	27
2006	0	0	1,880	0	1,880	3,120	0	3,120	5,000	27
2007	0	0	1,880	0	1,880	3,120	0	3,120	5,000	27
2008	0	0	1,880	0	1,880	3,120	0	3,120	5,000	32
2009	0	0	1,880	0	1,880	3,120	0	3,120	5,000	29
2010	0	0	1,880	0	1,880	3,120	0	3,120	5,000	27
2011	0	0	1,880	0	1,880	3,120	0	3,120	5,000	29
2012	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30

 TABLE 3-1

 FAA TAF HISTORICAL BASED AIRCRAFT AND AIRCRAFT OPERATIONS

Note: Listed historical operations represent estimates and do not reflect actual based aircraft and aircraft operations.

Source: FAA TAF Hilliard Airpark, Fiscal Years 2013-2040.

TABLE 3-2 FAA TAF BASED AIRCRAFT AND AIRCRAFT OPERATIONS FORECAST

	ltinerant Local									
Year	Air Carrier	Air Taxi/ Commuter	General Aviation	Military	Total	Civil	Military	Total	TOTAL	Based Aircraft
2013	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2015	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2020	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2025	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2030	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2035	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30
2040	0	0	1,880	0	1,880	3,120	0	3,120	5,000	30

Source: FAA TAF Hilliard Airpark, Fiscal Years 2013-2040.

3.4 REVIEW OF FDOT FASP FORECAST

The FDOT in cooperation with the FAA and Florida's public airports, through the Continuing Florida Aviation System Planning Process (CFASPP), developed the FASP. The FASP incorporates the traditional aviation system planning elements that are typically included in most state aviation system plans. The FASP forecast includes an analysis of the intermodal aspects of the state transportation system and a strategic planning element which identifies strategic goals, approaches, measurements, and recommendations to achieve these goals. The FASP also includes a statewide aviation database, called the Florida Aviation Database (FAD).

Each year, as part of the CFASPP, the FDOT Aviation Office develops and updates forecasts of based aircraft and operational activity levels for each Florida public-use airport or airpark. **Table 3-3** summarizes the FDOT FASP report of historical level of based aircraft and aircraft operations data through 2012 and the FASP forecast projections for based aircraft levels and annual aircraft operations at Hilliard Airpark through the year 2033. The 2033 forecast year values were derived through straight-line extrapolation techniques based upon the published FASP Average Annual Compound Growth rates for the period 2013-2032.

Year	Based Aircraft	Aircraft Operations					
	Historical Activity						
2001	27	2,550					
2002	27	5,000					
2003	27	5,000					
2004	25	5,000					
2005	25	5,000					
2006	22	5,000					
2007	22	5,000					
2008	22	5,000					
2009	28	5,000					
2010	28	5,000					
2011	28	5,000					
2012	30	5,000					
2013	31	5,075					
	Projected Activity						
2018	35	5,467					
2023	39	5,890					
2028	44	6,345					
2033 ⁽¹⁾	50	6,825					
Period	Compound Annu	al Growth Rates					
2013-2018	2.46%	1.5%					
2018-2023	2.19%	1.5%					
2023-2028	2.44%	1.5%					
2028-2033	2.59%	1.5%					

TABLE 3-3 FDOT FASP GENERAL AVIATION FORECAST (2011-2030)

Source:

FDOT FASP, 2013-2032.

URS Corporation (URS), 2014.

⁽¹⁾ Extrapolated beyond last FASP forecast year 2032.

FASP records indicate that Hilliard Airpark had 30 based aircraft and 5,000 aircraft operations in 2012. Between 2001 and 2012, the number of reported based aircraft fluctuated between 27 and 30. However, the number of estimated annual aircraft operations remained constant at 5,000. The FASP forecast projections of based aircraft increases this number from 31 to 49 over the period from 2013 to 2032, representing a CAGR of 2.58 percent. For the same period, the number of annual aircraft operations at the airpark is expected to increase from 5,075 to 6,734 representing a CAGR of 1.5 percent. Because there are no formal records of past aircraft activity levels for the airpark, it is assumed, for the purposes of this Master Plan Update, that the stated number of 5,000 annual aircraft operations is reasonable and acceptable for use as a base from which to forecast future aircraft activity at Hilliard Airpark through the 20-year planning period.

3.5 SELECTION AND ADOPTION OF FORECASTED GROWTH RATES OF AVIATION ACTIVITY

The FAA TAF was found unsuitable for the purposes of deriving a forecast of aviation activity at Hilliard Airpark because it projected a zero (flat) year-over-year annualized rate of growth. This is not uncommon for small public-use general aviation airports or airparks included in the TAF. The forecasted annualized growth rates of aircraft operations and based aircraft, as contained in the FDOT FASP, were found to be reasonable and were subsequently adopted for use in developing a derived aviation activity forecast for this Master Plan Update.

3.5.1 BASED AIRCRAFT AND FLEET MIX

The number of aircraft based at an airport or airpark is typically used to determine the level of existing and future forecasted levels of aviation activity and to determine the number and size of facilities needed to accommodate the based aircraft tie-down and covered storage needs of aircraft owners.

The forecast of based aircraft for the 20-year planning period was developed using information provided by the Town of Hilliard staff that included the total number and relative mix of aircraft types that were based at the airpark in 2013.

Using the 2013 number and mix of based aircraft at Hilliard Airpark and applying the based aircraft growth rate (CAGR 2.58%) as projected in the FASP forecast, a derived based aircraft forecast for Hilliard Airpark was developed. By using this forecasting methodology, the number of based aircraft at Hilliard Airpark is projected to increase from 32 to 53 within the 20-year planning period. The derived forecast of based aircraft through the 20-year planning period is presented in **Table 3-4**.

Year	Derived Master Plan Update Forecast
2013	32 ¹
2018	37
2023	43
2028	48
2033	55

TABLE 3-4 BASED AIRCRAFT FORECASTS

Provided by the Town of Hilliard staff.

Source: Derived by URS, 2014.

The future mix of based aircraft by type is anticipated to change slightly throughout the 20-year planning period. No jets, a limited number of multi-engine and helicopters are based at Hilliard Airpark. However, as the local economy improves and airpark facilities are developed (e.g., runway end improvements, availability of aircraft fuel, and additional hangars), additional multi-engine aircraft and helicopters are anticipated to be based at the airpark. The forecasted number of aircraft by type through the 20-year planning year is listed in **Table 3-5**.

Year	Single Engine	Multi Engine	Jet Engine	Helicopter	Total
2013	28	1	0	3	32 ¹
2018	32	2	0	3	37
2023	36	3	0	4	43
2028	41	3	0	4	48
2033	47	3	0	5	55

TABLE 3-5BASED AIRCRAFT FORECAST BY FLEET MIX

¹ Number and type of 32 based aircraft was provided by the Town of Hilliard staff. Source: Derived by URS, 2014.

3.5.1.1 Design Aircraft

In order to properly and consistently plan for future facilities at Hilliard Airpark, the most appropriate airport design criteria must be identified and applied by using a "Design Aircraft". The Design Aircraft is defined as the aircraft with the widest wingspan and/or the highest approach speed that consistently operates at an airport or airpark.

The existing ALP drawing (i.e., official ALP of record on file at the FAA - conditionally approved June 8, 2006) lists the Cessna 172 as the airpark's critical aircraft. Cessna 172 is a single-engine aircraft manufactured by the Cessna Aircraft Company and accommodates three people plus a crew of one. Maximum takeoff weight is 2,450 pounds. Cessna 172 has an approach speed of 53 knots and wingspan of 36.1 feet. Based on FAA Advisory Circular 150/5300-13A, *Airport Design*, Chapter 1, Table 1-1, this

aircraft has an ADG I wingspan and tail height and a Category A AAC speed. This Master Plan Update projects the airpark will accommodate 500 or more annual operations by this or similar family of aircraft throughout the 20-year planning period.

Currently, the single runway at Hilliard Airpark fully satisfies ADG I airport design criteria. For the purpose of this Master Plan Update the Town of Hilliard desires to develop, satisfy and maintain ARC A-I airport design standards for this airpark.

3.5.2 AIRCRAFT OPERATIONS

The forecast of general aviation operations projects the number of arrivals and departures of all aircraft not classified as air carrier or military. In deriving a forecast of future general aviation operations at Hilliard Airpark, the growth assumptions and annual number of aircraft operations as projected within the FDOT FASP were fully adopted and reflect a constant yearly CAGR of 1.5 percent. This forecast of aircraft operations for Hilliard Airpark through the 20-year planning period is presented in **Table 3-6**.

Year	Derived Master Plan Update Forecast
2013	5,075
2018	5,467
2023	5,891
2028	6,345
2033	6,835

TABLE 3-6AIRCRAFT OPERATIONS FORECASTS

Source: Derived by URS, 2014.

3.5.3 CONSIDERATION OF AIR TAXI/COMMUTER, AIR CARGO, AND MILITARY OPERATIONS

There has been no record keeping of past itinerant Part 135 Air Taxi/Commuter, air cargo, or military operational activity at Hilliard Airpark. Based on interviews with the Town of Hilliard staff, military operations have occurred only on an occasional basis and will most likely remain at very low and inconsistent levels throughout the 20-year planning period. If demand for Part 135 Air Taxi or air cargo services supported sustained offerings of Air Taxi or air cargo services at Hilliard Airpark, it is recommended that the aviation activity forecast be revisited at that time. Accordingly, this Master Plan Update forecast does not include the projections of Part 135 Air Taxi/Commuter, air cargo, or military operations at Hilliard Airpark.

3.5.4 INSTRUMENT APPROACH PROCEDURE OPERATIONS

There are no published instrument approach procedures available for the airpark. Therefore, no forecasts of instrument operations were included in the Master Plan Update 20-year planning period.

3.5.5 OPERATIONAL PEAKING CHARACTERISTICS

Based on FDOT projections, peak month operations, average day peak month operations, and peak operations were derived for facility planning purposes. The peak month was estimated to represent 10

percent of annual aircraft operations. The average day peak month operations were derived by dividing the estimated peak month operations by 30. The peak hour operations were assumed to represent 10 percent of the average day peak month daily operations. Peak activity projections for Hilliard Airpark are presented in **Table 3-7**.

Year	Aircraft Operations	Peak Month Operations	Average Day Peak Month Operations	Peak Hour Operations
2013	5,075	508	17	2
2018	5,467	547	18	2
2023	5,891	589	20	2
2028	6,345	635	21	2
2033	6,835	684	23	2

TABLE 3-7 OPERATIONAL PEAKING CHARACTERISTICS

Source: Derived by URS, 2014.

3.6 DERIVED FORECAST OF AVIATION ACTIVITY

The derived forecast of aviation activity for Hilliard Airpark considered two published aviation activity sources, one of which was disregarded (FAA TAF). A summary of the derived forecast is presented in **Table 3-8** and includes the confirmation of the City of Hilliard staff that locally-generated aircraft operations represent approximately 95 percent of all operations, with the remaining 5 percent being generated by visiting itinerant aircraft.

3.7 REQUIRED FORECAST COMPARISON TO FAA TAF

FAA forecast development guidance includes the requirement to develop a comparison between the derived Master Plan Update forecasts and the FAA TAF forecasts as published for Hilliard Airpark. As previously discussed, the FAA TAF for Hilliard Airpark projected no annualized growth of aviation activity. The comparison of the derived forecast of aviation activity at Hilliard Airpark to the FAA TAF forecast is presented in **Table 3-9**.

Accordingly, the projected future annual operational levels will deviate from the FAA TAF static annual level of 5,000 aircraft operations by more than 10 percent by the year 2019. Beyond the year 2019, the deviation increases to more than 35 percent. This is because the FAA TAF does not provide a true forecast for Hilliard Airpark. Aircraft operations growth at Hilliard Airpark is projected to increase at a steady rate of 1.5 percent annually and is considered prudent for planning purposes.

TABLE 3-8SUMMARY OF AVIATION ACTIVITY FORECAST

A. FORECAST LEVELS AND GROWTH RATES

Forecast Levels and Growth Rates											
		Fore	cast Leve	of Aviation	Activity		Average Annual Compound Growth Rates				
Passenger Enplanements	2013	2014	2018	2023	2028	2033	2013 to 2014	2013 to 2018	2013 to 2023	2013 to 2028	2013 to 2033
Air Carrier	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Commuter	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Total Enplanements	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Operations	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Itinerant											
Air Carrier/Commuter (Part 121)	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Air Taxi (Part 135)	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Total Commercial Operations	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
General Aviation	254	258	273	295	317	342	1.57%	1.45%	1.51%	1.49%	1.50%
Military	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Local											
General Aviation	4,821	4,893	5,194	5,596	6,028	6,493	1.49%	1.50%	1.50%	1.50%	1.50%
Military (Local Traffic Pattern)	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Total Operations	5,075	5,151	5,467	5,891	6,345	6,835	1.50%	1.50%	1.50%	1.50%	1.50%
Instrument Operations	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Peak Day Operations	2	2	2	2	2	2	0.00%	0.00%	0.00%	0.00%	0.00%
Cargo/Mail (Enplaned + Deplaned Tons)	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Single-Engine (Non-jet)	28	29	32	36	41	47	3.57%	2.71%	2.54%	2.58%	2.62%
Multi-Engine (Non-jet)	1	2	2	3	3	3	100%	14.87%	11.61%	7.60%	5.65%
Turboprop	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Rotorcraft	3	3	3	4	4	5	0.00%	0.00%	2.92%	1.94%	2.59%
Jets	0	0	0	0	0	0	0.00%	0.00%	0.00%	0.00%	0.00%
Total Based Aircraft	32	34	37	43	48	55	6.25%	2.95%	3.00%	2.74%	2.74%
B. OPERATIONAL FACTORS											
Operational Factors					1		1				
Average Aircraft Size (Seats)		2013		2014		2018	202	3	2028		2033
Air Carrier											
Commuter											
Average Enplaning Load Factor		2013		2014		2018	202	3	2028		2033
Air Carrier											
Commuter											
GA Operations Per Based Aircraft		159		156		152	144	1	135		129

Source: URS, 2014.

Neer	Derived		Derived Forecast vs.
Year	Forecast	FAATAF	FAA I AF (%)
Passenger Enplane	ments		
2013	0	0	0.0%
2018	0	0	0.0%
2023	0	0	0.0%
2028	0	0	0.0%
2033	0	0	0.0%
Commercial Operat	ions		
2013	0	0	0.0%
2018	0	0	0.0%
2023	0	0	0.0%
2028	0	0	0.0%
2033	0	0	0.0%
Total Operations			
2013	5,075	5,000	1.50%
2018	5,467	5,000	9.34%
2023	5,891	5,000	17.82%
2028	6,345	5,000	26.90%
2033	6,835	5,000	36.70%

TABLE 3-9 COMPARISON OF DERIVED AND FAA TAF FORECASTS

Note: FAA TAF data is on a U.S. Government FY basis (October through September).

SECTION 4.0 AIRSIDE AND LANDSIDE FACILITY NEEDS REQUIREMENTS

4.1 INTRODUCTION

This section of the Airpark Master Plan Update evaluates the single runway airfield system and supporting landside facilities to accommodate existing and future projected aviation activity at the Hilliard Airpark. A brief description of airfield capacity, a description of airside design criteria requirements, and landside facility needs is provided in this Section and will be later referenced as part of the recommended Airpark Development Plans.

4.2 AIRPARK PLANNING DESIGN CRITERIA

The planning and design criteria utilized in this section are referenced in Federal Aviation Administration's (FAA) Advisory Circular (AC) 150/5300-13A, Change 1, *Airpark Design*. Other FAA and Florida Department of Transportation (FDOT) Airport development guidance is also used, as appropriate, to determine the need for additional facilities and/or improvements.

4.2.1 AIRPARK REFERENCE CODE

Airpark design criteria are specified by the ARC, which consists of two components. The first component is the AAC and is related to the approach speed of aircraft and provides information on the operational characteristics of aircraft using the Airpark. The second component is the ADG that is related to the wingspan and tail height of the aircraft and provides information regarding the physical characteristics of aircraft using the Airpark. The Aircraft Approach Categories and Airplane Design Groups applicable for the planning, development, and operation of the Hilliard Airpark.

Aircraft Approach Category					
Category	Approach Speed				
А	Less the 91 Knots				
В	91 to 120.9 Knots				
Airp	lane Design Group				
Group	Wingspan	Tail Height			
I	Up to 48.9 Feet	Up to 19.9 Feet			

TABLE 4-1AIRPARK REFERENCE CODE COMPONENTS

Source: FAA Advisory Circular 150/5300-13A, Change 1, Airpark Design

4.2.2 IDENTIFICATION OF CRITICAL AIRCRAFT AND APPLICABLE RUNWAY DESIGN GEOMETRY STANDARDS

To properly plan future facilities at the Hilliard Airpark, the most appropriate Airpark design criteria and dimensional standards (such as runway length and width, separation standards, surface gradients, etc.) that

are applicable to the ARC must be identified and applied by using a "Critical Aircraft" that will make substantial use of the Airpark in the planning period. Substantial use means either 500 or more annual itinerant operations, or scheduled commercial service. The critical aircraft may be a single aircraft or a composite of the most demanding characteristics of several aircraft having similar design and/or similar design or operational characteristics such as wingspan, tail height, or approach speeds that consistently operate at the Airpark.

The June 2005 FAA-approved ALP currently on file at the FAA lists the Cessna 172 as the Airpark's critical aircraft and "Existing" and "Future" Airpark Reference Code as being "B-I". An B-I ARC includes a variety of normally-aspirated and turboprop-driven recreational and business-class propeller-driven aircraft. For the purpose of this Airpark Master Plan Update, this aircraft, a normally-aspirated recreational aircraft manufactured by the Cessna Aircraft Company. The aircraft has a Maximum Gross Take-off Weight (MGTOW) of 2,450 pounds, an approach speed of 71 knots and a wingspan of 30.08 feet. Based on **Table 1-1** of FAA AC 150/5300-13A, Change 1, *Airpark Design,* this aircraft has an AAC of "A" and an ADG of "I". Planning for the development of future airpark facilities at this Airpark is predicated upon the assumption that this or similar aircraft will generate 500 or more annual itinerant operations throughout the 20-year planning period at the Hilliard Airpark.

Currently, the dimensional aspects of the turf runway and the safety-related setbacks fully satisfy both ADG A-I and B-I (A/B-I) Airpark design criteria.

It is the desire of the Town of Hilliard to maintain ARC A/B-I airpark design standards throughout the 20-year planning period. The FAA's and FDOT's funding participation for proposed future airpark facility improvement at the Airpark to maintain ARC A/B-I airfield design standards require substantial use of the Airpark by this or similar aircraft. FAA airfield design standards for Runway 18/36 are listed in **Table 4-2**.

	Existing Conditions ARC A/B-I ¹	Geometric Requirements ARC A/B-I ¹	Fully Satisfies Design
Design Consideration	(Feet)	(Feet)	Criteria?
Runway Centerline to Parallel Taxilane Centerline separation	150	150	Yes
Runway Centerline to Edge of Aircraft Parking	125	125	Yes
Runway Width (Cleared and maintained Turf)	125	120	Yes
Runway Shoulder Width	N/A	N/A	N/A
Runway Blast Pad Width	N/A	N/A	N/A
Runway Blast Pad Length	N/A	N/A	N/A
Runway Safety Area Width	120	120	Yes
Runway Safety Area Length Prior to Threshold	240	240	No ²
Runway Safety Area Length Beyond Each Runway End	240	240	No ²
Runway Object Free Area Width	250	250	Yes
Runway Object Free Area Length Beyond Each Runway End	240	240	No ²
Runway Obstacle Free Zone Width	250	250	Yes
Runway Obstacle Free Zone Length Beyond Each Runway End	200	200	No ²

TABLE 4-2 TURF RUNWAY 18/36 DESIGN GEOMETRIC REQUIREMENTS

Notes: ¹ Design standards for runway with Visual Approach visibility minimums.

² Non-standard Airpark design conditions beyond north end of runway mitigated through use of Displaced Threshold locations and application of FAA Declared Distance Criteria

Source: FAA Advisory Circular 150/5300-13A, Change 1, Airpark Design, Appendix 7, Table A7-1.

4.2.3 RUNWAY SAFETY AREAS

Runway Safety Areas (RSAs) are defined by the FAA as areas surrounding and centered on the runway centerline that are prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. Runway Safety Areas consist of relatively flat graded areas free of objects and vegetation that could damage aircraft and should be capable, under dry conditions, of supporting aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.

The prescribed RSA width is 120 feet and extends 240 feet beyond each end of the runway. The current distance between the north and of the runway and the fence that parallels Pea Farm Road is only 16 feet and, therefore, represents a non-standard ARC A/B-I runway design condition.

4.2.4 RUNWAY OBJECT FREE AREA

The Runway Object Free Area (ROFA) is an area that is centered on the runway centerline to enhance the safety of aircraft operations. The ROFA should be cleared of all objects except those that are related to

navigational aids and aircraft ground maneuvering. Unlike the RSA, there is no physical ground weightsupport capability requirement.

The ROFA for Runway 18/36 has a width of 250 feet and extends 240 feet beyond the south end of the runway. The current distance between the north and of the runway and the fence that parallels Pea Farm Road is only 16 feet and, therefore, represents a non-standard ARC A/B-I runway design condition.

Future improvements to the RSA for Runway 18/36 will eliminate these non-standard runway design conditions to fully satisfy and maintain ARC A/B-I airpark design standards.

4.2.5 RUNWAY OBSTACLE FREE ZONE

The Runway Obstacle Free Zone (ROFZ) is the three-dimensional airspace along the runway and extended runway centerline that is required to be clear of obstacles for protection for aircraft landing or taking off from the runway. The ROFZ elevation, at any point, is the same as the elevation of the nearest point on the runway centerline. OFZs require clearing of object penetrations including aircraft fuselages and tails. Frangible NAVAIDs that need to be located in the OFZ because of their function are exempted from this standard. The OFZ is a design surface but is also an operational surface and must be kept clear during operations.

The ROFZ extends 200 feet beyond each end of the runway. Its width for small aircraft with approach speeds of 50 knots or more is 250 feet.

4.2.6 PARALLEL TAXIWAY

Although not designated, the airpark has a turf 25-foot wide aircraft taxipath (taxiway) that runs parallel to the entire length of the runway and has a 150-foot runway centerline-to-taxiway centerline separation that fully satisfies ARC A/B-I airpark design standards. At each end of the runway and at each displaced threshold, taxipath connectors are provided. For the purpose of the Master Plan Update, this taxipath can be considered to represent an undocumented and un-classified "parallel Taxiway A". The respective taxiway design geometric standards are listed in **Table 4-3**.

4.2.7 TAXIWAY EDGE LIGHTING

Currently, the parallel taxipath does not have edge lighting along its entire length. The taxipath connectors at each end and at the displaced thresholds have Medium Intensity Taxiway Edge Lights (MITLs).

The taxiway connector edge MITLs are anticipated to adequately serve the Airpark with routine maintenance through the planning period.

TABLE 4-3
TAXIWAY DESIGN GEOMETRIC REQUIREMENTS

	Existing Conditions	Geometric Requirements	Fully Satisfies
	TDG 1A	TDG 1A	Design
Design Consideration	(Feet)	(Feet)	Criteria?
Taxiway			
Taxiway Width	25	25	Yes
Taxiway Shoulder Width	N/A	N/A	N/A
Taxiway Safety Area Width	89	49	Yes
Taxiway Object Free Area Width	89	89	Yes
Taxiway Edge Safety Margin	5	5	Yes
Taxiway Wingtip Clearance	33.8	20	Yes
Taxiway Centerline to Parallel Taxiway/Taxilane Centerline	N/A	N/A	N/A
Taxiway Centerline to Fixed or Movable Object	58.2	44.5	Yes

Source: FAA Advisory Circular 150/5300-13A, Change 1, Airpark Design, Tables 4-1 and 4-2.

4.2.8 RUNWAY CENTERLINE-TO-PARALLEL TAXIWAY CENTERLINE SEPARATION STANDARDS

Runway centerline-to-taxilane centerline separation standards dictate that no part of an aircraft (tail tip, wing tip) operating along a taxiway or taxilane centerline is within the RSA or penetrate the OFZ.

Currently, aircraft conduct taxi operations along a graded turf area parallel to and east of the runway. While not officially designated as a parallel taxiway, there is ample lateral offset distance between the established taxi path centerline and the runway to provide the required wing-tip clearance from the RSA, ROFA, and OFZ of the largest ADG-I wingspan aircraft that operate at the Airpark.

The runway centerline-to-taxiway centerline separation for Runway 18/36 and designated turf taxi path is 150 feet and, therefore, fully satisfies ARC A/B-I airpark design standards.

4.2.9 TAXIWAY SAFETY AREA

The Taxiway Safety Area (TSA) is centered on the taxiway centerline. To provide room for rescue and firefighting operations, the TSA width equals the maximum wingspan of the ADG.

The TSA must be:

(1) cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;

(2) drained by grading or storm sewers to prevent water accumulation;

(3) capable, under dry conditions, of supporting snow removal equipment, Aircraft Rescue and Fire Fighting (ARFF) equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and

(4) free of objects, except for objects that need to be located in the TSA because of their function. Objects higher than 3 inches above grade must be constructed on Low Impact Resistant (LIR) supports (frangible mounted structures) of the lowest practical height with the frangible point no higher than 3 inches above the grade adjacent to any foundation. Other objects, such as manholes, should be constructed at grade. In no case may their height exceed 3 inches above grade.

4.2.10 TAXIWAY CLEARANCE REQUIREMENTS

The required distance between a taxiway centerline and other objects is based on the required wingtip clearance, which is a function of the wingspan, and is thus determined by ADG.

Taxiway Centerline to Object Separation is equal to 0.7 times the maximum wingspan of the ADG, plus 10 feet. Applying this separation to both sides of the taxiway centerline defines the Taxiway Object Free Area (TOFA) for existing taxiways and objects where it is not practicable to meet the standard for the full ADG. The Taxiway Object Free Area is centered on the taxiway centerline.

The TOFA clearing standards prohibit service vehicle roads, parked aircraft, and other objects, except for objects that need to be located in the TOFA for air navigation or aircraft ground maneuvering purposes. Vehicles may operate within the TOFA provided they give right of way to oncoming aircraft by either maintaining a safe distance ahead or behind the aircraft or by exiting the TOFA to let the aircraft pass. Vehicular exiting areas should be provided along the outside of the TOFA where required.

4.3 IDENTIFICATION OF FUTURE AIRSIDE FACILITY DEVELOPMENT REQUIREMENTS

4.3.1 RUNWAY LENGTH

The required length of the runway is dependent upon operational and performance characteristics of the aircraft that currently utilize or are anticipated to use that particular runway. Such aircraft operations characteristics are typically influenced by local factors that may include, but are not limited to: ambient temperature, aircraft take-off weight, non-stop cruise length, airpark elevation, aircraft useful load, and runway longitudinal gradient.

The Airpark Master Plan Update recommends that Hilliard Airpark maintain and enhance the capability to accommodate an increased demand in runway take-off lengths on a turf runway. Future ALP drawings for the Hilliard Airpark depict future Airpark facility development plans to increase runway take-off lengths as operational demand dictates. Future acquisition of land parcels to the north of the Runway 18 end will allow for the relocation of Pea Farm Road. Future land acquisition is dependent on willing sellers or through adverse condemnation action. Land acquisition and Pea Farm Road relocation will accommodate a runway extension and provide the capability to eliminate existing non-standard RSA/ROFA conditions beyond the north end of

the Runway. It is recommended that the Town of Hilliard investigate the needs and ability to acquire, preserve, and protect land areas north of the Airpark.

4.3.2 RUNWAY WIDTH

Runway width requirements are determined by Airplane Design Group standards. At a current width of 125 feet, Runway 18/36 currently fully satisfies and exceeds the ARC A/B-1 120-foot width design standards.

4.3.3 TURF RUNWAY AIRCRAFT LOAD BEARING STRENGTH

Runway pavement strength requirements are related to three primary factors: 1) the weight of aircraft anticipated to use the airpark, 2) the landing gear type and geometry, and 3) the annual volume of aircraft operations. As part of the 2006 Airpark Master Plan and ALP drawing, the aircraft load bearing capacity of the turf runway was reported to be 12,500 pounds for "Single" gear aircraft. This information, however, is not currently reported in the FAA's Form 5010, Airpark Master Record. If the stated turf runway load bearing capacity is correct, this single gear strength is considered sufficient to accommodate existing levels of annual ARC A/B-I aircraft operations on Runway 18/36.

4.3.4 RUNWAY EDGE LIGHTING

Runway 18/36 is equipped with Medium Intensity Runway Edge Lights (MIRLs). Each end of the runway is delineated with a set of three red lights offset from each side of the runway's 125-foot width. Because each threshold is displaced, the approach side of each edge light located prior to the displaced threshold is bicolored with the approaching side red, the opposite side white. The MIRLs are anticipated to adequately serve the airpark through the foreseeable future with routine maintenance and upkeep.

4.3.5 DISPLACED THRESHOLD LIGHTING AND SIGNAGE

The location of each displaced threshold for each respective runway is marked with two sets of three bicolored lights that are located outboard from the edge of the runway's 125-foot width. The lights are green on the approach side and white of the opposite side. The location of each respective displaced threshold is marked by the presence of three blue medium-intensity taxiway connector edge lights. The location of each displaced threshold is also marked with illuminated signs designating Runway 18 and 36.

4.3.6 AIRFIELD CAPACITY

Airfield capacity analysis provides a numerical metric measure of the airfield's (i.e. runways, taxiways and taxiway connectors) inherent capability to accommodate the safe and efficient movement of aircraft activities. The capacity of the airfield is primarily affected by several factors that include the physical layout of the airfield, local prevailing meteorological conditions, aircraft fleet mix, runway utilization rates, percent of aircraft arrivals to each runway, relative level of aircraft touch-and-go activity on one or more of an Airpark's runways, and the location of exit taxiways relative to the approach end of the runway. An Airpark's airfield capacity is expressed in terms of Annual Service Volume (ASV) and represents a reasonable estimate of the maximum level of aircraft operations that can be accommodated in a year without induced aircraft operational delay.

The ability (i.e., "capacity") of the Airpark's single runway system to accommodate existing and future levels of operational demand was determined the use of published FAA guidelines as detailed FAA's Advisory Circular 150/5060-5, *Airpark Capacity and Delay*. The estimated ASV for the Airpark's single runway is considered to be in the range of 220,000 to 230,000 operations. Since the forecast for the Airpark indicates that existing and projected future aircraft operational activity levels will remain well below this level (6,734 operations forecast in 2030), the capacity of the airfield system will not be exceeded and will have the capacity to fully satisfy existing and projected future aircraft operational demand throughout the 20-year planning period without induced adverse effects to aircraft operations and associated aircraft operational delay.

4.3.7 VISUAL NAVIGATIONAL AND APPROACH AIDS

Visual approach aids and navigational aids include two (2) two-box Precision Approach Path Indicators (PAPIs) that provide visual approach path guidance and a rotating airpark beacon. The rotating beacon identifies the location of the airpark when viewed from the aircraft and emits alternating white and green flashes. The two PAPIs and the single rotating beacon are anticipated to adequately serve the Airpark through the foreseeable future with routine maintenance and upkeep.

4.3.8 WIND CONE

The Airpark has a wind cone that is located west of Runway 18/36. The wind cone is in good condition and is anticipated to adequately serve the Airpark through the foreseeable future with routine maintenance and upkeep.

4.3.9 SUMMARY OF RECOMMENDED AIRSIDE FACILITY IMPROVEMENTS

The following airfield improvements and/or actions by the Town of Hilliard are recommended within the 20year planning period:

- Land acquisition to comply with RSA, ROFA, and RPZ issues beyond the south end of the Runway,
- Land acquisition to comply with RSA and ROFZ issues beyond the north end of the Runway,
- Relocate Pea Farm Road,
- Installation of airfield security fencing,
- Rehabilitate airfield lighting and signage,
- Rehabilitate rotating beacon, and
- Develop additional stormwater ponds as needed.

Detailed information regarding the phased development, timing and anticipated costs of these planned Airpark improvements are provided in Section 6.0 of this Airpark Master Plan Update.

4.4 LANDSIDE FACILITY REQUIREMENTS

4.4.1 FBO/TERMINAL BUILDING FACILITIES

The existing terminal was constructed in 2012 and is approximately 2,500 square feet, with a 750 square foot porch. The terminal and FBO facility allows for a reception area, FBO operations, office space, public restrooms, and a self-serve vending area. The existing terminal should be adequate to serve the Airpark's needs through the 20-year planning period. If demand dictates, or with additional services offered at the Airpark, new or additional terminal facilities should be evaluated.

4.4.2 ELECTRICAL VAULT

The electrical vault is located between hangars north of the terminal/FBO building and is approximately 144 square feet in size. The electrical vault provides space for additional equipment, if needed, and is adequate throughout the 20-year planning period.

4.4.3 HANGARS

Available aircraft hangar space is currently occupied with based aircraft, including two recently constructed single-unit box hangars and one three-unit box hangar. Input from airpark staff and users of the Airpark indicate that additional aircraft storage space is needed. The airpark staff has maintained an aircraft hangar waiting list of aircraft owners and operators who have expressed interest in having additional hangar storage facilities at the Airpark. Land acquisition adjacent to airpark property will allow for additional aircraft hangar construction areas. It is recommended that new single- or multi-unit box hangars be constructed for current and projected future demand of aircraft storage space.

4.4.4 AIRCRAFT PARKING APRON

Hilliard Airpark currently has no designated aircraft apron area for aircraft parking. Future development plans should include the planning and construction of a turf tie-down apron on the Runway 18 end as demand dictates.

4.4.5 AVIATION FUEL STORAGE FACILITIES

The Airpark installed a 10,000-gallon (100-LL) above-ground self-serve fueling facility in 2015. The fueling facility is located adjacent to the terminal/FBO facility and should be adequate to serve the Airpark's needs through the 20-year planning period.

4.4.6 AIRPARK MAINTENANCE FACILITY

The Airpark does not currently have a dedicated building or facility for maintenance equipment. Maintenance equipment is stored in a single-unit hangar. It is recommended that a new dedicated maintenance building be constructed on the east side of the Airpark, south of the existing southern-most hangar, and north of the stormwater retention pond.

4.4.7 AIRPARK UTILITIES

Airpark utilities at the Hilliard Airpark include electrical, water, sanitary sewer, telephone, and internet service. Providers of these utilities are identified in Section 2.0, *Airpark Facilities and Local Development Plans*. No known deficiencies are noted and it is anticipated that these utilities will remain adequate throughout the 20-year planning period.

4.4.8 VEHICULAR PARKING

The Hilliard Airpark has a turf parking area that is located across from the FBO facility and is on the unsecured side of the fence bounding the Airpark property. There is a paved handicapped parking area adjacent to the FBO/terminal facility. The parking area is adequate for current airpark needs but should be evaluated for future expansion as demand dictates.

4.4.9 AIRPARK SECURITY FENCING

The Airfield Operations Area (AOA) should be separated by security fencing to prevent unauthorized pedestrian or vehicle access and to prevent the grazing or traversing of the Airpark by wildlife. The most widely used method of controlling vehicular and pedestrian access is through perimeter fencing and the use of automated or manual access gates.

Airpark security fencing is being installed and is expected to adequately serve the Airpark through the foreseeable future with routine maintenance and upkeep. With future recommended Airpark development and associated land acquisition for RSA and ROFZ considerations, additional security fencing will be required to maintain safety and security at the Airpark.

4.4.10 AIRPARK SURFACE ACCESS

Airpark surface access is from US 1/US 301 via CR 108 to Eastwood Road. A secured and paved entrance gate is located north of the terminal/FBO facility and provides access to the Airpark. It is anticipated that surface access will remain adequate throughout the 20-year planning period.

4.4.11 SUMMARY OF RECOMMENDED LANDSIDE FACILITY IMPROVEMENTS

The following landside improvements are recommended to occur within the 20-year planning period:

- Designated maintenance storage facility,
- Additional single-unit and multi-unit hangars as demand dictates, and
- Aircraft parking apron as demand dictates.

SECTION 5.0 AIRPARK DEVELOPMENT PLANS

5.1 INTRODUCTION

It is implicit in the planning for the Hilliard Airpark that all proposed Airpark facility improvements provide the capability for the Airpark to be developed to its full potential. Collectively, these planned and phased Airpark facility improvements will serve current and anticipated future demand generated by general aviation (GA) activity as recommended in Section 4.0, *Airside and Landside Facility Needs Requirements*.

A staging program of improvements has been planned that will ensure an adequate balance between the needs of the local and itinerant segment of the general aviation using the Airpark and the goals and financial funding capabilities of the local community (Town of Hilliard). Following this Section, detailed staging and cost estimates are presented and described in Section 6.0, *Implementation Program*.

This section describes the recommended overall 20-year development plan for the Airpark through the year 2035. The following eight major subjects are discussed in this section:

- Previous 2006 Airpark Master Plan Recommendations,
- Airpark Improvements Completed Since Master Plan Update,
- Need For Continuous Planning And Development,
- Existing / Future On-Airpark Land Use,
- Airpark Development Areas,
- Airfield Planning Considerations/Alternatives,
- Planned Airpark Facility Improvements, and
- Environmental Considerations.

5.2 PREVIOUS 2006 MASTER PLAN RECOMMENDATIONS

A review of the facility improvement recommendations presented in the previous August 2006 Airpark Master Plan Update was undertaken as part of the update of this Master Plan Update. This review provided insight as to the Town of Hilliard's adoption and execution of the various recommendations since that time. What had been developed by the Town of Hilliard as part of what was envisioned at that time (2006), or later identified as being needed based on actual aviation activity demand, was most likely driven by the Town's desire to provide enhanced levels of services based upon availability of federal, state, and local funding participation. The items outlined in the 2006 Airpark Master Plan Update are listed below.

Short-Term (2005-2008)

2005

- Install an Airfield Irrigation System, and
- Acquire approximately 9 acres of Nassau County Land along the west side of the Airpark to accommodate the development of aircraft storage and aircraft tie-down facilities.

2006

- Install New Solar Powered LED Runway Lights and Threshold Lights on Runway 18 and Runway 36,
- Install New Airpark Beacon,
- Install PAPIs on Runway 18 and Runway 36, and
- Install Automated Weather Observation System.

2007

- Install 10,000-Gallon 100-LL Self-Service Fuel Farm,
- Construct 12-Unit T-Hangar, and
- Establish a Turf Tie-Down Area.

Intermediate- and Long- Term (2009-2014)

2009

• Construct 10-Unit T-Hangar with Taxilanes.

2010

• Construct 1,800 SF Terminal Building with Automobile Parking Lot.

2011

• Purchase 2,500 Gallon 100-LL Fuel Truck.

5.3 FACILITIES CONSTRUCTED SINCE MASTER PLAN UPDATE

Since the completion of the previous 2006 Airpark Master Plan Update, the following Airpark improvement projects have been completed:

- Installed Precision Approach Path Indicators (PAPIs),
- Installed Runway End Identifier Lights (REILs),
- Installed Threshold Lights on Runway 18 and Runway 36,
- Constructed 2,300 SF Terminal Building With Turf Automobile Parking Lot,
- Installed New Rotating Beacon,
- Constructed Airpark Drainage Improvements,
- Re-Sodding of Runway,
- Installed Medium-Intensity Runway Edge Lighting (MIRLs),
- Installed Taxi Entrance Lighting and Signage,
- Constructed 3-Unit Hangar,
- Constructed Four Single-Unit Hangars, and
- Installed 10,000-Gallon 100LL Self-Service Fuel Facility.

5.4 NEED FOR CONTINUED AIRPARK PLANNING

Based on current and anticipated future growth of population, housing, institutional and economic development within the Jacksonville Metropolitan Statistical Area (MSA), which includes Nassau County and the Town of Hilliard, the need for review and update of the Airpark's Master Plan is evident. Past Airpark usage trends and levels of aviation activity indicate the need to provide additional aviation-related improvements to better accommodate anticipated future increased levels of aviation activity and/or to offer a wider variety of services to the general aviation user.

The Town of Hilliard has an expressed strategic goal of facilitating the continuing future growth of the Airpark to better support the light recreational general aviation activity that would include, but would not be limited to:

- Enhancing the operational safety and efficiency of the Airpark,
- Developing aviation-related land uses,
- Expanding the Airpark,
- Eliminating Runway Safety Area (RSA) and Runway Obstacle Free Area (ROFA) encroachments,
- Reducing or eliminating displaced thresholds,
- Providing increased runway take-off during "Hottest Day" conditions, and
- Eliminating non-compatible land uses within Runway Protection Zones.

5.5 CURRENT AND ANTICIPATED FUTURE AIRPARK DEVELOPMENT

5.5.1 CONTINUED ON-AIRPARK DEVELOPMENT

It is envisioned that continued development of single-unit aircraft storage hangars will likely occur along the east side of the Airpark within the remaining undeveloped portions of Airpark-owned land as demand dictates. When needed, it is further envisioned that the Town of Hilliard will desire to purchase one or more of the remaining privately-owned parcels located along the east side of the Airpark to complete the in-fill development of aircraft storage and hangar facilities and to maximize the highest and best use of the Airpark.

5.5.2 PHASED AIRPARK EXPANSION AND DEVELOPMENT

The anticipated future direction of the Airpark's expansion and development will most likely be to the north within adjacent parcels of land that are currently privately-owned. It is anticipated that the Town of Hilliard will acquire these parcels from willing sellers when demand, financial feasibility and funding availability dictate.

The phasing of Airpark facility development within newly-acquired land parcels located north of the Airpark's current property boundary is recommended as part of this Master Plan Update. As presented within this Plan, two distinct planning horizons are presented: "Future" (0- to 10-year) and "Ultimate" (11- to 20-year).

Within the Future planning period, land acquisition and an interim relocation of Pea Farm Road to the north is recommended to: address RSA/ROFA encroachments, non-compatible land uses within the Airpark's RPZs, development of additional aircraft storage hangars and tie-down facilities and mitigation of tree penetrations of CFR Part 77 navigable airspace surfaces. Within the Ultimate planning period, the Town plans to acquire additional privately-owned land parcels for the purpose of a second and final

relocation of Pea Farm Road to provide the capability to extend the runway to the north and develop additional aircraft hangar and tie-down facilities as demand dictates.

This Master Plan identifies the planned Future and Ultimate ownership of each privately-owned parcel of land would need to be acquired to facilitate theses planned future Airpark development actions.

5.6 ON-AIRPARK LAND USE

The existing and planned future land use classifications were developed to define, demarcate, and protect the highest and best use of on-Airpark and adjacent non-airpark-owned land need to support current and future Airpark development activities. Each defined land use has unique attributes that are primarily formulated by their respective proximity to aviation-related or non-aviation-related Airpark activities or supporting facilities. It is the goal of this Airpark Master Plan to identify, protect, and preserve the highest and best use of Airpark-owned land that serves these purposes.

The following describes the typical land use classifications that serve to support such uses.

5.6.1 AIRFIELD OPERATIONS AREA

This land is comprised of any area on the Airpark, or on non-airpark-owned land controlled through avigation easements or similar land use control agreement that is typically used for, or is intended to be used for, for the landing, take-off, or surface maneuvering of aircraft. This designated land use is typically comprised of cleared and open space.

The Airfield Operation Area (AOA) typically includes paved or unpaved areas used for, or intended to be used for, the unobstructed movement of aircraft within defined and identified runways, taxiways, or apron safety-related setbacks and RPZs.

5.6.2 AVIATION-RELATED

This Airpark land provides direct and unrestricted access to the airfield and, by proximity and/or location, supports or provides opportunities to develop facilities that serve aviation-related functions that are considered essential to the Airpark's ability to accommodate existing and anticipated future growth of aviation demand. Such land uses either currently support, or are envisioned and planned to support, aviation-compatible retail, support, and/or commercial aviation activities.

5.6.3 Non-Aviation-Related

This land is comprised of any areas on the Airpark property that have not been classified or designated as being needed for the support of aviation-related activities. These land areas may, because of topographical relief or associated environmental considerations, remain unusable for aviation or non-aviation-related purposes.

5.6.4 Non-Airpark-Owned RPZs

Runway Protection Zones (RPZs) are an area at ground level prior to the threshold or beyond the runway end, trapezoidal in shape and that serves to enhance the safety and protection of people and property on the ground. This is best achieved through Airpark-owner control over RPZs. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ and includes clearing RPZ areas (and maintaining them clear) of incompatible objects and activities. The Airpark does not currently own the land areas within the defined limits of the RPZs that currently have non-compatible land uses that include a single residential dwelling to the north and a small lake and a commercial warehouse-type building to the south.

Although not currently owned by the Town of Hilliard, the land areas located within the RPZs that are located beyond each end of the runway must be designated and protected to support the safe and efficient use of the Airpark. The Town should take all needed efforts to acquire fee simple ownership, or land use control via avigation-type easements that will serve to promote and protect aviation-compatible land uses and to protect the overlying navigable airspace supporting the visual aircraft arrivals to and departures to and from each end of the runway.

5.6.5 Environmentally Sensitive/Protected

This land is comprised of any areas on the Airpark property having land use or land cover classified and/or delineated by the St. Johns River Water Management District as being "Wetland Forested Mixed". This area is also traversed by Zone "A" 100-year event floodplain demarcation lines associated with the Little St. Marys River tributary that is located north and west of the Airpark. As part of the Master Plan Update, no Airpark development within these types of land uses has been identified or recommended.

The existing on-Airpark land use classifications are shown in **Figure 5-1**.

5.7 AIRPARK DEVELOPMENT AREAS

5.7.1 HISTORICAL AIRPARK DEVELOPMENT

Through Airpark ownership and/or land use lease agreements, the Airpark has been developed in a north-to-south orientation with the single 3,600-foot-long north-south turf runway established within the center of the Airpark. From the outset of the Airpark's initial development, the development of aviation-related facilities and associated activities has occurred parallel to the runway centerline along the east side of the Airpark. Over time, twenty-one single-unit hangars, a three-unit hangar, Terminal building, self-serve fueling facility, stormwater drainage system, and airfield lighting improvements have been developed.

For the purpose of designating the various on-Airpark land uses, the land area east of the Airfield Operations Area has been and will continue to be designated as aviation-related land uses.

Although development of Aviation-related facilities (hangars) within the open and cleared areas on the west side of the Airpark were previously envisioned and recommended as part of the 2006 Airpark Master Plan Update, soil suitability issues within this general area are now envisioned to potentially limit or preclude the development of these or similar aviation-related facilities. Because of concerns regarding the potential for contaminated soils, investigations and associated recommendations regarding the potential for Airpark facility development within this area of the Airpark are not considered or recommended as part of this Airpark Master Plan Update.



5.8 AIRPARK FACILITY IMPROVEMENTS "FUTURE" PLANNING PERIOD

Within the Future planning period, this Airpark Master Plan presents recommendations for continued facility development and Airpark expansion. These planned improvements will require acquisition of adjacent privately-owned parcels of land located north and south of the Airpark. While the recommendations for such improvements are anticipated to occur within a 0- to 10-year timeframe, certain projects may either be accelerated or delayed based upon demand and/or funding participation by the FAA, State, or local sources.

5.8.1 ACQUISITION OF LAND PARCEL SOUTH OF THE AIRPARK

Because of the presence, proximity and height of trees located within privately-owned land parcels that are adjacent to, and immediately south of the Airpark, the Runway 36 threshold has been displaced 730 feet based on CFR Part 77 criteria to protect navigable airspace for visual landings to Runway 36. The northward displacement of the threshold consequently reduces the available landing length to this runway requiring the application and use of Declared Distance criteria that reduces the Landing Distance Available (LDA) length for this runway.

As part of the Airpark Master Plan Update, it is recommended that the Town of Hilliard acquire all, or a portion of the adjacent 6.21 acre parcel currently owned by the Hilliard Congregation of Jehovah's Witnesses. When acquired, it is further recommended that the land area within the limits of the Runway 36 Approach RPZ and a portion of the Runway 18 Departure RPZ be cleared and graded. Following these actions, the Runway 36 displaced threshold can be relocated 120 feet to the south to provide a reduced displaced threshold distance of 610 feet. The existing structure currently used as a House of Worship or Church could remain at it is situated well beyond the limits of the Approach RPZ and can be seen in **Figure 5-2**.

5.8.2 PLANNED "INTERIM" RELOCATION OF PEA FARM ROAD

The northern-most end of Runway 18/36 is located within 16 feet of the airfield security fence, adjacent Pea Farm Road, and its associated drainage swale system. The proximity of these features presents four separate and unique non-standard Airpark design conditions.

The Town of Hilliard desires to remedy these non-standard Airpark design conditions by relocating Pea Farm Road 1,190 feet to the north. These actions will serve to provide the requisite safety-related cleared and graded land areas beyond the north end of the runway to:

- Remove encroachment of the RSA and ROFA beyond the north end of the runway,
- Eliminate the 400-foot displacement of the Runway 18 threshold,
- Mitigate or eliminate Declared Distances for arrival to Runway 18 and departures from Runway 36, and
- Eliminate non-compatible land uses within the Approach and Departure RPZs beyond the north end of the runway.

5.8.2.1 Encroachment of Runway Safety and Object Free Areas

The prescribed Runway Safety Area (RSA) and Runway Object Free Area (ROFA) each extend 240 feet beyond each end of the runway. Because of their respective proximities, a portion of the Airpark's security fence, Pea Farm Road and an associated ditch/swale drainage features that each traverse the



extended portion of the RSA and ROFA. To provide the prescribed extended portion of the RSA and ROFA that would normally be available beyond the end of the runway, application and use of Declared Distance criteria is required. Consequently, the application of Declared Distances criteria reduces the available Runway 36 Take-off Run Available (TORA), Accelerated–Stop Distance Available (ASDA), and LDA lengths by 224 feet.

5.8.2.2 Protection of Navigable Airspace

Based upon CFR Part 77 criteria, the protection of navigable airspace for visual approaches to Runway 18 requires a minimum 15-foot vertical clearance between the overlying Approach Surface and the closest public roadway travel lane. The Approach Surface must also be free of penetrations by natural or man-made objects. To accommodate the vertical clearance requirement and to avoid penetrations imposed by a nearby portion of the Airpark's security fence, the Runway 18 threshold is displaced 400 feet to the south and thus requires the application and use of Declared Distance criteria that serves to reduce the LDA for Runway 18 by 400 feet.

5.8.2.3 Non-Compatible Land Uses Within RPZs

The land areas located adjacent to and north of the Airpark are situated within the limits of the Runway 18 Approach RPZ and Runway 36 Departure RPZ. These land areas are currently zoned "R-1 Residential" and have land use classifications that include "Residential" and "Agricultural," having multiple residential dwellings that were constructed in the early 60s, 70s, and 80s.

As part of the Airpark Master Plan Update, it is recommended that until such time that Pea Farm Road is relocated, Declared Distance criteria be applied. It was further recommended that the Town of Hilliard undertake a systematic land acquisition plan to provide the capability for these safety-related land areas beyond the north end of the runway.

It is envisioned that to accomplish this planned Airpark improvement project, acquisition of adjacent non-Airpark-owned land to the north will most likely occur within what is termed the "Future" 0- to 10-year planning period.

Land acquisition would be limited to the following:

- Approximately 1.6 acres of land owned by Nassau County Board of Commissioners,
- One 2.23 acre parcel owned by John E. and Mary Ann Vanzant,
- One 33.09 acre parcel owned by Edward P and Sue B. Vanzant, and
- One 2.90 acre parcel owned by Freddie L and Linda J. Geiger.

5.8.3 EAST AND WEST SIDE FUTURE DEVELOPMENT OPPORTUNITIES

Following the relocation of Pea Farm Road, the siting and development of up to 12 additional single-unit hangars and a 1,200 square-foot Maintenance Building are planned along the east side of the Airpark, south of the current location of Pea Farm Road. The future development of a five-unit hangar facility, a six-unit hangar facility and an aircraft tie-down area north of the current Pea Farm Road location are also recommended and planned and are shown in **Figure 5-3**.

To provide the ability to continue to develop like-sized hangars along the east side of the runway and to provide additional in-fill development of similar facilities within that same area, it is recommended that the Town acquire of two land parcels that are privately-owned by Mr. Nyren Gerald, (0.23 and 1.6 acres respectively). It is further recommended that the Town partially acquire the last remaining 0.34 acre land parcel owned by Nassau County Board of Commissioners to complete the assembly of contiguous land that would comprise the Airpark.

5.9 FUTURE ON-AIRPARK LAND USE

The Future (0- to 10-year planning period) land use classifications remain unchanged, but would be modified in shape and size based upon land acquisition of land parcels located immediately north and south of the airpark and the first (interim) relocation of Pea Farm Road.

Acquisition of the privately-owned lands will provide the Town of Hilliard the capability of attaining full ownership and land use control within a single (Arrival and Departure) RPZ located north of the Airpark. A portion of the Runway 18 Departure RPZ located south of the runway would be under full control of the Town following the acquisition of the single land parcel located immediately adjacent and south of the airpark. The ownership of the land located within the confines of the remaining extent of that RPZ, however, would remain under the control of others. It is recommended that the Town of Hilliard acquire an avigation easement, if not already acquired, to maintain control of the land uses within the Runway 18 Departure RPZ.

The remaining east and west portions of the newly-acquired land parcel beyond the limits of the Runway 18 Departure RPZ would be classified and reserved for non-aviation related uses to protect navigable airspace beyond the south end of the runway or because of the presence of environmentally-sensitive land uses that would not readily support such activities without remediation and permitting.

Newly-expanded on-airpark land uses areas within the expanded northwest and northeast quadrants of the Airpark will have ground access via relocated Pea Farm Road and would be available for aviation-related uses to provide the capability to develop additional aircraft storage hangar and aircraft tie-down facilities to support anticipated future aviation activity demand within the first 10-year planning period.

The remaining portions of the newly-acquired land parcels north of the runway beyond limits of the north RPZ would be classified and reserved for non-aviation related uses.

The proposed Future on-airpark land use classifications are shown in **Figure 5-4**.





5.10 FUTURE DECLARED DISTANCES

With the acquisition of the single land parcel to the south and the acquisition of the four land parcels north of the Airpark, it is recommended that the Runway 36 threshold location be relocated 120 feet to the south. The relocation of Pea Farm Road and associated land acquisition, provide the required 240-foot portion of the RSA and ROFA beyond the north end allowing the full use of the available 3,600-foot runway length for TORA, TODA, and ASDA declared distances.

The Future resultant Declared Distances are shown in **Figure 5-5**.

5.11 AIRPARK FACILITY IMPROVEMENTS "ULTIMATE" PLANNING PERIOD

Within the Ultimate planning period, this Airpark Master Plan presents recommendations for continued Airpark facility development and expansion of the Airpark. These planned improvements will require the acquisition of additional adjacent privately-owned land parcels that are located north of the Airpark. While the recommendations for such improvements are anticipated to occur within a 11- to 20-year time frame, certain projects may be accelerated or delayed based upon demand and/or funding participation by the FAA, State, or local sources.

5.11.1 EXTEND RUNWAY 18/36 626 FEET TO THE NORTH

The Town of Hilliard has an expressed long-range and strategic goal of facilitating the continued future growth of the Airpark to better support the light recreational general aviation activity.

To that end, extension of the turf runway 626 feet to the north within the cleared, graded, and secured newly-acquired land parcels to the north is recommended to better accommodate aircraft-specific runway take-off requirements during hottest day conditions. The extension of the runway is envisioned to most likely occur within the later years of the 10-year ultimate planning period as shown in **Figure 5-6**.





5.11.2 SECOND RELOCATION OF PEA FARM ROAD

To provide the capability to develop an additional aircraft tie-down area, additional hangars, and the extension of Runway 18/36 feet to the north, this Airpark Master Plan Update recommends the acquisition of additional privately-owned land located immediately adjacent to and north of the Airpark. This will require that the (previously relocated) Pea Farm Road and its associated right of way be abandoned and relocated 640 feet to the north.

Land acquisition associated with these actions would be limited to the following:

- One 5.53 acre parcel owned by William C Ness, and
- Two 1.80 acre parcels owned by Terry and Misty Murray.

5.11.3 EAST AND WEST SIDE DEVELOPMENT OPPORTUNITIES

Following the second relocation of Pea Farm Road, the phased construction of up to four nested Thangars for up to 20 small aircraft and the development of additional tie-down facilities to accommodate up to 8 small aircraft is recommended.

5.12 ULTIMATE ON-AIRPARK LAND USE

The Future (11- to 20-year planning period) land use classifications are expected to remain unchanged, but will be expanded in shape and size based upon acquisition of additional land parcels located immediately north of the Airpark and a second "ultimate" relocation of Pea Farm Road.

Acquisition of the privately-owned land parcels located within the northeast and northwest quadrants of the Airpark will provide the capability to continue the development of additional aircraft hangar and aircraft tie-down facilities with access from Pea Farm Road. It is anticipated that these types of facilities will be needed to address future aviation activity demand within the second 10-year planning period. Portions of the newly-acquired land parcels located north of the runway and east and west of the limits of the north RPZ would be classified and reserved for both aviation-related and non-aviation-related land uses.

The proposed Ultimate on-airpark land use classifications are shown in Figure 5-7.

5.13 ULTIMATE DECLARED DISTANCES

Runway 18 - With the acquisition of the three land parcels north of the Airpark, the ultimate 610-foot relocation of Pea Farm Road to the north, and the 626-foot extension of the runway to the north, the entire 4,226-foot lengths of the TODA and LDA are provided. The TORA and LDA, however, are reduced because of the need to keep the Runway 18 Departure RPZ completely within the southern-most limits of the Airpark property boundary.

Runway 36 – The entire 4,226-foot length of the runway is available for the TORA, TODA, and ASDA. The resultant LDA length, however, is reduced by the 610-foot displacement of the Runway 36 threshold.

The Ultimate resultant Declared Distances are shown in **Figure 5-8**.




5.14 ANTICIPATED ENVIRONMENTAL CONSIDERATIONS AND PERMITS

The following represents anticipated environmental due diligence and/or formal studies that may be required by Federal, State, or local agencies prior to the final planning, design permitting, and construction of certain Airpark facility improvement projects recommended within this Airpark Master Plan Update.

5.14.1 POTENTIAL PROJECTS ENVIRONMENTAL IMPACT EVALUATION

The Short-term, Intermediate-term, and Long-term Projects detailed in this MPU are illustrated in **Figure 5-9**. In order to evaluate potential environmental impacts associated with development of the MPU projects, **Figure 5-10** shows the Airpark in relation to wetlands, streams, floodplains, and water bodies in the vicinity. To identify potential issues associated with future development at the Airpark, an evaluation was conducted using tabularized matrices that allow a comparison of potential environmental impacts associated with each project identified. Based on this evaluation the severity of potential impacts to key environmental resources was assigned a subjective ranking that considered whether or not a particular impact may exceed a significance threshold pursuant to FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures,* and whether an impact could potentially be mitigated below the significance threshold. The impact rating used for this analysis is summarized below.

Ranking Designation	Ranking	Description
A	No Impact	Indicates that a resource is not present or it is evident there would be no impact
В	Temporary Less than Significant Impact <i>without</i> Mitigation	Indicates short-term impacts that typically do not require mitigation. <i>Example: Noise associated with construction equipment.</i>
С	Temporary Less than Significant Impact <i>with</i> Mitigation	Indicates short-term impacts that may involve voluntary mitigation or minimization measures to further reduce impact. Examples: Implementing dust control measures during grading operations to minimize air quality impacts and use of erosion control devices to minimize water quality impacts.
D	Permanent Less than Significant Impact <i>with</i> Mitigation	Indicates long-term, permanent impacts that may involve voluntary mitigation or potentially significant impacts that may be mitigated below significant impact thresholds. Examples: Surface water runoff impacts that can be minimized through design measures and/or mitigation measures.
E	Permanent Significant Impact	Indicates long-term, permanent impacts that are significant and require mitigation. May also involve impacts that are unlikely to obtain necessary approvals and permits. <i>Example: Unavoidable wetland impacts with regional significance or where sufficient mitigation is not available.</i>

Tables 5-1 through 5-3 present a comparison and ranking of the anticipated environmental impacts associated with the projects detailed in this MPU. The tables provide an overview of which impacts are temporary or permanent in nature, which impacts are likely to be significant or not, and which resource categories may involve mandatory or required mitigation. The tables also identify the anticipated level of NEPA documentation required to secure FAA environmental approval of the various projects.



	SHORT-TERM (0-5 YEARS) PROJECTS
	2016 PROJECTS
PROJECT NO.	PROJECT NAME
1	ACQUISITION OF PRIVATELY-OWNED LAND SOUTH OF AIRPARK
2	ACQUIRE AVIGATION EASEMENT WITHIN THE REMAINING NON-OWNED PORTION OF RUNWAY 18 DEPARTURE RPZ
3	ENVIRONMENTAL DUE DILIGENCE FOR THE CLEARING OF THE RPZ PORTION OF NEWLY ACQUIRED LAND SOUTH OF AIRPARK (NOT DEPICTED)
4	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND SOUTH OF AIRPARK (NOT DEPICTED)
5	RELOCATE DISPLACED RUNWAY 36 DISPLACED THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRANCE LIGHTING, AND SIGNAGE
	2017 PROJECTS
PROJECT NO.	PROJECT NAME
6	ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF AIRPARK
7	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND NORTH OF AIRPARK (NOT DEPICTED)
	2018 PROJECTS
PROJECT NO.	PROJECT NAME
8	ENGINEERING, DESIGN, AND PERMITTING FOR REALIGNMENT OF PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ (NOT DEPICTED)
9	CONSTRUCT MAINTENANCE BUILDING WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
	2019 PROJECTS
PROJECT NO.	PROJECT NAME
10	CONSTRUCTION OF REALIGNED PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ
11	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
	2020 PROJECTS
PROJECT NO.	PROJECT NAME
12	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
13	ACQUIRE TRACTOR AND ROTARY MOWER ATTACHMENT (NOT DEPICTED)

2021 PROJECTS PROJECT NO. PROJECT NAME 1 CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK 2 ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK 3 CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED) 2 CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK 4 CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK 5 CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK 6 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 7 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECT NO. PROJECT NAME 7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	INTERMEDIATE-TERM (6-10 YEARS) PROJECTS							
PROJECT NO.PROJECT NAME1CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK2ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK3CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)4CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK5CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK6CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK6CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK6CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK7CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK8INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)9REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)10REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)		2021 PROJECTS						
1CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK2ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK3CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)32022 PROJECTSPROJECT NO.PROJECT NAME4CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK5CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK6CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK6CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK7CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK7CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK8INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECT SPROJECT NO.PROJECT NAME9REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)10REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	PROJECT NO.	PROJECT NAME						
2ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK3CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)3CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)PROJECT NO.PROJECT NAME4CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK5CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK6CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK7CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK7CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK8INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)7CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK8INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)9REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)10REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)	1	CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK						
3CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)2022 PROJECT NO.2022 PROJECTSPROJECT NO.PROJECT NAME4CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK5CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN 	2	ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK						
2022 PROJECTS PROJECT NO. PROJECT NAME CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK CONSTRUCT TARES SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK PROJECT NO. PROJECT NAME CONSTRUCT TWREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK PROJECT NO. PROJECT NAME CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK B INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	3	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)						
PROJECT NO. PROJECT NAME 4 CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK 5 CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK 7 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 7 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE		2022 PROJECTS						
4 CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK 5 CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK PROJECT NO. 2023 PROJECTS PROJECT NO. PROJECT NAME 6 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK PROJECT NO. PROJECT NAME 7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE	PROJECT NO.	PROJECT NAME						
5CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARKPROJECT NO.2023 PROJECTSPROJECT NO.PROJECT NAMECONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARKPROJECT NO.PROJECT NAMECONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARKROJECT NO.PROJECT NAMEROJECT NO.PROJECT NAMEONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARKNORTHUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARKROUTHEAST QUADRANT OF THE AIRPARKNORTHUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARKPROJECT NO.PROJECT NO.PROJECT NO.PROJECT NO.PROJECT NO.PROJECT NO.PROJECT NO.PROJECT NO.REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)10REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	4	CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK						
2023 PROJECTS PROJECT NO. PROJECT NAME CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK PROJECT NO. PROJECT NAME CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK R CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS PROJECT NO. PRELACE PERIMETER FENCING AND GATES (NOT DEPICTED)	5	CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK						
PROJECT NO. PROJECT NAME CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK PROJECT NO. PROJECT NAME CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE		2023 PROJECTS						
6CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK72024 PROJECTSPROJECT NO.PROJECT NAME7CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK8INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)72025 PROJECTSPROJECT NO.PROJECT NAME9REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)10REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	PROJECT NO.	PROJECT NAME						
2024 PROJECTS PROJECT NO. PROJECT NAME CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS PROJECT NO. PROJECT NO. PROJECT NO. PROJECT NO. REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	6	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK						
PROJECT NO. PROJECT NAME 7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS 2025 PROJECTS PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)		2024 PROJECTS						
7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK 8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	PROJECT NO.	PROJECT NAME						
8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED) 2025 PROJECTS PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	7	CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK						
2025 PROJECTS PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	8	INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)						
PROJECT NO. PROJECT NAME 9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)		2025 PROJECTS						
9 REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED) 10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	PROJECT NO.	PROJECT NAME						
10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)	9	REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)						
	10	REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)						

	LONG-TERM (11-20 YEARS) PROJECTS
	(A) AIRFIELD IMPROVEMENTS
PROJECT NO.	PROJECT NAME
1	ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF A
2	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETE AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED NORTH OF AIRPARK (NOT DEPICTED)
3	EXTEND RUNWAY TO THE NORTH AND RELOCATE RUNW THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRAN LIGHTING, AND SIGNAGE (NOT DEPICTED)
4	CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAS QUADRANT OF THE AIRPARK
5	CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APROI NORTHEAST QUADRANT OF THE AIRPARK
6	CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NOR" QUADRANT OF THE AIRPARK
7	CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NOR QUADRANT OF THE AIRPARK
8	CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NC QUADRANT OF THE AIRPARK
9	CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NC QUADRANT OF THE AIRPARK
	(B) ROADWAY IMPROVEMENTS
PROJECT NO.	PROJECT NAME
10	PLAN AND DESIGN RELOCATED PEA FARM ROAD WITH TO COUNTY ROAD 108 (NOT DEPICTED)
11	CONSTRUCT RELOCATED PEA FARM ROAD WITH ACCESS COUNTY ROAD 108



 TABLE 5-1

 0-5 YEAR SHORT-TERM CAPITAL IMPROVEMENT PROJECTS

					Envir	onmental Con	siderations			
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation
Acquisition of Privately-Owned Land South of Airpark	Α	Α	Α	Α	Α	A	Α	Α	Α	CAT EX
Acquire Avigation Easement Within The Remaining Non- Owned Portion of Runway 18 Departure RPZ	A	A	A	A	A	A	A	A	A	CAT EX
Environmental Due Diligence for the Clearing of the RPZ Portion of Newly- Acquired Land South of Airport	A	A	A	A	A	A	A	A	A	CAT EX
Clearing, Grubbing, and Installation of Perimeter Airfield Fencing Around Newly-Acquired Land South of Airpark	A	В	В	В	A	С	A	В	С	DOCUMENTED CAT EX
Relocate Displaced Runway 36 Threshold, Runway End Lighting, Taxipath Entrance Lighting, and Signage	Α	В	В	Α	A	В	A	В	A	CAT EX
Acquisition of Privately-Owned Land North of Airpark	Α	Α	Α	Α	Α	Α	Α	Α	Α	CAT EX

	Environmental Considerations												
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation			
Clearing, Grubbing, and Installation of Perimeter Airfield Fencing Around Newly-Acquired Land North of Airpark	A	В	В	В	A	С	A	В	A	CAT EX			
Engineering, Design and Permitting for Realignment of Pea Farm Road Beyond Runway 36 Departure RPZ	A	A	A	Α	Α	Α	Α	A	Α	NONE			
Construct Maintenance Building Within Southeast Quadrant of the Airpark	A	A	A	A	A	A	A	A	A	CAT EX			
Construction of Realigned Pea Farm Road Beyond Runway 36 Departure RPZ	A	В	В	В	A	A	A	A	A	CAT EX			
Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	A	В	В	В	A	A	A	A	A	CAT EX			
Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	A	В	В	В	A	A	A	В	A	CAT EX			

	Environmental Considerations										
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation	
Acquire Tractor and Rotary Mower Attachment	Α	Α	A	Α	Α	Α	Α	Α	Α	NONE	

 TABLE 5-2
 6-10 YEAR INTERMEDIATE-TERM CAPITAL IMPROVEMENT PROJECTS

					Envir	onmental Con	siderations			
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation
Construct Five-Unit Box Hangar Within Northeast Quadrant of The Airpark	А	В	В	В	A	A	A	A	Α	CAT EX
Acquisition of Privately-Owned Land Along East Side of Airpark	А	А	A	A	A	A	A	A	Α	CAT EX
Clearing, Grubbing, and Installation of Perimeter Airfield Fencing Around Newly-Acquired Land Along East Side of Airpark	A	В	В	A	A	A	A	A	A	CAT EX
Construct Six-Unit Box Hangar Within Northwest Quadrant of The Airpark	Α	В	В	В	A	A	A	A	A	CAT EX
Construct Paved Aircraft Apron Tie- Down Apron Within Northwest Quadrant of The Airpark	A	В	В	В	A	A	A	A	A	CAT EX
Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	Α	В	В	A	A	A	A	A	A	CAT EX

	Environmental Considerations											
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation		
Construct Two Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	A	В	В	A	A	A	A	A	A	CAT EX		
Install Electronic Surveillance System	Α	Α	Α	Α	Α	Α	Α	Α	Α	CAT EX		
Replace Perimeter Fencing and Gates	Α	Α	Α	Α	Α	Α	Α	Α	А	CAT EX		
Replace Rotating Beacon, Runway Lighting, and Signage	Α	В	Α	Α	Α	A	A	Α	А	CAT EX		

 TABLE 5-3

 11-20 YEAR LONG-TERM CAPITAL IMPROVEMENT PROJECTS

	Environmental Considerations											
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation		
Acquisition of Privately-Owned Land North of Airpark	А	Α	Α	Α	A	A	A	Α	А	CAT EX		
Clearing, Grubbing, and Installation of Perimeter Airfield Fencing Around Newly-Acquired Land North of Airpark	Α	В	В	В	A	В	A	В	С	CAT EX		
Extend Runway to the North and Relocate Runway 18 Threshold, Runway End Lighting, Taxipath Entrance Lighting, and Signage	A	В	В	В	A	A	A	В	В	ENVIROMENTAL ASSESSMENT		
Construct Five-Unit Box Hangar Within the Northeast Quadrant of the Airpark	A	В	В	A	A	С	A	В	A	CAT EX		
Construct Paved Aircraft Apron Tie- Down Area Within Northeast Quadrant of the Airpark	Α	В	В	Α	A	С	Α	В	A	CAT EX		
Construct Six-Unit Nested T-Hangar Within Northwest Quadrant	Α	В	В	Α	A	A	Α	Α	Α	CAT EX		

	Environmental Considerations											
Proposed Project	Land Use	Noise	Air Quality	Biological Resources	Coastal Resources	Floodplains	Historic/ Archaeological Resources	Water Quality	Wetlands	NEPA Documentation		
Construct Six-Unit Nested T-Hangar Within Northwest Quadrant	A	В	В	A	A	A	A	A	Α	CAT EX		
Construct Four-Unit Nested T-Hangar Within Northwest Quadrant	A	В	В	A	A	A	A	A	Α	CAT EX		
Construct Four-Unit Nested T-Hangar Within Northwest Quadrant	A	В	В	Α	A	A	A	A	Α	CAT EX		
Plan and Design Relocated Pea Farm Road With Access to County Road 108	A	A	Α	Α	A	A	A	A	Α	CAT EX		
Construct Relocated Pea Farm Road With Access to County Road 108	A	В	В	В	Α	С	Α	С	С	CAT EX		

As shown in **Tables 5-1** through **5-3**, the environmental resource categories having potential for substantial impact include biological resources, wetlands, floodplains, and streams and open water. Based on guidance provided in FAA Order 1050.1A, Section 310, the majority of projects detailed in the MPU would require a Categorical Exclusion to meet NEPA documentation requirements. However, a project, such as the future extension of Runway 18/36, may require the preparation of an Environmental Assessment to fulfill the requirements of NEPA.

SECTION 6.0 IMPLEMENTATION PROGRAM

6.1 INTRODUCTION

The major value of on-airpark planning is to ensure that adequate provisions have been made for continued airpark facility development and that land use is organized in such a fashion that any expenditure for capital improvements will become part of a Long-Term airpark development program. It is not practical, nor is it necessary, to complete all improvements shown in one program. In fact, it would be financially impossible to undertake one massive improvement program identified for the 20-year planning period. It should be a policy to construct new airpark facilities only as activity demand illustrates the economic benefit of making such improvements.

Although Section 5.0 *Airpark Development Plans* present the recommendations for the Airpark's development as two distinct "Future" (0- to 10-year) and "Ultimate" (11- to 20-year) time frames, the anticipated funding of such airpark development will most likely occur as state and/or federal availability dictates. To that end, the anticipated schedule of Airpark development as presented in this Section follows the agency funding framework that is typically accepted as this Airpark's master planning periods 0-5 years (short-term), 6-10 years (intermediate-term), and 11-20 years (long-term).

It should also be pointed out that in using a theory of constructing new airpark facilities only when demand indicates a need, periodic review of the overall plan and individual projects must be made. This review will ensure that any changes in criteria resulting from technological advances will be fully considered as the Airpark's development progresses.

In general, the investigative work undertaken for this Master Plan indicates that priorities should be established as follows:

- Ensure that all airfield elements are adequate and permit for safe and efficient aircraft operations,
- Develop additional aviation-related and non-aviation related facilities to enhance the Airpark's revenue or revenue development opportunities,
- Acquire and control land airpark-compatible land uses, through zoning to permit airfield expansion, to preclude incompatible land use encroachment, and provide adequate noise buffer zones,
- Reserve aviation development areas to meet Long-Term airpark aircraft activity demands, and
- Develop non-aviation industrial/commercial areas to enhance the Airpark's revenue or revenue-development activities.

Under this general priority list, it is possible to outline improvement programs for the stages consistent with the financial capability of the Airpark to implement the programs. The following paragraphs set forth the programs on this basis. Recommended Airpark improvements are illustrated in **Figure 6-1**.

It should be noted that potential changes in the funding capability of the Town of Hilliard and federal or state governments might require delaying certain airpark facility development actions until funding is available.

Effective July 1, 2001, Section 5 of House Bill 1225, enacted during the 2001 Legislative Session, provides financial assistance to certain rural counties and communities. This legislation provides that, notwithstanding any other law, member agencies and organizations of the *Rural Economic Development Initiative (REDI)* shall review the financial match requirements for projects in rural areas. The Department of Transportation (FDOT) is a member of REDI. Counties and communities that meet certain statutory criteria may request a waiver or reduction of the match requirements for such projects.

This program is administered through Department Policy, and the Work Program instructions. The Office of Policy Planning provides overall coordination. The Districts are responsible for working with local project sponsors to resolve specific issues related to project scopes and funding.

Certain rural counties and communities have been approved by the Governor's Office of Division of Strategic Business Development (formerly the Governor's Office of Tourism, Trade & Economic Development, or OTTED / REDI), and are currently eligible to request a waiver or reduction of project match requirements. Nassau County located in the FDOT's District 2 is one such county.

The current funding plan indicates that projects will be eligible for the REDI local share waiver, but if that is not available then the local share will be 5% of Federally funded projects and 20% of State funded projects.

In an effort to simplify the described location of recommended 20-year facility improvement activities that are anticipated to occur within the existing boundaries of the Airpark and within land areas that may be acquired in the future, a four-corner Quadrant system is utilized (e.g., Southeast, Southwest, Northwest and Northeast).



	SHORT-TERM (0-5 YEARS) PROJECTS
	2016 PROJECTS
PROJECT NO.	PROJECT NAME
1	ACQUISITION OF PRIVATELY-OWNED LAND SOUTH OF AIRPARK
2	ACQUIRE AVIGATION EASEMENT WITHIN THE REMAINING NON-OWNED PORTION OF RUNWAY 18 DEPARTURE RPZ
3	ENVIRONMENTAL DUE DILIGENCE FOR THE CLEARING OF THE RPZ PORTION OF NEWLY ACQUIRED LAND SOUTH OF AIRPARK (NOT DEPICTED)
4	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND SOUTH OF AIRPARK (NOT DEPICTED)
5	RELOCATE DISPLACED RUNWAY 36 DISPLACED THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRANCE LIGHTING, AND SIGNAGE
	2017 PROJECTS
PROJECT NO.	PROJECT NAME
6	ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF AIRPARK
7	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND NORTH OF AIRPARK (NOT DEPICTED)
	2018 PROJECTS
PROJECT NO.	PROJECT NAME
8	ENGINEERING, DESIGN, AND PERMITTING FOR REALIGNMENT OF PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ (NOT DEPICTED)
9	CONSTRUCT MAINTENANCE BUILDING WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
	2019 PROJECTS
PROJECT NO.	PROJECT NAME
10	CONSTRUCTION OF REALIGNED PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ
11	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
	2020 PROJECTS
PROJECT NO.	PROJECT NAME
12	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
13	ACQUIRE TRACTOR AND ROTARY MOWER ATTACHMENT (NOT DEPICTED)

IN	TERMEDIATE-TERM (6-10 YEARS) PROJECTS
	2021 PROJECTS
PROJECT NO.	PROJECT NAME
1	CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK
2	ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF THE AIRPARK
3	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (NOT DEPICTED)
	2022 PROJECTS
PROJECT NO.	PROJECT NAME
4	CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK
5	CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK
	2023 PROJECTS
PROJECT NO.	PROJECT NAME
6	CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
	2024 PROJECTS
PROJECT NO.	PROJECT NAME
7	CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK
8	INSTALL ELECTRONIC SURVEILLANCE SYSTEM (NOT DEPICTED)
	2025 PROJECTS
PROJECT NO.	PROJECT NAME
9	REPLACE PERIMETER FENCING AND GATES (NOT DEPICTED)
10	REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (NOT DEPICTED)

	LONG-TERM (11-20 YEARS) PROJECTS
	(A) AIRFIELD IMPROVEMENTS
PROJECT NO.	PROJECT NAME
1	ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF A
2	CLEARING, GRUBBING, AND INSTALLATION OF PERIMETE AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED NORTH OF AIRPARK (NOT DEPICTED)
3	EXTEND RUNWAY TO THE NORTH AND RELOCATE RUNW THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRAN LIGHTING, AND SIGNAGE (NOT DEPICTED)
4	CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAS QUADRANT OF THE AIRPARK
5	CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APROI NORTHEAST QUADRANT OF THE AIRPARK
6	CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NOR QUADRANT OF THE AIRPARK
7	CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NOR QUADRANT OF THE AIRPARK
8	CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NC QUADRANT OF THE AIRPARK
9	CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NC QUADRANT OF THE AIRPARK
	(B) ROADWAY IMPROVEMENTS
PROJECT NO.	PROJECT NAME
10	PLAN AND DESIGN RELOCATED PEA FARM ROAD WITH TO COUNTY ROAD 108 (NOT DEPICTED)
11	CONSTRUCT RELOCATED PEA FARM ROAD WITH ACCESS COUNTY ROAD 108



6.2 SHORT-TERM CAPITAL IMPROVEMENTS (0-5 YEARS)

The program recommends specific annual Airpark improvements beginning in 2016 and continuing through 2020. The major items discussed within the five-year Capital Improvement Program (CIP) include land acquisition that may likely occur beyond the current southern and northern property boundaries of the Airpark, the clearing and grubbing and fencing of newly acquired land parcels and the construction of needed hangar and aircraft tie-down facilities.

The following describes the anticipated phased development within the short-term (0-5 year) planning period. As listed in **Table 6-1**, the order of magnitude costs are given in 2015 dollars. The total projected cost for this 5-year period is estimated to be \$4,270,000.

6.2.1 Acquisition of Privately-Owned Land South of Airpark (2016)

- <u>Project Narrative</u>: Acquisition of 6.21 acre parcel (Listed as Parcel 3) owned by the Hilliard Congregation of Jehovah's Witnesses located adjacent to and south of the Airpark and shown in **Figure 2-4**.
- <u>Project Justification</u>: Because of the proximity and height of tall trees located within this privatelyowned land parcel located adjacent to, and immediately south of the Airpark, the Runway 36 threshold has been displaced 730 feet to protect navigable airspace for visual landings to Runway 36. When acquired and cleared of trees, the Runway 36 threshold can be relocated 120 feet to the south reducing the threshold displacement to a distance of 610 feet from the end of the runway.

Project Cost: The estimated project cost is \$400,000.

6.2.2 ACQUIRE AVIGATION EASEMENT WITHIN REMAINING NON-OWNED PORTION OF RUNWAY 18 DEPARTURE RPZ (2016)

- <u>Project Narrative</u>: Acquisition of Avigation Easements for non-airpark lands situated within nonairport owned portions of the existing and planned future Runway Protection Zones (RPZs) located beyond the south end of the runway.
- <u>Project Justification</u>: Existing and proposed future RPZs located beyond the south end of the runway are established to enhance the safety and protection of people and property on the ground. Currently, land area located beyond each end of the runway present incompatible land uses that include: a small lake and a commercial warehouse within the limits of the Runway 18 Departure RPZ.

Although control over land uses, activities or local land use zoning within the limits of the Airpark's Runway 18 Departure RPZ is best achieved through Fee Simple acquisition, it is recognized that acquisition of Avigation Easements for land not owned by the Town of Hilliard may suffice.

Project Cost: The estimated project cost is \$150,000.

6.2.3 ENVIRONMENTAL DUE DILIGENCE FOR THE CLEARING OF THE RPZ PORTION OF NEWLY ACQUIRED LAND SOUTH OF AIRPORT (2016)

- <u>Project Narrative</u>: Environmental due diligence to minimize or avoid adverse environmental impacts to environmentally-sensitive land areas associated with clearing, grubbing, and tree removal.
- <u>Project Justification</u>: Because of the potential for the existence of wetlands within a portion of the land parcel that will be cleared of trees and natural vegetation, environmental due diligence in the form of a documented Categorical Exclusion will most likely be required based on guidance provided in FAA Order 1050.1A to fulfill the requirements.

Project Cost: The estimated project cost is \$25,000.

6.2.4 CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND SOUTH OF AIRPARK (2016)

- <u>Project Narrative:</u> Clearing and grubbing of natural vegetation and/or removal of existing trees and incompatible natural or man-made objects. Installation of FAA- and TSA-approved perimeter security fencing of newly-acquired land to tie into the Airpark's existing perimeter fencing system.
- <u>Project Justification</u>: Removal of all above-ground natural or man-made objects within the limits of the RPZ is prescribed by FAA's Advisory Circular 150/5300-13A, *Airport Design*, Change 1. Perimeter fencing will need to be installed to preclude inadvertent entry of people or animals onto the Airpark.
- Project Cost: The estimated project cost is \$335,000.

6.2.5 RELOCATE DISPLACED RUNWAY 36 THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRANCE LIGHTING, AND SIGNAGE (2016)

- <u>Project Narrative</u>: Relocation of existing runway end lights and the taxipath entry and exit location edge lights at south end of runway.
- <u>Project Justification</u>: Following the acquisition and clearing of the land parcel south of the Airpark, the relocation of the displaced Runway 36 threshold 120 feet southward is recommended to provide increased Landing Distance Available (LDA) length. When relocated, the runway end lights and taxipath entry and exit location edge light should be relocated accordingly.
- <u>Project Cost</u>: The estimated project cost is \$110,000.

6.2.6 ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF AIRPARK (2017)

<u>Project Narrative:</u> The Town of Hilliard desires to remedy non-standard Airpark design conditions by relocating Pea Farm Road 1,190 feet to the north. These actions will serve to provide the requisite safety-related cleared and graded land areas beyond the north end of the runway to:

- Remove encroachment of the RSA and ROFA beyond the north end of the runway,
- Eliminate the 400-foot displacement of the Runway 18 threshold,
- Mitigate or eliminate Declared Distances for arrival to Runway 18 and departures from Runway 36, and
- Eliminate non-compatible land uses within the Approach and Departure RPZs beyond the north end of the runway.

Partial acquisition of 1.6 acre parcel (Listed as Parcel 11 in **Figure 2-4**) of publicly-owned and 38.22 acres of privately-owned land (Listed as Parcels 13, 14, and 15 in **Figure 2-4**) will be required.

- <u>Project Justification</u>: The northern-most end of Runway 18/36 is located within 16 feet from the airfield security fence, adjacent Pea Farm Road and its associated drainage swale system. The proximity of these features presents four separate and unique non-standard airpark design conditions. There are also non-compatible land uses within the Approach and Departure RPZs beyond the north end of the runway.
- Project Cost: The estimated project cost is \$750,000.

6.2.7 CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND NORTH OF AIRPARK (2017)

- <u>Project Narrative</u>: Clearing and grubbing of natural vegetation and/or removal of existing trees and incompatible natural or man-made objects within Parcels 11, 13, 14, and 15 that are listed in **Figure 2-4**. Installation of FAA- and TSA-approved perimeter security fencing of newly-acquired land (Listed as Parcels 11, 13, 14, and 15 in **Figure 2-4**) to tie into the Airpark's existing perimeter fencing system.
- <u>Project Justification</u>: Removal of all above-ground natural or man-made objects within land areas to be used for existing and/or future RPZs is prescribed by FAA's Advisory Circular 150/5300-13A, *Airport Design,* Change 1. Perimeter fencing will need to be installed to preclude inadvertent entry of people or animals onto the Airpark.

Project Cost: The estimated project cost is \$600,000.

6.2.8 ENGINEERING, DESIGN, AND PERMITTING FOR REALIGNMENT OF PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ (2018)

- <u>Project Narrative</u>: Within this planning period, it is proposed that the design and permitting for the northward relocation of Pea Farm Road occur within a newly established right of way that would be established beyond the limits of the current Runway 36 Departure RPZ.
- <u>Project Justification</u>: To remedy non-standard airpark design conditions, the 1,190-foot relocation of Pea Farm Road to the north will be required.
- Project Cost: The estimated project cost is \$150,000.

6.2.9 CONSTRUCT MAINTENANCE BUILDING WITHIN SOUTHEAST QUADRANT OF THE AIRPARK (2018)

- <u>Project Narrative</u>: This project involves the construction of a 30-foot by 40-foot Maintenance Building to accommodate and securely store Airpark mowers, tractors and other related maintenance equipment.
- <u>Project Justification</u>: The Airpark currently has no similar dedicated maintenance storage facility.
- Project Cost: The estimated project cost is \$125,000.

6.2.10 CONSTRUCTION OF REALIGNED PEA FARM ROAD BEYOND RUNWAY 36 DEPARTURE RPZ (2019)

- <u>Project Narrative</u>: Within this planning period, it is proposed that the construction of a relocated Pea Farm Road occur within the newly established right of way to the north beyond the limits of the current Runway 36 Departure RPZ.
- <u>Project Justification</u>: To remedy non-standard airpark design and land use compatibility conditions, the 1,190-foot relocation of Pea Farm Road to the north will be required.
- Project Cost: The estimated project cost is \$870,000.

6.2.11 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK (2019)

- <u>Project Narrative</u>: Construction of up to three additional single-unit box type hangars along the east side of the runway. It is anticipated that such development will occur in a sequenced north-to-south direction.
- <u>Project Justification</u>: It is anticipated that demand for parcel-based land lease and construction of single-unit box hangars will occur within this planning period. To satisfy this demand, the Town of Hilliard will develop such hangars as demand dictates.
- <u>Project Cost</u>: The estimated project cost is \$340,000.

6.2.12 ACQUIRE TRACTOR AND ROTARY MOWER ATTACHMENT (2020)

- <u>Project Narrative</u>: Scheduled upgrade or wholesale replacement of existing mowers and tractors.
- <u>Project Justification</u>: Needed replacement of airpark maintenance equipment at end of useful life and utility.

Project Cost: The estimated project cost is \$75,000.

6.2.13 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK (2020)

- <u>Project Narrative</u>: Construction of up to three additional single-unit box type hangars along the east side of the runway. It is anticipated that such development will occur in a sequenced north-to-south direction.
- <u>Project Justification</u>: It is anticipated that demand for parcel-based land lease and construction of single-unit box hangars will occur within this planning period. To satisfy this demand, the Town of Hilliard will develop such hangars as demand dictates.

Project Cost:

The estimated project cost is \$340,000.

DRAFT TABLE 6-1 SHORT-TERM CAPITAL IMPROVEMENTS (0-5 YEARS) HILLIARD AIRPARK MASTER PLAN UPDATE

Year	Project Description	Federal	State	Local	Total Project Cost Estimate
	Acquisition of Privately-Owned Land South of Airpark	360,000	40,000	0	400,000
	Acquire Avigation Easement Within The Remaining Non-Owned Portion of Runway 18 Departure RPZ	135,000	15,000	0	150,000
2016	Environmental Due diligence for the Clearing of the RPZ Portion of Newly Acquired Land South of Airport	22,500	2,500	0	25,000
	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around Newly Acquired Land South of Airpark	301,500	33,500	0	335,000
	Relocate Displaced Runway 36 Threshold, Runway End Lighting, Taxipath Entrance Lighting, and Signage	99,000	11,000	0	110,000
	Total Costs 2016 Projects	918,000	102,000	0	1,020,000
	Acquisition of Privately-Owned Land North of Airpark	675,000	75,000	0	750,000
2017	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around Newly Acquired Land North of Airpark	540,000	60,000	0	600,000
	Total Costs 2017 Projects	1,215,000	135,000	0	1,350,000
2018	Engineering, Design and Permitting for Realignment of Pea Farm Road Beyond Runway 36 Departure RPZ	135,000	15,000	0	150,000
	Construct Maintenance Building Within Southeast Quadrant of the Airpark	0	125,000	0	125,000
	Total Costs 2018 Projects	135,000	140,000	0	275,000
2010	Construction of Realigned Pea Farm Road Beyond Runway 36 Departure RPZ	783,000	87,000	0	870,000
2019	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	0	340,000	0	340,000
	Total Costs 2019 Projects	783,000	427,000	0	1,210,000
2020	Acquire Tractor and Rotary Mower Attachment	0	75,000	0	75,000
2020	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	0	340,000	0	340,000
	Total Costs 2020 Projects	0	415,000	0	415,000
	Total Costs 0-5 Year Projects	3,051,000	1,219,000	0	4,270,000

6.3 INTERMEDIATE-TERM CAPITAL IMPROVEMENTS (6-10 YEARS)

The following is a list of the intermediate-term (6- to 10-year) development items for the Hilliard Airpark. Several items listed include facilities and airfield improvements, which would be constructed as the need is justified. The program recommends specific annual Airpark improvements beginning in 2021 and continuing through 2025. The development of needed airpark facility improvements will continue and the costs presented in this plan represent an order of magnitude estimate and serve to support preliminary budget decision making actions.

The following describes the anticipated phased development within the intermediate-term (6-10 year) planning period. As listed in **Table 6-2**, the order of magnitude costs are given in 2015 dollars. The total projected cost for this 5-year period is estimated to be \$3,383,000.

6.3.1 CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK (2021)

- <u>Project Narrative</u>: Construction of a five-unit Box Hangar within the northeast quadrant of the Airpark within newly-acquired land north of the former Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this multi-unit Box Hangar will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$665,000.

6.3.2 ACQUISITION OF PRIVATELY-OWNED LAND ALONG EAST SIDE OF AIRPARK (2021)

- Project Narrative: To allow continued construction of additional single-unit box type hangars along the east side of the runway, Parcels listed as 8, 10, and 11 and shown in Figure 2-4 will be acquired. It is anticipated that such development will occur in a sequenced north-to-south direction.
- <u>Project Justification</u>: It is anticipated that demand for parcel-based land lease and construction of single-unit box hangars will occur within this planning period. To satisfy this demand, the Town of Hilliard will develop such hangars as demand dictates.

Project Cost: The estimated project cost is \$35,000.

6.3.3 CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND ALONG EAST SIDE OF AIRPARK (2021)

- <u>Project Narrative:</u> Clearing and grubbing of natural vegetation and/or removal of existing trees and incompatible natural or man-made objects within Parcels listed as 8, 9, and 10 in **Figure 2-4**. Installation of FAA- and TSA-approved perimeter security fencing of newly-acquired land Parcels listed as 8, 10, and 11 in **Figure 2-4** to tie into the Airpark's existing perimeter fencing system.
- <u>Project Justification</u>: Removal of all above-ground natural or man-made objects to allow continued construction of single-unit hangars. Perimeter fencing will need to be installed to preclude inadvertent entry of people or animals onto the Airpark.

Project Cost: The estimated project cost is \$150,000.

6.3.4 CONSTRUCT SIX-UNIT BOX HANGAR WITHIN NORTHWEST QUADRANT OF THE AIRPARK (2022)

- <u>Project Narrative</u>: Construction of a six-unit Box Hangar within the northwest quadrant of the Airpark within newly-acquired land north of the former Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this multi-unit Box Hangar will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$800,000.

6.3.5 CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN APRON WITHIN NORTHWEST QUADRANT OF THE AIRPARK (2022)

<u>Project Narrative:</u> Construction of a paved aircraft tie-down apron be constructed within the northwest quadrant of the Airpark within newly-acquired land north of the former Pea Farm Road location.

<u>Project Justification</u>: It is anticipated that this multi-aircraft tie-down apron will be constructed as demand dictates.

Project Cost: The estimated project cost is \$218,000.

6.3.6 CONSTRUCT THREE SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK (2023)

- <u>Project Narrative</u>: Continued construction of up to three additional single-unit box type hangars along the east side of the runway. It is anticipated that such development will occur in a sequenced north-to-south direction.
- <u>Project Justification</u>: It is anticipated that demand for parcel-based land lease and construction of single-unit box hangars will occur within this planning period. To satisfy this demand, the Town of Hilliard will develop such hangars as demand dictates.
- Project Cost: The estimated project cost is 340,000.

6.3.7 CONSTRUCT TWO SINGLE-UNIT BOX HANGARS WITHIN SOUTHEAST QUADRANT OF THE AIRPARK (2024)

- <u>Project Narrative</u>: Continued construction of up to two additional single-unit box type hangars along the east side of the runway. It is anticipated that such development will occur in a sequenced north-to-south direction.
- <u>Project Justification</u>: It is anticipated that demand for parcel-based land lease and construction of single-unit box hangars will occur within this planning period. To satisfy this demand, the Town of Hilliard will develop such hangars as demand dictates.

Project Cost: The estimated project cost is \$250,000.

6.3.8 INSTALL ELECTRONIC SURVEILLANCE SYSTEM (2024)

<u>Project Narrative</u>: The Transportation Security Administration (TSA) has developed guidance, in cooperation with the general aviation community, to provide general aviation airpark owners, operators, and users with guidelines and recommendations that

address aviation security concepts, technology, and enhancements. These guidelines and recommendations are found within Information Publication A-001, *Security Guidelines for General Aviation Airports,* published in May 2004.

- <u>Project Justification</u>: Based upon a review of the TSA's recommendations it is recommended that the Airpark's existing code-entry access control system be upgraded. It is further recommended that the Town of Hilliard conduct an evaluation in the near-term to determine the extent of additional signs and camera coverage that is needed to support airpark surveillance activities.
- Project Cost: The estimated project cost is \$200,000.

6.3.9 REPLACE PERIMETER FENCING AND GATES (2025)

<u>Project Narrative</u>: Replacement of perimeter security fencing and access gate systems.

<u>Project Justification</u>: Replacement and/or upgrade of aging perimeter security fencing to maintain required level of airpark security per FAA and TSA guidelines.

Project Cost: The estimated project cost is \$350,000.

6.3.10 REPLACE ROTATING BEACON, RUNWAY LIGHTING, AND SIGNAGE (2025)

Project Narrative: Replacement and/or Upgrade of Airpark Facilities

- <u>Project Justification</u>: Replacement and/or upgrade of aging Airpark facilities as they reach the end of their designed useful life and utility.
- Project Cost: The estimated project cost is \$375,000.

<u>DRAFT</u>

TABLE 6-2 INTERMEDIATE-TERM CAPITAL IMPROVEMENTS (6-10 YEARS) HILLIARD AIRPARK MASTER PLAN UPDATE

Year	Project Description	Federal	State	Local	Total Project Cost Estimate
	Construct Five-Unit Box Hangar Within Northeast Quadrant of The Airpark	0	665,000	0	665,000
2021	Acquisition of Privately-Owned Land Along East Side of Airpark	0	35,000	0	35,000
2021	Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around Newly Acquired Land Along East Side of Airpark	0	150,000	0	150,000
	Total Costs 2021 Projects	0	850,000	0	850,000
	Construct Six-Unit Box Hangar Within Northwest Quadrant of The Airpark	0	800,000	0	800,000
2022	Construct Paved Aircraft Apron Tie-Down Apron Within Northwest Quadrant of The Airpark	196,200	21,800	0	218,000
	Total Costs 2022 Projects	196,200	821,800	0	1,018,000
2023	Construct Three Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	0	340,000	0	340,000
	Total Costs 2023 Projects	0	340,000	0	340,000
2024	Construct Two Single-Unit Box Hangars Within Southeast Quadrant of the Airpark	0	250,000	0	250,000
	Install Electronic Surveillance System	0	200,000	0	200,000
	Total Costs 2024 Projects	0	450,000	0	450,000
	Replace Perimeter Fencing and Gates	315,000	35,000	0	350,000
2025	Replace Rotating Beacon, Runway Lighting, and Signage	337,500	37,500	0	375,000
	Total Costs 2025 Projects	652,500	72,500	0	725,000
	Total Costs 6-10 Year Projects	848,700	2,534,300	0	3,383,000

6.4 LONG-TERM CAPITAL IMPROVEMENTS (11-20 YEARS AND BEYOND)

The following is a list of the long term (11-20 years) development items for the Hilliard Airpark. These long term items are hard to identify by years based on need, justification and funding. The long-term items are grouped by airfield projects and roadway projects. The program recommends specific annual airpark improvements beginning in 2026 and continuing through 2035.

The following describes the anticipated phased development within the long-term (11-20 year) planning period. As listed in **Table 6-3**, the order of magnitude costs are given in 2015 dollars. The total projected cost for this 10-year period is estimated to be \$5,163,000.

6.4.1 ACQUISITION OF PRIVATELY-OWNED LAND NORTH OF AIRPARK

Project Narrative: To provide the capability to develop an additional aircraft tie-down area, additional hangars, and to extend Runway 18/36 feet to the north when demand dictates, this Airpark Master Plan Update recommends the acquisition of Parcels listed as 19, 20, and 21 and shown in **Figure 2-4**, privately-owned land parcels located immediately adjacent to and north of the Airpark and a second 640-foot northward relocation of Pea Farm Road, connecting directly to CR 108.

Following the second relocation of Pea Farm Road, the phased construction of additional nested T-hangar facilities and additional tie-down facilities can be developed as demand dictates.

<u>Project Justification</u>: Continued demand for airpark facilities to accommodate aircraft basing demand.

Project Cost: The estimated project cost is \$300,000.

6.4.2 CLEARING, GRUBBING, AND INSTALLATION OF PERIMETER AIRFIELD SECURITY FENCING AROUND NEWLY ACQUIRED LAND NORTH OF AIRPARK

- <u>Project Narrative:</u> Clearing and grubbing of natural vegetation and/or removal of existing trees and incompatible natural or man-made objects. Installation of FAA- and TSA-approved perimeter security fencing of newly-acquired land to tie into the Airpark's existing perimeter fencing system.
- <u>Project Justification</u>: Removal of all above-ground natural or man-made objects within the limits of the RPZ is prescribed by FAA's Advisory Circular 150/5300-13A, *Airport Design*, Change 1. Perimeter fencing will need to be installed to preclude inadvertent entry of people or animals onto the Airpark.
- Project Cost: The estimated project cost is \$350,000.

6.4.3 EXTEND RUNWAY TO THE NORTH AND RELOCATE RUNWAY 18 THRESHOLD, RUNWAY END LIGHTING, TAXIPATH ENTRANCE LIGHTING, AND SIGNAGE

<u>Project Narrative</u>: Extension of Runway 18/36 to provide increased runway take-off lengths and relocation of existing runway end lights and taxipath entry and exit location at north end of runway.

Project Justification: The Town of Hilliard has an expressed long-term and strategic goal of facilitating the continued future growth of the Airpark to better support the light recreational general aviation activity. To that end, extension of the turf runway 626 feet to the north within the cleared, graded, and secured newly acquired land parcels to north is recommended to better accommodate aircraft-specific runway take-off requirements during hottest day conditions. Following the acquisition and clearing of the land parcel north of the Airpark, the relocation of the Runway 18 threshold 626 feet northward is recommended to provide increased TORA, TODA, ASDA, and LDA lengths. When relocated, the runway end lights and taxipath entry and exit location edge lights should be relocated accordingly.

Project Cost: The estimated project cost is \$400,000.

6.4.4 CONSTRUCT FIVE-UNIT BOX HANGAR WITHIN NORTHEAST QUADRANT OF THE AIRPARK

- <u>Project Narrative</u>: Construction of a five-unit Box Hangar within the northeast quadrant of the Airpark within newly-acquired land north of the previously-relocated Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this multi-unit Box Hangar will be constructed as demand dictates.

Project Cost: The estimated project cost is \$665,000.

6.4.5 CONSTRUCT PAVED AIRCRAFT APRON TIE-DOWN AREA WITHIN NORTHEAST QUADRANT OF THE AIRPARK

- <u>Project Narrative</u>: Construction of a paved apron tie-down apron within the northeast quadrant of the Airpark within newly-acquired land north of the previously-relocated Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this paved tie-down apron will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$218,000.

6.4.6 CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NORTHWEST QUADRANT

- <u>Project Narrative</u>: Construction of a six-unit (nested) T-Hangar facility within the northwest quadrant of the Airpark within newly-acquired land north of the previous Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this nested T-hangar facility will be constructed as demand dictates.
- <u>Project Cost</u>: The estimated project cost is \$800,000.

6.4.7 CONSTRUCT SIX-UNIT NESTED T-HANGAR WITHIN NORTHWEST QUADRANT

- <u>Project Narrative</u>: Construction of a six-unit (nested) T-Hangar facility within the northwest quadrant of the Airpark within newly-acquired land north of the previous Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this nested T-hangar facility will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$800,000.

6.4.8 CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NORTHWEST QUADRANT

- <u>Project Narrative</u>: Construction of a four-unit (nested) T-Hangar facility within the northwest quadrant of the Airpark within newly-acquired land north of the previous Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this nested T-hangar facility will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$550,000.

6.4.9 CONSTRUCT FOUR-UNIT NESTED T-HANGAR WITHIN NORTHWEST QUADRANT

- <u>Project Narrative</u>: Construction of a four-unit (nested) T-Hangar facility within the northwest quadrant of the Airpark within newly-acquired land north of the previous Pea Farm Road location.
- <u>Project Justification</u>: It is anticipated that this nested T-hangar facility will be constructed as demand dictates.
- Project Cost: The estimated project cost is \$550,000.

6.4.10 PLAN AND DESIGN RELOCATED PEA FARM ROAD WITH ACCESS TO COUNTY ROAD 108

- <u>Project Narrative</u>: Required planning and design for the second relocation of Pea Farm Road.
- <u>Project Justification</u>: To provide the capability to develop an additional aircraft tie-down area, additional hangars, and to extend Runway 18/36 feet to the north when demand dictates, this Airpark Master Plan Update recommends the acquisition of additional privately-owned land located immediately adjacent to and north of the Airpark. This will require the acquisition of three additional privately-owned land parcels and second 640-foot northward relocation of Pea Farm Road and its associated right of way.

Project Cost: The estimated project cost is \$80,000.

6.4.11 CONSTRUCT RELOCATED PEA FARM ROAD WITH ACCESS TO COUNTY ROAD 108

<u>Project Narrative</u>: Construction of second relocation of Pea Farm Road.

Project Justification: To provide the capability to develop an additional aircraft tie-down area, additional hangars, and to extend Runway 18/36 feet to the north when demand dictates, this Airpark Master Plan Update recommends the acquisition of additional privately-owned land located immediately adjacent to and north of the Airpark. This will require the acquisition of three additional privately-owned land parcels and second 640-foot northward relocation of Pea Farm Road and its associated right of way.

Project Cost: The estimated project cost is \$450,000.

TABLE 6-3 LONG-TERM CAPITAL IMPROVEMENTS (11-20 YEARS) HILLIARD AIRPARK MASTER PLAN UPDATE

Project Description	Federal	State	Local	Total Project Cost Estimate
Airfield Improv	ements			
Acquisition of Privately-Owned Land North of Airpark	270,000	30,000	0	300,000
Clearing, Grubbing, and Installation of Perimeter Airfield Security Fencing Around Newly Acquired Land North of Airpark	315,000	35,000	0	350,000
Extend Runway to the North and Relocate Runway 18 Threshold, Runway End Lighting, Taxipath Entrance Lighting, and Signage	360,000	40,000	0	400,000
Construct Five-Unit Box Hangar Within the Northeast Quadrant of the Airpark	0	665,000	0	665,000
Construct Paved Aircraft Apron Tie-Down Area Within Northeast Quadrant of the Airpark	196,200	21,800	0	218,000
Construct Six-Unit Nested T-Hangar Within Northwest Quadrant	0	800,000	0	800,000
Construct Six-Unit Nested T-Hangar Within Northwest Quadrant	0	800,000	0	800,000
Construct Four-Unit Nested T-Hangar Within Northwest Quadrant	0	550,000	0	550,000
Construct Four-Unit Nested T-Hangar Within Northwest Quadrant	0	550,000	0	550,000
Total Costs Airfield Improvements	1,141,200	3,491,800	0	4,633,000
Roadway Improv	vements			
Plan and Design Relocated Pea Farm Road With Access to County Road 108	72,000	8,000	0	80,000
Construct Relocated Pea Farm Road With Access to County Road 108	405,000	45,000	0	450,000
Total Costs Roadway Improvements	477,000	53,000	0	530,000
Total Costs 11-20 Year Projects	1,618,200	3,544,800	0	5,163,000

AIRPORT LAYOUT PLANS HILLIARD AIRPARK



FAA AIP PROJECT No. 3-12-0099-007-2012 FDOT GRANT No. 42866519410

PREPARED BY:



URS Corporation 7650 West Courtney Campbell Causeway Tampa, FL 33607-1462

AUGUST 2016



LOCATION MAP

INDEX OF DRAWINGS	
TITLE	SHEET NO.
AIRPORT LAYOUT DRAWING	1 OF 7
AIRPORT AIRSPACE DRAWING	2 OF 7
INNER PORTION OF THE APPROACH SURFACE DRAWING - RUNWAY 18	3 OF 7
INNER PORTION OF THE APPROACH SURFACE DRAWING - RUNWAY 36	4 OF 7
BUILDING AREA PLAN	5 OF 7
LAND USE PLAN	6 OF 7
AIRPORT PROPERTY MAP	7 OF 7





VICINITY MAP



		RUNWAY	18/36	
	EXIS	TING	FUTURE/	ULTIMATE
	3,6	00	4,226	
	12	5	SAI	AE .
)	A/B/1/	(S)/VIS	A/B/I/	(S)/VIS
(RRC)	A/B/I/	(S)/VIS	A/B/I/	(s)/vis
	CESSN	M 172	SAI	Æ
	0.	08	0.0	06
ATHER-10.5 KNOTS)	91	.51	SAI	AE .
SURFACE TYPE/FRICTION	TURF		SAI	Æ
STRENGTH (000 lbs.)	N/A 58.0		SA	AE
I (NAVD 88) (MSL)			SAME	
	м	RL	SANE	
	VISI	JAL	SA	VE
	18	36	18	36
38) (MSL) (SEE NOTE 1)	54.1	51.3	54.0	SAME
LATITUDE	30'41'27.2900'N 30'40'51.6700'N 3		30 41 33.4845 N	SAME
LONGITUDE	081°54'23.2200*W	081'54'22.4500'W	081'54'23.3539"W	SAME
LENGTH (FT.)	1,000	1,000	SAME	SAME
WIDTH-INNER/OUTER (FT.)	500/700	500/700	SAME	SAME
	NONE	NONE	SAME	SAME
DNE ELEVATIONS (MSL)	N/A	N/A N/A		SAME
APPROACH CATEGORY	VISUAL	VISUAL	SAME	SAME
SURFACE SLOPES	20:1 20:1		SAME	SAME
ELECTRONIC NAVIGATION AIDS	NONE NONE		SANE	SAME
VISUAL APPROACH AIDS	PAPI-2R	PAPI-2R	SANE	SAME
расн	VISUAL	VISUAL	SAME	SAME
MS (STATUTE NILES)	N/A	N/A	SAME	SAME
	W=120		SAME	
ND OF RUNWAY (FT.)	BOE=240		SAME	
(ROFA)	W=3	250	SAI	AE .
ND OF RUNWAY (FT.)	BDE-	240	SAI	Æ
INE (OFZ)	W-	120	SAI	AE
(FT.)	BRE-	200	SAI	AF







RUNWAY 18 INNER APPROACH SURFACE PLAN VIEW



RUNWAY 18 INNER APPROACH SURFACE PROFILE VIEW



	(a) EL 553 VL 6 ± 7 VL 7	UC60 (277) (3) ASTWOOR PL. US US US	APPROACH No. REVISIONS BY APP. DATE NO. NAME AND APPROACH NO. NAME	
vation (feet) MSL			INNER PORTION OF THE / SURFACE DRAWING - RU	HILLIARD AIRPAR HILLIARD, FLORIDA
ELE			PREPARED FOR TOWN OF HILLIARD	NASSAU COUNTY, FLORIDA
REGULATIONS CROADWAY, VRAILROAD USING THE ALLY TO THE OR THE OBSTACLE VGE SURFACE	(4.4) <u>V48, 941</u> 70	<u>3 ∥</u> ∠E NORTH	DESIGNED: RJM DRWIN: RJM PROJECT MANAG	CHECKED: <u>MLT</u>



RUNWAY 36 INNER APPROACH SURFACE PLAN VIEW





NOTES: 1. THE VERTEAL CLARANCE (V.C.) OVER ROADS FEE CODE OF FEDERAL REGUL 15. UT / EET WATREAL CLARANCE (V.C.) OVER ROADS FEE CODE OF FEDERAL ROBUL 15. UT / EET FOR A PHIVLE ROAD. THE VERTEAL CLARANCE OVER A FAIL 15. 23 FEET 24. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE USIN 12. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE USIN 12. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE 14. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS TO THE SARROADS 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CALCULATE 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CLARANCES 15. NO FOR REFERENCE TO TUNE COSTANE CLARANCES 16. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS SURFACE. ROAD ELEVATIONS AND 15. VERTICAL CLARANCES (V.C.) FOR ROADS/RALROADS ARE CLARANCES 16. VERTICA

BASE IS FROM AERIAL PHOTOGRAPHY FLOWN IN 2014.

TRAS JWAY JADO THE (4,77) W THE VAR 54154 W IFACE TRUE NORTH IFACE 0 0 200 400			$\begin{array}{c} V_{0} \leq \frac{2\pi p}{p} & pro \\ (1) & V_{1} & V_{2} & V_{3} & V_{3} \\ (1) & V_{1} & V_{2} & V_{3} & V_{3} \\ V_{2} & -127 & Cos \\ V_{2} & -127 & Cos \\ V_{3} & V_{3} & -107 & Cos \\ (2) & V_{1} & V_{1} & V_{2} \\ (2) & V_{2} & V_{3} & V_{3} \\ V_{2} & -127 & Cos \\$	V.=.107 ¹ (dcs) (●) N. KNGS BD HWY. 1 E. 019 V.=.110 ¹ (dcs) V.=.110 ¹ (dcs) (●) N. KNGS BD HWY. 1 EL 555 V.=.4042 PP7 (⊕) N. KNGS BD HWY. 1	- LL 4/2 V.C.=65' P77 (⑦) N. KINOS R0 HWY. 1 L. 514 V.C.=133' 0CS V.C.=75' P77	(5) N. KINGS RD HWY. 1 EL 452: V.C71 P77 (6) N. KINGS RD HWY. 1	(③) N. KINGS BD HWY. 1 E.4. 454 V.α-101 Ocs (④) N. KINGS BD HWY. 1 E.4.455 V.α-895 Ocs 2 2 2 2 2 2 2 2 2 2 2 2 2	() k. KINGS RD HWY. 1 LL (-407) OSS () K. KINGS RD HWY. 1 LL (-407) OSS () K. KINGS RD HWY. 1 K104 OSS	CFR PART 77 & OBSTACLE CLEARANCE SURFACE ROAD CLEARANCES	 ۲	54 174	
DESIGNI DRAWN; PROJEC	PREPARED FOR	INNER PORTION OF THE APPROACH	öż	REVISIONS	₩ A	P. DATE	ġ	REVISIONS		à	PP.	
	N OF HILLIARD	SURFACE DRAWING - RUNWAY 36										
	Compted Contract Contract Compted Contract Compted Contract Contre	HILLARD, FLORIDA										17
_	1.1.1.1-007 (c1.0) · II.4	•			_							1

ITAL SCALE IN F

VERTICAL SCALE IN FEET

DATE: 08/18 SHEET: 4 OF 7




PTION: DRAINAGE EASEMENTS

Thot part of: the A parcel of land being a parties of the Nassau County Board of Commissionera parcel located in the East Half of the A parcel of Section 9, Townshe 3 North, Range 24 East, Nassau County, Reids, being more particularly described on follower

d as follows: meson at the Southeast Compared and Southeast Count, Name Southeast Count, Name Southeast Count meson at the Southeast Compared and Southeast Count Ad and 34 min S0 ask West Clarge Total waves as now extendibulend per Official Record Boek 177, Regs 220 of the Intersout County Paulic County and the South Boek County Paulic County Paulic County Paulic County Paulic County at the Cast Ado South Boek 177, Regs 220 of the Intersout County Paulic County Paulic County at the Cast Ado South Boek 177, Regs 220 of the Intersout County Paulic County at the Cast Ado South Boek 177, Regs 220 of the Intersouth County Paulic County Paulic County at the Cast Ado South Boek 177, Regs 220 of the Intersouth County Paulic Records, there South Boek 1990 of the Cast Ado South Records The Cast Ado South Boek 177, Regs 220 of the Intersouth County Paulic Records, there South Boek 1990 of the Cast Ado South Records The South Records and the Southead and Paulic Records, there add county through a control angle of 27 deg 16 min 37 nee for a distance of 732,07 left to the West line of a 1 food described in Ortholds Records Routh OL Ago South Records Thuble Records, there as South 80 of a south Records and South Records Records and Recor Together PART 'B'

Lighting the source of the Southeast Corner of sold Section 9; therea South 88 deg 34 min 56 sec West along the South Ine of read Section 9; a distance of 34.76 feet to the vesterly right-of-way line of Eastwood Read (a 66.00 root right-of-way a more stabilishing for Michail Read to Abar (77, Poge 256 of the Naissu Caroly Habit, Read (3); Thereie PONI OF EXCHING, there on the South 89 deg 34 min 55 sec West along the South Ties of and Section 9; a distance of 56.99 feet; there to thom 06 deg 47 min 47 sec West along the South Ties of and Section 9; a distance of 56.99 feet; there to thom 06 deg 47 min 47 sec West along the South Ties of a parcel of land devoted in Official Read to 30.00 deg 47 min 47 sec West, a distance if 40.00 feet to the South 18 of a 9.74 min Conting 12.44 secure 6, a distance of 45.09 feet; therees to feet of Conting 12.44 sequence feet, and conte or less.

DESCRIPTION: Parcel ** A proced of land being a partion of Lot 3, Section 16, Township 3 North, Ronge 24 East, Joseph R, Dunn's Fruit and Truck Form, according to the plant themat reaceded in Plat Book B-L-C Page 48, of the public for a point of reference. Commenses at the Northeast comer of add Section 15; Themas Sutt 89 deg 19 mh 07 sec West, along the North like of add Section 16 and deng the North like of add Lot 1, o distance of a point of reference. Commenses at the Northeast comer of add Section 15; Themas Sutt 89 deg 19 mh 07 sec West, along the North like of add Section 16 and deng the North like of add Lot 1, o distance of section 10; Themas Sutt 80 deg 30 mh 10 sec East, dang add Maxietir Appl. A soft like and of section 10; Themas Sutt 80 deg 30 mh 10 sec East, dang add Maxietir Appl. A soft like a distance of section 10; Themas Sutt 80 deg 30 mh 10 sec West, plang the Soft hins of add distance of 50 SG-7 feet to be Southeast correr of those Ionas describer 1; Dead records in Official Records Book 75, West, Joing Soft feet to a point in the Sach the of the elementhocal Lot 3 themas North 84 and West, a distance of 450,50 feet to a point; thennes Sutt 80 deg 33 mh 70 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 47 sec South 30 deg 33 mh 70 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 70 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 47 sec South 30 deg 34 mh 70 sec South 30 deg 34 mh 47 sec S

see twar, a diatone of 09-36 feet to the Point of Beginning, Containing Dolf acree, more or less. DECOMPTION: Point ¹27 A parcet of lond being a particle of Lot and 2, Section 16, Township 3. Neth, Range 24 East, Joseph R. Dumi's Full and Toxic Form, according to the plat thereer recorded in PLoB & Bolf. Toget 48, of the public mored at Network County, Florida, Jelin more particularly described on (50%) min 0 of use twarts, and the plat of the plat there is the section of th

DESCRIPTION: Official Records Book B60 Page 590 Lot 4, in Section 16, formative 3 North, Ronge 24 East, Joseph R. Dunn's Putt and Truck Farm according bins plat tearset on recorded in Pate Book B-10, Page 48, LESS and B/DCPT Right of Way to Naseau Description of the Section 2000 Section 2000 Section 2000 Section 2000 Section 2000 DESCRIPTION: Official Records Book 90, Page 40, Forecarded in the public records of Namesu Dourly, Tarida. DESCRIPTION: Official Records Book 90, Page 40, Page 40, Section 2000 Section 2000 Section 2000 Section 2000 The Easterly 40 Sect of the East Hold of the Social Section 2000 Sec

exercised projects. EXCEPTIDA: IDSCRETION: OFFIcial Records Book 177, Page 250 INCH, Rong 25, Exception 10, INCH 10, I

Biodia, and a private sector basic transmission of the sector basic transmission of the sector basis of



- NOTES: 1. This map is INVLID unless Signed by and Sedet by the Protessional Surveyor and Mapper hereon. 2. No underground hyporements were located unless shown hereon. 3. No THE, ownerstip Rights, Essensets or liens were researched other than those shown hereon. 4. No attempt were mode to locate the Ordinary High Vietne Lien on AVI state. 5. No Wellands are Environmentally Sensitive lines are located unless specifically stated. 5. No tartempt and be mode by cloce there is no relaced the Boundary lines function hereon from hyporementational terms of the AVI COVERED BY PROFESSIONAL LIABILITY INSURANCE.

SURVEYORS CERTIFICATION

I hereby cartify that the map shown herean is a true and correct representation of a Field Survey conducted
under my supervision and that sadd map dees controm is context with the minimum technical standards
cost parsanet to Section 472-007 of the Findrik Survey. Survey for the Section 472-007 of the Findrik Survey.
BY : Date Signed: 08-03-16 parts of FIELD Survey. Morth 31, 2014
Reger L. Mullins Professiond Surveys and Mapper Findrak Registration 45554

No attempt was made to show Road Zone Information. Road Zone Information is to be determined by Federal Enrogramy Management Agency (FEMA), or other Government Agencies, or business specifically for that purpose. The Bearings herein refer to the Road East State Pales from (ECSI) to BEC243 beach 91 00/3401" W, Ore, Assume

ABBREVIATION SCHEDULE	Not to Scale Iron Corner Concrete Monument Power Line Centerline	PP

LEGEND

EXISTING PROPERTY TABLE				
PARCEL	PARCEL ID	OWNER	ACRES	INTEREST
	16-3N-24-2320-0003-0010	TOWN OF HILLIARD	0.91	FEE SIMPLE
в	16-3N-24-2320-0001-0010	TOWN OF HILLIARD	6.73	FEE SIMPLE
\odot	16-3N-24-2320-0002-0010	OKEFENOKEE II LC	4.34	FEE SIMPLE
D	16-3N-24-2320-0004-0000	TOWN OF HILLIARD	10.00	FEE SIMPLE
E	09-3N-24-0000-0031-0010	TOWN OF HILLIARD	22.00	FEE SIMPLE
F	09-3N-24-0000-0031-0000	TOWN OF HILLIARD	4.21	FEE SIMPLE
		TOTAL	48.19	

EXISTING EASEMENTS				
PARCEL	PARCEL ID	OWNER	ACRES	INTEREST
٢	09-3N-24-0000-0031-0010	NASSAU COUNTY	0.25	EASEMENT
Н	09-3N-24-0000-0031-0000	TOWN OF HILLIARD	0.34	EASEMENT

PROPOSED PROPERTY ACQUISITION TABLE				
PARCEL	PARCEL ID	OWNER	ACRES	INTEREST
1	16-3N-24-2320-0005-0020	HILLIARD CONGREGATION OF JEHOVAH'S WITNESSES	E.21	FEE SIMPLE
2	16-3N-24-2320-0003-0020	NYREN GERALD	0.23	FEE SIMPLE
3	16-3N-24-2320-0001-0020	NYREN GERALD	1.25	FEE SIMPLE
(4A)	09-3N-24-0000-0031-0000	NASSAU COUNTY BOARD OF COMMISSIONERS	58.00 (1.6 AC. PARTIAL ACQUISITION)	FEE SIMPLE
5	09-3N-24-0000-0009-0010	VANZANT JOHN E & MARY ANN	2.23	FEE SIMPLE
6	09-3N-24-0000-0008-0020	VANZANT EDWARD P & SUE B	35.09	FEE SIMPLE
\bigcirc	09-3N-24-0000-0008-0000	GEIGER FREDDIE L & LINDA J	2.90	FEE SIMPLE
8	09-3N-24-0000-0004-0040	NESS C WILLIAM	5.53	FEE SIMPLE
۲	09-3N-24-0000-0004-0060	MURRAY TERRY & MISTY	2.80	FEE SIMPLE
10	09-3N-24-0000-0004-0020	MURRAY TERRY & MISTY	2.80	FEE SIMPLE
		TOTAL	58.64	



APPENDIX A LIST OF ACRONYMS

APPENDIX A LIST OF ACRONYMS

The following contains a list of acronyms and definitions that may be used in the Hilliard Airpark Master Plan Update.

01J	Hilliard Airpark (FAA Designation)	D	
100LL	100 Low Lead Aviation Gasoline	DOT	Department of Transportation
Α		-	
AC ACIP	Advisory Circular (FAA) Airport Capital Improvement Plan	E EA EAA	Environmental Assessment Experimental Aircraft
ADA ADAP	Americans with Disabilities Act Airport Development Aid Brogram	EIS	Association Environmental Impact Statement
ADO ADG	Airport District Office (FAA) Airplane Design Group	EMS	Emergency Management Services
AGL AICP	Aboveground Level American Institute of Certified	EPA	Environmental Protection Agency
AIP ALD	Planners Airport Improvement Program Airport Layout Drawing	ERP	Environmental Resource Permit
ALP AMPU	Airport Layout Plan Airport Master Plan Update	F	Endered Aviation Administration
AOA APO	Airport Operations Area Office of Aviation Policy and	F.A.C. FAD	Florida Administrative Code Florida Aviation Database
ARC ARP ASV AWOS III	Airport Reference Code Airport Reference Point Annual Service Volume Automated Weather Observation System	FAAP FAR FASP FBO FDOT	Federal Aid Airports Program Federal Aviation Regulations Florida Aviation System Plan Fixed Base Operator Florida Department of
B		FONSI FPO	Finding of No Significant Impact Flight Procedures Office
BCA	Benefit Cost Analysis	FFFA F.S. FY	Florida Statutes Fiscal Year
С		•	
CAGR CatEx CFASPP	Compound Annual Growth Rate Categorical Exclusion Continuing Florida Aviation	G GIS GNSS	Geographic Information System Global Navigation Satellite
CFR	Code of Federal Regulations	GPS	Global Positioning Satellite
CR	County Road	GSE	Ground Support Equipment

H HIRLS	High Intensity Runway Lights	NPS NRHP	National Park Service National Register of Historic
	right intolloky realway Lighto	NRI	Nationwide River Inventory
1		_	
IAP	Instrument Approach	P	
ILS IMC	Instrument Landing System Instrument Meteorological Conditions	ΡΑΡΙ	Precision Approach Path Indicator
		R	
J		REDI	Rural Economic Development
JACIP	Joint Airport Capital Improvement Program	REILs RNAV ROC ROFA	Runway End Identification Lights Radar Navigation Required Obstacle Clearance Runway Object Free Area
L		ROFZ RP7	Runway Obstacle Free Zone Runway Protection Zone
LIRLs	Low Intensity Runway Lights	RSA	Runway Safety Area
LPV	Localizer Performance with Vertical Guidance	S	
		SCPW	Suwannee County Public Works
Μ		SR SRWMD	State Road Suwannee River Water
MGTOW	Maximum Gross Take-Off		Management District
MIRLs MITLs mph	Medium Intensity Runway Lights Medium Intensity Taxiway Lights miles per hour	SWPP	Plan
MOA MSI	Military Operations Area (Above) Mean Sea Level	Т	
MSWLF	Municipal Solid Waste Landfill	TAF TDZ TERPS TSA	Terminal Area Forecast Touch Down Zone Terminal Instrument Procedures Taxiway Safety Area
NAS	National Airspace System	TOFA	Taxiway Object Free Area
NAVAIDs	Navigation Aids		
NCDC NEPA	National Climatic Data Center National Environmental Policy Act		Universal Communications
NHPA	National Historic Preservation Act	U.S. USACE	United States U.S. Army Corps of Engineers
nm NOAA	nautical mile (6,076 feet) National Oceanic Atmospheric	U.S.C. USFWS	United States Code U.S. Fish and Wildlife Service
NPDES	National Pollution Discharge		
NPIAS	National Plan of Integrated Airport System	V VLJ	Very Light Jet

S:\Projects_APPLAN\Hilliard Airpark\2012 Airport Master Plan Update\C-Technical DAta2Draft MPU\APPENDIX A.doc

VMC	Visual Meteorological Condition
VOR	Very High Frequency
	Omni-directional Range

W

WAAS	Wide Area Augmentation
	System

APPENDIX B AIRPARK BUILDINGS AND FACILITIES

APPENDIX B AIRPARK BUILDINGS AND FACILITIES

The following pages identify hangars and other facilities located throughout the Hilliard Airpark A summary of pertinent information is also provided that typically includes description of building type, year constructed, owner/tenant, approximate size, current use, visual condition, and additional informative comments. The corresponding drawing depicting the location of each building/structure is located in Section 2.0, in **Figure 2-3**.



Building No: 1 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 1,680 sq. ft. (40'x42') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 2 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 2,240 sq. ft. (56'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: **3** Building Type: **Hangar** Year Constructed: **1970s** Tenant: **Private** Approximate Size: **1,600 sq. ft. (40'x40')** Current Use: **Aircraft Storage** Visual Condition: **Good** Photo Date: **04/04/2012** Photo Source: **URS Corporation** Comments: **N/A**



Building No: 4 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 1,600 sq. ft. (40'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 5 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 1,600 sq. ft. (40'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: **6** Building Type: **Hangar** Year Constructed: **1970s** Tenant: **Private** Approximate Size: **1,600 sq. ft. (40'x40')** Current Use: **Aircraft Storage** Visual Condition: **Good** Photo Date: **04/04/2012** Photo Source: **URS Corporation** Comments: **N/A**



Building No: 7 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 1,600 sq. ft. (40'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 8 Building Type: Hangar Year Constructed: 1970s Tenant: Private Approximate Size: 1,600 sq. ft. (40'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 9 Building Type: Hangar Year Constructed: 1980s Tenant: Private Approximate Size: 1,280 sq. ft. (32'x40') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 10 Building Type: Hangar Year Constructed: 1980s Tenant: Private Approximate Size: 1,681 sq. ft. (41'x41') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 11 Building Type: Hangar Year Constructed: 2012 Tenant: Private Approximate Size: 1,353 sq. ft. (33'x41') Current Use: Aircraft Storage Visual Condition: Excellent Photo Date: 11/15/2012 Photo Source: URS Corporation Comments: N/A



Building No: **12** Building Type: **Hangar** Year Constructed: **1980s** Tenant: **Private** Approximate Size: **1,640 sq. ft. (40'x41')** Current Use: **Aircraft Storage** Visual Condition: **Good** Photo Date: **04/04/2012** Photo Source: **URS Corporation** Comments: **N/A**



Building No: 13 Building Type: Hangar Year Constructed: 1980s Tenant: Private Approximate Size: 2,040 sq. ft. (34'x60') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 14 Building Type: Terminal/FBO Year Constructed: 2012 Tenant: Town of Hilliard Approximate Size: 2,501 sq. ft. (41'x61') Current Use: Office/Administration/Public Use Visual Condition: Excellent Photo Date: 11/15/2012 Photo Source: URS Corporation Comments: N/A



Building No: 15 Building Type: Hangar Year Constructed: 1980s Tenant: Private Approximate Size: 2,100 sq. ft. (50'x42') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 16 Building Type: Hangar Year Constructed: 1980s Tenant: Private Approximate Size: 2,100 sq. ft. (50'x42') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: **17** Building Type: **Hangar** Year Constructed: **1990s** Tenant: **Private** Approximate Size: **2,100 sq. ft. (50'x42')** Current Use: **Aircraft Storage** Visual Condition: **Good** Photo Date: **04/04/2012** Photo Source: **URS Corporation** Comments: **N/A**



Building No: 18 Building Type: Hangar Year Constructed: 1990s Tenant: Private Approximate Size: 2,100 sq. ft. (50'x42') Current Use: Aircraft Storage Visual Condition: Good Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: **19** Building Type: **Electrical Vault** Year Constructed: **2008** Tenant: **Town of Hilliard** Approximate Size: **144 sq. ft. (12'x12')** Current Use: **Storage** Visual Condition: **Excellent** Photo Date: **09/22/2010** Photo Source: **URS Corporation** Comments: **N/A**



Building No: 20 Building Type: Hangar Year Constructed: 2005 Tenant: Private Approximate Size: 2,000 sq. ft. (50'x40') Current Use: Aircraft Storage Visual Condition: Excellent Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 21 Building Type: Hangar Year Constructed: 2007 Tenant: Private Approximate Size: 2,244 sq. ft. (51'x44') Current Use: Aircraft Storage Visual Condition: Excellent Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 22 Building Type: Hangar Year Constructed: 2008 Tenant: Private Approximate Size: 2,500 sq. ft. (50'x50') Current Use: Aircraft Storage Visual Condition: Excellent Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 23 Building Type: Hangar Year Constructed: 2007 Tenant: Private Approximate Size: 2, 040 sq. ft. (40'x60') Current Use: Aircraft Storage Visual Condition: Excellent Photo Date: 04/04/2012 Photo Source: URS Corporation Comments: N/A



Building No: 24 Building Type: **3-Unit Box Hangar** Year Constructed: 2012 Tenant: **Private** Approximate Size: **5,220 sq. ft. (130.5'x40')** Current Use: **Aircraft Storage** Visual Condition: **Excellent** Photo Date: **11/15/2012** Photo Source: **URS Corporation** Comments: **N/A**

APPENDIX C URS SUBMITTAL AND FAA APPROVAL LETTERS

FOR

AVIATION ACTIVITY FORECAST



October 3, 2014

Ms. Marisol Elliott, District Wide Planning

Orlando Airports District Office Federal Aviation Administration 5950 Hazeltine National Drive Citadel International Building, Suite 400 Orlando, Florida 32822

RE: DRAFT REVIEW COPIES - AVIATION ACTIVITY FORECASTS -HILLIARD AIRPARK MASTER PLAN UPDATE

Dear Ms. Elliott:

On behalf of the Town of Hilliard, we are forwarding two (2) copies of the draft Aviation Activity Forecasts developed for the update of the Hilliard Airpark Master Plan. These copies are transmitted to you for your review, comment and subsequent approval.

Please call if you have any questions during your review. After your review, we will forward final versions of that document for your files.

Sincerely, URS CORPORATION Hans H. Davis T.

Hans Dorries Airport Planner

(813)-675-6843

Enclosures

Copy: William Prange - URS



ORLANDO AIRPORTS DISTRICT OFFICE

5950 Hazeltine National Dr., Suite 400 Orlando, Florida 32822-5003 Phone: (407) 812-6331 Fax: (407) 812-6978

November 4, 2014

Mr. Bill Myer Airport Manager Hilliard Airpark Town of Hilliard P.O. Box 549 Hilliard, FL 32046

Dear Mr. Myer,

RE: Hilliard Airpark; Hilliard, Florida AIP Number 3-12-0099-007-2012 Approval of Airport Forecasts for Airport Master Plan Update

This letter responds to your submittal of the "Section 3: Aviation Activity Forecasts for Master Plan Update" dated September, 2014 provided by URS Corporation. The based aircraft and operations forecasts shown in Table 3-8 of the report are found to be consistent with the 2014 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. 117.

Sincerely,

Original Signed By

Marisol C. Elliott Program Manager/Community Planner