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FIGURES

Hilton Head Island (the Island) has developed into a nationally and internationally known resort and retirement community (Figure E-1). Located at the southern end of coastal South Carolina in Beaufort County, the appeal of the Island to retirees, visitors, and permanent residents is a temperate climate, environmental sensitivity to preserve natural attractiveness, and high quality amenities and infrastructure. The Island has a relaxed, small-town feel with an evolving economic structure where the resources of wealth (residents, second homes, and visitors) are balanced with a growing private service and retail sector. The Hilton Head Island Airport (HXD or the Airport) is situated on 175.05 acres on the northeastern end of the Island. The Airport is owned and operated by Beaufort County and provides commercial commuter and general aviation service to Beaufort County and the Lowcountry of South Carolina.

HXD is home to one FBO (Signature Flight Support) and serves as a base for Angel Flight Southeast. Beaufort County owns and operates 22 T-hangars, three small box hangars, and one larger hangar, which is used for lease purposes or overnight stays. In addition, 44 small private hangars are based off-airport, with access to the runway. A 2007 survey conducted of Hilton Head Island registered voters determined that 91 percent described their airport experience as "favorable," and 93 percent considered the Airport as "important."

E.1 PURPOSE OF THE HILTON HEAD ISLAND AIRPORT MASTER PLAN UPDATE

An update to the HXD Airport Master Plan is being initiated by Beaufort County (the County) and the Town of Hilton Head Island (the Town) to provide direction and guidance regarding airport sustainability for future airport development priorities and justification for improvements. The Airport Master Plan Update will reassess planned development with respect to recent activity trends and economic indicators. Above all, the update follows federal and state policy in providing for a facility that is:

- Safe and efficient in accordance with airport design standards
- Economically viable and substantially user-supported
- In accordance with local, regional, state, and national goals
- Providing customers with safe, secure, and service-oriented operations

An evaluation of HXD facility needs will be completed for a 20-year planning period. The Airport Master Plan Update will comprehensively examine land use and facility requirements, emergency operations in the event of a natural disaster, and viable commercial service. The HXD Airport Layout Plan (ALP) will depict these improvements, as adopted by Beaufort County and the Town of Hilton Head Island and accepted by the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA). The approved ALP will enable the County to apply for funding for improvements, as eligible under the respective federal and state airport grant-in-aid programs.

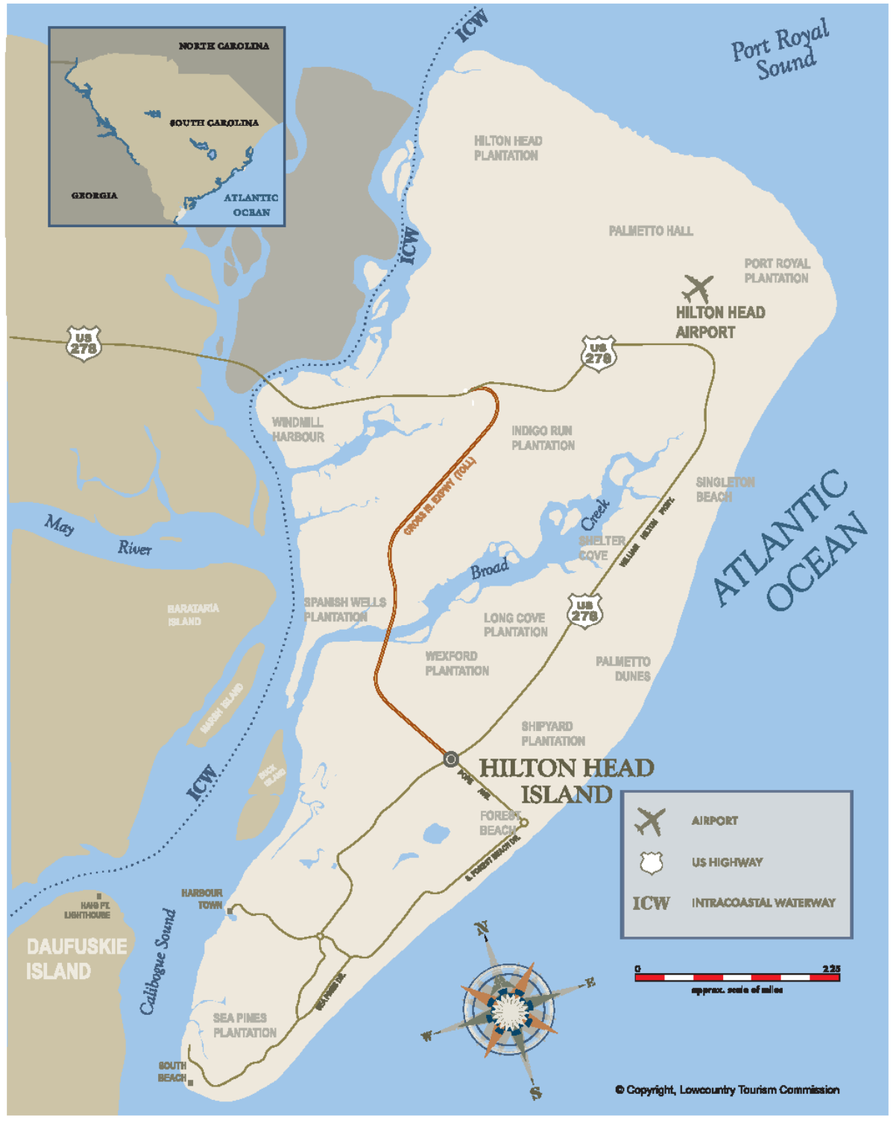


Figure E-1
Hilton Head Island Airport

Location Map

E.1.1 Key Issues

Overall, the goal of the Airport Master Plan Update is to identify the orderly development of facilities essential to meeting the needs of the Airport's users. Major study objectives include:

- Security, safety, service, and economic viability at HXD
- Evaluate airfield and airspace capacity
- Identify and create a plan to provide for the needs of HXD customers, users, and stakeholders
- Create a plan to ensure that HXD continues to be an economic engine for Beaufort County and the Town of Hilton Head Island
- Identify and describe future airport land acquisition
- Determine priority and best use of undeveloped airport property and future acquisitions
- Conduct a preliminary environmental overview of the proposed development

E.2 EXISTING FACILITIES SUMMARY

Table E.2-1 (page E-ii) provides a summary of HXD facilities.

Table E.2-1
Inventory of Existing Facilities
Hilton Head Island Airport

A.	**Aviation Facilities**						
1	Runway	Runway 03/21					
	a) Length	4,300' with 300' displaced thresholds on either end					
	b) Width	100'					
	c) Type Pavement	Asphalt/Grooved					
	d) Pavement Condition	Good					
	e) Strength	38,000 SWG/75,000 DWG					
	f) Marking	Non-Precision					
2	Taxiways	A	**B**	**C**	**D**	**E**	**F**
	a) Description/Width	Full parallel/40'	Connector/40'		Ramp	Connector/40'	Full parallel/50'
	b) Type Pavement	Asphalt					
	c) Pavement Condition	Good to Excellent					
	d) Marking	Centerline					
3	Lighting						
	a) Runway Type	MIRL					
	b) Taxiway Type	MITL					
	c) Approach	P4L/P4L, REIL, LOC/DME					
4	General Aviation Apron						
	a) Area	58,105 sq yds					
	b) Type Pavement	Asphalt					
	c) Condition	Good					
	d) Tie-downs	66					
	e) Lighting	Flood					
5	Commercial Service Apron						
	a) Area	11,960 sq yds					
	b) Type Pavement	Concrete/Asphalt					
	c) Condition	Good					
	d) Lighting	Flood					
6	Wind Indicator & Segmented Circle						
	a) Location	East of RWY 03					
7	AWOS-3						
	a) Location	Next to ATCT					
8	Beacon						
	a) Location	East of RWY 03, near old FBO building					
9	ATCT	Contract					
	a) Location	East of RWY 21					
10	ARFF	1 – 1,500-gal Crash Truck					
		1 Light Rescue Vehicle					
B.	**Physical Site**						
1	Location	120 Beach City Road, Hilton Head Island					
2	Counties Served	Beaufort, Jasper					
3	Ground Access	Beach City Road from U.S. Highway 278 (William Hilton Parkway)					
4	Mean Max. Hot Mo. Temp.	89.4°F					
5	Airport Elevation	19.1' AMSL					
6	Airport Ownership	Beaufort County					

Table E.2-1
Inventory of Existing Facilities
Hilton Head Island Airport

C.	**Terminal Facilities/Services**		
1	Commercial Service Terminal		
	a) Building	18,484 sq ft	
	b) Automobile Parking	325 – 170 public (107 long-term, 63 short-term), 55 employee (28 long-term, 27 short-term), 100 rental car	
	c) Airlines	US Airways (Piedmont Airlines), Delta Airlines (Mesaba Airlines, seasonal)	
	d) Rental Car Agencies	Avis, Hertz, National, Budget, Thrifty, Enterprise (off-site)	
2	General Aviation Terminal		
	a) Building	4,628 sq ft	
	b) Automobile Parking	127	
3	Fuel		
	a) 100 LL	1 - 12,000 gal	
	b) Jet A	3 - 10,000 gal	
	c) Vehicle	1 - 250 gal	
	d) Trucks	1 - 1,200 gal (100 LL)	
		2 - 3,000 gal (Jet A)	
4	Services	FBO	
		Aircraft Rental	
		Flight Training	
		Angel Flight Southeast	
		Civil Air Patrol	
5	Hangars		
	a) T-hangars (40' opening)	22	
	b) 52' x 60' Box Hangars	6	
	c) 80' x 80' Box Hangar	1	
6	Equipment	3 Tractor Mowers	
		2 Push Mowers	
		1 Lawn Tractor	
		2 Weed Eaters	
		1 Equipment Trailer	
		2 Pickup Trucks	
D.	**Flight Navigation Aids**		
1	Airport Beacon	36" Green/White Rotating Beacon	
2	Instrument Approaches	Localizer/DME Approach – Runway 21	
		RNAV (GPS) Approach – Runway 21	
		RNAV (GPS) Approach – Runway 03	
		VOR/DME-A – Runway 03/21 (circling)	
3	Visual Approach Aids	PAPI 4L/RWY 03	
		PAPI 4l/RWY 21	
		REILS RWY 03/21	
4	Communications & NAVAIDs	CTAF: 118.975	Savannah Approach: 125.3
		UNICOM: 123.0	Savannah Departure: 125.3
		ATIS: 121.4	Clearance Delivery: 121.1
		WX AWOS-3: 121.4 (843-342-5072)	WX AWOS-3 at ARW (12 nm N): 119.675 (843-524-1000)
		Hilton Head Ground: 121.1 (6:00 a.m. – 8:00 p.m.)	Hilton Head Tower: 118.975 (6:00 a.m. – 8:00 p.m.)

Source: Talbert & Bright, Inc., September 2009.

E.3 FORECAST SUMMARY

The forecasts of aviation activity developed as part of this Master Plan Update indicate a consistent growth in activity over the next 20 years. The forecast numbers indicate a reduction in the growth rate of based aircraft and operations at the Airport when compared to the 1999 Master Plan forecasts. This is due to the recent trend in fewer annual operations at the Airport. This recent reduction is due primarily to the contraction of the economy. A large portion of general aviation users rely on discretionary income to operate their aircraft. A contraction of the economy reduces the amount of money being spent on aviation and, therefore, a reduction in aviation activity, as seen in the forecasts. However, the restoration of the economy will result in increased activity at the Airport including based aircraft and commercial operations.

Table E.3-1 provides a summary of the forecasts for the Hilton Head Island Airport throughout the 20-year Master Plan Update planning period.

Table E.3-1
Aviation Forecast Summary
Hilton Head Island Airport

	2009 (Existing)	2014	2019	2029
BASED AIRCRAFT				
Single-Engine Piston	60	68	74	86
Multi-Engine Piston	12	13	15	18
Turboprop	6	7	7	9
Jets	3	3	4	5
Helicopters	0	0	1	2
TOTAL BASED AIRCRAFT	81	91	101	120
AIRCRAFT OPERATIONS				
General Aviation Local	3,062	3,353	3,714	4,435
General Aviation Itinerant	24,638	26,985	29,884	35,682
Commercial	9,353	11,441	12,532	15,069
Military Itinerant	635	696	771	920
Military Local	549	601	666	795
TOTAL OPERATIONS	38,237	43,076	47,567	56,901
Instrument Operations	22,950	26,578	29,349	35,108
Operations per Based Aircraft	348	348	348	348
COMMERCIAL SERVICE PASSENGERS				
Enplanements	66,823	74,393	77,908	84,094
Peak Hour Enplanements[1]	67	78	89	110

[1]Based on two departures (37 seats) in 60 minutes at 90 percent load factor.
Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

E.4 FACILITY REQUIREMENTS SUMMARY

Table E.4-1 summarizes the facility requirements for the Hilton Head Island Airport and lists the phases in which various facilities will be needed, as driven by demand.

Table E.4-1
Facility Requirements Summary
Hilton Head Island Airport

Facility	Existing	Phase 1 (2010-2014)	Phase 2 (2015-2019)	Phase 3 (2020-2029)
Runway	4,300' x 100'	5,400' x 100'	5,400' x 100'	5,400' x 100'
Taxiway	Full-Parallels	Full-Parallels	Full-Parallels	Full-Parallels
T-Hangar Units	22	30	36	50
Conventional Hangar (sq ft)	15,760 sq ft	29,490 sq ft	41,490 sq ft	53,490 sq ft
Total Apron Area (sq yd)	53,785 sq yd	54,782 sq yd	61,628 sq yd	72,316 sq yd
Commercial Service Automobile Parking Spaces	325	443	489	590
General Aviation Automobile Parking Spaces	127	127	127	127
Commercial Service Terminal (sq ft)	18,484	26,500	26,500	26,500
General Aviation Terminal (sq ft)	4,628	4,628	4,628	4,628
Source: Talbert & Bright, Inc., September 2010.				

E.5 SUMMARY OF ALTERNATIVES AND RECOMMENDATION

The runway extension development alternatives were presented to joint meetings of Beaufort County and Town of Hilton Head Island Councils on May 19, 2010, July 12, 2010, and October 27, 2010. During the July 12, 2010, joint meeting of councils, Alternatives 1 (5,400-foot runway unconstrained configuration), 3 (5,400-foot runway realigned and constrained configuration), and 4 (new airport – 5,400 feet) were removed from further consideration because of excessive cost and potential impact on the surrounding community. Also during the July 12, 2010, joint meeting of councils, an additional alternative, Alternative 1a (4,600-foot runway constrained configuration), was added for evaluation.

Of the runway extension alternatives considered as part this Master Plan Update, the Alternative 2 (5,400-foot runway constrained configuration, including Phase 1) was recommended for implementation. This recommendation was approved on October 27, 2010, during a joint council meeting of Beaufort County and Town of Hilton Head Island Councils.

The most important element of the Master Plan Update for the long-term development of the Hilton Head Island Airport was the extension of Runway 03/21. Because the landside development is currently on the east and west side of the runway, the length and orientation of the runway were first determined prior to outlining the needs of the commercial service (west side of the runway) and general aviation (east side of the runway). Landside development of the Hilton Head Island Airport is described in Table E.4-1.

Table E.5-1 illustrates a preliminary project cost comparison.

E.6 AIRPORT DEVELOMENT PROGRAM

This section lists each future airport improvement project by phase for the 20-year planning period (2010-2029). Planning estimates of probable construction cost are listed on Table E.6-1 (page E-iv), as well as a breakdown of potential FAA, state, and local funding sources.

Table E.5-1
Alternative Runway Lengths
Preliminary Project Cost Estimate Summary
Hilton Head Island Airport

Preliminary Costs	Runway Length 4,300 Feet	4,600 Feet	5,000 Feet	5,400 Feet
Land Acquisition	$3,600,000	$3,600,000	$8,750,000	$9,100,000
Construction (includes design)	$1,750,000	$2,183,000	$3,290,000	$4,215,000
EMAS	$2,000,000	$2,000,000	$2,000,000	$4,000,000
Beach City Road Relocation	$0	$0	$0	$750,000
BCA/EA	$0	$500,000	$500,000	$500,000
Environmental Mitigation/ Litigation (estimated)	$291,000	$364,000	$550,000	$705,000
Total	$7,641,000	$8,647,000	$15,090,000	$19,270,000
4,300' vs. Extension Options		$1,006,000	$7,449,000	$11,629,000
Incremental Costs		$1,006,000	$6,443,000	$4,180,000
Source: Talbert & Bright, Inc., November 2010.				

Table E.6-1
Preliminary Project Cost Estimates (2010 $)*
Hilton Head Island Airport

Phase	Project	Cost	Federal	State	Local
I	Commercial Service Terminal Expansion	$1,900,000	$1,805,000	$0	$95,000
I	Land Acquisition for Airfield Deficiency Correction	$3,600,000	$3,420,000	$0	$180,000
I	Airfield Deficiency Correction	$2,041,400	$1,939,330	$51,035	$51,035
I	Runway 03 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Runway Extension Benefit Cost Analysis/Environmental Documentation	$500,000	$475,000	$12,500	$12,500
I	Land Acquisition for Runway Extension and Road Relocation	$5,500,000	$5,225,000	$0	$275,000
I	700' Runway Extension Design and Construction	$2,245,200	$2,132,940	$56,130	$56,130
I	400' Runway Extension Design and Construction	$925,000	$878,750	$23,125	$23,125
I	Runway 21 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Relocation of Beach City Road Design and Construction	$750,000	$712,500	$18,750	$18,750
I	Runway 03 34:1 Obstruction Removal (trees)	$1,500,000	$1,425,000	$37,500	$37,500
I	Transitional Surface Obstruction Removal (trees)	$2,000,000	$1,900,000	$50,000	$50,000
	TOTAL	$24,961,600	$23,713,520	$349,040	$899,040
II	Avigation Easements within Runway 21 RPZ	$1,145,000	$1,087,750	$0	$57,250
II	Commercial Service Parking Lot Expansion (120 spaces)	$922,100	$0	$0	$922,100
II	General Aviation Apron Expansion (18,500 sq yd)	$1,600,000	$1,520,000	$40,000	$40,000
II	10-Unit T-Hangar	$1,350,000	$1,282,500	$33,750	$33,750
II	Conventional Hangars (2)	$2,830,000	$2,688,500	$70,750	$70,750
II	Land Acquisition General Aviation Side	$3,335,000	$3,168,250	$0	$83,375
	TOTAL	$11,182,100	$9,747,000	$144,500	$1,207,225
III	10-Unit T-Hangar (2)	$2,660,000	$2,527,000	$66,500	$66,500
III	Conventional Hangars (2)	$2,450,000	$2,327,500	$61,250	$61,250
III	General Aviation Apron Expansion (17,000 sq yd)	$1,520,000	$1,444,000	$38,000	$38,000
III	Commercial Service Parking Lot Expansion (150 spaces)	$720,000	$0	$0	$720,000
III	Land Acquisition (Exec Air)	$9,400,000	$8,930,000	$0	$470,000
	TOTAL	$16,750,000	$15,228,500	$165,750	$1,355,750
	GRAND TOTAL	$52,893,700	$48,689,020	$659,290	$3,462,015

* - These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc. October 2010.

E.7 FINANCIAL ANALYSIS SUMMARY AND RECOMMENDATIONS

As a result of the proposed projects outlined in this Master Plan Update, the financial impact to Beaufort County can be drawn based on the following information.

- Beaufort County's financial structure and historical revenues and expenses were examined to project future operating revenues, operating expenses, and non-operating revenue and expense at the Airport over the short-term planning period.

- The total proposed projects in the capital improvement program (CIP) amounts to $52.9 million, as presented in Table E.6-1.

- The funding for the proposed projects during the short-term development program is presented in Table E.6-1 and is as follows:

▪ FAA	$23.7 million
▪ State	0.4 million
▪ Local	0.9 million
▪ Total	$25.0 million

- Funding the local share of the proposed projects short-term planning period, with the proposed funding levels from the FAA and SCAC results in Beaufort County's funding approximately $624,000 of the local share from its general fund and/or annual cash flow from the Airport, which is consistent with the manner in which capital projects have been paid for historically at the Hilton Head Island Airport.

- It is recommended that Beaufort County closely monitor the federal AIP and the SCAC funding program for any changes that may enhance or adversely affect future funding of the proposed projects.

- Total operating revenues are projected to increase from $1.7 million in FY 2011 to approximately $1.9 million in FY 2015, representing an average annual growth rate of 2.0 percent.

- Operating expenses are projected to increase from $1.3 million in FY 2011 to $1.6 million in FY 2015, representing an average annual growth rate of 4.5 percent.

- Non-operating revenue and expense are projected to increase by 2.9 percent over the short-term planning period.

- Operating income/(deficit) is projected to decrease from $391,000 in FY 2011 to $315,000 in FY 2015 based on the assumptions contained in this Section.

- The staging of the proposed projects is flexible. Beaufort County should proactively monitor/revise these projects on an annual basis to ensure that projects are not implemented before the appropriate demand levels.

- Beaufort County should submit another PFC application to impose and use passenger facility charges (PFCs) on PFC-eligible projects in the CIP or to reimburse itself for prior PFC eligible projects as soon as possible.

Based on the assumptions and the financial analyses presented herein, the proposed projects in the CIP are considered practicable, and it is anticipated that the County will be able to meet its future financial operational obligations with additional local subsidies. The financial overview presented as part of this Section reflects implementation of the proposed projects in the short-term development program. It is important that Beaufort County continually monitor the status of its operating revenues and operating expenses and the implementation of its capital program. Future analyses may suggest adjusting the implementation of certain projects in the CIP to meet Beaufort County's other financial objectives.

E.8 PUBLIC INVOLVEMENT

Public participation is an essential element in FAA AC 150/5070-6B, *Airport Master Plans*, and is proportional to the complexity of the study. For the preparation of the Hilton Head Island Airport Master Plan Update, public participation was considered to be an integral part of the process because of the ongoing issues of the economical viability of the Airport to the Town of Hilton Head Island and Beaufort County.

The intent of public involvement is to encourage and facilitate public input and comments in the decision-making process of the project. The opportunities for input incorporated several methods including use of the media, public comment meetings, and public information meetings, coupled with a project web site maintained by Beaufort County.

It is the goal of the project team, which included the FAA, SCAC, Beaufort County, Town of Hilton Head Island, and the consultant team led by Talbert & Bright, Inc., to inform, educate, and seek input from the public about the project. To achieve this goal, the project team:

- Created an open and objective environment to allow the public to understand the project and provide their opinions

- Integrated citizen concerns and needs into the project development process

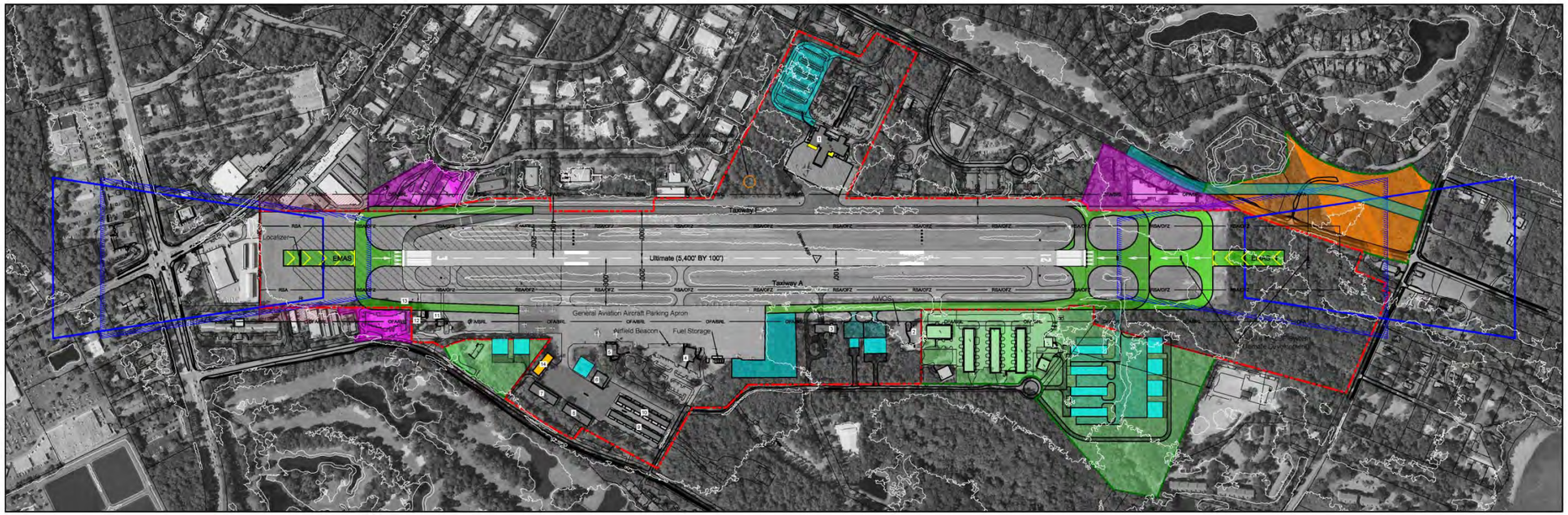
- Educated the public on the Airport
- Invited the public to provide input on the project

Public involvement included three two-day public meetings to receive input at various stages of the project, five presentations to councils, four meetings with FAA, receipt and review of 1,361 comments, response to 279 questions, a five-day commercial passenger survey (of which 84 percent were visitors to Hilton Head Island), and a five-day general aviation survey (of which 41 percent were business-related). Below is a chronological listing of public involvement events that occurred during the preparation of the Master Plan Update.

- August 27-28, 2009 – Public Comment Meeting (comments received)
- November 17, 2009 – Presentation to Town of Hilton Head Island Council
- November 23, 2009 – Presentation to Beaufort County Council
- March 9, 2010 – Presentation to Joint Meeting of Beaufort County and Town of Hilton Head Island Councils
- March 15-16, 2010 – Public Comment Meeting (comments and questions received)
- May 19, 2010 – Presentation to Joint Meeting of Beaufort County and Town of Hilton Head Island Councils
- May 24-25, 2010 – Public Comment Meeting (comments and questions received)
- June 7, 2010 – Consolidated question list from Beaufort County and Town of Hilton Head Island Councils
- June 16, 2010 – Two additional questions from Beaufort County and Town of Hilton Head Island Councils
- June 30, 2010 – Answers to consolidated question list from Beaufort County and Town of Hilton Head Island Councils
- July 2, 2010 – Answers to questions from March 15-16, 2010, and May 24-25, 2010, Public Comment Meeting Questions
- July 12, 2010 – Presentation to Joint Meeting of Beaufort County and Town of Hilton Head Island Councils
- October 13, 2010 – Questions from Beaufort County and Town of Hilton Head Island Councils
- October 19, 2010 – Questions from Beaufort County and Town of Hilton Head Island Councils and Beaufort County Airports Board
- October 25, 2010 – Answers to questions from Beaufort County and Town of Hilton Head Island Councils and Beaufort County Airports Board
- October 27, 2010 – Presentation to Joint Meeting of Beaufort County and Town of Hilton Head Island Councils (approval of Master Plan Update recommendation)

E.9 AIRPORT LAYOUT PLAN

The ALP drawing (pages E-vi and E-vii) represents a 20-year, three-phased program, which is required to support the projected activity for HXD.

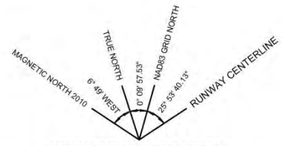


LEGEND

- CURRENT PHASE TERMINAL BUILDING DEVELOPMENT
- CURRENT PHASE HANGAR DEVELOPMENT
- PHASE 1 RUNWAY PROPERTY ACQUISITION
- PHASE 1 RUNWAY AND TAXIWAY DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- ULTIMATE PHASE PROPERTY ACQUISITION FOR RUNWAY DEVELOPMENT
- ULTIMATE PHASE RUNWAY AND TAXIWAY DEVELOPMENT
- ULTIMATE PROPERTY ACQUISITION
- FUTURE AIRPORT TERMINAL PARKING DEVELOPMENT
- FUTURE GA APRON DEVELOPMENT
- FUTURE HANGAR DEVELOPMENT
- FUTURE APRON DEVELOPMENT
- FUTURE ROADWAY AND PARKING DEVELOPMENT
- ULTIMATE RUNWAY PROTECTION ZONE (RPZ)
- ULTIMATE DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- RSA — ULTIMATE RUNWAY SAFETY AREA
- OFA — ULTIMATE RUNWAY OBJECT FREE AREA
- OFZ — ULTIMATE OBJECT FREE ZONE
- BRL — ULTIMATE BUILDING RESTRICTION LINE
- OFA/BRL — RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- RSA/OFZ — ULTIMATE RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- PHASE 1 AIRPORT PROPERTY LINE
- ULTIMATE AIRPORT PROPERTY LINE
- AIRPORT BUILDING

AIRPORT BUILDINGS

BUILDING NO.	NAME	TOP ELEVATION
1	Airport Passenger Terminal	56.8
2	Air Traffic Control Tower (ATCT)	80.7
3	Airport Rescue and Fire Fighting (ARFF)	Unknown
4	Civil Air Patrol (CAP)	48.5
5	Fixed Base Operation (FBO)	50.9
6	Hangar	52.8
7	T-hangar	50.9
8	T-hangar	50.9
9	T-hangar	35.3
10	T-hangar	35.4
11	Abandoned ARFF Facility	45.6
12	Storage Building	28.9
13	Airfield Electrical Vault	30.1
14	Hangar (Under Construction)	Not Available



RATE OF MAGNETIC DECLINATION VARIATION
= 5 MINUTES WEST PER YEAR

NORTH DECLINATION DIAGRAM
NTS

FAA DISCLAMER

THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICIES OF THE FAA. THE ACCEPTANCE OF THIS PLAN BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

0 300 600 900
FEET

BEAUFORT COUNTY, SOUTH CAROLINA

BY: _____ DATE: _____
GARY KUBIC
COUNTY ADMINISTRATOR

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Airport Layout Plan (Ultimate Development)

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 300 Feet | SHEET: 4 OF 14

RUNWAY APPROACH DATA

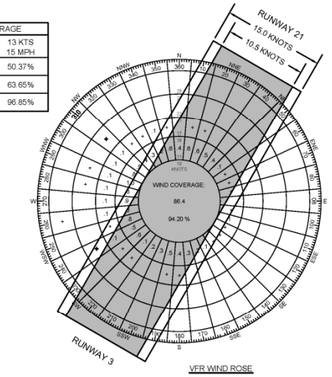
	APPROACH CODE (AC)	FAR PART 77 APPROACH SLOPE	APPROACH MINIMUMS	APPROACH THRESHOLD ELEVATION	TOUCHDOWN ZONE ELEVATION	RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS			LANDING AIDS
						INNER WIDTH	OUTER WIDTH	LENGTH	
RUNWAY 3									
EXISTING	C	34:1	RNAV GPS: (540-1 MI *AC: A & B), (540-1 ½ MI AC: C), (540- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	19.0'	19.0'	500'	1,010	1,700	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI. (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	19.0'	19.0'	500'	1,010	1,700	MIRL, PAPI-4, REILS
RUNWAY 21									
EXISTING	C	34:1	RNAV GPS: (480-1 MI *AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) LOC/DME: (480-1 MI AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	13.0'	18.3'	500'	1,010	1,700	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI. (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	12.1'	18.3'	500'	1,010	1,700	MIRL, PAPI-4, MALS

*AC: APPROACH CODE

Modification to FAA Design Standards

Non-Standard Modification	Location of Modification	Standard	Actual	Aeronautical Study Number	FAA Approval
Runway to Taxiway Separation	Taxiway 'A'	300 Feet	200 Feet	2011-ASO-890-NRA	With Conditions
Runway Object Free Area	Various Locations along Runway	800 Feet	Various from 600 Feet to 770 Feet	2011-ASO-890-NRA	With Conditions

CROSSWIND COVERAGE		
	10.5 KTS 12 MPH	13 KTS 15 MPH
RW 3	49.55%	50.37%
RW 21	61.81%	63.65%
RW 3-21	94.20%	96.85%



VFR WIND ROSE
SOURCE: NATIONAL WEATHER DATA CENTER, ASHEVILLE, N.C.
STATION-BEAUFORT MCAS, SC
PERIOD: 2000-2009

AIRPORT DATA

DEVELOPMENT PHASE	EXISTING	PHASE 1	ULTIMATE
AIRPORT ELEVATION	19.1'	19.1	19.1
AIRPORT REFERENCE POINT (ARP) COORDINATES	32° 13' 27.71" N 80° 41' 50.92" W	32° 13' 29.93" N 80° 41' 49.64" W	32° 13' 31.78" N 80° 41' 48.58" W
MEAN MAX. TEMP. OF HOTTEST MONTH	89.4° F	89.4° F	89.4° F
AIRPORT LANDING AIDS	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21, MALS RW 21	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21, MALS RW 21
TERMINAL NAVIGATIONAL AIDS	LOCALIZER/DME RW 21, VORTAC	LOCALIZER/DME RW 21, VORTAC	LOCALIZER/DME RW 21, VORTAC
AIRPORT REFERENCE CODE	C-II	C-II	C-II

RUNWAY DATA

DESCRIPTION			RUNWAY DATA		
DEVELOPMENT PHASE			EXISTING	PHASE 1	ULTIMATE
RUNWAY LENGTH & WIDTH			4,300' X 100'	5,000' X 100'	5,400' X 100'
EFFECTIVE GRADIENT			0.16%	0.14%	0.13%
PAVEMENT TYPE			ASPHALT	ASPHALT	ASPHALT
DESIGN AIRCRAFT			FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)	FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)	FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)
PAVEMENT STRENGTH			38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR	38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR	38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR
PAVEMENT CLASSIFICATION NUMBER (PCN)					
AIRCRAFT REFERENCE CODE (ARC)			C-II	C-II	C-II
RUNWAY SAFTY AREA (RSA)	WIDTH		400'	400'	400'
	RUNWAY 3	LENGTH	600' PRIOR TO BEGINNING OF RUNWAY TO 1,000' BEYOND RUNWAY END (LENGTH = 5,900')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
	RUNWAY 21	LENGTH	600' PRIOR TO LANDING THRESHOLD TO 897' BEYOND RUNWAY END (LENGTH 5,797')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
OBJECT FREE AREA (OFA)	WIDTH		800'	800'	800'
	RUNWAY 3	LENGTH	600' PRIOR TO BEGINNING OF RUNWAY TO 1,000' BEYOND RUNWAY END (LENGTH = 5,900')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
	RUNWAY 21	LENGTH	600' PRIOR TO LANDING THRESHOLD TO 897' BEYOND RUNWAY END (LENGTH 5,797')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
OBSTACLE FREE ZONE (OFZ)	WIDTH		400'	400'	400'
	RUNWAY 3	LENGTH	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND RUNWAY END (LENGTH = 4,700')	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND LAST MALS LIGHT (LENGTH = 6,800')	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND LAST MALS LIGHT (LENGTH = 7,200')
	RUNWAY 21	LENGTH	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND RUNWAY END (LENGTH = 4,700')	200' PRIOR TO BEGINNING OF FIRST MALS LIGHT TO 200' BEYOND RUNWAY END (LENGTH = 6,800')	200' PRIOR TO BEGINNING OF FIRST MALS LIGHT TO 200' BEYOND RUNWAY END (LENGTH = 7,200')
RUNWAY LIGHTING			MIRL	MIRL	MIRL
TAXIWAY LIGHTING			MITL	MITL	MITL
RUNWAY MARKING TYPE			NON-PRECISION	NON-PRECISION	NON-PRECISION
NAD 83 RUNWAY END COORDINATES	RUNWAY 3	LATITUDE	32° 13' 08.60" N	32° 13' 05.94" N	32° 13' 05.94" N
		LONGITUDE	80° 42' 01.91" W	80° 42' 03.44" W	80° 42' 03.44" W
		TRUE BEARING	N 26° 03' 38.06" E	N 26° 03' 41.14" E	N 26° 03' 32.46" E
	RUNWAY 21	LATITUDE	32° 13' 46.82" N	32° 13' 50.38" N	32° 13' 53.93" N
		LONGITUDE	80° 41' 39.92" W	80° 41' 37.87" W	80° 41' 35.83" W
		TRUE BEARING	S 26° 03' 49.78" W	S 26° 03' 54.77 W	S 26° 03' 47.18" E
NAVD 88 RUNWAY END ELEVATION	RUNWAY 3	ELEVATION	18.9'	19.0'±	19.0'±
	RUNWAY 21	ELEVATION	12.1'	12.0'±	12.0'±
NAD 83 DISPLACED THRESHOLD COORDINATES	RUNWAY 3	LATITUDE	32° 13' 11.26" N	32° 13' 08.60" N	32° 13' 08.60" N
		LONGITUDE	80° 42' 01.91" W	80° 42' 01.91" W	80° 42' 01.91" W
		TRUE BEARING	N 26° 03' 39.88" E	N 26° 03' 42.96" E	N 26° 03' 33.70" E
	RUNWAY 21	LATITUDE	32° 13' 37.65" N	32° 13' 46.82" N	32° 13' 46.82" N
		LONGITUDE	80° 41' 41.45" W	80° 41' 39.92" W	80° 41' 39.92" W
		TRUE BEARING	S 26° 04' 14.36" W	S 26° 03' 49.00" W	S 26° 03' 49.00" W
NAVD88 DISPLACED THRESHOLD ELEVATION	RUNWAY 3	ELEVATION	19.0'	18.9'	18.9'
	RUNWAY 21	ELEVATION	13.0'	12.1'	12.1'
DECLARED DISTANCE RUNWAY LENGTHS	RUNWAY 3	TORA	4,300'	5,000'	5,400'
		TODA	4,300'	5,000'	5,400'
		ASDA	4,300'	5,000'	5,400'
		LDA	4,000'	4,703'	5,103'
	RUNWAY 21	TORA	4,300'	5,000'	5,400'
		TODA	4,300'	5,000'	5,400'
		ASDA	4,103'	5,000'	5,400'
		LDA	3,803'	4,597'	4,597'

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-3704
(843) 689-5400

Airport Layout Plan Data

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: | SHEET: 5 OF 14

1.1 GOALS AND OBJECTIVES OF A MASTER PLAN

An Airport Master Plan presents both short-term and long-term development for an airport and graphically displays and reports data and logic upon which proposed development is based.

The goal of a Master Plan is to provide guidelines for future airport development, which will satisfy aviation demand in a cost-effective, feasible manner, while resolving aviation, environmental, and socioeconomic issues of the community.

The objectives are attainable targets that are action oriented and designed to address specific elements consistent with attainment of the goal. The objectives for the Hilton Head Island Airport (HXD or the Airport) are based on an initial evaluation of the Airport and its surrounding environs and meetings with Airport, Beaufort County, and Town of Hilton Head Island staff; elected county and town officials; and the general public.

As information is developed during data-gathering efforts, objectives for the Airport Master Plan should be flexible to assure an objective basis for the final product. The specific goals and objectives for HXD are to:

- Meet the aviation needs of the community and customers
- Prepare a Master Plan Update and Airport Layout Plan (ALP) drawing set
- Protect and enhance community land use goals and regional aviation needs
- Evaluate current land uses adjacent to HXD to prohibit encroachment, which could hinder future growth
- Evaluate existing airport infrastructure and make recommendations for future development
- Evaluate the facility layout for compliance with Federal Aviation Administration (FAA) *Advisory Circular 150/5300-13 – Airport Design* (as amended)[1]
- Ensure that any short-term actions and recommendations do not preclude long-term planning objectives
- Optimize the operational efficiency, effectiveness, and safety of HXD
- Establish the framework for a continuous planning process
- Continue to meet the needs of HXD tenants and help expand and attract new tenants
- Ensure that HXD continues in its role of supporting the economy of Hilton Head Island and Beaufort County

1.2 PURPOSE OF THE HILTON HEAD ISLAND AIRPORT MASTER PLAN UPDATE

An update to the HXD Airport Master Plan is being initiated by Beaufort County (the County) and the Town of Hilton Head Island (the Town) to provide direction and guidance regarding airport sustainability for future airport development priorities and justification for improvements. The Airport Master Plan Update will reassess planned development with respect to recent activity trends and economic indicators. Above all, the update follows federal and state policy in providing for a facility that is:

- Safe and efficient in accordance with airport design standards
- Economically viable and substantially user-supported
- In accordance with local, regional, state, and national goals
- Providing customers with safe, secure, and service-oriented operations

An evaluation of HXD facility needs will be completed for a 20-year planning period. The Airport Master Plan Update will comprehensively examine land use and facility requirements, emergency operations in the event of a natural disaster, and viable commercial service. The HXD ALP will depict these improvements, as adopted by Beaufort County and the Town of Hilton Head Island and accepted by the South Carolina Aeronautics Commission (SCAC) and Federal Aviation Administration (FAA). The approved ALP will enable the County to apply for funding for improvements, as eligible under the respective federal and state airport grant-in-aid programs.

1.2.1 Key Issues

Overall, the goal of the Airport Master Plan Update is to identify the orderly development of facilities essential to meeting the needs of the airport's users. Major study objectives include:

- Security, safety, service, and economic viability at HXD
- Evaluate airfield and airspace capacity
- Identify and create a plan to provide for the needs of HXD customers, users, and stakeholders
- Create a plan to ensure that HXD continues to be an economic engine for Beaufort County and the Town of Hilton Head Island
- Identify and describe future airport land acquisition
- Determine priority and best use of undeveloped airport property and future acquisitions
- Conduct a preliminary environmental overview of the proposed development

1.2.2 Airport Layout Plans

With the support of the previous analyses, a series of drawings are provided depicting HXD and proposed changes over the next 20 years. The principal drawing in the set of drawings is the ALP. The complete set of drawings is as follows:

- ALP
- Terminal Area Plan (TAP)
- Approach Surface (Part 77)
- Inner Portion Approach Surface Drawing
- Terminal Instrument Procedures (TERPS)
- Land Use Plan
- Exhibit 'A' (property map)

[1]Federal Aviation Administration, "Advisory Circular 150/5300-13 – Airport Design, Changes 1-15," December 31, 2009, <http://www.faa.gov/>, accessed January 27, 2010.

1.3 HILTON HEAD ISLAND

Hilton Head Island (the Island) has developed into a nationally and internationally known resort and retirement community (Figure 1.3-1). Located at the southern end of coastal South Carolina in Beaufort County, the appeal of the Island to retirees, visitors, and permanent residents is a temperate climate, environmental sensitivity to preserve natural attractiveness, and high quality amenities and infrastructure. The Island has a relaxed, small-town feel with an evolving economic structure where the resources of wealth (residents, second homes, and visitors) are balanced with a growing private service and retail sector. The Hilton Head Island Airport is situated on 175.05 acres on the northeastern end of the Island. The Airport is owned and operated by Beaufort County and provides commercial commuter and general aviation service to Beaufort County and the Lowcountry of South Carolina (Figure 1.3-2, page 3).

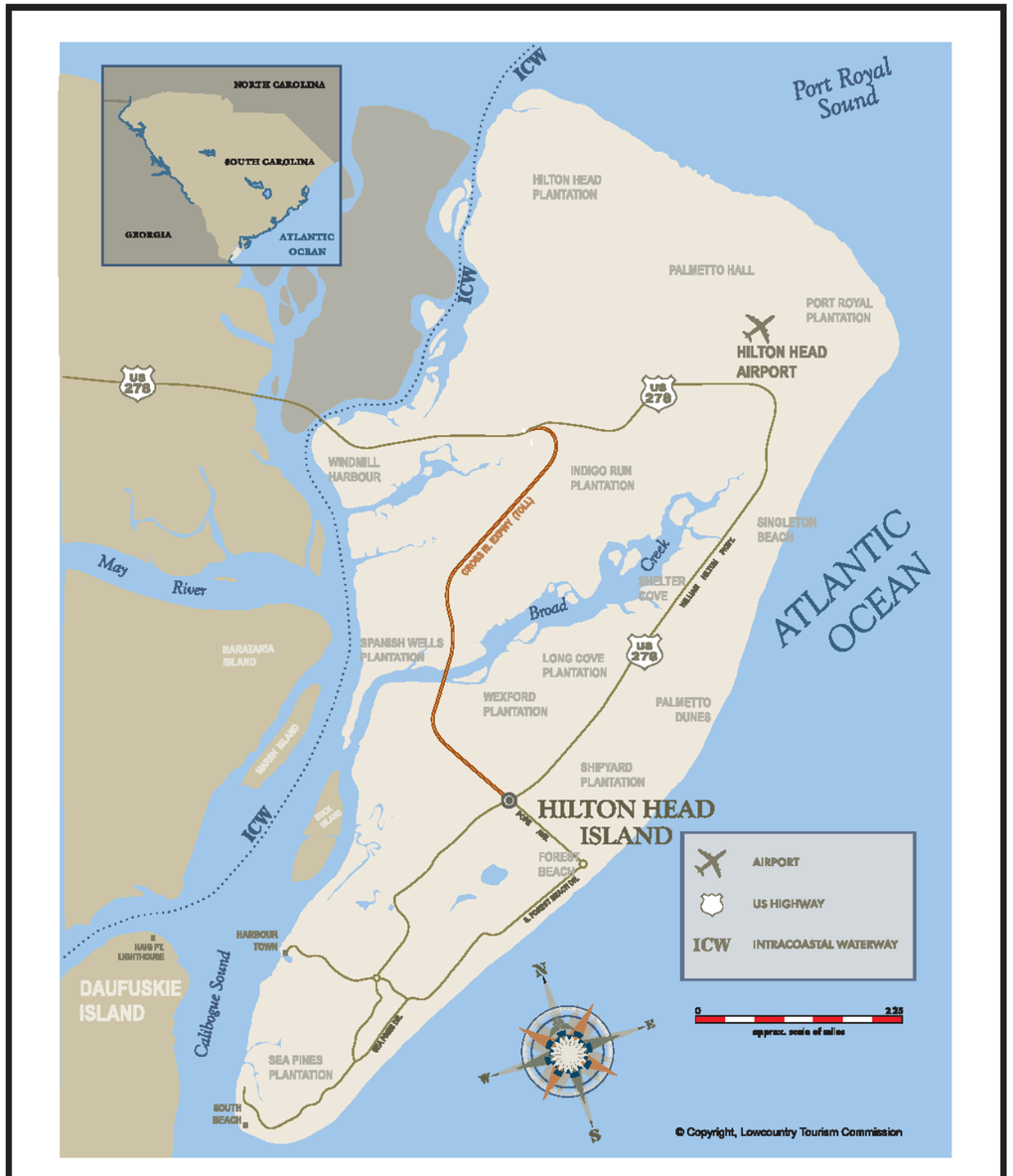


Figure 1.3-1
Hilton Head Island Airport

Location Map

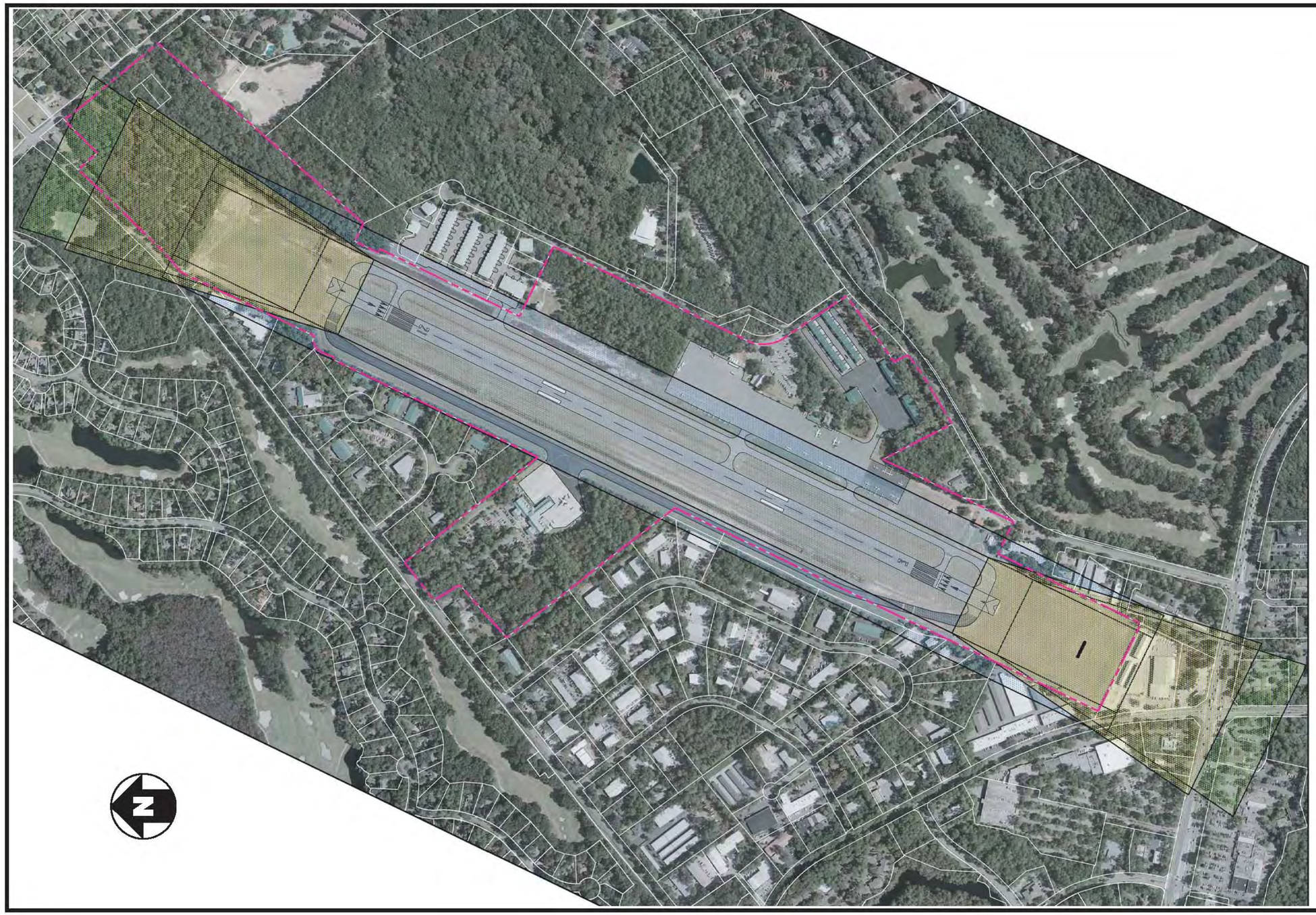


Figure 1.3-2
Hilton Head Island Airport
Airport Facilities

The purpose of the existing conditions section is to provide a baseline of the physical layout and facilities currently existing at the Airport. This information is utilized in future sections of the Master Plan Update document to determine future development needs within the 20-year planning period.

2.1 AREA AIRPORTS

2.1.1 Area Commercial Service Airports

A review of area commercial service airports is illustrated by Figure 2.1.1-1 (page 5) and summarized in Table 2.1.1-1.

2.1.1.1 Hilton Head Island Airport

Section 2.2.1 (page 5.)

2.1.1.2 Savannah-Hilton Head International Airport

The Savannah-Hilton Head International Airport (SAV) in Savannah, Georgia, is located 40 miles southwest of Hilton Head Island. Traffic to SAV has increased considerably over the years because of the popularity of Hilton Head Island as a residential and tourist destination and an increasing amount of commercial business on the Island and throughout Beaufort County. According to the 2009 passenger survey,[2] 39 percent of arriving passengers were destined for Hilton Head Island, and an additional 11 percent were traveling to other South Carolina locations. In addition to commercial air service, SAV offers general aviation service, cargo services, two fixed base operators (FBOs), a free trade zone (FTZ),[3] secure hangar space, and pilot conveniences, as well as off-airport amenities such as hotels, restaurants, a golf course, and related businesses.

2.1.1.3 Charleston International Airport

Charleston International Airport (CHS) is located in North Charleston, approximately 114 miles northeast of Hilton Head Island. The airport is situated adjacent to Charleston Air Force Base and uses the airfield facilities at the Air Force Base jointly with the U.S. Air Force. In addition to commercial air service, CHS offers general aviation service, cargo services, and two FBOs.

2.1.2 Area General Aviation Airports

2.1.2.1 Beaufort County Airport

Beaufort County Airport (ARW) has a runway length of 3,430 feet and serves general aviation traffic only. However, the airport is popular with northern Beaufort County residents and commuting business executives and is also home to Executive Flight Training, which operates two training aircraft and a flight simulator facility on the property. The only hangar facility houses the County's mosquito control helicopters.

2.1.2.2 Ridgeland Airport

Ridgeland Airport (3J1), in neighboring Jasper County, is general aviation only, with a runway of 2,692 feet. Despite the growth in Jasper County, an elementary school positioned close to the end of the runway restricts expansion on the existing site.

Table 2.1.1-1
Commercial Service Airport Comparisons
Hilton Head Island Airport

Hilton Head Island Airport		Savannah-Hilton Head International Airport		Charleston International Airport	
RUNWAY		RUNWAYS		RUNWAYS	
03/21	4,300' x 100'	10/28	9,351' x 150'	15/33	9,001' x 200'
		01/19	7,002' x 150'	03/21	7,004' x 150'
MINIMUMS		MINIMUMS		MINIMUMS	
RNAV (GPS) RWY 03 540-1 1/2 521 CATEGORY C		ILS RWY 01 239/40 200		ILS CAT II RWY 15 143/12 100	
RNAV (GPS) RWY 21 480-1 1/4 462 CATEGORY C		ILS RWY 10 230/18 200		ILS or LOC RWY 33 245/24 200	
FLIGHTS		FLIGHTS		FLIGHTS	
US Airways	7 daily to Charlotte, NC	American Eagle	2 daily to Dallas-Ft. Worth, TX	Air Tran	3 daily to Atlanta, GA
	1 daily to Washington, DC (except Saturday)		1 daily to Miami, FL	American Eagle	3 daily to Dallas-Ft. Worth, TX
Delta	3 daily to Atlanta, GA	Continental Express	3 daily to Newark, NJ	Continental	3 daily to Houston, TX
Total	10 daily flights		3 daily to Houston, TX		1 daily to Newark, NJ
		Delta Connection	3 daily to LaGuardia, NY	Delta	12 daily to Atlanta, GA
			2 daily to Cincinnati, OH		5 daily to LaGuardia, NY
		Delta	9 daily to Atlanta, GA		2 daily to Cincinnati, OH
		United Express	3 daily to Washington, DC		1 daily to Boston, MA
			3 daily to Chicago, IL	Northwest AirLink	2 daily to Detroit, MI
		US Airways	7 daily to Charlotte, NC		2 daily to Memphis, TN
			1 daily to Philadelphia, PA	US Airways	2 daily to New York, NY
		Total	37 daily flights		3 daily to Washington, DC
					9 daily to Charlotte, NC
					3 daily to Philadelphia, PA
				United Express	4 daily to Washington, DC
					4 daily to Chicago, IL
				Total	59 daily flights

Source: Federal Aviation Administration Aviation System Standards, "digital - Terminal Procedures Publication (d-TPP) Digital Terminal Procedures Version: 0909 Effective 0901Z Thursday, August 27, 2009 to 0901Z Thursday, September 24, 2009," <http://naco.faa.gov/index.asp?xml=naco/online/d_tpp>, accessed August 25, 2009.
Savannah-Hilton Head International Airport, "Airlines," <http://www.savannahairport.com/airlines/airlines/>, accessed August 25, 2009.
Hilton Head Island Airport, "Airline Information," <http://www.bcgov.net/Airport_HHI/AirlineInfo.php>, accessed August 25, 2009.
Charleston International Airport, "Flight Schedules, August 2009," <http://www.chs-airport.com/alschedd.htm>, accessed August 25, 2009.

[2]Savannah-Hilton Head International Airport, "Passenger Survey, May 2009," <http://www.savannahairport.com/>, accessed August 25, 2009.
[3]Definition of a free trade zone – is a special designated area where normal trade barriers like quotas and tariffs are removed and the bureaucratic necessities are narrowed in order to attract new business and foreign investments.

Figure 2.1.1-1
Hilton Head Island Airport
Area Airports and Selected Vicinity Obstructions

2.1.2.3 Lowcountry Regional Airport

The Lowcountry Regional Airport (RBW) in Walterboro in Colleton County is the largest general aviation airport in South Carolina with three runways (09/27 – 5,500 feet, 17/35 – 5,705 feet, and 05/23 – 6,002 feet). The Walterboro-Colleton County Airport Commission, together with the Colleton County Economic Alliance, is positioning the airport to attract aviation-related businesses seeking close proximity to aviation assets in Charleston, Savannah, and I-95. Approximately 500 acres of appropriately zoned land have been designated to accommodate on- and off-airport operations:

- 130 airside acres have been assessed to Level III site certification as required by the South Carolina Department of Commerce
- 113 airside acres have been designated as a multi-county park with Hampton County
- 250 airside acres have been dedicated for major air-related projects.

A portion of the airport property is included in the County's FTZ application for the Colleton County Commerce Center on I-95, thereby requiring only a FTZ boundary modification request should an aviation investment require FTZ status.

2.1.3 Vicinity Aeronautical Chart Obstructions

With an airport elevation of 19 feet above mean sea level (AMSL), several aeronautical chart obstructions of over 1,000 feet AMSL are noted west of HXD (Figure 2.1.1-1). Other obstructions include trees at both ends of Runway 03/21, which are currently being addressed by the Airport.

2.2 HILTON HEAD ISLAND AIRPORT

2.2.1 Airport Location

Situated on nearly 175.05 acres with a runway 4,300 feet long and 100 feet wide, Hilton Head Island Airport supports the business and residential community of Hilton Head Island and Bluffton, as well as the Island's tourist industry. It is home to one FBO (Signature Flight Support) and serves as a base for Angel Flight Southeast. Beaufort County owns and operates 22 T-hangars, three small box hangars, and one larger hangar, which is used for lease purposes or overnight stays. In addition, 44 small private hangars are based off-airport, with access to the runway. Renovations to the commercial terminal facilities are scheduled to be performed, and passengers generally regard the Airport as a friendly and convenient facility. A 2007 survey conducted of Hilton Head Island registered voters determined that 91 percent described their airport experience as "favorable," and 93 percent considered the Airport as "important."[4]

2.2.2 Airport History

When Charles E. Fraser was developing Sea Pines Plantation in the 1960s, Mr. Fraser was told by Arnold Palmer that he would come and play golf on the Island if there was an airport into which he could fly his aircraft. In 1967, the Hilton Head Island Airport opened, creating the opportunity for visitors to fly in and be playing golf in 30 minutes.

2.2.3 Part 139 Certification

HXD operates under a 14 CFR Part 139 – Certification of Airports,[5] which requires FAA to issue airport operating certificates to airports that:

- Serve scheduled and unscheduled air carrier aircraft with more than 30 seats
- Serve scheduled air carrier operations in aircraft with more than 9 seats but less than 31 seats
- The FAA Administrator requires to have a certificate

Part 139 does not apply to airports at which air carrier passenger operations are conducted only because the airport has been designated as an alternate airport.

Airport operating certificates (AOC) serve to ensure safety in air transportation. To obtain a certificate, an airport must agree to certain operational and safety standards and provide for such things as firefighting and rescue equipment. These requirements vary depending on the size of the airport and the type of flights available. The regulation, however, does allow FAA to issue certain exemptions to airports that serve few passengers yearly and for which some requirements might create a financial hardship.

Airports that currently hold a limited AOC (or airports that have maintained an AOC after loss of scheduled large air carrier aircraft service) are now either Class II or Class IV airports. Class IV airports are those airports that

[4]Lowcountry Economic Network (Angela Williams, Director of Communications and Research), "The Importance of Airport Infrastructure to the Economic Development of Beaufort County," e-mail message, November 6, 2008.
[5]Title 14--Aeronautics and Space, Chapter I – Federal Aviation Administration, Department of Transportation Part 139--Certification of Airports <http://www.access.gpo.gov/>, accessed September 17, 2009.

serve only unscheduled operations of large air carrier aircraft. Air carrier operations are so infrequent at these airports that, in the past, FAA only required them to comply with some Part 139 requirements. This continues to be the case, but new operational requirements have been added along with modifications to the airport certification process and other administrative changes. HXD is classified as a Class I airport.

Table 2.2.3-1 compares previous Part 139 operational and safety requirements with those now required of Class 1 airports under the revised Part 139.

For the purpose of Index determination, air carrier aircraft lengths are grouped as follows:

(1) Index A includes aircraft less than 90 feet in length.

(2) Index B includes aircraft at least 90 feet but less than 126 feet in length.

(3) Index C includes aircraft at least 126 feet but less than 159 feet in length.

(4) Index D includes aircraft at least 159 feet but less than 200 feet in length.

(5) Index E includes aircraft at least 200 feet in length.

HXD is a Part 139 Class I Index A tower airport.[6]

2.2.4 Historical Funding

Table 2.2.4-1 (page 7) provides a historical listing of federal- and state-funded projects at HXD for the last 25 years. This listing, totaling approximately $22.0 million, provides the chronological development of HXD between 1984 and 2009.

2.2.5 Airport Facility Directory

This section describes the airside characteristics of HXD. Many of the characteristics noted are published in the FAA Airport/Facility Directory (AFD, Figure 2.2.5-1, page 8).

Table 2.2.3-1
Part 139 Requirements
Hilton Head Island Airport

	Previous	Revised
1.	Personnel provisions (§139.303)	A recordkeeping system and new personnel training standards and clarification of use of a designee to comply with Part 139
2.	Paved and unpaved surfaces (§139.305 and §139.307)	Clarification of requirement to repair pavement cracks
3.	Safety areas (§139.309)	Clarification of safety area definition (§139.3)
4.	Marking, lighting, and signs (§139.311)	Clarification of requirement to mark pavement edges and new requirement for sign plan (§139.203(b)(13))
5.	Snow and ice control plan (§139.313)	Clarification of requirement for determining need for plan and positioning of snow off movement areas
6.	ARFF (§139.315, §139.317 and §139.319)	New personnel training, fire extinguishing agent, and HAZMAT response standards; elimination of older ARFF vehicle exception; and clarification of Index criteria. Also, extends ARFF coverage to scheduled operations of small air carrier aircraft.
7.	HAZMAT handling/storage (§139.321)	Standards for air carrier fueling operations and additional fuel fire safety and personnel training standards
8.	Traffic/wind indicators (§139.323)	New supplemental wind cone/segmented circle standards
9.	Airport emergency plan (§139.325)	New requirement to plan for fuel storage fires, HAZMAT and security incidents, alarm systems and water rescue situations
10.	Self-inspections (§139.327)	New training requirements for inspection personnel
11.	Ground vehicle operations (§139.329)	New training requirements for pedestrians and ground vehicles
12.	Obstructions (§139.331)	Unchanged
13.	NAVAIDS (§139.333)	Unchanged
14.	Public protection (§139.335)	Unchanged
15.	Wildlife hazard management (§139.337)	Clarification of wildlife hazards requiring action and new hazard assessment and management plan standards
16.	Airport condition reporting (§139.339)	New notification standard
17.	Construction/unserviceable areas (§139.341)	Unchanged

Source: Title 14--Aeronautics and Space, Chapter I – Federal Aviation Administration, Department of Transportation Part 139--Certification of Airports <http://www.access.gpo.gov/nara/cfr/waisidx_08/14cfr139_08.html>, accessed September 17, 2009.

2.2.5.1 Airport Name and Associated City

The Airport/Facility Directory (AFD) lists the airport name as Hilton Head Island Airport. Airports are listed alphabetically in the AFD by the associated city and state. The associated city for HXD is Hilton Head Island, South Carolina. HXD is located three miles northeast of the center of Hilton Head Island, South Carolina.

2.2.5.2 Airport Identifier

A three- or four-character code is assigned to airports. These identifiers are used by air traffic control (ATC) in lieu of the airport name in flight plans, flight strips, and other written records and computer operations. The location identifier for Hilton Head Island Airport is HXD.

2.2.5.3 Airport Coordinates (Airport Reference Point)

The geographic position is shown in degrees, minutes, and hundredths of a minute and represents the approximate center of mass of usable runways, also defined as the airport reference point (ARP). The existing ARP for HXD is N 32° 13.46', W 080° 41.85'.

2.2.5.4 Navigational Charts

Airports are typically illustrated on Sectional and IFR Enroute Low and High Altitude Charts. HXD is shown on the Charlotte Sectional Aeronautical Chart, Jacksonville Sectional Aeronautical Chart, H-9 IFR Enroute High Altitude Chart, and L-24 IFR Enroute Low Altitude Chart.

2.2.5.5 Instrument Approaches[7]

Hilton Head Island Airport has five published instrument approach procedures (Figures 2.2.5.5-1, page 9 and 2.2.5.5-2, page 10 and Table 2.2.5.5-1, page 10):

- Localizer/DME Approach – Runway 21
- RNAV (GPS) Approach – Runway 21
- RNAV (GPS) Approach – Runway 03
- VOR/DME-A – Runway 03/21 (circling)
- Broad Creek Visual – Runway 03

[6]Hilton Head Island Airport, "Airport Certification Manual, Class 1 Airport, To comply with CFR 14 Part 139 as administered by the Federal Aviation Administration," approved by the FAA February 17, 2009.

[7]Federal Aviation Administration Aviation System Standards, "digital - Terminal Procedures Publication (d-TPP) Digital Terminal Procedures Version: 0909 Effective 0901Z Thursday, August 27, 2009 to 0901Z Thursday, September 24, 2009," <http://naco.faa.gov/>, accessed September 17, 2009.

Table 2.2.4-1
Grant History
Hilton Head Island Airport

Fiscal Year	Grant Number	Project Description	FAA			State	Local
			Entitlement	Discretionary	Total		
1984	001-1984	Install Apron Lighting	$0	$70,376	$70,376	$0	$7,820
1986	86-011	Resealing and Remarking Runway Overruns	$0	$0	$0	$4,350	$4,350
1987	002-1987	Improve Aircraft Rescue and Firefighting Building	$0	$186,193	$186,193		
		Improve Airport Drainage	$0	$24,152	$24,152		
		Acquire Aircraft Rescue and Firefighting Vehicle	$0	$102,272	$102,272		
		002-1987 Total	$0	$312,617	$312,617	$0	$34,735
1988	003-1988	Install Instrument Approach Aid	$0	$327,688	$327,688		
		Remove Obstructions	$0	$58,614	$58,614		
		Acquire Land For Approaches	$0	$435,654	$435,654		
		Acquire Land for Development	$603,000	$128,767	$731,767		
		Extend Taxiway	$0	$112,196	$112,196		
		Install Apron Lighting	$0	$49,152	$49,152		
		003-1988 Total	$603,000	$1,112,071	$1,715,071	$57,050	$133,513
1989	004-1989	Conduct Airport Master Plan Study	$64,293	$0	$64,293	$0	$7,144
1990	005-1990	Acquire Land for Development	$475,682	$0	$475,682	$0	$52,854
1992	006-1992	Construct Apron	$376,994	$0	$376,994		
		Construct Terminal Building	$625,417	$0	$625,417		
		006-1992 Total	$1,002,411	$0	$1,002,411	$0	$246,077
1993	007-1993	Improve Access Road	$98,100	$0	$98,100		
		Install Guidance Signs	$0	$91,452	$91,452		
		Construct Taxiway	$108,031	$0	$108,031		
		Construct Apron	$297,540	$0	$297,540		
		Expand Apron	$0	$28,652	$28,652		
		007-1993 Total	$503,671	$120,104	$623,775	$0	$179,541
1994	008-1994	Construct Terminal Building	$307,384	$0	$307,384	$0	$102,461
1994	009-1994	Construct Terminal Building	$288,611	$0	$288,611	$0	$50,931
1995	010-1995	Acquire Land for Development	$126,594	$0	$126,594		
		Improve Access Road	$126,594	$0	$126,594		
		Construct Terminal Building	$126,593	$0	$126,593		
		Construct Taxiway	$126,594	$0	$126,594		
		010-1995 Total	$506,375	$0	$506,375	$0	$56,264
1996	011-1996	Construct Terminal Building	$117,448	$0	$117,448		
		Acquire Land for Development	$117,448	$0	$117,448		
		Improve Access Road	$117,447	$0	$117,447		
		Construct Taxiway	$117,448	$0	$117,448		
		011-1996 Total	$469,791	$0	$469,791	$0	$52,199
1997	012-1997	Improve Access Road	$131,240	$0	$131,240		
		Acquire Land for Development	$131,240	$0	$131,240		
		Construct Terminal Building	$131,240	$0	$131,240		
		Construct Taxiway	$131,241	$0	$131,241		
		012-1997 Total	$524,961	$0	$524,961	$0	$58,329
1998	013-1998	Construct Terminal Building	$132,033	$0	$132,033		
		Construct Apron	$132,034	$0	$132,034		
		Improve Access Road	$132,032	$0	$132,032		
		Construct Taxiway	$132,034	$0	$132,034		

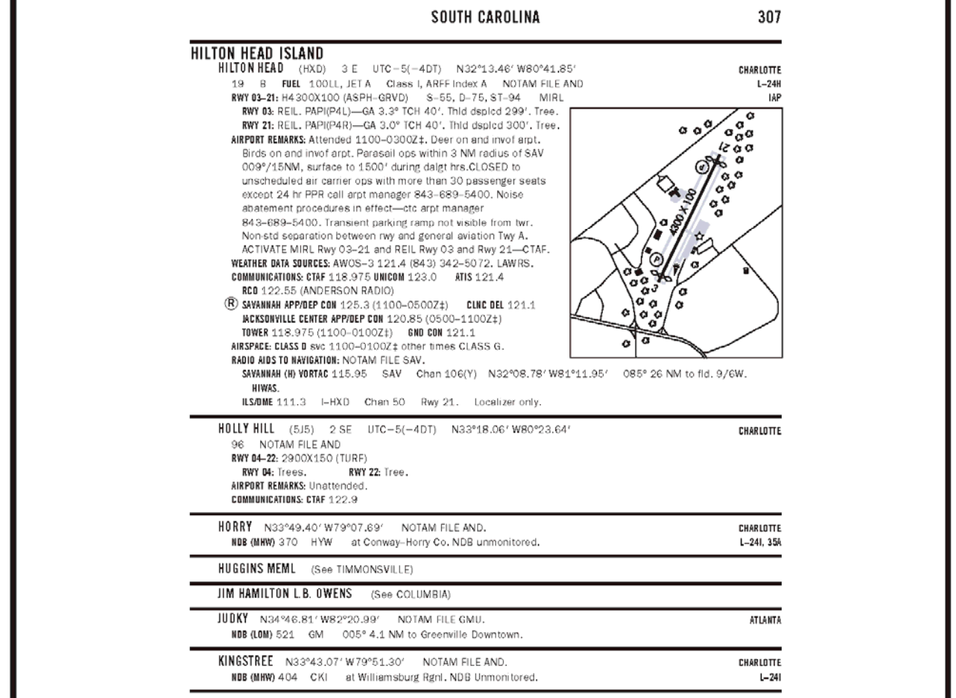
Table 2.2.4-1
Grant History
Hilton Head Island Airport

Fiscal Year	Grant Number	Project Description	FAA			State	Local
			Entitlement	Discretionary	Total		
		013-1998 Total	$528,133	$0	$528,133	$0	$58,681
1999	014-1999	Improve Access Road	$109,479	$0	$109,479		
		Construct Apron	$109,480	$0	$109,480		
		Construct Terminal Building	$109,480	$0	$109,480		
		Construct Taxiway	$109,479	$0	$109,479		
		014-1999 Total	$437,918	$0	$437,918	$0	$48,658
1999	015-1999	Rehabilitate Runway Lighting	$2,337	$137,912	$140,249		
		Rehabilitate Taxiway Lighting	$0	$116,285	$116,285		
		Install Runway Vertical/Visual Guidance System	$0	$11,356	$11,356		
		015-1999 Total	$2,337	$265,553	$267,890	$0	$29,766
1999	016-1999	Improve Access Road	$41,043	$0	$41,043		
		Construct Apron	$41,044	$0	$41,044		
		Construct Terminal Building	$41,044	$0	$41,044		
		Construct Taxiway	$41,043	$0	$41,043		
		016-1999 Total	$164,174	$0	$164,174	$0	$18,242
2000	017-2000	Improve Access Road	$23,735	$0	$23,735		
		Construct Apron	$23,735	$0	$23,735		
		Construct Terminal Building	$23,735	$0	$23,735		
		Construct Taxiway	$23,736	$0	$23,736		
		017-2000 Total	$94,941	$0	$94,941	$0	$10,549
2000	018-2000	Acquire Land for Development	$300,000	$0	$300,000		
		Rehabilitate Runway	$178,124	$0	$178,124		
		018-2000 Total	$478,124	$0	$478,124	$0	$53,125
2001	019-2001	Install Instrument Approach Aid	$10,962	$0	$10,962		
		Acquire Land for Development	$50,488	$0	$50,488		
		Install Weather Reporting Equipment	$10,800	$0	$10,800		
		Install Perimeter Fencing	$81,000	$0	$81,000		
		Improve Terminal Building	$17,640	$0	$17,640		
		Acquire Handicap Passenger Lift Device	$23,511	$0	$23,511		
		Conduct Environmental Study	$44,921	$0	$44,921		
		019-2001 Total	$239,322	$0	$239,322	$46,300	$26,591
2002	020-2002	Install Security Fencing	$131,602	$0	$131,602		
		Security Enhancements	$59,002	$0	$59,002		
		Acquire Land for Development	$50,488	$0	$50,488		
		Install Miscellaneous NAVAIDs	$307,467	$0	$307,467		
		020-2002 Total	$548,559	$0	$548,559	$0	$0
2002	023-2002	Construct Building	$128,191	$0	$128,191	$0	$42,730
2003	024-2003	Acquire Land for Development	$50,488	$0	$50,488		
		Install Weather Reporting Equipment	$148,500	$0	$148,500		
		Install Perimeter Fencing	$148,500	$0	$148,500		
		Acquire Equipment	$67,500	$0	$67,500		
		Construct Building	$985,009	$0	$985,009		
		Rehabilitate Runway	$28,755	$0	$28,755		
		Rehabilitate Apron	$28,755	$0	$28,755		

Table 2.2.4-1
Grant History
Hilton Head Island Airport

Fiscal Year	Grant Number	Project Description	FAA			State	Local
			Entitlement	Discretionary	Total		
		Conduct Miscellaneous Study	$95,256	$0	$95,256		
		Rehabilitate Parking Lot	$28,755	$0	$28,755		
		Install Miscellaneous NAVAIDs	$90,900	$0	$90,900		
		024-2003 Total	$1,672,418	$0	$1,672,418	$197,639	$139,524
2004	025-2004	Rehabilitate Runway	$1,542,551	$1,670,000	$3,212,551		
		Rehabilitate Apron	$1,015,258	$0	$1,015,258		
		Expand Aircraft Rescue and Firefighting Building	$95,000	$0	$95,000		
		Acquire Aircraft Rescue and Firefighting Vehicle	$0	$356,249	$356,249		
		Install Emergency Generator	$123,500	$0	$123,500		
		Install Perimeter Fencing	$104,500	$0	$104,500		
		025-2004 Total	$2,880,809	$2,026,249	$4,907,058	$129,073	$129,193
2006	026-2006	Conduct Environmental Study	$41,373	$0	$41,373		
		Conduct Miscellaneous Study	$11,830	$0	$11,830		
		Acquire Land for Development	$252,440	$0	$252,440		
		026-2006 Total	$305,643	$0	$305,643	$0	$16,086
2007	027-2007	Construct Aircraft Rescue and Firefighting Building	$106,425	$0	$106,425		
		Update Airport Master Plan Study	$142,050	$0	$142,050		
		Remove Obstructions	$178,172	$0	$178,172		
		Acquire Land for Development	$361,000	$0	$361,000		
		027-2007 Total	$787,647	$0	$787,647	$12,898	$28,557
2008	028-2008	Update Miscellaneous Study	$7,125	$0	$7,125		
		Rehabilitate Apron	$19,000	$0	$19,000		
		Remove Obstructions	$506,688	$0	$506,688		
		Install Guidance Signs	$19,000	$0	$19,000		
		Improve Airport Drainage	$90,250	$0	$90,250		
		Improve Terminal Building	$237,500	$0	$237,500		
		028-2008 Total	$879,563	$0	$879,563	$21,629	$24,664
2009	029-2009	Construct Aircraft Rescue and Firefighting Building	$1,263,606	$686,803	$1,950,409		
		Acquire Easement For Approaches	$53,719	$0	$53,719		
		Improve Airport Drainage	$373,247	$0	$373,247		
		Remove Obstructions	$97,391	$0	$97,391		
		029-2009 Total	$1,787,963	$686,803	$2,474,766		$130,251
		TOTAL	$15,681,921	$4,593,773	$20,275,694	$468,939	$1,205,239

Note:
FAA participation rates 90% from 1984-2003, 1992 = 80.29%, 1993 = 77.65%, 1994 = 75%, 1994 = 85%, 2002 = 100%, 2002 = 75%, 2004 to present is 95%.
Source: Federal Aviation Administration (Anthony Cochran), "Hilton Head Island Airport Grant History Report," e-mail message, August 24, 2009.
South Carolina Aeronautics Commission (Paul Werts), "Capital Improvement Projects for Hilton Head Island Airport," e-mail message, August 26, 2009.
Beaufort County Finance Department (Thomas A. Henrikson, Internal Auditor), "Hilton Head Airport Grant History," e-mail message, January 25, 2010.



SOUTH CAROLINA 307

HILTON HEAD ISLAND

HILTON HEAD (HXD) 3 E UTC−5(−4DT) N32°13.46′ W80°41.85′ CHARLOTTE
19 B **FUEL** 100LL, JET A Class I, ARFF Index A NOTAM FILE AND L-24H
RWY 03-21: H4300X100 (ASPH-GRVD) S-55, D-75, ST-94 MIRL IAP
RWY 03: REIL. PAPI(P4L)—GA 3.3° TCH 40′. Thld dsplcd 299′. Tree.
RWY 21: REIL. PAPI(P4R)—GA 3.0° TCH 40′. Thld dsplcd 300′. Tree.
AIRPORT REMARKS: Attended 1100-0300Z‡. Deer on and invof arpt. Birds on and invof arpt. Parasail ops within 3 NM radius of SAV 009°/15NM, surface to 1500′ during daylt hrs.CLOSED to unscheduled air carrier ops with more than 30 passenger seats except 24 hr PPR call arpt manager 843-689-5400. Noise abatement procedures in effect—ctc arpt manager 843-689-5400. Transient parking ramp not visible from twr. Non-std separation between rwy and general aviation Twy A. ACTIVATE MIRL Rwy 03-21 and REIL Rwy 03 and Rwy 21—CTAF.
WEATHER DATA SOURCES: AWOS-3 121.4 (843) 342-5072. LAWRS.
COMMUNICATIONS: **CTAF** 118.975 **UNICOM** 123.0 **ATIS** 121.4
RCO 122.55 (ANDERSON RADIO)
Ⓡ **SAVANNAH APP/DEP CON** 125.3 (1100-0500Z‡) **CLNC DEL** 121.1
JACKSONVILLE CENTER APP/DEP CON 120.85 (0500-1100Z‡)
TOWER 118.975 (1100-0100Z‡) **GND CON** 121.1
AIRSPACE: **CLASS D** svc 1100-0100Z‡ other times CLASS G.
RADIO AIDS TO NAVIGATION: NOTAM FILE SAV.
SAVANNAH (H) VORTAC 115.95 SAV Chan 106(Y) N32°08.78′ W81°11.95′ 085° 26 NM to fld. 9/6W.
HIWAS.
ILS/DME 111.3 I-HXD Chan 50 Rwy 21. Localizer only.

HOLLY HILL (5J5) 2 SE UTC−5(−4DT) N33°18.06′ W80°23.64′ CHARLOTTE
96 NOTAM FILE AND
RWY 04-22: 2900X150 (TURF)
RWY 04: Trees. **RWY 22:** Tree.
AIRPORT REMARKS: Unattended.
COMMUNICATIONS: **CTAF** 122.9

HORRY N33°49.40′ W79°07.69′ NOTAM FILE AND. CHARLOTTE
NDB (MHW) 370 HYW at Conway-Horry Co. NDB unmonitored. L-24I, 35A

HUGGINS MEML (See TIMMONSVILLE)

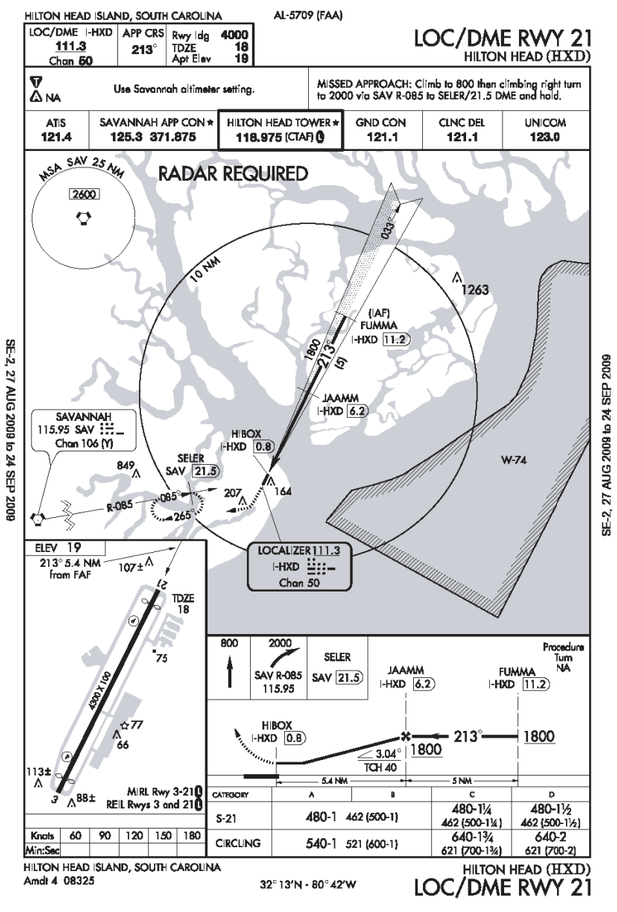
JIM HAMILTON L.B. OWENS (See COLUMBIA)

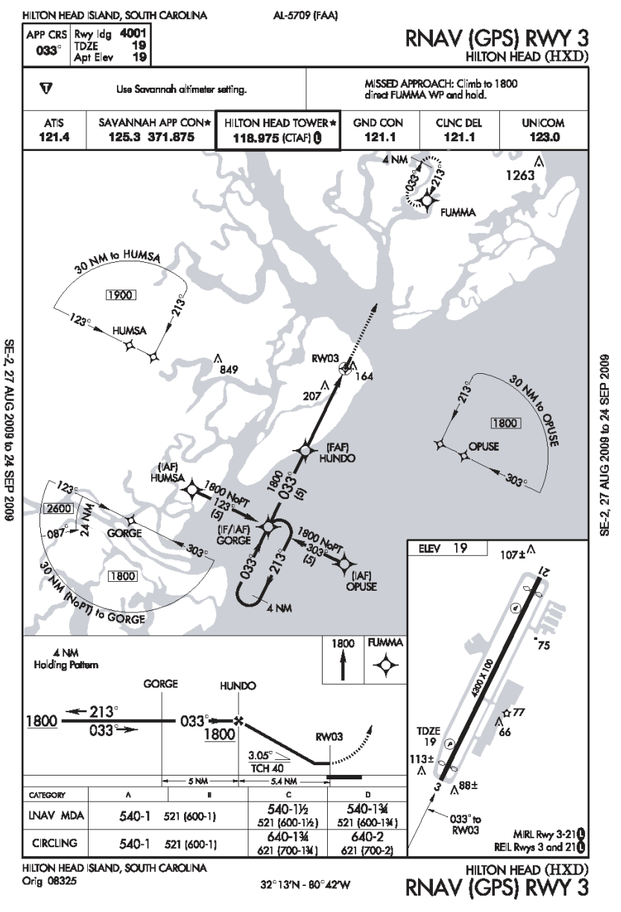
JUDKY N34°46.81′ W82°20.99′ NOTAM FILE GMU. ATLANTA
NDB (LOM) 521 GM 005° 4.1 NM to Greenville Downtown.

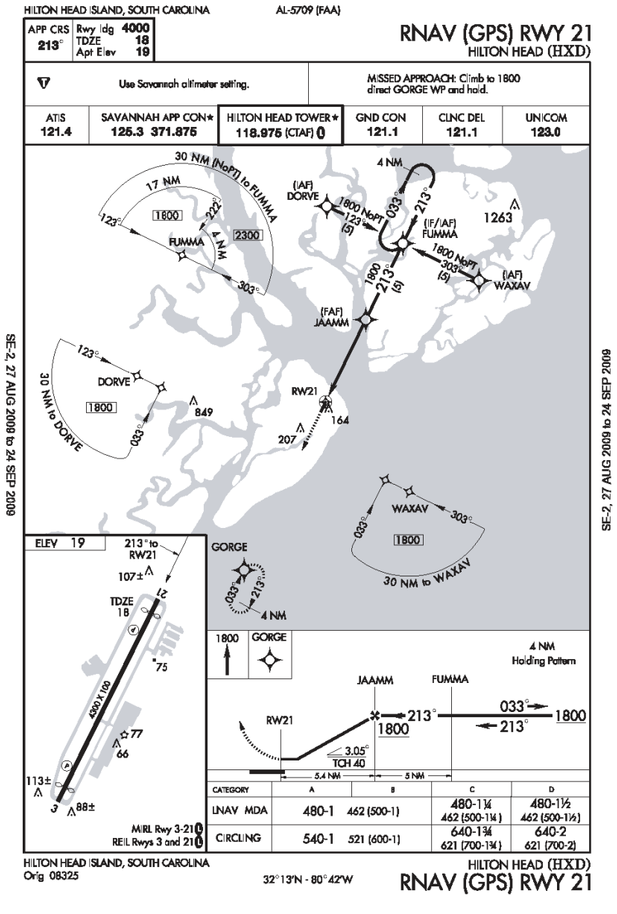
KINGSTREE N33°43.07′ W79°51.30′ NOTAM FILE AND. CHARLOTTE
NDB (MHW) 404 CKI at Williamsburg Rgnl. NDB Unmonitored. L-24I

SE, 27 AUG 2009 to 22 OCT 2009

Figure 2.2.5-1
Hilton Head Island Airport
Facility Directory







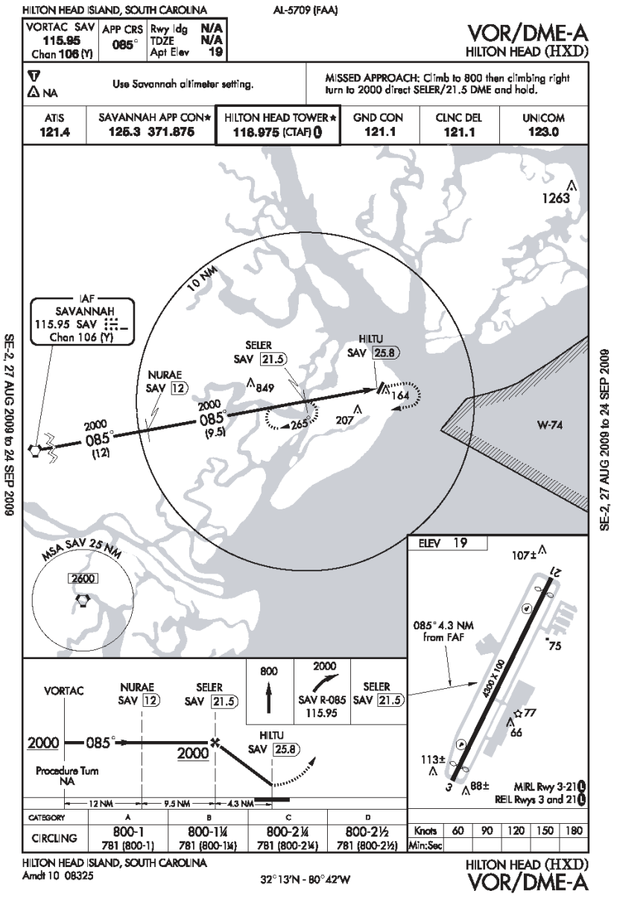


Figure 2.2.5.5-1
Hilton Head Island Airport

Approach Plates

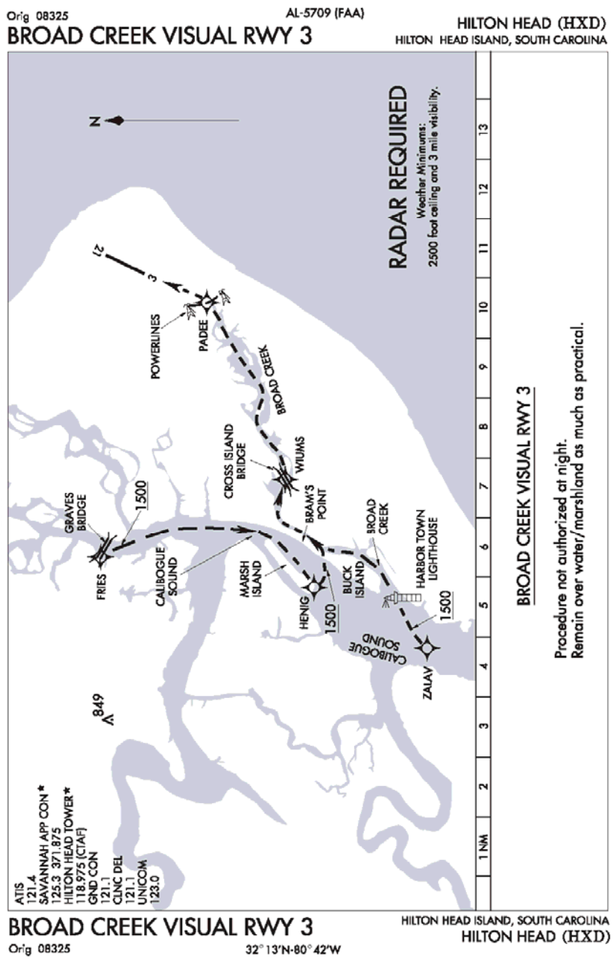


Figure 2.2.5.5-2
Hilton Head Island Airport

Approach Plate

Table 2.2.5.5-1
Airport Approach Minimums
Hilton Head Island Airport

Approach Procedure	Minimum Altitude (AMSL)	Visibility (MI)	Category
LOC/DME – Runway 21	480'	1	A/B
	480	1¼	C
	480	1½	D
LNAV – Runway 21	480'	1	A/B
	480	1¼	C
	480	1½	D
LNAV – Runway 03	540'	1	A/B
	540'	1½	C
	540'	1¾	D

Source: Federal Aviation Administration Aviation System Standards, "digital - Terminal Procedures Publication (d-TPP) Digital Terminal Procedures Version: 0909 Effective 0901Z Thursday, August 27, 2009 to 0901Z Thursday, September 24, 2009.

2.2.5.6 Obstacles[8]

Hilton Head Island Airport has the following published obstacle data:

- **Runway 03:** numerous trees 328 feet from departure end of runway, 428 feet left of departure end of runway, and 86 feet above ground level (AGL)/106 feet AMSL. Numerous trees 319 feet from departure end of runway, 390 feet right of departure end of runway, and 83 feet AGL/97 feet AMSL.

- **Runway 21:** numerous trees 39 feet from departure end of runway, 357 feet right of departure end of runway, and 94 feet AGL/111 feet AMSL. Numerous trees 368 feet from departure end of runway, 332 feet left of departure end of runway, and 73 feet AGL/87 feet AMSL. Numerous trees 1,421 feet from departure end of runway, 221 feet right of departure end of runway, and 74 feet AGL/91 feet AMSL. Numerous trees 1,207 feet from departure end of runway, 329 feet left of departure end of runway, and 85 feet AGL/99 feet AMSL.

2.2.6 Airport Inventory

Figure 2.2.6-1 (page 11) provides an inventory of the facilities at HXD, and Table 2.2.6-1 (page 12) provides a summary of HXD facilities.

2.2.6.1 Runway/Taxiways

As shown by Figure 2.2.6-1 (page 11), Runway 03/21 at HXD is a 4,300-foot by 100-foot runway with 300-foot displaced thresholds at either end. The runway is lighted by medium intensity runway lights (MIRLs), with runway end identifier lights (REILs) and four-box precision approach path indicators (4-PAPI) at either end.

The taxiway system consists of two parallel taxiways: Taxiway 'F' (50 feet wide), which is on the commuter side (west) of the runway, and Taxiway 'A' (40 feet wide), which is on the general aviation side (east) of the runway. There are also three connector taxiways (40 feet wide): B, C, and E on the east side of the runway that connect Runway 03/21 with Taxiway 'A.' The taxiway system is lighted with medium intensity taxiway lights (MITLs).

2.2.6.2 Apron

There are two apron areas:

- Commuter terminal apron consists of 8,426 square yards of concrete and 3,535 square yards of asphalt and is capable of holding up to four commuter service aircraft

- General aviation terminal apron consists of 43,730 square yards of asphalt with 66 tie-downs. The apron/taxilane area in the vicinity of the hangars encompasses 14,375 square yards.

[8] *Ibid.*

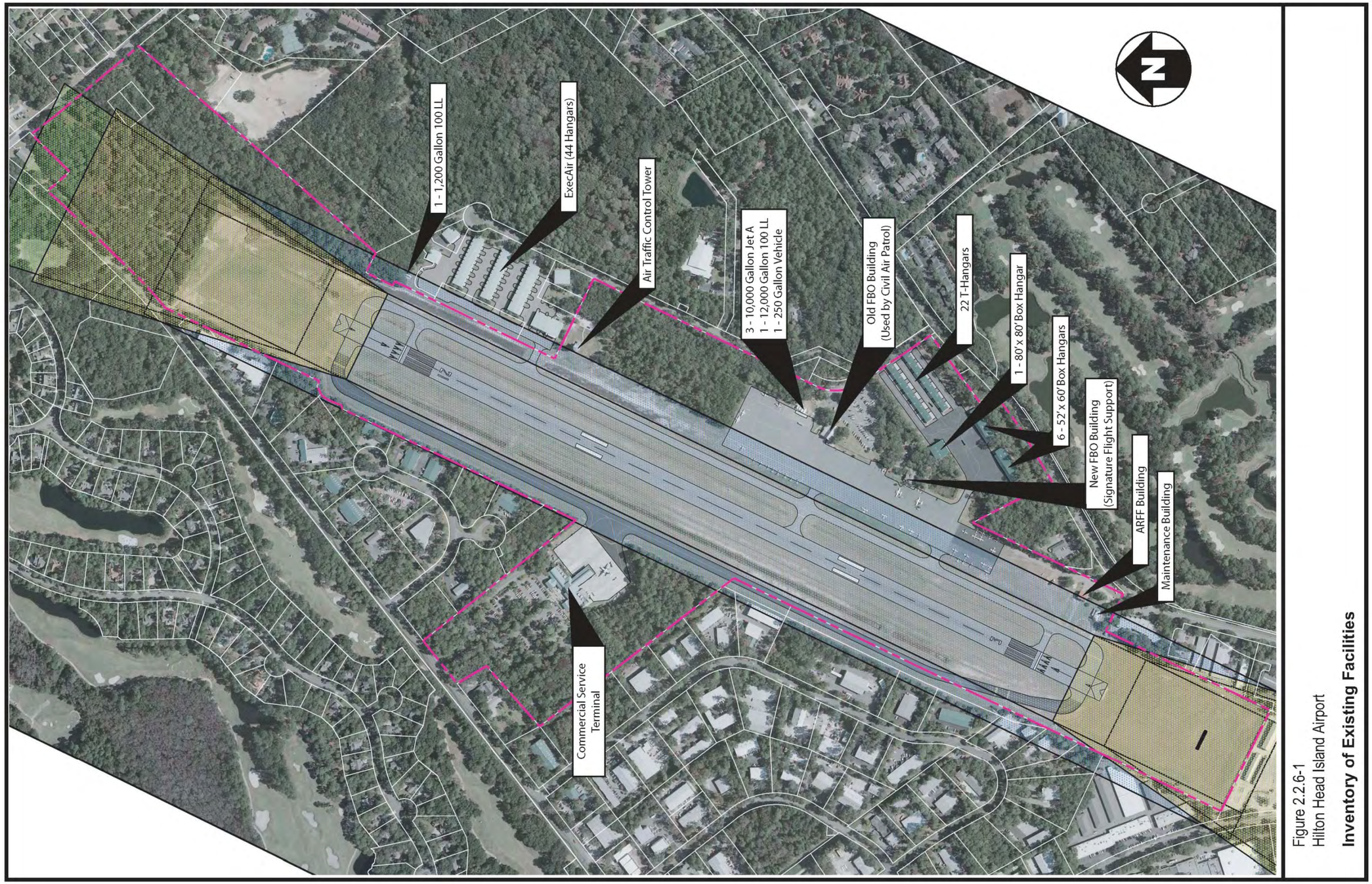


Figure 2.2.6-1
Hilton Head Island Airport
Inventory of Existing Facilities

Table 2.2.6-1
Inventory of Existing Facilities
Hilton Head Island Airport

A.	**Aviation Facilities**						
1	Runway	Runway 03/21					
	a) Length	4,300' with 300' displaced thresholds on either end					
	b) Width	100'					
	c) Type Pavement	Asphalt/Grooved					
	d) Pavement Condition	Good					
	e) Strength	38,000 SWG/75,000 DWG					
	f) Marking	Non-Precision					
2	Taxiways	A	**B**	**C**	**D**	**E**	**F**
	a) Description/Width	Full parallel/40'	Connector/40'		Ramp	Connector/40'	Full parallel/50'
	b) Type Pavement	Asphalt					
	c) Pavement Condition	Good to Excellent					
	d) Marking	Centerline					
3	Lighting						
	a) Runway Type	MIRL					
	b) Taxiway Type	MITL					
	c) Approach	P4L/P4L, REIL, LOC/DME					
4	General Aviation Apron						
	a) Area	58,105 sq yds					
	b) Type Pavement	Asphalt					
	c) Condition	Good					
	d) Tie-downs	66					
	e) Lighting	Flood					
5	Commercial Service Apron						
	a) Area	11,960 sq yds					
	b) Type Pavement	Concrete/Asphalt					
	c) Condition	Good					
	d) Lighting	Flood					
6	Wind Indicator & Segmented Circle						
	a) Location	East of RWY 03					
7	AWOS-3						
	a) Location	Next to ATCT					
8	Beacon						
	a) Location	East of RWY 03, near old FBO building					
9	ATCT	Contract					
	a) Location	East of RWY 21					
10	ARFF	1 – 1,500-gal Crash Truck					
		1 Light Rescue Vehicle					
B.	**Physical Site**						
1	Location	120 Beach City Road, Hilton Head Island					
2	Counties Served	Beaufort, Jasper					
3	Ground Access	Beach City Road from U.S. Highway 278 (William Hilton Parkway)					
4	Mean Max. Hot Mo. Temp.	89.4°F					
5	Airport Elevation	19.1' AMSL					
6	Airport Ownership	Beaufort County					

Table 2.2.6-1
Inventory of Existing Facilities
Hilton Head Island Airport

C.	**Terminal Facilities/Services**		
1	Commercial Service Terminal		
	a) Building	18,484 sq ft	
	b) Automobile Parking	325 – 170 public (107 long-term, 63 short-term), 55 employee (28 long-term, 27 short-term), 100 rental car	
	c) Airlines	US Airways (Piedmont Airlines), Delta Airlines (Mesaba Airlines, seasonal)	
	d) Rental Car Agencies	Avis, Hertz, National, Budget, Thrifty, Enterprise (off-site)	
2	General Aviation Terminal		
	a) Building	4,628 sq ft	
	b) Automobile Parking	127	
3	Fuel		
	a) 100 LL	1 - 12,000 gal	
	b) Jet A	3 - 10,000 gal	
	c) Vehicle	1 - 250 gal	
	d) Trucks	1 - 1,200 gal (100 LL)	
		2 - 3,000 gal (Jet A)	
4	Services	FBO	
		Aircraft Rental	
		Flight Training	
		Angel Flight Southeast	
		Civil Air Patrol	
5	Hangars		
	a) T-hangars (40' opening)	22	
	b) 52' x 60' Box Hangars	6	
	c) 80' x 80' Box Hangar	1	
6	Equipment	3 Tractor Mowers	
		2 Push Mowers	
		1 Lawn Tractor	
		2 Weed Eaters	
		1 Equipment Trailer	
		2 Pickup Trucks	
D.	**Flight Navigation Aids**		
1	Airport Beacon	36" Green/White Rotating Beacon	
2	Instrument Approaches	Localizer/DME Approach – Runway 21	
		RNAV (GPS) Approach – Runway 21	
		RNAV (GPS) Approach – Runway 03	
		VOR/DME-A – Runway 03/21 (circling)	
3	Visual Approach Aids	PAPI 4L/RWY 03	
		PAPI 4l/RWY 21	
		REILS RWY 03/21	
4	Communications & NAVAIDs	CTAF: 118.975	Savannah Approach: 125.3
		UNICOM: 123.0	Savannah Departure: 125.3
		ATIS: 121.4	Clearance Delivery: 121.1
		WX AWOS-3: 121.4 (843-342-5072)	WX AWOS-3 at ARW (12 nm N): 119.675 (843-524-1000)
		Hilton Head Ground: 121.1 (6:00 a.m. – 8:00 p.m.)	Hilton Head Tower: 118.975 (6:00 a.m. – 8:00 p.m.)

Source: Talbert & Bright, Inc., September 2009.

2.2.6.3 Commercial Service Terminal

The 18,000-square-foot commercial service terminal building for Hilton Head Island Airport was built in 1995 (Figure 2.2.6.3-1). It is a one-story, vaulted-ceiling building located between the commercial aircraft parking apron and commercial service automobile parking lot off Beach City Road. The terminal building includes space for the lobby, airport administration offices, commercial air carrier services, restrooms, rental cars, vending machines, passenger hold room, and baggage claim.

2.2.6.4 General Aviation Terminal

The 4,628-square-foot general aviation terminal building is located off Dillon Road on the east side of HXD and operated by Signature Flight Support (seven days per week 6:00 a.m. to 10:00 p.m., Figure 2.2.6.4-1, page 14). It is a two-story building located between the general aviation parking apron and automobile parking lot. The terminal building includes space for the lobby, FBO services and offices, line services, restrooms, conference room, pilot's lounge, storage, and mechanical rooms.

Services provided include:

- Pilot lounge
- Refreshment commissary
- Showers
- 6,400-square-foot hangar that can house up to a Falcon 900
- On-site putting green
- 2 ground power units
- Water and lavatory
- Fuel (100LL and Jet A)
- Oxygen

2.2.6.5 Aviation Services

Principal services offered by Signature Flight Support are fuel, storage and tie-downs, itinerant ramp parking, and a variety of hangar storage options.

Aircraft ramp storage is provided by 66 tie-downs. An area is reserved for itinerant aircraft in front of the general aviation terminal building that can accommodate large corporate aircraft.

2.2.6.6 Automobile Parking

Adjacent to the commercial service terminal is a 325-space automobile parking lot (Figure 2.2.6.6-1, page 14). The parking lot consists of 170 public parking spaces (107 long-term, 63 short-term), 55 employee parking spaces (28 long-term, 27 short-term), and 100 rental car spaces. The Airport is accessed by Beach City Road (two-lane road).

The general aviation terminal has a 127-space parking lot and is accessed from Dillon Road (two-lane road, Figure 2.2.6.6-2, page 15).The lot is in good condition with clear marking and selected areas with concrete bumpers.

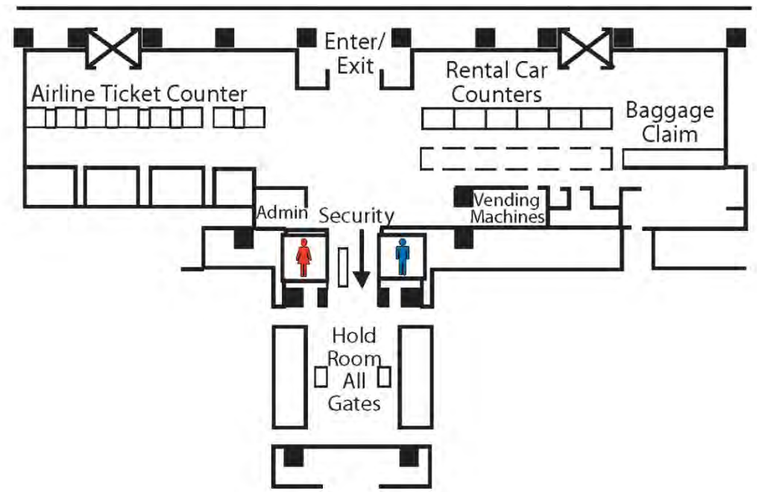
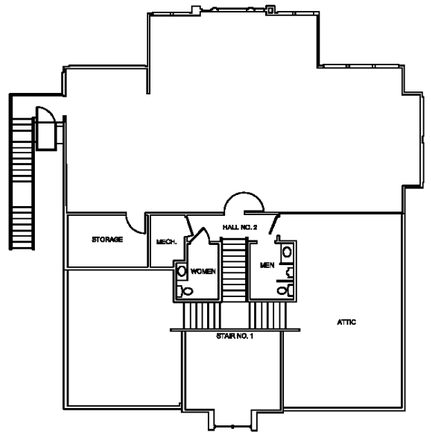
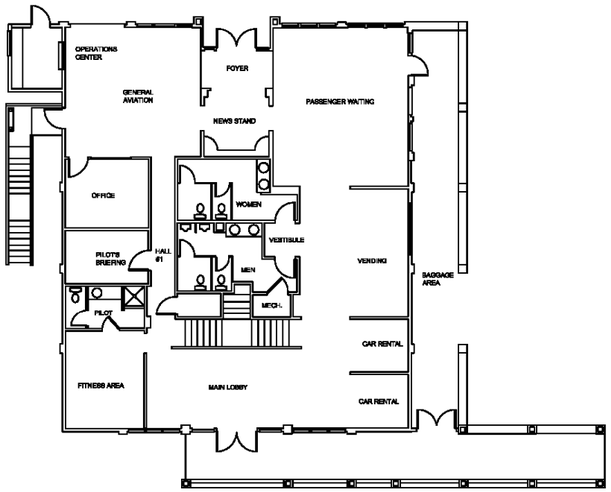


Figure 2.2.6.3-1
Hilton Head Island Airport

Commercial Service Terminal Floor Plan



SECOND FLOOR PLAN



FIRST FLOOR PLAN

Exhibit 2.2.6.4-1
Hilton Head Island Airport

General Aviation Terminal Floor Plan

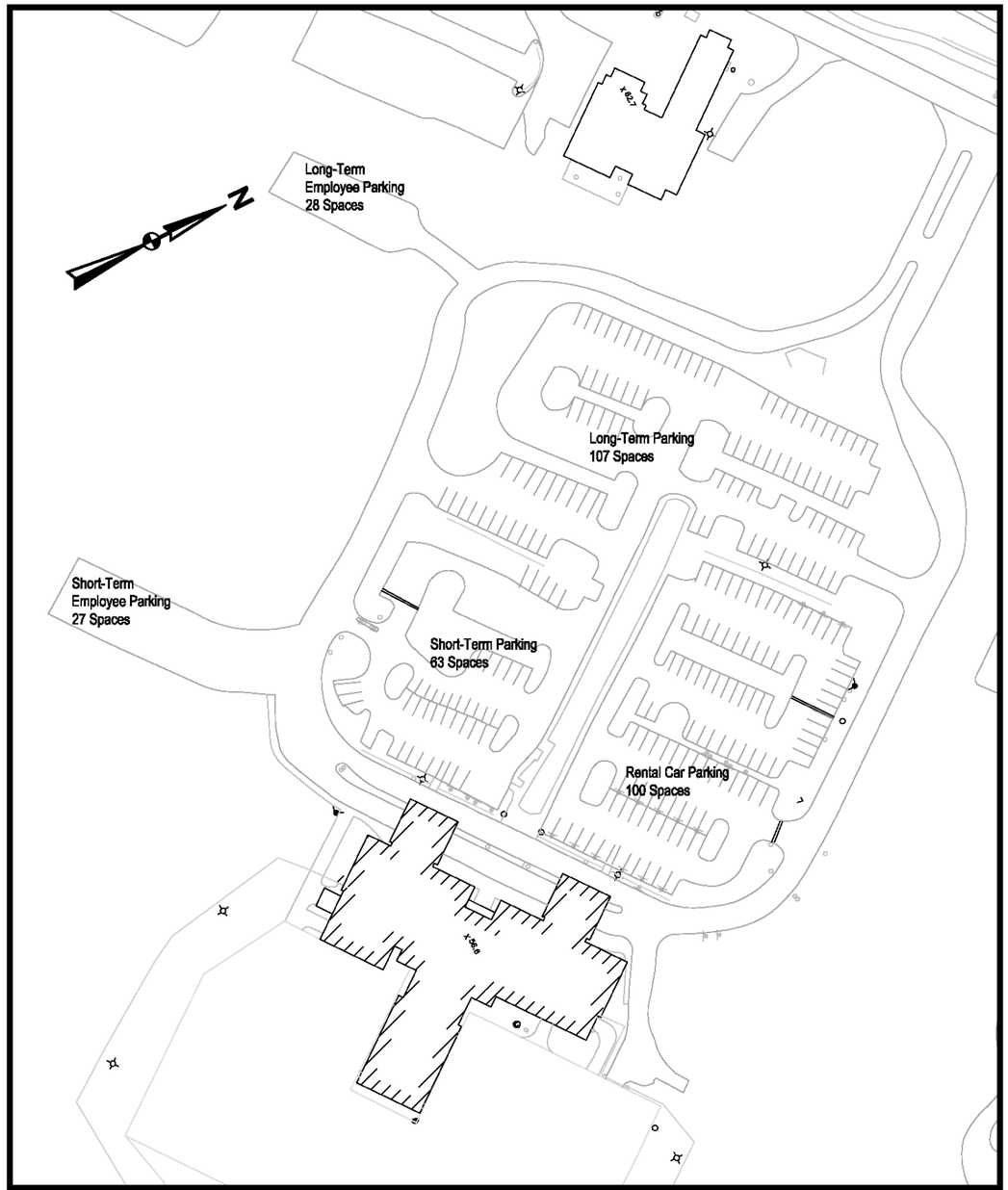


Figure 2.2.6.6-1
Hilton Head Island Airport

Commercial Service Terminal Automobile Parking

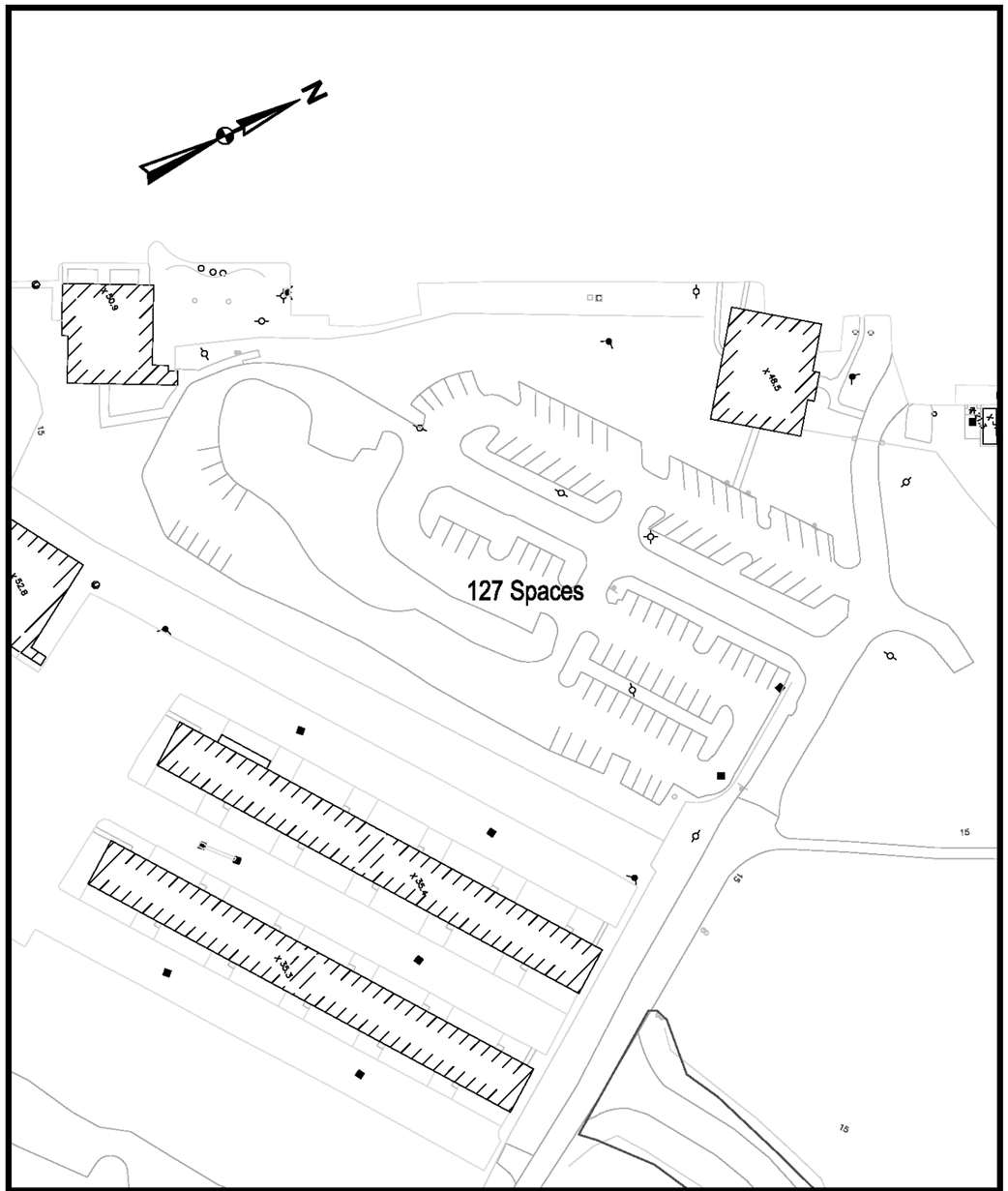


Figure 2.2.6.6-2
Hilton Head Island Airport

General Aviation Terminal Automobile Parking

2.2.6.7 Aircraft Rescue and Firefighting Facilities

Airport rescue and firefighting facilities (ARFF) are located on the east side of the Airport with the following equipment:

- 1 – 1,500-gallon crash truck
- 1 light rescue vehicle

2.2.6.8 Hangars

The hangars located on the east side of the Airport are owned by Beaufort County and operated by Signature Flight Support:

- T-hangars – 22
- 52' x 60' Box hangars – 6
- 80' x 80' Box hangar – 1

In addition, there are three privately owned 52-foot by 60-foot box hangars located on the Airport and a 44-hangar through-the-fence operation (ExecAir) that are individually owned. Current aircraft housed in these hangars include 28 single-engine, eight multi-engine, four turboprop, one jet, and four experimental.[9]

2.2.6.9 Air Traffic Control Tower

The air traffic control tower (ATCT) at HXD is a contract tower, constructed in 2005. The tower is manned each day from 6:00 a.m. to 9:00 p.m.

[9]Signature Flight Support (Michael Bennett, General Manager), "HXD Based Aircraft," e-mail message, September 22, 2009.

2.2.6.10 Based Aircraft

An inventory of each hangar and the storage ramp provides an August 2009 count of general aviation based aircraft as documented by Table 2.3.5.10-1.

Table 2.3.5.10-1
Based Aircraft
Hilton Head Island Airport

Aircraft		
In Hangar		
Piper Warrior	Columbia	Bonanza
Velocity	C-172	Cirrus 20
RV-8	Mooney	LanceAir
Steerman	V-tail Bonanza	Cub
Cirrus 20	Kingair 90	Citation XLS
Beechjet	Cirrus 22	Dakota
Cherokee	Twin Comanche	Cirrus 22
Cirrus 22	Cirrus 22	Aerostar
Vacant	T-tail Lance	
On Ramp		
Beechcraft Skipper	Seneca	Mooney
C-182	Saratoga	Mooney
Baron	Commander	Dakota
Commander	C-172	Cherokee
Cheyenne	Seneca	C-182

Source: Signature Flight Support (Michael Bennett, General Manager), personal interview, August 26, 2009.

In addition, there are three privately owned 52-foot by 60-foot box hangars located on the Airport and a 44-hangar through-the-fence operation (ExecAir) that are individually owned. Current aircraft housed in these hangars include 28 single-engine, eight multi-engine, four turboprop, one jet, and four experimental aircraft.[10]

2.2.6.11 Modification of Standards

There is currently one modification of standards approved by the FAA at HXD:

- The separation between Runway 03/21 and Taxiway 'A' is 200 feet; 240 feet is required for runway/taxiway separation for aircraft approach/design group B-II. Modification to design standards was approved per FAA Aeronautical Study No: 00-ASO-082-NRA.

[10]Signature Flight Support (Michael Bennett, General Manager), "HXD Based Aircraft," e-mail message, September 22, 2009.

Aviation forecasts are time-based projections that provide a reasonable expectation for anticipating airport demand and serve as a guide in determining required airport infrastructure, equipment, and service needs. The aviation forecasts for the Hilton Head Island Airport provide an assessment of activity during the next 20-year planning period and the framework for future facilities that will be needed to meet the anticipated aviation demand. The following components of aviation demand have been forecasted as part of the Master Plan Update for the Hilton Head Island Airport:

- Existing airport activity levels
- Forecast of based aircraft
- Forecast of aircraft operations
- Forecast of aircraft mix
- Airport peaking characteristics
- Operations by type of aircraft
- Instrument operations

As part of the Master Plan Update process, various sources of existing and projected airport activity were confirmed to validate projections using the most current airport activity trends and conditions. These sources include:

- Airport (ATCT)/FBO (Signature Flight Support) Records
- FAA Terminal Area Forecasts (TAF)[11]
- FAA Airport Master Records – 5010[12]
- FAA Aircraft Licensing Data
- South Carolina Airports System Plan (SCASP), 2008[13]
- Hilton Head Island Airport Master Plan Update, 1999[14]

[11]Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
[12]GRC & Associates, Inc., "FAA's Airport Master Record Forms (5010-1 and 5010-2), 2009," <http://www.gcr1.com/>, accessed March 19, 2010.
[13]Talbert & Bright, Inc., "South Carolina Airports System Plan, 2008," prepared for South Carolina Department of Commerce Division of Aeronautics.
[14]Wilbur Smith Associates, "Hilton Head Island Airport Master Plan Update Final Report," approved by the Federal Aviation Administration 2001, prepared for Beaufort County.

3.1 FORECASTS OF AVIATION ACTIVITY

3.1.1 Forecast Planning Horizon

Aviation demand forecasts have been prepared for the 20-year planning period, which extends from 2010 to 2029, and spans the following planning intervals:

- Short-term (0-5-year planning period)
- Mid-term (6-10-year planning period)
- Long-term (11-20-year planning period with 2029 as the ultimate planning year)

In order to correspond with the Master Plan Update project time line, 2010 is used as the beginning of the 20-year planning period. The calendar year 2009 data serves as the baseline for historic activity levels. The demand for facilities beyond 2029 has not been contemplated as part of this Master Plan Update.

3.1.2 Forecast Approach

The forecasts have been developed on the basis of a review of:

1. Historical and projected local demographic and economic characteristics of the Airport area
2. Historical airline service and air traffic patterns at the Airport
3. Existing and future trends in the airline industry and other external factors that affect aviation activity forecasts (e.g., national and international economic conditions and aviation system capacity)

Knowledge of these data was critical in understanding the potential for future air traffic growth in the Hilton Head Island Airport catchment area and, consequently, in determining the necessary actions to accommodate future development of the Hilton Head Island Airport.

3.2 EXISTING AIRPORT ACTIVITY LEVELS

A snapshot of current airport activity was determined as part of this Master Plan Update. This information serves as a baseline for developing forecasts throughout the 20-year planning period, from 2010 to 2029. Table 3.2-1 summarizes the current activity as identified for the Airport in 2009.

Table 3.2-1
Current Airport Activity
Hilton Head Island Airport

Year	Total Based Aircraft	Total Annual Enplanements	Total Annual Operations
2009	81	66,823	38,237

Source: GRC & Associates, Inc., "FAA's Airport Master Record Forms (5010-1 and 5010-2), 2009," <http://www.gcr1.com>, accessed March 19, 2010.
Federal Aviation Administration, "CY 2009 Air Carrier Activity Information System Data," <http://www.faa.gov/airports/>, accessed October 2010.

3.3 COMMERCIAL SERVICE AIR CARRIER MARKET

Passenger enplanement patterns at surrounding airports are referenced as a matter of airline trends, potential market absorption, and potential airline networks/growth patterns. The other primary commercial service airport with an overlapping catchment area is the Savannah-Hilton Head International Airport to the southwest in Savannah, Georgia. It should be noted that catchment areas are not mutually exclusive. A number of the passengers that utilize SAV are traveling to and from Hilton Head Island. SAV is capturing these passengers due to typically lower fares and more destinations served when compared to HXD. The potential for an increase in market share of passengers at HXD could be achieved through increased flight options and frequency.

The Hilton Head Island Airport serves business and leisure travelers seeking more direct and convenient access to Hilton Head Island. This niche market has allowed the Airport to retain commercial service despite the proximity of the Savannah-Hilton Head International Airport. The two destinations served directly from HXD are the Atlanta-Hartsfield International Airport and Charlotte-Douglas International Airport, served by Delta Air Lines and US Airways, respectively.

3.3.1 Commercial Service Air Carrier Passengers (Scheduled)

Airline travelers are comprised of revenue passengers that enplane (board) and deplane (disembark) a scheduled commercial service air carrier aircraft. Generally, there are two types of passengers:

1. Local origin and destination (O&D) passengers
2. Through or connecting passengers

The extent of origination and destination traffic is largely dictated by the Airport's catchment area, while airline operating strategies are largely the function for connecting traffic.

For the Master Plan Update, the following passenger enplanement factors are assumed:

- Future growth in airline traffic would not be constrained by limitations in the air traffic control system capacity, airfield capacity, and airline service; or by government policies or actions restricting growth
- Airline passenger catchment area would continue to include those areas that are currently being served by the Hilton Head Island Airport
- International passenger activity would remain limited in the near future
- Air fares would increase over time at rates that would be generally consistent with the prices of other goods and services, including fuel
- HXD expansion potential makes it attractive to airlines currently serving Hilton Head Island and to new airlines entering the market

3.3.2 Commercial Service Air Carrier Enplanement Forecast Scenarios

Table 3.3.2-1 summarizes each of the enplanement forecasts considered. The methodology used to develop the demand forecast scenarios involves comparisons with preestablished airport trends and other official published forecasts for the Hilton Head Island Airport. These time-series techniques measure growth by means of trend analysis. Forecasts are presented in tabular form, along with a discussion of forecast factors, as influenced by possible forecast assumptions.

The complexity in forecasting passenger enplanements, beyond time-series analysis, involves numerous external relationships, most having an unconfirmed independent correlation. Without specific market survey data or an understanding of specific and foreseeable airline market strategies, the market is best understood as a comparison of past events. In recognition of this, future passenger enplanements are largely predicated by the following major influences:

- Socioeconomic and demographic composition of airport catchment area(s)
- Ground travel characteristics within airport catchment area(s)
- Number of airline markets (communities) served
- Type of air carrier (network carrier; low-cost major, national, and regional)
- Schedule and frequency of flights (time sensitivity)

Table 3.3.2-1
Enplanements Forecast Comparison
Hilton Head Island Airport

Year	Historical/ Forecast Enplanements	1999 HXD Master Plan	FAA TAF	2008 SCASP
1998	97,035	99,948	97,035	97,035
1999	103,028	103,138	103,028	103,028
2000	94,247	106,329	94,247	94,247
2001	84,812	109,519	84,812	84,812
2002	75,209	112,710	75,209	75,209
2003	64,099	115,900	64,099	64,099
2004	61,419	120,280	61,419	61,419
2005	66,679	124,660	66,679	66,679
2006	64,132	129,040	64,132	64,132
2007	76,599	133,420	76,599	76,599
2008	71,003	137,800	85,230	71,003
2009	66,823	143,870	70,121	75,073
2010	73,022	149,940	72,398	77,229
2011	73,129	156,010	74,749	79,385
2012	73,792	162,080	77,178	81,541
2013	72,248	168,150	79,684	83,697
2014	74,393	174,220	82,273	85,279
2015	75,854	180,290	84,945	86,861
2016	75,381	186,360	87,705	88,443
2017	76,092	192,430	90,556	90,025
2018	76,863	198,500	93,497	91,607
2019	77,908	–	96,534	93,189
2020	78,213	–	99,671	94,771
2021	78,733	–	102,908	96,353
2022	79,616	–	106,251	97,935
2023	80,258	–	109,704	99,517
2024	80,860	–	113,269	101,098
2025	81,442	–	116,949	102,680
2026	82,170	–	120,748	104,262
2027	82,840	–	124,671	105,844
2028	83,442	–	128,722	107,426
2029	84,094	–	132,903	–

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., "South Carolina Airports System Plan, 2008," prepared for South Carolina Department of Commerce Division of Aeronautics.
Wilbur Smith Associates, "Hilton Head Island Airport Master Plan Update Final Report," approved by the Federal Aviation Administration 2001, prepared for Beaufort County.
Federal Aviation Administration, "CY 2009 Air Carrier Activity Information System Data," <http://www.faa.gov/airports/>, accessed October 2010.
Talbert & Bright, Inc., March 2010.

- Types and frequency of passengers (originating, departing, interline, and connecting)
- Type and size of the aircraft (turboprop, small jet, or transport jet)
- Airline fares (passenger price sensitivity)
- Availability to alternative airport locations and modes of transportation

Another complex forecast issue pertains to the HXD catchment area overlapping heavily with the Savannah-Hilton Head International Airport.

Past HXD passenger enplanements in comparison to regional population gains have demonstrated that there is not a definable relationship between competing airline catchment areas and that overlapping catchment areas are not proportionally or distinctly shared given the multitude of passenger circumstances. The forecast growth trend for HXD extrapolates passenger levels based on the historical enplanements experienced at the Airport. Per this forecast, annual enplanements would reach 84,000 by 2029. Under this forecast, it is assumed that the primary role of the Airport would remain the same over the 20-year planning period. Figure 3.3.2-1 (page 19) graphically depicts the various enplanement forecasts listed in Table 3.3.2-1.

3.4 FORECAST OF BASED AIRCRAFT

A based aircraft is defined as an actively registered airplane stationed at a select airport and regularly uses that airport as the primary home base for filing flight plans, frequently uses available airport amenities, and/or maintains a formal commitment for long-term parking/storage.

The number of based aircraft at any given airport directly impacts the size, number, and type of facilities needed at that airport. Table 3.4-1 lists the average annual growth rates from the forecast studies.

Table 3.4-1
Based Aircraft Growth Rate Comparison
Hilton Head Island Airport

	FAA TAF	2008 SCASP	1999 HXD Master Plan	Proposed Growth Rate
Average Annual Growth Rate	1.8%	1.6%	2.1%	1.96%

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., "South Carolina Airports System Plan, 2008," prepared for South Carolina Department of Commerce Division of Aeronautics.
Wilbur Smith Associates, "Hilton Head Island Airport Master Plan Update Final Report," approved by the Federal Aviation Administration 2001, prepared for Beaufort County.
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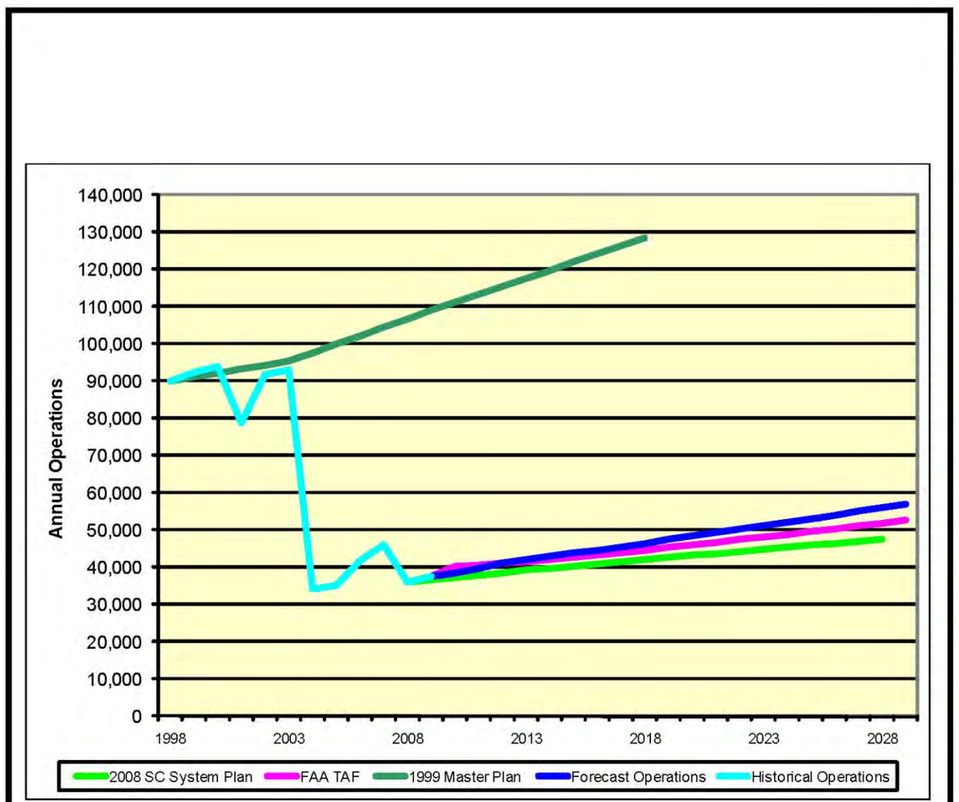


Figure 3.3.2-1
Hilton Head Island Airport

Enplanements Forecast Comparison

The proposed growth rate was determined using the historical based aircraft growth rate. This rate takes into consideration the recent activity levels at the Airport without unnecessarily inflating the forecasts. The latest FAA TAF are also based on historical trends at the Airport and are, therefore, very close to the based aircraft forecast developed as part of this Master Plan Update.

The number of based aircraft at any given airport directly impacts the size, number, and type of facilities needed at that airport. A trend analysis forecast was applied to the historical based aircraft levels using the proposed growth rate. Based on this activity, the Hilton Head Island Airport may anticipate the addition of two based aircraft per year for the 20-year planning period. Table 3.4-2 lists the historical and current based aircraft forecasts along with the FAA TAF, 1999 HXD Master Plan forecast, and 2008 SCASP forecast. Figure 3.4-1 (page 20) graphically depicts the various based aircraft forecasts listed in Table 3.4-2.

The total number of based aircraft is projected to grow from 81 in 2009 to 120 in 2029. These forecast numbers were then used to determine the forecast types of aircraft over the 20-year planning period. The percentages of types of aircraft are based on trends from historical data. However, the number of based jets and turboprop aircraft is projected to increase at a higher rate than single-engine aircraft as more of these corporate class aircraft are added to the national fleet mix. The based aircraft forecasts by aircraft type are shown in Table 3.4-3 (page 20).

It is anticipated that the increase in based jet aircraft will result in a slower growth rate over time for single-engine piston aircraft. Two helicopters are forecast to become based at the Hilton Head Island Airport in 2029 due to the steady increase in these aircraft nationwide.

Table 3.4-2
Historical Based Aircraft Forecast Comparison
Hilton Head Island Airport

Year	Historical/ Forecast Based Aircraft	1999 HXD Master Plan	FAA TAF	2008 SCASP
1998	59	59	59	59
1999	60	61	60	60
2000	60	63	60	60
2001	68	64	87	68
2002	74	66	87	74
2003	82	68	87	82
2004	87	70	87	87
2005	91	71	87	91
2006	88	73	87	88
2007	89	74	87	89
2008	87	76	87	87
2009	81	77	88	87
2010	83	79	91	90
2011	85	80	91	92
2012	87	82	93	95
2013	89	83	94	97
2014	91	84	97	99
2015	93	86	98	100
2016	95	87	100	102
2017	97	89	101	103
2018	99	90	104	105
2019	101	–	105	106
2020	102	–	107	108
2021	104	–	109	109
2022	106	–	111	111
2023	108	–	112	112
2024	110	–	115	113
2025	112	–	117	115
2026	114	–	119	116
2027	116	–	121	118
2028	118	–	123	119
2029	120	–	125	–

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., "South Carolina Airports System Plan, 2008," prepared for South Carolina Department of Commerce Division of Aeronautics.
Wilbur Smith Associates, "Hilton Head Island Airport Master Plan Update Final Report," approved by the Federal Aviation Administration 2001, prepared for Beaufort County.
Talbert & Bright, Inc., March 2010.

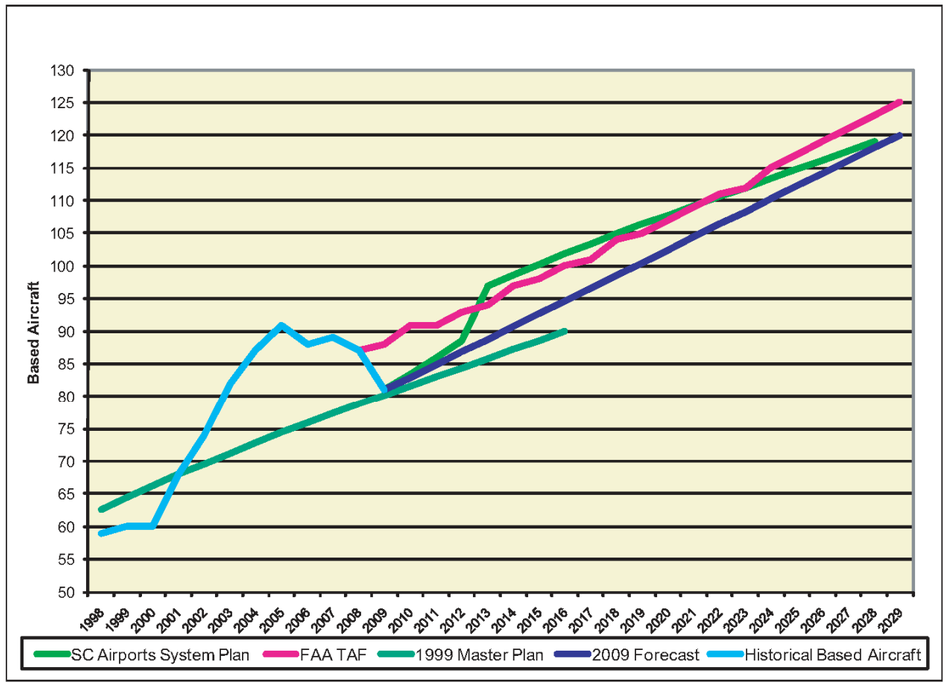


Figure 3.4-1
Hilton Head Island Airport

Based Aircraft Forecast Comparison

3.5 FORECAST OF AIRCRAFT OPERATIONS

An aircraft operation is defined as either a takeoff or landing at an airport. The number of forecast annual operations at an airport is used to determine future facilities that may be required to accommodate this activity. The operations forecast is broken down into commercial service operations and general aviation (GA) operations as the growth of these two segments is independent from one another. The commercial service operations and general aviation operations were then added to provide the total annual operations forecast for the Hilton Head Island Airport.

3.5.1 Commercial Service Annual Operations Forecast

Commercial service operations are comprised of air carrier and air taxi operations at the Airport. Table 3.5.1-1 identifies the forecast of airline operations (takeoffs and landings) for the Hilton Head Island Airport throughout the 20-year planning period. Commercial service operations were projected using the growth rate for annual enplanements, as well as a trend analysis based on historical commercial service operations. The historical commercial operations growth rate is 2.41 percent. The commercial service operations, based on the projected passenger enplanements, are forecasted to reach 15,069 annual operations by 2029.

Figure 3.5.1-1 (page 21) graphically depicts the various commercial service operations forecasts listed in Table 3.5.1-1.

Table 3.4-3
Based Aircraft Forecast by Aircraft Type
Hilton Head Island Airport

Year	Single-Engine	Multi-Engine	Turboprop	Jet	Helicopter	Total
2009	60	12	6	3	0	81
% of Total	64.4%	26.4%	5.7%	3.5%	0.0%	100.0%
2014	68	13	7	3	0	91
% of Total	74.7%	14.3%	7.7%	3.3%	0.0%	100.0%
2019	74	15	7	4	1	101
% of Total	73.3%	14.9%	6.9%	4.0%	1.0%	100.0%
2029	86	18	9	5	2	120
% of Total	72.5%	15.0%	6.7%	4.2%	1.7%	100.0%

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

Table 3.5.1-1
Commercial Service Operations Forecast
Hilton Head Island Airport

Year	Historical/ Forecast Commercial Service Operations	Year	Historical/ Forecast Commercial Service Operations
1998	8,982	2014	11,441
1999	9,986	2015	11,565
2000	10,179	2016	11,653
2001	7,458	2017	11,701
2002	7,116	2018	11,970
2003	7,099	2019	12,532
2004	7,754	2020	12,850
2005	8,328	2021	13,089
2006	9,665	2022	13,273
2007	10,729	2023	13,449
2008	9,468	2024	13,689
2009	7,208	2025	13,962
2010	9,559	2026	14,260
2011	10,056	2027	14,557
2012	10,802	2028	14,835
2013	11,184	2029	15,069

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

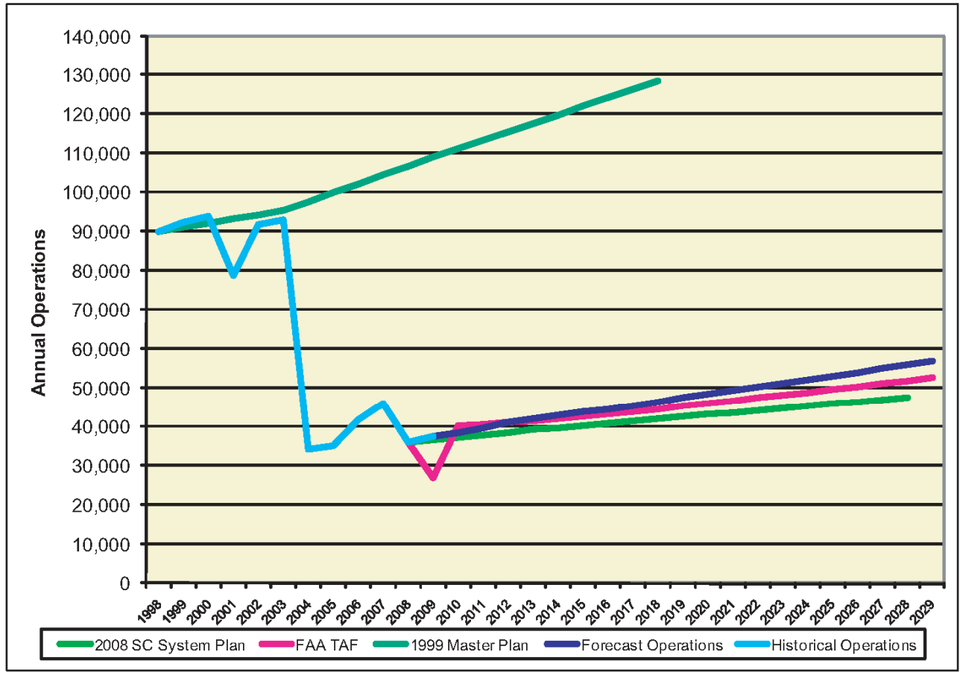


Figure 3.5.1-1
Hilton Head Island Airport

Annual Operations Comparison

3.5.2 General Aviation and Military Annual Operations Forecast

The forecast of general aviation and military activity throughout the planning period reflects a realistic schedule based on past trends, additional services capturing a larger segment of the higher-end transient users, and additional hangar space brought about by airport facility improvements.

The annual general aviation and military forecasts were developed using an operation per based aircraft ratio. The average annual operations per based aircraft ratio at the Hilton Head Island Airport is 348. This ratio does not include operations levels prior to 2004 as there has been a dramatic drop in annual operations since that time. This forecast method ties the based aircraft projections with the annual general aviation forecast and therefore assumes that as the based aircraft increase at the Airport, so will the annual general aviation operations. Forecast annual general aviation and military operations forecasts were summed and are shown in Table 3.5.2-1.

The summed commercial, general aviation, and military operations are shown in Table 3.5.2-2 (page 22) along with a comparison to other annual operations forecasts for the Hilton Head Island Airport.

The historical forecasts of operations at the Airport are consistent with the based aircraft forecasts from the FAA TAF and the 2008 SCASP, showing steady growth over the various forecast periods. The total forecast annual operations are projected to increase from 38,237 operations in 2009 to 56,901 in 2029. The 1999 HXD Master Plan incorporated forecast-utilizing growth trends that were present at that time and therefore reflects a much higher operations level than the current forecasts. The current forecasts are a more accurate projection of future operations as they incorporate recent operations trends at the Airport.

Table 3.5.2-1
General Aviation and Military Forecast Operations
Hilton Head Island Airport

Year	Historical/Forecast General Aviation and Military Operations
1998	81,151
1999	82,474
2000	83,713
2001	71,181
2002	84,573
2003	85,853
2004	26,596
2005	26,894
2006	29,884
2007	33,672
2008	25,563
2009	19,213
2010	28,916
2011	29,596
2012	30,276
2013	30,956
2014	31,635
2015	32,315
2016	32,995
2017	33,675
2018	34,355
2019	35,034
2020	35,714
2021	36,394
2022	37,074
2023	37,753
2024	38,433
2025	39,113
2026	39,793
2027	40,472
2028	41,152
2029	41,832

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

Table 3.5.2-2
Annual Operations Forecast Comparison
Hilton Head Island Airport

Year	Historical/ Forecast General Aviation, Military, and Commercial Operations	1999 HXD Master Plan	FAA TAF	2008 SCASP
1998	90,133	90,133	90,133	90,133
1999	92,460	91,175	92,460	92,460
2000	93,892	92,218	93,892	93,892
2001	78,639	93,260	78,639	78,639
2002	91,689	94,303	91,689	91,689
2003	92,952	95,345	92,952	92,952
2004	34,350	97,631	17,296	34,350
2005	35,222	99,916	35,222	35,222
2006	41,869	102,202	39,975	41,869
2007	46,061	104,487	45,624	46,061
2008	36,125	106,773	36,125	36,125
2009	38,237	108,949	26,859	36,749
2010	38,475	111,125	40,255	37,373
2011	39,652	113,300	40,703	37,997
2012	41,078	115,476	41,156	38,621
2013	42,139	117,652	41,617	39,247
2014	43,076	119,828	42,081	39,821
2015	43,880	122,004	42,709	40,396
2016	44,648	124,179	43,350	40,970
2017	45,376	126,355	44,007	41,545
2018	46,324	128,531	44,673	42,119
2019	47,567	–	45,350	42,667
2020	48,564	–	46,037	43,215
2021	49,483	–	46,732	43,763
2022	50,347	–	47,441	44,311
2023	51,202	–	48,163	44,859
2024	52,122	–	48,893	45,406
2025	53,075	–	49,638	45,954
2026	54,052	–	50,394	46,502
2027	55,029	–	51,159	47,050
2028	55,988	–	51,939	47,598
2029	56,901	–	52,731	–

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., "South Carolina Airports System Plan, 2008," prepared for South Carolina Department of Commerce Division of Aeronautics.
Wilbur Smith Associates, "Hilton Head Island Airport Master Plan Update Final Report," approved by the Federal Aviation Administration 2001, prepared for Beaufort County.
Talbert & Bright, Inc., March 2010.

3.5.3 Local/Itinerant Operations Forecast

Aircraft operations are identified as local and itinerant. Local operations consist of those within a 25-mile radius of the Airport vicinity. Itinerant operations include flights having a terminus of flight from another Airport at least 25 miles away. The forecast operations at the Hilton Head Island Airport were divided into local and itinerant operations categories. Table 3.5.3-1 shows the breakdown of annual operations, by operation type, for the Airport throughout the 20-year planning period. The mix of forecast aircraft was projected using historic airport-based aircraft patterns, as reported by the Airport, and overall general aviation utilization and user trends as published annually by the FAA.

Table 3.5.3-1
Annual Operations by Type
Hilton Head Island Airport

Year	Itinerant			Local		Total
	Commercial	GA	Military	Civil	Military	
2009	9,353	24,638	635	3,062	549	38,237
2014	11,441	26,985	696	3,353	601	43,076
2019	12,532	29,884	771	3,714	666	47,567
2029	15,069	35,682	920	4,435	795	56,901

Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

The percentage of operations by type was calculated from the Airport Master Record 5010 data, as well as the FAA TAF. Currently, general aviation operations are predominantly itinerant because of Hilton Head Island being a vacation destination. The average operational split is 89 percent itinerant and 11 percent local at HXD.

3.6 CRITICAL AIRCRAFT FORECAST

Table 3.6-1 provides information about the existing and ultimate critical aircraft families for the Hilton Head Island Airport. The critical aircraft is the largest airplane or family of aircraft conducting at least 500 annual operations (combination of 250 takeoffs and landings) per year at the Airport. The critical aircraft is evaluated with respect to size, speed, and weight and is important for determining airport design, structural, and equipment needs for the airfield and terminal area facilities. The current critical aircraft family at the Airport consists of an airport reference code (ARC) C-II business jet aircraft.

Table 3.6-1
Critical Aircraft Forecasts
Hilton Head Island Airport

Aircraft Type and ARC	Wing Span	Approach Speed
ARC C-II (Current)	49 feet up to but not including 79 feet	121 knots or more but less than 141 knots
ARC C-II (Future)	49 feet up to but not including 79 feet	121 knots or more but less than 141 knots

Source: Federal Aviation Administration, "Advisory Circular 150/5300-13 – Airport Design, Changes 1-15," December 31, 2009, <http://www.faa.gov/>, accessed August 25, 2009.

Table 3.6-2 presents the aircraft mix forecast for each planning phase. The mix forecast is used to determine future airport design, structural, and equipment needs. The mix of aircraft corresponds with the FAA design categories (A, B, C, and D), as determined from the wingspan of the aircraft. The mix forecast was developed from the bottom up, by assigning the projected level of operations to each component of commercial service air carrier, general aviation, and military user events.

Table 3.6-2
Forecast Aircraft Mix by FAA Design Groups (2010-2029)
Hilton Head Island Airport

Aircraft Approach Category	Phase 1 Short-Term (2014)	%	Phase 2 Mid-Term (2019)	%	Phase 3 Long-Term (2029)	%
TOTAL OPERATIONS	43,076		47,567		56,901	
Category A (Less than 91 Knots)	11,631	27%	13,319	28%	15,932	28%
Category B (92 – 120 Knots)	27,999	65%	29,967	63%	34,710	61%
Category C (121 – 140 Knots)	1,292	3%	1,903	4%	2,276	4%
Category D (141 – 166 Knots)	1,292	3%	1,427	3%	2,276	4%
ROTORCRAFT (Not ARC Designated)	862	2%	951	2%	1,707	3%

Note: The aircraft approach category (AAC) is classified from A to E, and the airplane design group (ADG) is classified from I to VI. Combined, the two classifications produce an ARC, which yields specific characteristics about the type of airplane (family) that the airport is designed to accommodate. AAC grouping is based on 1.3 times the stall speed of the aircraft at the maximum certified landing weight in the landing configuration (knots).
Source: Federal Aviation Administration, "Advisory Circular 150/5300-13 – Airport Design, Changes 1-15," December 31, 2009, <http://www.faa.gov/>, accessed August 25, 2009.
Talbert & Bright, Inc., March 2010.

3.7 FORECAST OF AIRPORT PEAKING CHARACTERISTICS

Table 3.7-1 shows airport peaking criteria calculated from the forecast of annual operations to determine the future terminal area space requirements. These calculations are based upon industry-accepted standards for peak operations. Peak hour operations are projected to increase from 20 to 29 operations over the 20-year planning period.

Table 3.7-1
Airport Peaking Characteristics (2009-2029)
Hilton Head Island Airport

Year	Total Annual Operations	Average Peak "Month" Operations	Average Peak "Day" Operations	Average Peak "Hour" Operations
2009	38,237	4,015	132	20
2014	43,076	4,523	149	22
2019	47,567	4,994	164	25
2029	56,901	5,975	197	29

Peak Month = (Annual operations) x (10.5%)
Peak Average Day = (Peak Month Operations)/ (30.4 Days)
Peak Hour = (Peak Day Operations) x (15%)
Source: Talbert & Bright, Inc., March 2010.

3.8 INSTRUMENT OPERATIONS FORECAST

Instrument operations account for every approach that is made to the Hilton Head Island Airport using one of the instrument approaches available. Over the past ten years, instrument operations accounted for 61.7 percent of the total annual operations at HXD. This number reflects the commercial operations, which are operated under instrument flight rules, as well as the large number of corporate class operations, which utilize the approach capabilities at the Airport. This ratio was applied to the annual operations forecast to determine the future instrument operations level. The historical and forecast annual instrument operations at the Airport are listed in Table 3.8-1.

Table 3.8-1
Forecast Instrument Operations
Hilton Head Island Airport

Year	Instrument Operations	Year	Instrument Operations
2000	23,969	2015	27,074
2001	22,223	2016	27,548
2002	22,922	2017	27,997
2003	22,289	2018	28,582
2004	22,559	2019	29,349
2005	22,581	2020	29,964
2006	23,801	2021	30,531
2007	25,391	2022	31,064
2008	24,377	2023	31,592
2009	22,950	2024	32,159
2010	23,739	2025	32,748
2011	24,465	2026	33,350
2012	25,345	2027	33,953
2013	26,000	2028	34,544
2014	26,578	2029	35,108

Source: Federal Aviation Administration, "FAA IFR Data for HXD," 2000 through 2009.
Talbert & Bright, Inc., March 2010.

3.9 SUMMARY

The forecasts of aviation activity developed as part of this Master Plan Update indicate a consistent growth in activity over the next 20 years. The forecast numbers indicate a reduction in the growth rate of based aircraft and operations at the Airport when compared to the 1999 Master Plan forecasts. This is partially due to the recent trend in fewer annual operations at the Airport. This recent reduction is due primarily to the contraction of the economy. A large portion of general aviation users rely on discretionary income to operate their aircraft. A contraction of the economy reduces the amount of money being spent on aviation and therefore a reduction in aviation activity, as seen in the forecasts. However, the restoration of the economy will result in increased activity at the Airport including based aircraft and commercial operations. Another reason for the constriction of based aircraft and operations is also due to insufficient facilities at HXD (i.e., insufficient runway length, obstructions, approaches, hangars, etc).

Table 3.9-1 provides a summary of the forecasts for the Hilton Head Island Airport throughout the 20-year Master Plan Update planning period.

Table 3.9-1
Aviation Forecast Summary
Hilton Head Island Airport

	2009 (Existing)	2014	2019	2029
BASED AIRCRAFT				
Single-Engine Piston	60	68	74	86
Multi-Engine Piston	12	13	15	18
Turboprop	6	7	7	9
Jets	3	3	4	5
Helicopters	0	0	1	2
TOTAL BASED AIRCRAFT	81	91	101	120
AIRCRAFT OPERATIONS				
General Aviation Local	3,062	3,353	3,714	4,435
General Aviation Itinerant	24,638	26,985	29,884	35,682
Commercial	9,353	11,441	12,532	15,069
Military Itinerant	635	696	771	920
Military Local	549	601	666	795
TOTAL OPERATIONS	38,237	43,076	47,567	56,901
Instrument Operations	22,950	26,578	29,349	35,108
Operations per Based Aircraft	348	348	348	348
COMMERCIAL SERVICE PASSENGERS				
Enplanements	66,823	74,393	77,908	84,094
Peak Hour Enplanements[1]	67	78	89	110

[1]Based on two departures (37 seats) in 60 minutes at 90 percent load factor.
Source: Federal Aviation Administration, "FAA APO Terminal Area Forecast Detail Report," <http://aspm.faa.gov/>, accessed March 19, 2010.
Talbert & Bright, Inc., March 2010.

This section of the Master Plan Update assesses whether or not the existing facilities at the Hilton Head Island Airport are able to meet the current and future aviation demand.

4.1 DEMAND CAPACITY ANALYSIS

The purpose of the demand capacity analysis is to determine the Airport's capacity and its ability to support the forecast demand. Facility requirements identify development, replacement, or modification of airport facilities to accommodate the existing and 20-year forecast demand.

Methodology used to determine facility requirements begins with an examination of the Airport's major components:

- Airfield
- Airspace
- Buildings
- Landside/Surface Access

It is important to note that each of these system components should be balanced in order to achieve system optimization. Any deficiencies in the airport facilities that encompass these four elements will be identified based upon standards presented in FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended) and FAA *Advisory Circular 150/5060-5 – Airport Capacity and Delay*.[15] Recommended improvements to facilities will be noted.

4.1.1 Airfield Capacity

Airport capacity and delay computations are used to design and evaluate airport development and improvements. As demand approaches capacity, individual aircraft delay is increased. Successive hourly demands exceeding the hourly capacity result in unacceptable delays. Even when hourly demand is less than the hourly capacity, aircraft delays can still occur if the demand within a portion of the time interval exceeds the capacity during that interval.

Airport capacity is governed by runway use configuration, percentage of arrivals, percentage of touch and go's, taxiway configuration, airspace limitations, and runway instrumentation. Annual service volume (ASV) is a reasonable estimate of an airport's annual capacity. It accounts for differences in runway use, aircraft mix, and weather conditions that would be encountered over a year's time.

[15]Federal Aviation Administration, "Advisory Circular 150/5060-5 – Airport Capacity and Delay, Changes 1-2," September 23, 1983, <http://www.faa.gov/>, accessed October 8, 2009.

The airfield operational capacity for the Hilton Head Island Airport, as calculated from FAA *Advisory Circular 150/5060-5 – Airport Capacity and Delay*, is approximately 230,000 annual operations per year. A "mix index" analysis is performed, which reduces the ASV as the number of category C and D aircraft operations increases at an airport. This mix index calculation is shown below.

Mix Index = C + 3D
where:
C = Annual Percentage of Category C Aircraft
D = Annual Percentage of Category D Aircraft

HXD Mix Index = 1.02 + 3(0.08) = 1.26%

The current mix index for the Hilton Head Island Airport is approximately 1.26 percent, which is short of the 20 percent index required to lower the ASV. Based on the forecasts for the Airport, the demand, as a percentage of ASV is presented in Table 4.1.1-1.

Table 4.1.1-1
Forecast Demand as Percentage of Annual Service Volume
Hilton Head Island Airport

Year	Forecast Annual Operations	Percentage of ASV
2009	38,237	16.6%
2014	43,562	18.9%
2019	47,890	20.8%
2029	56,901	24.7%

Source: Federal Aviation Administration, "Advisory Circular 150/5060-5 – Airport Capacity and Delay, Changes 1-2," September 23, 1983, <http://www.faa.gov/>, accessed October 8, 2009.
Talbert & Bright, Inc., March 2010.

Table 4.1.1-1 indicates that the forecast total annual operations are expected to grow from 16.6 percent to 24.7 percent of the annual service volume by the end of the 20-year planning period. Industry and FAA guidelines recommend that capacity improvements be pursued when annual operations reach 60 percent of the theoretical ASV. Therefore, when actual annual operations reach 138,000 operations, more detailed analysis should be performed to better determine the runway's capacity. Since the demand at the Hilton Head Island Airport is not forecasted to reach the 60 percent threshold level within the 20-year planning period, no additional runways are required to increase the Airport's capacity.

Hourly airfield capacity is a measure of the maximum number of aircraft operations that can be accommodated on the airport or airport component in an hour. Hourly capacity is an important consideration, since this measure determines whether an airport can accommodate the projected peak hour operations during the planning period.

FAA *Advisory Circular 150/5060-5 – Airport Capacity and Delay* was used to calculate the hourly capacity of the Hilton Head Island Airport. Hourly capacity is calculated based on the mix index, number of touch and go operations, and number of runway exits. The hourly capacity is calculated for both visual flight rule (VFR) operations and instrument flight rules (IFR) operations. The following formula is used for this analysis.

Hourly Capacity = C x T x E
where:
C = Hourly Capacity Base from *Advisory Circular 150/5060-5*
T = Touch and Go Factor
E = Exit Factor

VFR Hourly Capacity = 104 x 1.04 x 0.94 = 101.7 operations
IFR Hourly Capacity = 68 x 1.0 x 0.99 = 67.3 operations

The VFR and IFR hourly capacity for a single runway airport with a full parallel taxiway is 101.7 VFR and 67.3 IFR operations based on the formula above. Touch and go operations were estimated at 10 percent with the number of arrivals at the Airport estimated at 50 percent of the total operations. The forecast demand as a percentage of VFR and IFR hourly capacity is presented in Table 4.1.1-2.

Table 4.1.1-2
Forecast Demand as Percentage of Hourly Capacity
Hilton Head Island Airport

Year	Forecast Peak Hour Operations (operations/hour)	VFR Percent of Hourly Capacity	IFR Percent of Hourly Capacity
2009	20	19.7%	29.7%
2014	23	22.6%	34.2%
2019	25	24.6%	37.2%
2029	29	28.5%	43.1%

Source: Federal Aviation Administration, "Advisory Circular 150/5060-5 – Airport Capacity and Delay, Changes 1-2," September 23, 1983, <http://www.faa.gov/>, accessed October 8, 2009.
Talbert & Bright, Inc., March 2010.

Similar to the runway capacity analysis, the actual/projected hourly demand is only expected to reach 28.5 percent of hourly VFR capacity and approximately 43.1 percent of hourly IFR capacity by the end of the 20-year planning period. Therefore, no improvements are required at this time to increase the Hilton Head Island Airport VFR and IFR capacity.

4.1.2 Aircraft Delay

A comparison between the airfield capacity and airfield operations demand yields an approximation of aircraft delay. As airfield capacity is reduced or demand is increased, aircraft delay typically increases; i.e., these two factors are directly proportional. FAA *Advisory Circular 150/5060-5 – Airport Capacity and Delay* was used to calculate hourly aircraft delay. The formula required for this calculation is incorporated into FAA *Advisory Circular 150/5325-4B – Runway Length Standards, Computer Program Version 4.2D*.[16] The results of this calculation for the Hilton Head Island Airport are shown in Table 4.1.2-1.

Table 4.1.2-1
Aircraft Delay Calculations
Hilton Head Island Airport

Year	Annual Operations	Average Hourly Delay per Aircraft (Minutes)		Minutes of Annual Delay	
		Low	High	Low	High
2009	38,237	0.0	0.1	0	4
2014	43,562	0.1	0.1	4	4
2019	47,890	0.1	0.1	5	5
2029	56,901	0.1	0.2	6	11

Source: Federal Aviation Administration, "Advisory Circular 150/5060-5 – Airport Capacity and Delay, Changes 1-2," September 23, 1983, <http://www.faa.gov/>, accessed October 8, 2009.
Talbert & Bright, Inc., March 2010.

The high annual minutes of aircraft delay are projected to increase from four minutes in 2009 to 11 minutes in 2029. This constitutes a very small delay factor for aircraft; and therefore, no runway or taxiway modifications will be needed to accommodate existing or future delay. This projection is consistent with the airfield demand and capacity analysis.

4.1.3 Airport Service Level

The current National Plan of Integrated Airport Systems (NPIAS)[17] lists the Hilton Head Island Airport as a non-hub primary facility. The definition of a non-hub primary facility is an airport that enplanes less than 0.05 percent of the total U.S. commercial passenger enplanements but has more than 10,000 annual enplanements. This facility is heavily used by general aviation aircraft. There is no change anticipated to the HXD NPIAS designation as the facility is projected to continue to serve as a non-hub primary facility through the 20-year planning period.

[16]Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design, July 1, 2005, <http://www.faa.gov/>, accessed October 14, 2009.
[17]Federal Aviation Administration, "Report to Congress National Plan of Integrated Airport Systems (NPIAS) 2009-2013," Report of the Secretary of Transportation to the United States Congress Pursuant to Section 47103 of Title 49, United States Code (Editorially Updated October 15, 2008), <http://www.faa.gov/>, accessed October 8, 2009.

4.1.4 Airport Design Standards

The principal FAA standard by which the layout of the various facilities (runway, taxiway, aircraft parking apron, etc.) is regulated is contained in FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended). This document provides in detail the relevant requirements and constraints for establishing the geometric layout of the various component facilities that make up a fully developed airport.

A second principal standard by which aircraft landings and takeoffs are regulated is FAA Order 8260.3B – *United Standard for Terminal Instrument Procedures (TERPS)* (as amended).[18] This document provides in detail the relevant requirements for establishing aircraft landing and takeoff procedures and visibilities. The determination of aircraft approach and departure visibilities will dictate many of the geometric layout standards contained in FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended).

Airport design first requires selecting the airport reference code, then the lowest designated or planned visibility minimums for each runway, and then applying the applicable airport design criteria contained in FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended). At an existing airport, such as HXD, an upgrade in the ARC and/or the lowering of approach visibilities will generally result in a major increase in the airport design standards.

The ability to upgrade or expand an existing airport may be constrained by the airport's existing facilities and thus hinder its ability to meet the applicable design standards.

4.1.4.1 Airport Reference Code

The ARC is a coding system used to relate airport design criteria to the operational and physical characteristics of the aircraft intended to operate at the airport. Airport design first requires selecting the ARC, then the lowest designated or planned approach visibility minimums for the runway, and then applying the airport design criteria associated with the ARC and designated or planned approach visibility minimums.[19]

The ARC is a measure of the approach speed and wingspan of the most critical aircraft that operates at an airport. The critical aircraft is therefore used to determine the required airport approach and layout dimensions. Aircraft approach categories are listed in Table 4.1.4.1-1 while the aircraft design groups are listed in Table 4.1.4.1-2.

[18]Federal Aviation Administration, "Order 8260.3B – United Standard for Terminal Instrument Procedures (TERPS, Changes 1-21," June 5, 2009, <http://www.faa.gov/>, accessed October 6, 2010.
[19]Federal Aviation Administration, "Advisory Circular 150/5300-13 – Airport Design, Changes 1-15," December 31, 2009, <http://www.faa.gov/>, accessed January 27, 2010, page 5.

Table 4.1.4.1-1
Aircraft Approach Category
Hilton Head Island Airport

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

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.

Table 4.1.4.1-2
Aircraft Design Group
Hilton Head Island Airport

Design Group	Aircraft Wingspan
Group I	Up to but not including 49'
Group II	49' up to but not including 79'
Group III	79' up to but not including 118'
Group IV	118' up to but not including 171'
Group V	171' up to but not including 214'
Group VI	214" up to but not including 262'

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.

The current ARC for the Hilton Head Airport is C-II with the existing critical aircraft being the family of business jet aircraft outlined in Tables 3-1 and 3-2 of FAA *Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design*.[20] The future ARC is projected to remain C-II to reflect and accommodate the business and commercial aircraft requiring this standard. Future facilities should be designed to meet ARC C-II standards.

4.1.4.2 Visibility Minimums

FAA Order 8260.3B – *United Standard for Terminal Instrument Procedures (TERPS)* (as amended) prescribes standardized methods for use in designing instrument flight procedures. The Order contains the criteria that are used by FAA to formulate, review, approve, and publish procedures for instrument approach and departure of aircraft to and

[20]Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design, July 1, 2005, <http://www.faa.gov/>, accessed October 14, 2009, pages 14 and 15.

from airports. Existing and/or planned approach/departure procedures at the existing airport shall comply with the procedures. The current visibility minimums authorized at HXD are contained in Table 4.1.4.2-1.

Table 4.1.4.2-1
Airport Approach Minimums
Hilton Head Island Airport

Approach Procedure	Minimum Altitude (AMSL)	Visibility (MI)	Category
LOC/DME – Runway 21	480'	1	A/B
	480	1¼	C
	480	1½	D
LNAV – Runway 21	480'	1	A/B
	480	1¼	C
	480	1½	D
LNAV – Runway 03	540'	1	A/B
	540'	1½	C
	540'	1¾	D

Source: Federal Aviation Administration Aviation System Standards, "digital - Terminal Procedures Publication (d-TPP) Digital Terminal Procedures Version: 0909 Effective 0901Z Thursday, August 27, 2009 to 0901Z Thursday, September 24, 2009.

Because of the layout of existing facilities at HXD, principally the existing and proposed runway parallel taxiways separations, along with the Airport's inability to expand laterally on the length of its runway, any planned visibility minimums would be limited to visibilities greater than ¾ of a mile.

4.2 AIRFIELD GEOMETRY

This section presents the airport geometric design standards and recommendations to ensure the safety, economy, efficiency, and longevity of an airport. It is important for airport owners to look at both the present and future of the airport.

4.2.1 Runway Wind Coverage

Meteorological conditions play an important role in the operation of an airport and must be taken into account for future development. The orientation of runway(s) to the prevailing wind directions is critical to the safe operation of aircraft, especially small single-engine aircraft, which are more susceptible to crosswinds. Crosswinds are wind components perpendicular to the runway or path of an aircraft. The FAA recommends 95 percent wind coverage for various crosswind components. The wind coverage for the Hilton Head Island Airport is shown in Table 4.2.1-1.

Table 4.2.1-1
Runway Wind Coverage
Hilton Head Island Airport

VFR Wind Rose			
Knots	RWY 03	RWY 21	RWY 03/21
10.5	49.55%	61.81%	94.20%
13	50.37%	63.65%	96.85%

Source: National Climatic Data Center, Climate Services Branch (Harry W. Dahlberg), "Station – Beaufort MCAS, SC, Period 2000-2009," e-mail message, September 23, 2010.
Talbert & Bright, Inc., September 2010.

Based on the wind analysis, it is clear that the current runway orientation at HXD satisfies FAA requirements for wind coverage and an additional crosswind runway is not required at this time for crosswind coverage.

4.2.2 Runway Length Requirements

Determination of runway length requirements is dictated by FAA *Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design.*[21] Use of these guidelines is mandatory when federal funds are used for the improvements.

Various factors govern the suitability of available runway lengths, most notably airport elevation above mean sea level, temperature, wind velocity, airplane operating weights, takeoff and landing flap settings, runway surface condition (dry or wet), effective runway gradient, presence of obstructions in the vicinity of the airport, and, if any, locally imposed noise abatement restrictions or other prohibitions. It is the goal, considering the above factors, to construct an available runway length suitable for the existing and forecasted critical design aircraft. The critical design aircraft are required to have a substantial use of a selected runway. This substantial use is defined as at least 500 or more of annual itinerant operations for an individual airplane or a family grouping of airplanes.

4.2.2.1 Procedure for Runway Length Determination

The determination of the appropriate runway length for the Hilton Head Island Airport utilizes Chapter 3 of FAA *Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design*; i.e., "Runway Lengths For Airplanes Within A Maximum Certificated Takeoff Weight Of More Than 12,500 Pounds (5,670 KG) Up To And Including 60,000 Pounds (27,200 KG)," as outlined in Table 4.2.2.1-1.

Table 4.2.2.1-1
Methodology for Determining Runway Length
Hilton Head Island Airport

Airplane Weight Category Maximum Certificated Takeoff Weight (MTOW)			Design Approach	Reference
12,500 pounds or less	Approach speeds less than 30 knots		Family grouping of small airplanes	Chapter 2, Paragraph 203
	Approach speeds of at least 30 knots but less than 50 knots		Family grouping of small airplanes	Chapter 2, Paragraph 204
	Approach speeds of 50 knots or more	With less than 10 Passengers	Family grouping of small airplanes	Chapter 2, Paragraph 205 Figure 2-1
		With 10 or more Passengers	Family grouping of small airplanes	Chapter 2, Paragraph 205 Figure 2-2
Over 12,500 pounds but less than 60,000 pounds			Family grouping of large airplanes	Chapter 3, Figures 3-1 or 03/2[1] and Tables 3-1 or 3-2
60,000 pounds or more or Regional Jets[2]			Individual large airplane	Chapter 4, Airplane Manufacturer Web sites (Appendix 1)

Notes:
[1]When the design airplane's Airport Planning Manual (APM) shows a longer runway length than what is shown in Figure 3-2, use the airplane manufacturer's APM. However, users of an APM are to adhere to the design guidelines found in Chapter 4.
[2]All regional jets regardless of their MTOW are assigned to the 60,000 pounds (27,200 kg) or more weight category.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Table 1-1. Airplane Weight Categorization for Runway Length Requirements, page 3.

The recommended runway length for this weight category of aircraft is based on performance curves developed from FAA-approved aircraft flight manuals. To determine which of the performance curves to apply, Tables 4.2.2.1-2 (page 27) and 4.2.2.1-3 (page 27) outline the critical aircraft identified, as well as the mix of aircraft shown by IFR operations for January 2000 through December 2009 at HXD, Table 4.2.2.1-4 (page 27).

[21]Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design, July 1, 2005, <http://www.faa.gov/>, accessed October 14, 2009.

Table 4.2.2.1-2
Airplanes that Make Up 75 Percent of the Fleet
Hilton Head Island Airport

Manufacturer	Model	Manufacturer	Model
Aerospatiale	Sn-601 Corvette	Dassault	Falcon 10
Bae	125-700	Dassault	Falcon 20
Beechjet	400A	Dassault	Falcon 50/50 EX
Beechjet	Premier I	Dassault	Falcon 900/900B
Beechjet	2000 Starship	Aircraft Industries (IAI)	Jet Commander 1121
Bombardier	Challenger 300	IAI	Westwind 1123/1124
Cessna	500 Citation/501Citation Sp	Learjet	20 Series
Cessna	Citation I/II/III	Learjet	31/31A/31A ER
Cessna	525A Citation II (CJ-2)	Learjet	35/35A/36/36A
Cessna	550 Citation Bravo	Learjet	40/45
Cessna	550 Citation II	Mitsubishi	Mu-300 Diamond
Cessna	551 Citation II/Special	Raytheon	390 Premier
Cessna	552 Citation	Raytheon Hawker	400/400 XP
Cessna	560 Citation Encore	Raytheon Hawker	600
Cessna	560/560 XL Citation Excel	Sabreliner	40/60
Cessna	560 Citation V Ultra	Sabreliner	75A
Cessna	650 Citation VII	Sabreliner	80
Cessna	680 Citation Sovereign	Sabreliner	T-39

Note: Airplanes that operate at HXD.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Table 3-1. Airplanes that Make Up 75 Percent of the Fleet, page 14.
FAA Flight Plan Database (2000-2008) furnished by the SC Aeronautics Commission.

Table 4.2.2.1-3
Remaining 25 Percent of Airplanes that Make Up 100 Percent of the Fleet
Hilton Head Island Airport

Manufacturer	Model
Bae	Corporate 800/1000
Bombardier	600 Challenger
Bombardier	601/601-3A/3ER Challenger
Bombardier	604 Challenger
Bombardier	BD-100 Continental
Cessna	S550 Citation S/II
Cessna	650 Citation III/IV
Cessna	750 Citation X
Dassault	Falcon 900C/900EX
Dassault	Falcon 2000/2000EX
Aircraft Industries(IAI)	Astra 1125
IAI	Galaxy 1126
Learjet	45 XR
Learjet	55/55B/55C
Learjet	60
Raytheon/Hawker	Horizon
Raytheon/Hawker	800/800 XP
Raytheon/Hawker	1000
Sabreliner	65/75

Note: Airplanes that operate at HXD.
Airplanes in Tables 4.2.2.1-2 and 4.2.2.1-3 combine to comprise 100% of the fleet.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Table 3-2. Remaining 25 Percent of Airplanes that Make Up 100 Percent of the Fleet, page 15.
FAA Flight Plan Database (2000-2008) furnished by the SC Aeronautics Commission.

Table 4.2.2.1-4
Critical Design Aircraft IFR Data
Hilton Head Island Airport

Aircraft	Reference Code	Operations 2005	2006	2007	2008	2009
Table 3-1 AC/5325-4B Referenced Aircraft						
Beechjet Premier I	B-I	41	40	46	35	94
Bombardier Challenger 300	B-II	42	120	114	95	62
Cessna 500 Citation/501 Citation Sp	B-I	186	76	74	81	42
Cessna Citation I/II/III	B-II	422	399	321	287	225
Cessna 525A Citation II (CJ-2)	B-II	41	58	100	74	81
Cessna 550 Citation Bravo	B-II	758	886	633	466	236
Cessna 560 Citation Encore	B-II	964	910	944	761	744
Cessna 560/560 XL Citation Excel	B-II	1,044	963	958	922	695
Cessna 650 Citation VII	B-II	109	63	155	130	80
Cessna 680 Citation Sovereign	B-II	20	98	162	261	291
Dassault Falcon 10	B-I	162	99	71	108	90
Dassault Falcon 20	B-II	50	123	150	106	109
Dassault Falcon 50/50 EX	B-II	143	74	70	82	74
Dassault Falcon 900/900B	B-II	120	92	63	100	86
IAI Westwind 1123/1124	C-I	60	55	28	18	17
Learjet 20 Series	C-I	36	56	18	34	30
Learjet 31/31A/31A ER	C-I	68	120	92	48	54
Learjet 35/35A/36/36A	D-I	62	34	24	29	18
Learjet 40/45	C-I	264	262	238	224	177
Mitsubishi Mu-300 Diamond	B-I	4	19	8	4	6
Raytheon Hawker 400/400 XP	B-I	531	607	730	526	566
Sabreliner 40/60	B-I	11	16	2	8	0
Total		5,138	5,170	5,001	4,399	3,777
Table 3-2 AC/5325-4B Referenced Aircraft						
Bombardier 600 Challenger	B-II	77	84	79	70	96
Dassault Falcon 2000/2000EX	B-II	75	100	100	139	81
IAI Astra 1125	C-I	70	40	32	38	26
Learjet 55/55B/55C	C-I	6	15	15	8	10
Learjet 60	C-I	22	34	36	21	12
Total		250	273	262	276	225
US Airways (Piedmont Airlines)						
DHC-8-100	A-III	3,356	4,792	5,263	5,015	5,070
DHC-8-200	A-III	2,231	786	0	0	0
DHC-8-300	A-III	27	16	23	24	4
Total US Airways		5,614	5,594	5,286	5,039	5,074
Delta Air Lines (ASA Airlines/Mesaba Airlines)						
ATR-72 (operated from 03/07 to 11/08)	B-III	0	0	1,922	1,629	3
Saab 340 (operated from 03/09 to 11/09)	B-II	0	0	0	0	1,7670
Total Delta Air Lines		0	0	1,922	1,629	1,770

Source: FAA Flight Plan Database (2000-2008) furnished by the SC Aeronautics Commission.

4.2.2.2 Runway Length Measurement

As shown in Table 4.2.2.1-4, substantial operations of itinerant aircraft frequent the Hilton Head Island Airport to justify usage of a family of aircraft (Table 4.2.2.2-1) in the determination of appropriate runway length.

Table 4.2.2.2-1
Family of Critical Design Aircraft
Hilton Head Island Airport

Beechjet Premier I	Dassault Falcon 900/900B
Cessna 500 Citation/501 Citation Sp	Bombardier 600 Challenger
Dassault Falcon 10	Dassault Falcon 2000/2000EX
Mitsubishi Mu-300 Diamond	IAI Westwind 1123/1124
Raytheon Hawker 400/400 XP	Learjet 20 Series
Sabreliner 40/60	Learjet 31/31A/31A ER
Bombardier Challenger 300	Learjet 40/45
Cessna Citation I/II/III	IAI Astra 1125
Cessna 525A Citation II (CJ-2)	Learjet 55/55B/55C
Cessna 550 Citation Bravo	Learjet 60
Cessna 560 Citation Encore	Learjet 35/35A/36/36 A
Cessna 560/560 XL Citation Excel	
Cessna 650 Citation VII	**Commercial Service Aircraft**
Cessna 680 Citation Sovereign	De Havilland DHC 8-100
Dassault Falcon 20	Bombardier DASH 8-Q200
Dassault Falcon 50/50 EX	SAAB 340
Source: FAA Flight Plan Database (2000-2009) furnished by the SC Aeronautics Commission.	

The corresponding runway length graphs are found in Figures 4.2.2.2-1 and 4.2.2.2-2 (page 29). In Figure 4.2.2.2-1, two options are provided: 75 percent of fleet at 60 percent useful load or 75 percent of fleet at 90 percent load. In Figure 4.2.2.2-2 (page 29) two options are provided: 100 percent of fleet at 60 percent useful load or 100 percent of fleet at 90 percent load.

The 100 percent of fleet at 60 percent useful load has been selected based on the departure haul lengths outlined in Table 4.2.2.2-2 (page 30). Runway length measurement calculations are shown in Table 4.2.2.2-3 (page 29).

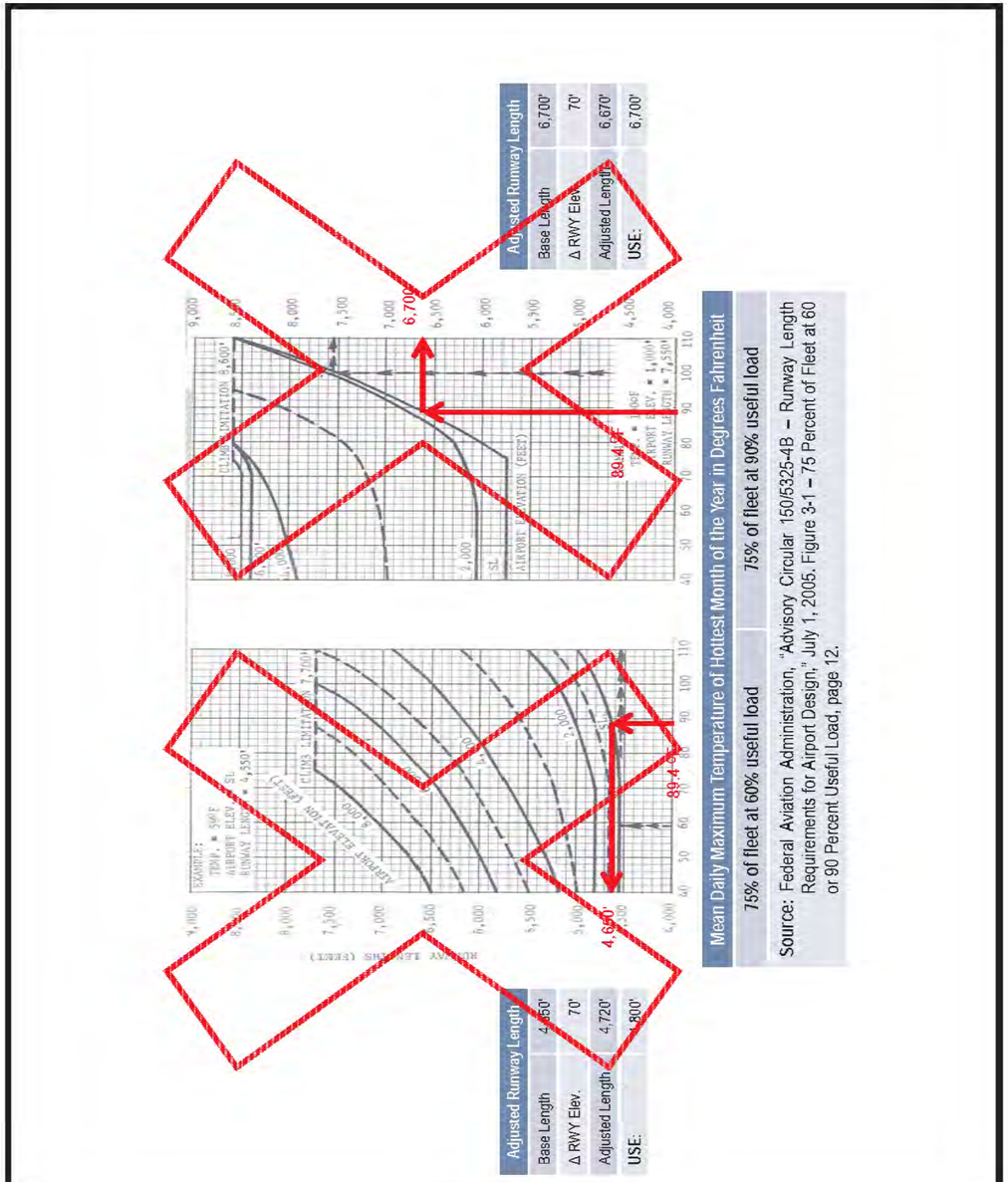


Figure 4.2.2.2-1
Hilton Head Island Airport

75% of Fleet at 60% or 90% Useful Load

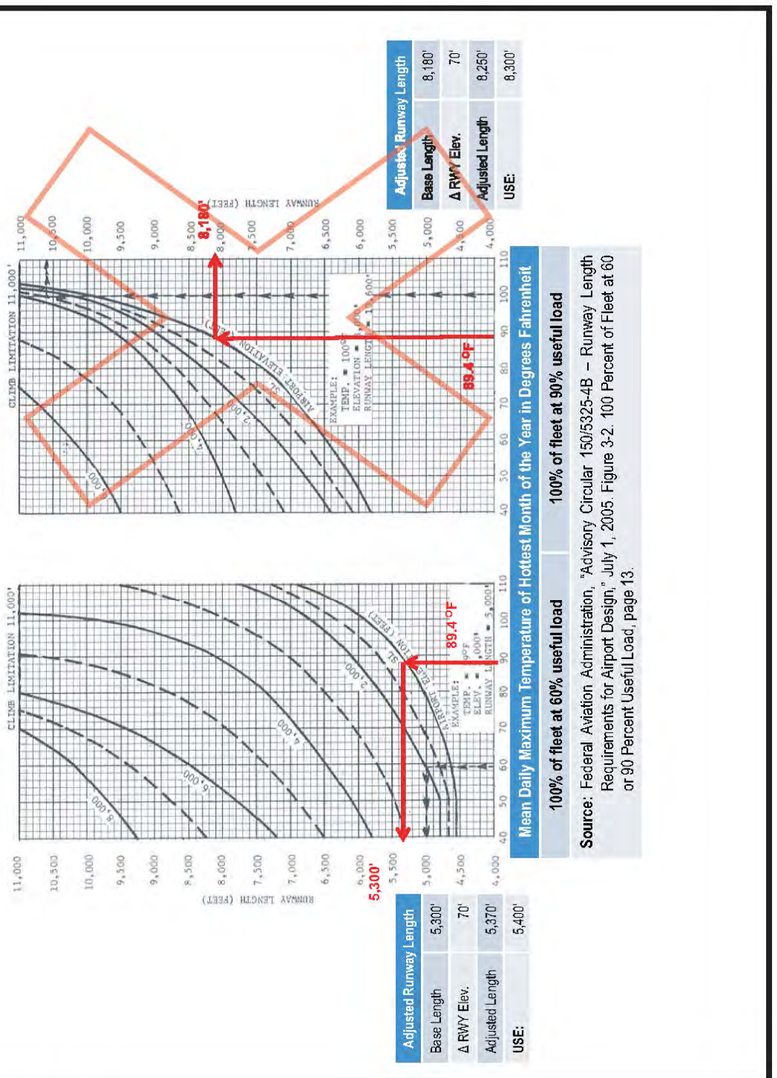


Figure 4.2.2.2-2
Hilton Head Island Airport

100% of Fleet at 60% or 90% Useful Load

Table 4.2.2.2-3
Runway Length Requirement
Based on Aircraft Airport Planning Manual Design Curves
Hilton Head Island Airport

Airport Elevation	19.0'
Mean Maximum Temperature	89.4°F
Runway 03 Elevation	19.83'
Runway 21 Elevation	13.07'
Δ Runway Centerline Elevation[1]	7.0' x 10' = 70'
	Adjusted Runway Length
Family of Aircraft at 100% fleet @ 60% useful load (existing)	5,400'
De Havilland DHC 8-100 (existing)	3,500'
Bombardier DASH 8-Q200 (existing)	3,600'
Bombardier DASH 8-Q300 (existing)	4,500'
Bombardier DASH 8-Q400 (potential future)	5,200'
SAAB 340 (existing)	4,800'
Canadair CRJ/200 (potential future)	5,600'
Canadair CRJ/700 (potential future)	5,500'

Note:
[1]For airplanes over 12,500 pounds maximum certified takeoff weight, the recommended runway length for takeoff derived from the curves of Figures 3-1 and 3-2 or from the APMs must be increased by 10 feet per foot of difference in centerline elevations between the high and low points of the runway centerline elevations.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Figure 3-1. 75 Percent of Fleet at 60 or 90 Percent Useful Load, page 12; Figure 3-2. 100 Percent of Fleet at 60 or 90 Percent Useful Load, page 13; and Section 509. Maximum Difference of Runway Centerline Elevation, page 23.

On the basis of the historic and projected aircraft operations and the utilization of FAA's mandatory runway design procedures, a length of 5,400 feet will satisfy the runway requirements at HXD. This analysis has been approved by the FAA.[22]

[22]Federal Aviation Administration (Scott L. Seritt), "Runway Length Determination Hilton Head Island Airport (HXD)," letter, addressed to Gary Kubic, February 9, 2010.

4.2.3 Runway Width

FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended) provides guidance for runway width standards based on ARC and wind coverage. For Category C-II runways, a 100-foot width is recommended. Runway 03/21 at the Hilton Head Island Airport is currently 100 feet wide. No runway widening is projected to be required during the 20-year planning period.

4.2.4 Pavement Strength and Condition

Airport pavements are constructed to provide adequate support for the loads imposed by aircraft using the airport and to produce a firm, stable, and smooth year-round, all weather surface free from dust or other particulates that may be blown or picked up by propeller wash or jet blast. For a pavement to meet the requirements noted, it must have the strength and stability to withstand abrasive action, adverse weather, and other deteriorating influences. Braking performance on pavement surfaces becomes critical with increases in forecasted turbojet operations. Under certain conditions, hydroplaning or unacceptable loss of friction can occur resulting in poor braking performance and possible loss of directional control.

As determined during the inventory of airport facilities, the existing runway and taxiway pavements were found to be in good condition. The runway was rehabilitated in 2004 and widened to 100 feet and grooved. The runway rehabilitation was designed to accommodate 75,000-pound dual-gear aircraft. No additional strengthening to the runway will be required during the 20-year planning period. However, a rehabilitation overlay is anticipated within the 20-year planning period, since the normal 20-year pavement life is would be reached prior to 2029.

4.2.5 Runway Protection Zone

The function of the runway protection zone (RPZ) is to enhance the protection of people and property on the ground. This is achieved through airport owner control over RPZs. Such control includes clearing RPZ areas (and maintaining them cleared) of incompatible objects and activities. Control is preferably exercised through acquisition of sufficient property interest in the RPZ. The geometrics of the RPZ vary depending upon the visibility minimums for the runway approach and the aircraft utilizing the airport. Also, when the runway approach threshold and departure end of the runway do not coincide as in the case of declared distance runways, a separate departure RPZ is required. Table 4.2.5-1 (page 31) depicts the existing and future RPZ sizes based upon the minimum visibilities for HXD as discussed in Section 4.1.4.2 (page 25).

Table 4.2.2.2-2
Critical Design Aircraft Departure Haul Lengths
Hilton Head Island Airport

	Airport	Haul Length (NM)	Number of Departures					
			2004	2005	2006	2007	2008	2009
SAV	Savannah-Hilton Head International, Savannah, GA	26	35	28	33	31	38	30
JZI	Charleston Executive, Charleston, SC	45		27			21	
CHS	Charleston International, Charleston, SC	52	31	35	32	41	30	39
SSI	Malcolm McKinnon, Brunswick, GA	74	20			26		
CAE	Columbia Metropolitan, Columbia, SC	105	54	40	36			
JAX	Jacksonville International, Jacksonville, FL	115	35	36	29	25	24	29
GMU	Greenville Downtown, Greenville, SC	178	21	21				
CLT	Charlotte-Douglas International, Charlotte, NC	180	2,615	2,841	2,830	2,675	2,551	2,561
TVI	Thomasville Regional, Thomasville, GA	181		20		20		
ATL	Atlanta Hartsfield International, Atlanta, GA	206				961	814	885
PDK	DeKalb-Peachtree, Atlanta, GA	207	120	135	104	94	88	86
FTY	Fulton County-Brown Field, Atlanta, GA	214	44	50	40	30	30	
ORL	Orlando Executive, Orlando, FL	223				43	34	
RYY	Cobb County-McCollum Field, Atlanta, GA	224	25	39				
JNX	Johnston County, Smithfield, NC	230						43
MCO	Orlando International, Orlando, FL	230			20	23	22	24
GSO	Piedmont Triad International, Greensboro, NC	235	29	31	48	42	44	48
INT	Smith Reynolds, Winston Salem, NC	236			5			
RDU	Raleigh-Durham International, Raleigh/Durham, NC	239	47	89	112	111	111	64
TRI	Tri-Cities Regional, Bristol/Johnson/Kingsport, TN	269	60	83	57			
TYS	McGhee Tyson, Knoxville, TN	271	107	111	85	106	102	112
CHA	Lovell Field, Chattanooga, TN	282	22	36	40	36	25	22
SUA	Witham Field, Stuart, FL	304			25	24		
SRQ	Sarasota-Bradenton International, Sarasota/Bradenton, FL	305			20			5
BHM	Birmingham-Shuttlesworth International, Birmingham, AL	316	20		28			
PBI	Palm Beach International, West Palm Beach, FL	333	41	36	36	24	21	22
BCT	Boca Raton, Boca Raton, FL	352		24	21			
RIC	Richmond International, Richmond, VA	358	36	30	31	31	23	21

	Airport	Haul Length (NM)	Number of Departures					
			2004	2005	2006	2007	2008	2009
APF	Naples Municipal, Naples, FL	368		20		20		
FLL	Fort Lauderdale-Hollywood International, Fort Lauderdale, FL	370	32					
BNA	Nashville International, Nashville, TN	378			25	34	31	54
IAD	Washington-Dulles International, Washington, DC	433	76	58	73	58	65	
LUK	Cincinnati Municipal-Luken Field, Cincinnati, OH	450	36	41	30			7
MKL	McKellar-Sipes Regional, Jackson, TN	457	31	22	35	32		
CMH	Port Columbus International, Columbus, OH	478	24	29	29	28		
HMZ	Bedford County, Bedford, PA	483			21	21		
OSU	Ohio State University, Columbus, OH	485	30					
AGC	Allegheny County, Pittsburgh, PA	489				23		
BMG	Monroe County, Bloomington, IN	506	6					
N94	Carlisle, Carlisle, PA	507	25	24	22	22		
BKL	Burke Lakefront, Cleveland, OH	560		9				
TTN	Trenton-Mercer, Trenton, NJ	561						24
MMU	Morristown Municipal, Morristown, NJ	597			44	31	24	35
TEB	Teterboro, Teterboro, NJ	608	78	56	62	65	62	73
SUS	Spirit of St. Louis, St. Louis, MO	624	28				23	
HPN	Westchester County, White Plains, NY	628	42	46	52	64	60	36
POU	Duchess County, Poughkeepsie, NY	651				35		
MDW	Chicago Midway International, Chicago, IL	665	30	25	27	26		
PWK	Chicago Executive, Chicago/Prospect Heights/Wheeling, IL	685	24	23	30	25		
UGN	Waukegan Regional, Chicago/Waukegan, IL	700	19	13	17	19	18	12
PVD	Theodore Francis Green State, Providence, RI	722	11	10				
BED	Laurence G. Hanscom Field, Bedford, MA	760	22					
CID	Eastern Iowa, Cedar Rapids, IA	782	45	28				
Total IFR Operations			3,927	4,123	4,099	4,854	4,270	4,242
Operations under 500 NM			3,597	3,889	3,845	4,567	4,083	4,062
Operations over 500 NM			330	234	254	287	187	180

Notes:
Table 3-1 AC/5325-4B Referenced Aircraft (includes only destinations with at least 20 departures from HXD).
Table 3-2 AC/5325-4B Referenced Aircraft (includes only destinations with at least 5 departures from HXD).
Source: FAA Flight Plan Database (2000-2009) furnished by the SC Aeronautics Commission.

Table 4.2.5-1
Runway Protection Zone Requirements
Hilton Head Island Airport

Runway Protection Zone	Existing Size (length x inner width x outer width)	Future Size
Runway 03 Approach RPZ	1,700' x 500' x 1,010'	Same
Runway 03 Departure RPZ	1,700' x 500' x 1,010'	Same
Runway 21 Approach RPZ	1,700' x 500' x 1,010'	Same
Runway 21 Departure RPZ	1,700' x 500' x 1,010'	Same

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.
Talbert & Bright, Inc., April 2010.

The land within the RPZ should be owned or controlled by the airport owner. While it is desirable to clear all objects from the RPZ, some uses are permitted, provided they do not attract wildlife, are outside the obstacle free area (Section 4.2.7), and do not interfere with any navigational aids. Land uses prohibited from the RPZ are residences and places of public assembly. In addition, fuel storage facilities may not be located in the RPZ.

Where it is determined to be impracticable for the airport owner to acquire and/or plan the land uses within the entire RPZ, compatible land use standards for any portion of the RPZ not controlled by the airport owner should be established.

4.2.6 Runway Safety Area

A runway safety area (RSA) is defined as a surface surrounding the runway, which is suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The dimensional standards for the RSA at HXD are noted in Table 4.2.6-1. In addition to the dimensional standards, the RSA should conform to the following design standards:

- Graded and cleared of hazardous items or surface variations
- Drained by grading or other conveyance to prevent water accumulation
- Capable of supporting airport and usage vehicles and the occasional passage of aircraft under dry conditions
- Free from objects except those fixed by function. Objects greater than 3 inches in height above grade shall be frangible

Table 4.2.6-1
Runway Safety Area Dimensions and Design Standards
Hilton Head Island Airport

Runway	ARC	RSA Width	RSA Length Prior to Runway Approach End	RSA Length Beyond Runway End	Meets Design Standards
03/21 (existing)	C-II	500'	600'	1,000' (897' RWY 03)	No
03/21 (standards)	C-II	400'	600'	1,000'	

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.
Talbert & Bright, Inc., April 2010.

RSA design standards cannot be modified or waived like other FAA design standards. The dimensional standards remain in effect regardless of the presence of natural or manmade objects. A continuous evaluation of practicable alternatives for improving a substandard RSA is required until it meets FAA design standards.

The Runway 21 RSA is traversed by a drainage ditch. Removal (piping) of this ditch is a project that is currently underway.

Recently FAA has allowed the standard RSA length beyond the end of the runway to be reduced to the standard length prior to the landing threshold if an engineered materials arresting system[23] (EMAS) is provided. Such would be the case at HXD. The use of an EMAS has been incorporated in analyzing the proposed runway improvement alternatives discussed in the Alternatives Development and Evaluation Section (page 39).

4.2.7 Runway Obstacle Free Zone

The runway obstacle free zone (OFZ) is a defined volume of airspace centered above the runway centerline. The runway OFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway. For runways serving large aircraft, as is the case at HXD, the OFZ width is 400 feet.

[23]Definition of an EMAS – a bed of lightweight, crushable concrete built at the end of a runway. The purpose of an EMAS is to stop an aircraft overrun with no human injury and minimal aircraft damage. The aircraft is slowed by the loss of energy required to crush the concrete blocks. An EMAS is similar in concept to the runaway truck ramp made of gravel or sand. It is intended to stop aircraft that have overshot a runway when there is an insufficient free space for a standard RSA.

The OFZ is to be cleared of object penetrations except for frangible visual NAVAIDs that need to be located in the OFZ because of their function. Taxiing and parked airplanes are precluded from this clearing standard.

For runways that have an approach lighting system, an inner-approach OFZ would be applied. The inner-approach OFZ is a defined volume of airspace centered on the runway approach area with the approach lighting system. It begins 200 feet from the runway threshold at the same elevation as the runway threshold and extends 200 feet beyond the last light unit in the approach lighting system. Its width is the same as the runway OFZ and rises at a slope of 50 (horizontal) to 1 (vertical) from its beginning.

An approach lighting system is being planned for installation on the approach to Runway 21.

4.2.8 Runway Obstacle Free Area

The runway obstacle free area (ROFA) is an area on the ground centered on the runway centerline provided to enhance the safety of aircraft operations by having the area free of objects except objects that need to be located in the ROFA for air navigation or aircraft maneuvering purposes. The dimensional standards are noted in Table 4.2.8-1.

Table 4.2.8-1
Runway Obstacle Free Area Dimensions and Design Standards
Hilton Head Island Airport

Runway	ARC	Width	Length Beyond Runway End	Meets ROFA Clearing Requirements
03/21	C-II	800'	1,000'	No

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.
Talbert & Bright, Inc., April 2010.

The ROFA at HXD has several objects, such as trees and buildings, on properties that abut the airport property located within the ROFA. A modification to standards for the existing ROFA has been requested (2011-ASO-890-NRA. However, any new construction would require ROFA compliance and would require purchase of property and removal of trees and buildings.

4.2.9 Runway Line of Sight

An acceptable runway profile permits any two points five feet above the runway centerline to be mutually visible for the entire runway length. However, if the runway has a full length parallel taxiway, the runway profile

may be such that an unobstructed line of sight will exist from any point five feet above the runway centerline for one-half the runway length. There are no obstructions or limitations to the line of sight within the visibility zone. No changes are required to meet runway visibility standards.

4.2.10 Runway Edge Lighting and Signage

Edge lights are used to outline usable operational areas of airports during periods of darkness and low visibility weather conditions. The Hilton Head Island Airport is currently equipped with MIRLs. It is recommended that these lights be retrofitted so that the "high" setting may be accessed via pilot-controlled lighting. A conversion of these lights to light-emitting diodes (LED) is recommended if the FAA approves LED lights for runway use. No other modifications are anticipated other than routine maintenance.

Existing airside signage consists of lighted guidance signs. These signs will require periodic maintenance. The Airport is currently in the process of upgrading the signage; no other modifications are anticipated other than routine maintenance.

4.2.11 Taxiway Requirements

The minimum pavement widths, curve radii, and separations associated with airplane movement areas and airplane physical characteristics establish the taxiway system. Since the taxiway system is the transitional facility, which supports airport operational capacity, the capability to maintain an average taxiing speed of at least 20 mph is recommended, which is currently met by the existing taxiways at the Airport. Taxiway dimensional standards are categorized by separations, widths, curves, and fillets. In addition, the taxiway safety area shall be:

- Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations
- Drained by grading or storm sewers to prevent water accumulation
- Capable, under dry conditions, of supporting ARFF equipment and the occasional passage of aircraft without causing structural damage for the aircraft
- Free of objects except those which need to be located in the taxiway safety area because of their function. Objects higher than 3 inches above grade should be constructed on low impact resistant supports (frangible mounted structures) of the lowest practical height with the frangible point no higher than 3 inches above grade. Other objects, such as manholes, should be constructed at grade. In no case should their height exceed 3 inches above grade

4.2.12 Taxiway and Taxilane Obstacle Free Areas

The taxiway and taxilane OFAs are centered on the taxiway and taxilane centerlines. The taxiway and taxilane OFA clearing standards prohibit service vehicle roads, parked airplanes, and aboveground objects except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. Vehicles may operate within the OFA provided they give right-of-way to oncoming aircraft by either maintaining a safe distance ahead or behind the aircraft or by exiting the OFA to let the aircraft pass. The taxiway and taxilane OFAs at HXD meet FAA standards, and no modifications are necessary.

4.2.13 Parallel Taxiways

A basic airport consists of a runway with a full-length parallel taxiway, an apron, and connecting transverse taxiways between the runway, parallel taxiway, and the apron. The Airport currently has two full parallel taxiways connecting each end and each side of the runway. Taxiway 'A' (general aviation side of the Airport) is connected to the runway via five stub taxiways and Taxiway 'F' (commercial service side of the Airport) by two stub taxiways. The existing taxiways meet C-II design standards (Taxiway 'F' is 50 feet wide and Taxiway 'A' is 35 feet wide. There are no changes required to Taxiway 'F,' as the centerline separation between the runway and the taxiway is 300 feet.

Taxiway 'A' currently has a runway/taxiway separation of 200 feet and will have to be relocated to a runway/taxiway separation of 300 feet. This relocation will render approximately 17,500 square yards of the existing apron unusable on the general aviation side of the Airport. Bypass taxiways, along Taxiway 'A,' are available at each runway end. This allows departing aircraft that have been cleared for takeoff to access the runway ends without waiting behind aircraft, which have not been cleared.

4.2.14 Taxiway Edge Lighting and Signage

The taxiway edge lighting system is a configuration of lights that define the lateral and longitudinal limits of usable taxiway. Taxiway signage provides the airport users with guidance information for taxiing destinations and to assist in taxi route decision making upon exiting the apron area. The Hilton Head Island Airport is currently equipped with medium intensity taxiway lighting (MITL) and lighted taxiway signs. The signs are currently being relocated to appropriate distances to improve visibility for pilots. The taxiway lights are currently regular quartz lights. It is recommended that these lights be replaced with LED lights, which use a fraction of the power that regular quartz lights use, when there is a need to replace the taxiway lighting system or during construction of the Taxiway 'A' relocation. This change in the taxiway lights provides a "green" benefit to the Airport by reducing power consumption. There are no other improvements recommended for these ground navigational aids.

4.2.15 Runway to Taxiway Separation

Runway to taxiway separation standards are predicated on the ARC and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For an airport with an ARC of C-II and runways with instrument approach minimums as low as ¾ mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) recommends a 300-foot separation between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' will need to be relocated to a 300-foot runway/taxiway separation.

4.2.16 Taxilane System

The taxilanes, having access from the apron and taxiway system to hangar and ramp areas, should be designed in accordance with ARC C-II standards as specified in FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended). The taxilane pavement strength should be commensurate with aircraft usage as needed between the airfield and associated hangar/ramp maneuvering areas. Hangar taxilanes should be of sufficient width to allow unencumbered wingtip clearance between fixed objects (hangars, fence, fueling facilities, light poles, etc.).

The taxilanes at the Hilton Head Island Airport are used for aircraft maneuvering from the taxiways to and from the hangars and apron areas. Additional taxilanes will be required as more hangars are constructed at the Airport. These taxilanes will provide access to these new facilities. Existing taxilanes may require strengthening to accommodate frequent passage of heavier aircraft to and from existing hangars at HXD. This strengthening will be dependent upon the aircraft type, location of the hangars, and frequency of use. There are no other modifications or improvements required at this time to the taxiway/taxilane network at the Hilton Head Island Airport. Table 4.2.16-1 summarizes the existing and future airfield design standards.

Table 4.2.16-1
Airfield Design Standards
Hilton Head Island Airport

Runway Design Factors	Existing	(ARC C-II) Non-Precision Approach Requirements
Runway Width	100'	100'
Runway Safety Area (RSA): RSA width RSA length beyond runway end	 500' 1,000' (897' RWY 03)	 400' 1,000'
Obstacle free area (OFA): OFA width OFA length beyond runway end	 800' 1,000'	 800' 1,000'
Building Restriction Line (BRL)	800' from centerline	800' from centerline
Taxiway width	50' ('F')/35' ('A')	50'
Runway to taxiway distance Runway to parking distance Taxiway to parking distance	300' ('F')/200' ('A') 400' 100'	300' 400' 105'

Source: FAA, "*Advisory Circular 150/5300-13 – Airport Design*," Changes 1-15, December 31, 2009.
Talbert & Bright, Inc., April 2010.

4.3 FACILITY REQUIREMENTS

This subsection identifies airside facilities needed to satisfy the 20-year forecast of aviation demand at the Hilton Head Island Airport. The identification of needed facilities does not constitute a requirement in terms of absolute design standards or goals, but rather an option for facility improvements to resolve various types of facility or operational inadequacies or to make improvements as demand warrants. The facilities recommended as part of this Master Plan Update have been identified from inventory and forecast findings and planned in accordance with FAA airport design standards and airspace criteria.

The following analysis addresses seven major airport areas. The runway length has been addressed as part of the demand capacity study and is thus not included in the following analysis. The facility requirements section has been broken down into airside and landside facility requirements.

4.3.1 Airside Facility Requirements

4.3.1.1 Based Aircraft

General aviation aircraft parking and storage requirements can vary widely from airport to airport depending on the number of transient aircraft using the airport and the number of based aircraft owners who choose to tie down their aircraft on the ramp versus those who choose to use available hangar space. Table 4.3.1.1-1 lists the existing storage percentages at the Hilton Head Island Airport by aircraft type.

Table 4.3.1.1-1
Based Aircraft Storage Ratios
Hilton Head Island Airport

Aircraft Type	2009 Based Aircraft	Apron Tie-Downs	T-Hangars		Conventional Hangars	
			HXD	ExecAir	HXD	Private
Single-Engine Piston	60	18%	35%	47%	0%	0%
Multi-Engine Piston	12	17%	8%	67%	8%	0%
Turboprop	6	17%	0%	17%	17%	50%
Jet	3	0%	0%	33%	67%	0%
Rotorcraft	0	0%	0%	0%	0%	0%

Source: Talbert & Bright, Inc., March 2010.

4.3.1.2 T-Hangar Storage

Airports most often utilize T-hangars as covered storage for small general aviation aircraft. HXD currently has 22 T-hangar units. Based on this ratio, a total of 98 T-hangar units will be required by 2029 as shown in Table 4.3.1.2-1. This equates to three additional 10-unit T-hangar buildings for the Airport over the 20-year planning period.

Table 4.3.1.2-1
T-Hangar Storage Requirements
by Forecast Number of Aircraft
Hilton Head Island Airport

Aircraft Type	2009	2014	2019	2029
Single-Engine Piston	21	28	33	44
Multi-Engine Piston	1	2	3	6
Turboprop	0	0	0	0
Jet	0	0	0	0
Rotorcraft	0	0	0	0
Total T-Hangar Units	22	30	36	50

Source: Talbert & Bright, Inc., March 2010.

4.3.1.3 Conventional Hangar Storage

Conventional hangars (box and corporate hangars) represent the other most common method of covered aircraft storage. The following square footage requirements were used for calculating the total conventional hangar storage required at the Airport.

- Single-Engine – 1,000 square feet
- Multi-Engine – 3,000 square feet
- Turboprop – 6,000 square feet
- Jet – 8,000 square feet
- Helicopter – 4,000 square feet

The existing conventional hangar storage area at HXD totals 25,120 square feet. Table 4.3.1.3-1 depicts the number of aircraft per hangar type over the 20-year planning period. A total of 84,120 square feet of conventional hangar storage will be needed by 2029 as shown in Table 4.3.1.3-2. This accounts for conventional hangar requirements accommodating single-engine, multi-engine, turboprop, jet, and rotorcraft.

Table 4.3.1.3-1
Conventional Hangar Storage Requirements
by Forecast Number of Aircraft
Hilton Head Island Airport

Aircraft Type	2009	2014	2019	2029
Single-Engine Piston	0	0	0	0
Multi-Engine Piston	1	1	1	1
Turboprop	1	2	2	2
Jet	2	2	3	4
Rotorcraft	0	0	1	2

Source: Talbert & Bright, Inc., March 2010.

Table 4.3.1.3-2
Conventional Hangar Storage Requirements
by Total Size (Square Feet)
Hilton Head Island Airport

Aircraft Types	2009	2014	2019	2029
Single-Engine Piston	0	0	0	0
Multi-Engine Piston	3,120	3,120	3,120	3,120
Turboprop	3,120	9,120	9,120	9,120
Jet	9,250	17,250	25,250	33,250
Rotorcraft	0	0	4,000	8,000
Total Conventional Hangar Space	15,760	29,490	41,490	53,490

Source: Talbert & Bright, Inc., March 2010.

4.3.1.4 Apron Area

Apron areas are used for outside aircraft storage. There are 66 individual tie-down spaces with a total general aviation apron size of 53,785 square yards currently at the Airport. The following square footage requirements were used for calculating the total apron area required at the Airport. Table 4.3.1.4-1 lists the based aircraft apron requirements in square yards.

- Single-Engine – 1,000 square yards
- Multi-Engine – 2,000 square yards

- Turboprop – 3,000 square yards
- Jet – 4,000 square yards
- Helicopter – 4,000 square yards

Table 4.3.1.4-1
Based Aircraft Apron Area Requirements by Total Size (Square Yards)
Hilton Head Island Airport

Aircraft Types	2009	2014	2019	2029
Single-Engine Piston	11,000	12,000	13,000	16,000
Multi-Engine Piston	4,000	4,000	6,000	6,000
Turboprop	3,000	3,000	3,000	3,000
Jet	0	0	0	0
Rotorcraft	0	0	0	0
Total Apron Area	18,000	19,000	22,000	25,000

Source: Talbert & Bright, Inc., March 2010.

These calculations account for taxilanes, as well as the ingress and egress of aircraft to and from the apron parking spaces. While the current demand calculations may be less than the current apron space available, an expansion should be considered for the near-term (first five years of the planning period) development to accommodate future growth and reduce aircraft congestion on days when operations are higher .

4.3.1.5 Transient Aircraft Storage

Transient aircraft parking requirements typically make up the largest demand for apron space requirements. Typically, 80 percent of transient aircraft are stored on the apron while the remaining 20 percent are stored in conventional hangars. These percentages were used to calculate the transient aircraft storage areas required to meet the forecast demand. Table 4.3.1.5-1 lists the transient aircraft storage requirements based on the forecast transient aircraft activity at the Hilton Head Island Airport.

Table 4.3.1.5-1
Transient Aircraft Storage Requirements
Hilton Head Island Airport

Year	Apron Area (Square Yards)	Conventional Hangars (Square Feet)
2009	32,671	10,429
2014	35,782	11,422
2019	39,628	12,650
2029	47,316	15,104

Source: Talbert & Bright, Inc., March 2010.

Table 4.3.1.5-2 lists the aircraft storage requirements for the 20-year planning period. These numbers include storage for both based and transient aircraft.

Table 4.3.1.5-2
Total Aircraft Storage Requirements
Hilton Head Island Airport

Facility	Existing	Phase 1 (2010-2014)	Phase 2 (2015-2019)	Phase 3 (2020-2029)
T-Hangar Units	22	30	36	50
Conventional Hangar (sq ft)	15,760	29,490	41,490	53,490
Transient Hangar Storage (Sq ft)	10,429	11,422	12,650	15,104
Based Aircraft Apron Area (sq yd)	18,000	19,000	22,000	25,000
Transient Apron Area (sq yd)	32,671	35,782	39,628	47,316

Source: Talbert & Bright, Inc., March 2010.

4.3.1.6 Fueling Facilities

The Hilton Head Island Airport's fueling facilities currently consist of six separate aboveground storage tanks. Fuel delivery schedules can be adjusted as the demand warrants, which temporarily eliminates the need for additional fuel storage tanks. However, one additional Jet A tank may be necessary over the 20-year planning period. This proposed tank can be accommodated at the existing fuel farm. The existing and proposed fuel storage tanks are shown in Table 4.3.1.6-1.

Table 4.3.1.6-1
Fuel Storage Requirements
Hilton Head Island Airport

No. of Tanks	Fuel	Size (gallons)	Status
2	Avgas	12,000	existing
3	Jet A	10,000	existing
1	Unleaded automobile gas	250	existing
1	Jet A	15,000	proposed

Source: Talbert & Bright, Inc., March 2010.

The fuel farm meets U.S. Environmental Protection Agency (USEPA) requirements and is in good condition. As the number of based aircraft increases, the demand on Avgas and Jet A fuel will also increase.

4.3.1.7 Airfield Maintenance Equipment and Storage Facilities

The Airport currently operates a number of vehicles used for airfield maintenance including three tractors for grass cutting. The Airport plans to store this field maintenance equipment in a 2,400-square-foot storage building, currently used as the ARFF building, located east of the end of Runway 03. This facility will have to be relocated when Taxiway 'A' is brought into compliance with FAA requirements. It is anticipated that the current size of this facility will sufficiently accommodate the airfield storage needs over the 20-year planning period but may need to be expanded if additional maintenance equipment is acquired.

4.3.1.8 Aircraft Rescue and Firefighting Facilities

A new ARFF facility is under construction between the ATCT and the existing apron. The new 7,300-square-foot facility is currently scheduled for operation in November 2010.

4.3.1.9 Perimeter Fencing

Perimeter fencing is crucial to the prevention of animal and human incursion on aircraft operating areas. A portion of the Airport is bounded by woods and undeveloped areas and subject to animal incursions. The terminal area of the general aviation side of the Airport is the most likely place for human incursions to occur. The Hilton Head Island Airport has installed perimeter fencing along the airport property line. This fencing meets FAA CFR Part 139 standards and is in good shape but may need to be replaced during the 20-year planning period.

4.3.2 Landside Facility Requirements

4.3.2.1 Commercial Service Terminal Building

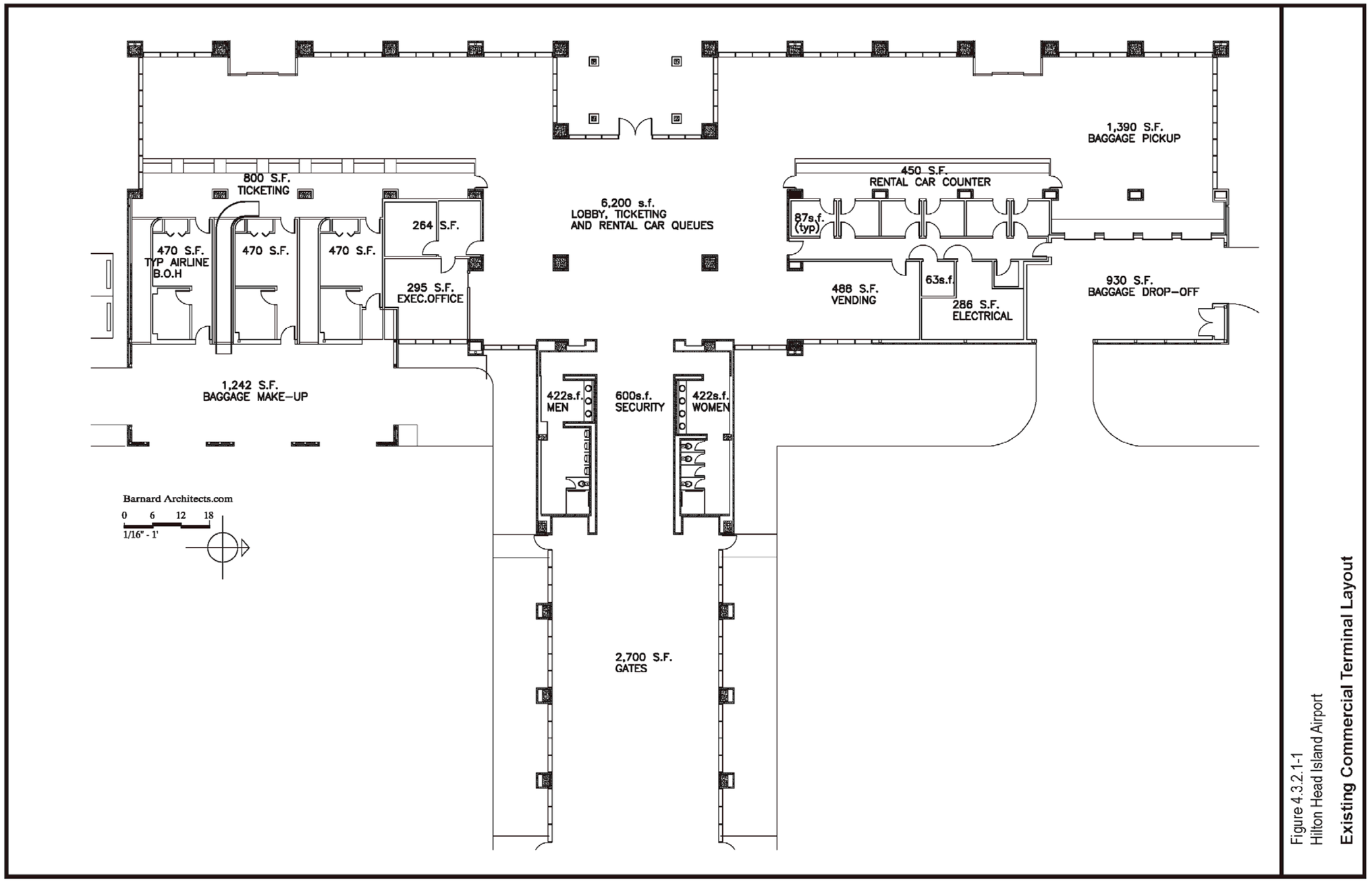
This section investigates, from a preliminary planning perspective, the following terminal elements:

- Functional use of the existing terminal
- Internal square footage elements
- Terminal expansion
- Associated automobile parking requirements

As depicted in Figure 4.3.2.1-1 (page 35), the existing terminal has estimated square footage of 18,484.

The precise functional elements of a commercial service terminal can vary widely depending on the total usage envisioned by the airport community. The existing terminal incorporates a variety of activities including space for vending machines. There are currently design plans that have been prepared to add the following to the terminal.

- Restroom facilities within the passenger hold room
- Third airline office and ticket counter
- Automated baggage belt
- Second floor to include a conference center and offices for airport administrative staff


800 S.F.
TICKETING
470 S.F.
TYP AIRLINE
B.O.H
470 S.F.
470 S.F.
264 S.F.
295 S.F.
EXEC.OFFICE
6,200 s.f.
LOBBY, TICKETING
AND RENTAL CAR QUEUES
450 S.F.
RENTAL CAR COUNTER
87s.f.
(typ)
1,390 S.F.
BAGGAGE PICKUP
488 S.F.
VENDING
63s.f.
286 S.F.
ELECTRICAL
930 S.F.
BAGGAGE DROP-OFF
1,242 S.F.
BAGGAGE MAKE-UP
422s.f.
MEN
600s.f.
SECURITY
422s.f.
WOMEN
2,700 S.F.
GATES
Barnard Architects.com
0 6 12 18
1/16" - 1'
Figure 4.3.2.1-1
Hilton Head Island Airport
Existing Commercial Terminal Layout

- Conversion of current administrative staff offices back into a gift shop

Estimated requirements for key functional areas of the passenger terminal building were determined based on facilities provided at comparable airports and guidelines published in the FAA *Advisory Circular 150/5360-9 – Planning and Design Guidelines for Airport Terminal Facilities at Non-Hub Locations*,[24] and FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended). Table 4.3.2.1-1 provides a generalized square footage terminal expansion guideline. This guideline incorporates the changes previously mentioned.

Terminal building space requirements are summarized in Table 4.3.2.1-1 and were developed for the check-in facilities, passenger security screening checkpoint, terminal circulation space, baggage claim, and rental car customer counters. Required facilities are sized to accommodate average day peak month passenger demands and estimated based on forecasts presented in Section 3.3.2 (page 18).

- **Check-In Facilities** – Approximately six check-in positions (airline agent desks) are provided in the commercial terminal along with counter space used by the Transportation Security Administration (TSA) for a total of 800 square feet, with three 470-square-foot office spaces behind the ticket counter. Future check-in facility requirements were based on the following assumptions and guidelines:
  - Future allocation of check-in facilities would continue to be exclusive use by the airlines
  - Airline agent desks would operate on the premise that 100 percent of originating passengers would require check-in

  Compared to facility requirements determinations at comparable airports, these assumptions are relatively conservative, and the Airport's existing check-in facilities are sufficient to accommodate forecast demand throughout the planning period without any expansion. However, should an additional airline wish to provide service to HXD, the counter space and office currently used by TSA should be made available to the new airline.

Table 4.3.2.1-1
Commercial Service Terminal Requirements (Square Feet)
Hilton Head Island Airport

Terminal Area	Existing (sq ft)	Year 2014	Year 2019	Year 2029
Check-In/Ticketing Counters	800	0	0	0
Airline Offices				
1	470	0	0	0
2	470	0	0	0
3	470	0	0	0
Baggage Makeup	1,242	1,500	0	0
Gift Shop	0	600	0	0
Administrative Offices	264		0	0
Executive Office	295	2,800	0	0
Conference Room	0		0	0
Stairwells/Elevator	0	772	0	0
Lobby/Ticketing/Rental Car Queues	6,200	0	0	0
Security Area	600	0	0	0
Restrooms	844	844	0	0
Hold Room	2,700	0	0	0
Rental Car Counter	450	0	0	0
Rental Car Offices	522	0	0	0
Vending/Business Area	488	1,500	0	0
Office	63	0	0	0
Baggage Pickup	1,390	0	0	0
Baggage Drop-Off	930	0	0	0
Electrical Room	286	0	0	0
TOTAL	18,484	26,500	26,500	26,500

Sources: Barnard Architects, September 2010.
Talbert & Bright, Inc., September 2010.

- **Baggage Makeup Area –** Before being loaded onto aircraft, outbound baggage is sorted and loaded onto one or more carts allocated to each departing flight. At present, sorting and loading is performed in an approximately 1,242-square-foot baggage make-up area, which is open-air with only a roof, located behind the ticket counter and office space for the airlines. Based on an analysis of the current baggage make-up area, it has been determined that the area has:
  - Circulation problems including dangerous vehicular and pedestrian issues
  - Vehicular space problems causing damage to the building
  - Public visual issues from the secure holding area and airside apron

  In addition, because of a lack of adequate office space within the terminal, the baggage make-up area is used for storage of Airport and airline files and supplies. In an effort to alleviate the current space issue, it is recommended that the baggage make-up area be expanded by approximately 1,500 square feet to allow for improved circulation and storage. This expansion would improve the visual appearance from public areas of the secure holding area and airside apron and add of an additional baggage conveyor from the ticketing area.

- **Terminal Circulation –** The analysis of terminal circulation identified one potential "chokepoint" within the terminal, the security screening checkpoint into the hold room. The security screening checkpoint is approximately 16 feet wide and accommodates both enplaning and deplaning passengers. The remaining areas (ticketing, lobby, rental car, and baggage claim) are spacious enough to allow the circulation of pedestrian traffic without affecting movement throughout the terminal. A level of service rating of 'C' or higher is recommended for passenger terminals.[25] With the exception of the terminal "chokepoint," which is expected to provide a high level of service, the existing terminal is expected to provide an adequate level of passenger circulation throughout the planning period.

- **Passenger Security Screening Checkpoint –** There is only one security screening checkpoint located at the entrance to the hold room for departing passengers. Based on current commercial service at HXD, no additional screening lanes are anticipated throughout the planning period. It is important to note, however, that screening lane requirements vary, depending on prevailing TSA practices; and the current configuration of the terminal building allows for an incremental expansion of screening capacity without major changes to the building. It is recommended that security screening checkpoint requirements be reassessed on an annual basis.

- **Rental Car Customer Counters –** Approximately 450 square feet of rental car counter frontage is provided in the terminal building, adjacent to the baggage claim area. Rental car requirements were determined based on industry standards for rental car counter requirements, and similar experience at comparative airports. The rental car space currently available is sufficient to accommodate forecast demand throughout the planning period without any expansion.

[24]Federal Aviation Administration, "Advisory Circular 150/5360-9 – Planning and Design Guidelines for Airport Terminal Facilities at Non-Hub Locations," April 4, 1980, <http://www.faa.gov/>, accessed September 20, 2010.

[25]Fruin, John J., "Pedestrian Planning and Design," Metropolitan Association of Urban Designers and Environmental Planners, New York, N.Y., 1971.

- **Baggage Claim –** Approximately 1,390 square feet of the terminal building is designated for baggage claim. The baggage claim area is accessed by a 930-square-foot baggage drop-off common area that is used by the airlines on a common-use basis. The current baggage drop-off area provides for direct visual access to the secure holding area and airside apron and, like the baggage makeup are, has no means for control of conditioned space. It is recommended that a belt be added with two smaller doors that would utilize the existing baggage claim and baggage drop-off areas. This would improve the visual appearance from public areas of the secure holding area and airside apron.

- **Administrative Offices –** The administrative staff currently utilizes what used to be the gift shop for the terminal. It is proposed that, during the expansion of the baggage make-up area, the administrative offices be constructed above the baggage make-up area and accessed by two stairwells and an elevator to comply with the Americans with Disabilities Act. The new administrative office area would be approximately 2,800 square feet and would include a conference room and offices for the airport manager and staff, as well as a storage area for files and supplies.

- **Gift Shop –** Construction of new administrative offices would allow for the return of a gift shop in the 600-square-foot area. The implementation of the gift shop would allow the sale of miscellaneous articles appropriate as gifts for visitors and residents of Hilton Head Island and the surrounding community.

- **Secure Holding Area** – The size of the secure holding area is sufficient to accommodate forecast demand throughout the planning period without any expansion. However, once passengers have gone through the security checkpoint, restroom facilities are not available for waiting passengers. Access to restroom facilities should be provided to waiting passengers either through providing access to existing facilities or provision of new facilities.

- **Coffee Shop/Café/Business Area** – The current vending area (488 square feet) could be adapted to provide a small coffee shop or café to allow departing and arriving passengers an area to obtain sandwiches and drinks. In addition, an additional 1,500 square feet of space should be added to allow for an area for passengers to conduct business (including wireless access).

The above guidelines are for the specific changes envisioned. They assume regular scheduled air carrier service. The final terminal expansion guideline should be developed in concert with an architectural expansion study where alternatives can be developed and physical constraints thoroughly reviewed.

4.3.2.2 General Aviation Terminal Building

On the basis of general aviation demand, the existing general aviation terminal building is expected to be able to adequately accommodate general aviation activity throughout the planning period.

4.3.2.3 Automobile Parking

An adequate number of automobile parking spaces should be provided for airport employees, tenants, and the general public that use the commercial service terminal. There are currently 325 total automobile parking spaces on the commercial service side of the Airport. Using a ratio 1.5 parking spaces times the number of peak hour passengers plus 15 percent, a total of 590 spaces will be needed by 2029, as shown in Table 4.3.2.3-1. This equates to an additional 120 spaces during Phase 1, 45 spaces during Phase 2, and 105 spaces during Phase 3, as shown in Table 4.3.2.3-1.

The general aviation side of the Airport currently has 127 automobile parking spaces, which are expected to be able to adequately accommodate general aviation activity throughout the planning period.

Table 4.3.2.3-1
Commercial Service Terminal
Automobile Parking Space Requirements
Hilton Head Island Airport

Facility	Existing	Phase 1 (2010-2014)	Phase 2 (2015-2019)	Phase 3 (2020-2029)
Peak Enplaned Passenger	67	78	89	110
Short-Term Spaces	63	63	63	75
Long-Term Spaces	107	107	107	115
Rental Car Spaces	100	125	150	190
Employee Spaces	55	70	80	100
Total	325	443	489	590

Source: Talbert & Bright, Inc., September 2010.

4.3.2.4 Landside Access

Beach City Road provides direct access to the commercial service airport facilities from U.S. Highway 278 (William Hilton Parkway). This two-land facility has sufficient capacity to accommodate future activity throughout the planning period.

Dillon Road to Gateway Circle provides direct access to the general aviation airport facilities from U.S. Highway 278 (William Hilton Parkway). These two-lane facilities have sufficient capacity to accommodate future activity throughout the planning period.

4.4 AIRSPACE AND NAVAID REQUIREMENTS

It is important to research the airspace surrounding the Hilton Head Island Airport and determine how it would impact aircraft approaching or departing from the Airport. It is also important to identify existing and potential obstructions to the airspace surfaces in the immediate vicinity of the Airport.

4.4.1 Airspace Capacity

The Hilton Head Island Airport lies within the Beaufort 1 Military Operations Area (MOA), which is operated intermittently four hours per day for two days per month. The Beaufort 1 MOA occupies a volume of airspace from 100 feet AGL to 10,000 feet AMSL. Instrument approach procedures are available to HXD. In order to accommodate the airspace requirements for local traffic area and the instrument approaches, HXD is assigned Class E airspace, and the Beaufort 1 MOA excludes airspace 3,000 feet AMSL and below within a radius of 7.3 nautical miles of HXD.

As shown on the Charlotte and Jacksonville Sectionals and approach plates, there are a few towers in the vicinity of the Hilton Head Island Airport ranging in height from 328 feet AMSL to 849 feet AMSL. The implementation of additional towers near HXD needs to be coordinated with the FAA for an airspace analysis.

4.4.2 Approach Procedures

The Hilton Head Island Airport is equipped with area navigation (RNAV) GPS approaches to Runway 03/21. The GPS approach to Runway 03 is a non-precision approach while there is LOC/DME and RNAV GPS approach to Runway 21. These approach capabilities are anticipated to accommodate the existing and future approaches at HXD.

4.4.3 Visual Guidance Lighting System

The PAPI is an instrument that provides lighted visual guidance to the pilot to allow vertical guidance to the runway end. The PAPI provides accurate guidance with one set of lights, which indicate different slopes above, on course, or below the glide slope.

It is generally recommended that PAPIs be installed on each end of an instrument runway or where maintaining vertical guidance is necessary (such as over populated areas). Four-box PAPIs are currently installed on the left side of each end of Runway 03/21 at the Hilton Head Island Airport.

Obstruction clearance planes are required for PAPIs. These surfaces extend four nautical miles from the touchdown point at a slope of 3 degrees. No improvements are needed for the existing PAPIs at HXD.

4.4.4 Automated Weather Observing System

The Hilton Head Island Airport is currently equipped with an automated weather observing system (AWOS-3) system. It is recommended to upgrade this system to an AWOS-3-PT. This system has the standard features of an AWOS-3 plus the capability of present weather reporting and lightning detection information.

4.5 FACILITY REQUIREMENTS SUMMARY

Table 4.5-1 summarizes the facility requirements for the Hilton Head Island Airport and lists the phases in which various facilities will be needed, as driven by demand.

Table 4.5-1
Facility Requirements Summary
Hilton Head Island Airport

Facility	Existing	Phase 1 (2010-2014)	Phase 2 (2015-2019)	Phase 3 (2020-2029)
Runway	4,300' x 100'	5,400' x 100'	5,400' x 100'	5,400' x 100'
Taxiway	Full-Parallels	Full-Parallels	Full-Parallels	Full-Parallels
T-Hangar Units	22	30	36	50
Conventional Hangar (sq ft)	15,760 sq ft	29,490 sq ft	41,490 sq ft	53,490 sq ft
Total Apron Area (sq yd)	53,785 sq yd	54,782 sq yd	61,628 sq yd	72,316 sq yd
Commercial Service Automobile Parking Spaces	325	443	489	590
General Aviation Automobile Parking Spaces	127	127	127	127
Commercial Service Terminal (sq ft)	18,484	26,500	26,500	26,500
General Aviation Terminal (sq ft)	4,628	4,628	4,628	4,628
Source: Talbert & Bright, Inc., September 2010.				

This section utilizes the results of the runway length requirements (pages 26 through 30) and evaluates alternatives for meeting the needs of airport users, as well as future development requirements of the airport sponsor. The key elements of the alternatives evaluation process are:

- Identification of alternative ways to address previously identified runway length requirements
- Evaluation of the alternatives
- Selection of the recommended alternative

5.1 RUNWAY EXTENSION ALTERNATIVES ANALYSIS

It is the objective of Beaufort County to not only avoid and minimize adverse environmental impacts, but also to pursue measures to enhance environmental quality in a manner consistent with the FAA's principle mission to provide for the safety of aircraft operations. To meet or exceed this goal, various runway extension alternatives were studied as part of the Airport Master Plan Update for determining the most feasible course of action for development of an efficient, safe, and durable airport. The comparative merits and deficiencies of the runway extension alternatives were analyzed as part of the Airport Master Plan Update to provide the technical basis necessary for arriving at a preferred runway extension development concept. Overall, various short- and long-term design, economic, and environmental implications were considered in the development and evaluation of the Airport Master Plan Update runway extension alternatives, including:

- Compliance with FAA airport and airspace standards (without modifications)
- Overall airfield design attributes to satisfy aeronautical demand
- Potential environmental impacts
- Overall compatibility with existing and proposed on- and off-airport land use
- Potential construction and project development costs
- Ability to maximize economic potential of HXD and obtain self-sufficiency

Following several meetings with Beaufort County and Town of Hilton Head Island Councils and public input meetings to discuss the findings of the alternatives, the preferred runway extension development concept was approved.[26]

Listed below are runway extension alternatives studied as part of the planning program, including reasons for planning alternatives to be dismissed from further consideration:

- Existing 4,300-Foot Runway (Current Configuration)
- Existing 4,300-Foot Runway (Configuration in Compliance)
- Alternative No. 1 (5,400-Foot Runway Unconstrained Configuration)
- Alternative No. 2 (5,400-Foot Runway Constrained Configuration)
- Alternative No. 3 (5,400-Foot Runway Realigned and Constrained Configuration)
- Alternative No. 4 (New Airport – 5,400 Feet)

As discussed in the following subsections, each runway extension alternative presents unique challenges. Also, it should be noted that each alternative provides for only minor flexibility in considering various configuration options, as most airfield design components are fixed by function per FAA standards.

5.1.1 Existing 4,300-Foot Runway (Current Configuration)

The existing 4,300-foot runway (current configuration) is considered the basis of comparison for evaluating the benefits and impacts of other alternatives under consideration for improving the need for an extended runway at HXD. The existing 4,300-foot runway (current configuration), means that there would be no improvement to the runway or associated components (that is taxiways, RSAs, etc., Figure 5.1.1-1, page 40).

5.1.2 Existing 4,300-Foot Runway (Configuration in Compliance)

As shown in Figure 5.1.2-1 (page 41), this alternative (existing 4,300-foot runway [configuration in compliance]) includes:

- Extending the Runway 03 RSA from 897 feet to 1,000 feet by either purchasing one parcel of property at the end of the runway and lengthening the existing RSA or by installation of an approximate 450-foot long EMAS (RSA length of 600 feet)
- Removal of displaced thresholds on both ends of the runway
- Relocation of Taxiway 'A' from 200 feet to 300 feet of separation from runway centerline (requiring the purchase of one parcel or portion of the parcel)
- Relocation of Taxiway 'F' at the Runway 03 end to remove the angled taxiway (requiring the purchase of four parcels or portions of parcels)

This alternative leaves HXD in its current configuration, avoiding projects that would result in land disturbances and/or construction impacts extending beyond the control of the existing airport boundary. The property, acquired to bring the taxiways to standard separation, is needed to comply with FAA clearance requirements.

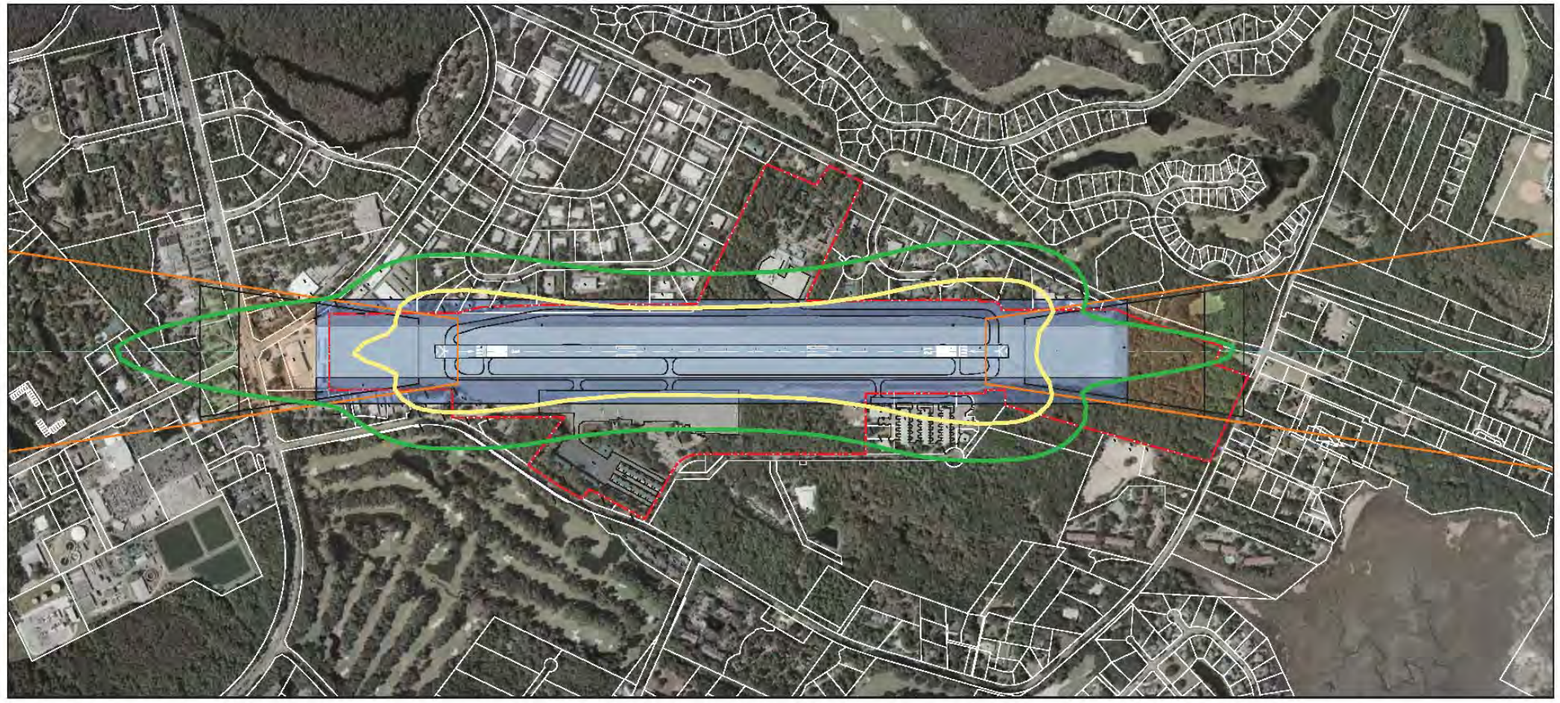
Projects that resolve FAA safety matters are implemented to the extent that modifications of FAA airport planning and design standards are avoided. Under this alternative, safety deficiencies based on current FAA standards would be corrected. Overall, this alternative results in increasing the available runway landing length to 4,300 feet of usable runway. However, regaining the total landing length of the existing runway does not address the needs of the critical aircraft currently using HXD.

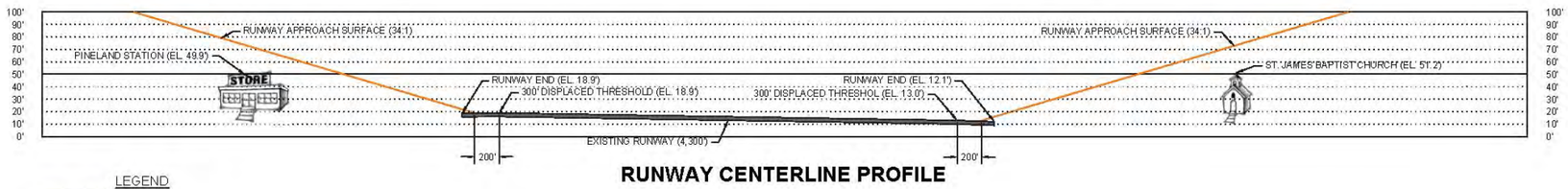
Table 5.1.2-1 (page 42) outlines the preliminary estimate of probable construction costs for correcting the deficiencies of current FAA standards. Regardless of what alternative is chosen to address the need of the critical aircraft currently using HXD, these deficiencies should be addressed.

It should be noted that the alternatives discussed on the subsequent pages assume that the deficiencies to current FAA standards are addressed either before implementation of the alternative or during implementation.

[26]Beaufort County Council and Town of Hilton Head Island Council, "R-2010-14, A Joint Resolution of the Beaufort County Council and the Town of Hilton Head Island, Endorsing Alternative 2 of the 2010 Hilton Head Island Airport Master Plan Update," July 12, 2010.

EXISTING 4,300' RUNWAY
(CURRENT CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

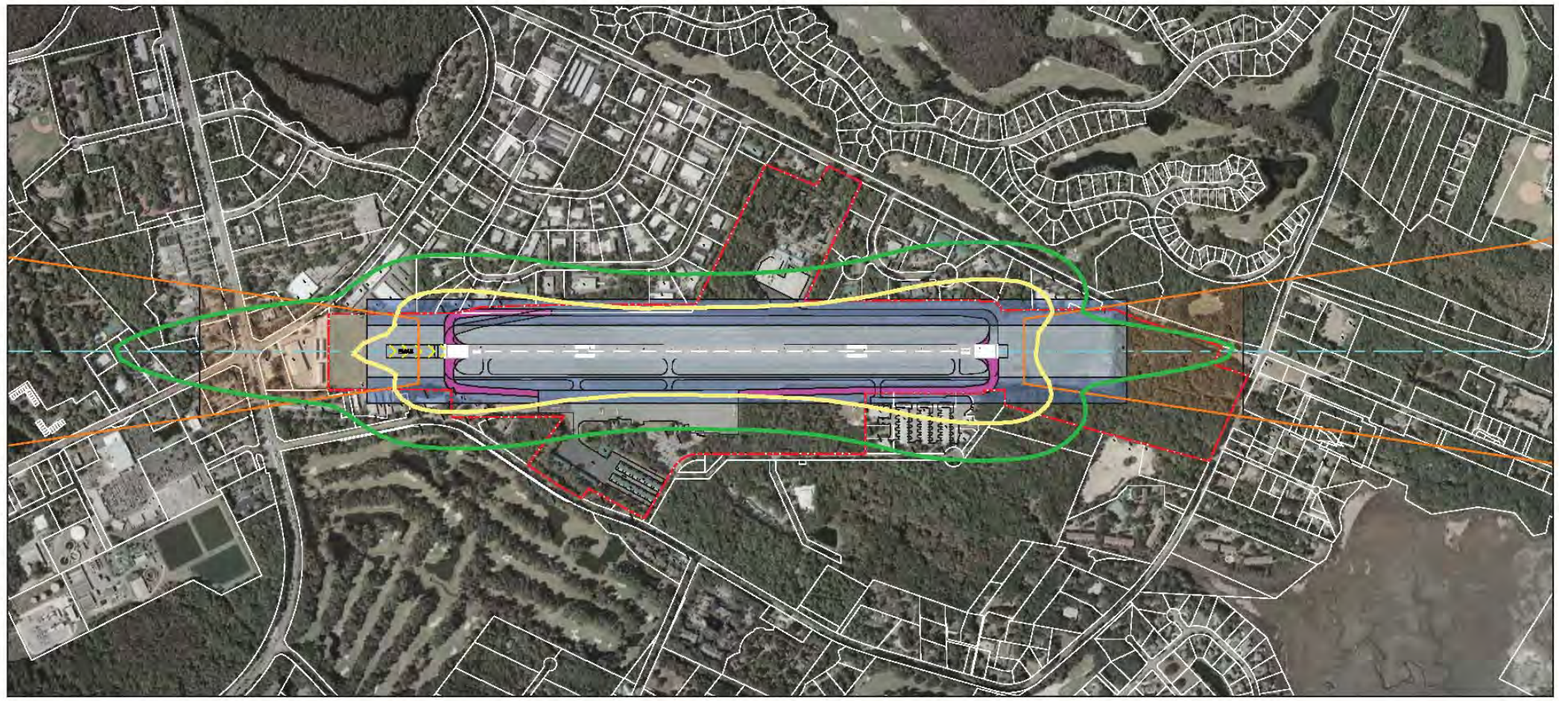
- CURRENT RUNWAY SAFETY AREA (RSA)
- CURRENT OBJECT FREE AREA (OFA)
- CURRENT APPROACH RUNWAY PROTECTION ZONE (RPZ)
- CURRENT DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

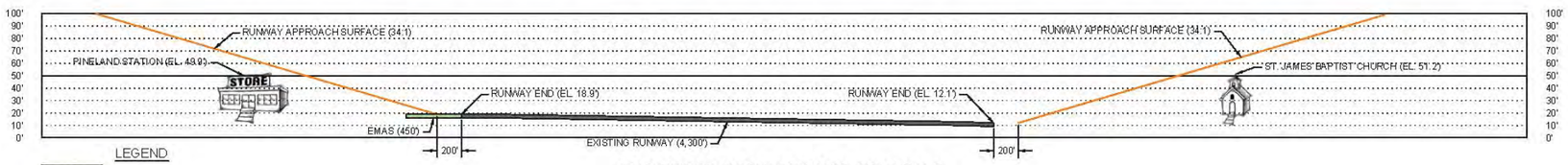
RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	4,300'	4,300'
Take Off Distance Available (TODA)	4,300'	4,300'
Accelerate Stop Distance Available (ASDA)	4,300'	4,197'
Landing Distance Available (LDA)	4,000'	3,897'

Figure 5.1.1-1
Hilton Head Island Airport
Existing 4,300' Runway

EXISTING 4,300' RUNWAY
(CONFIGURATION IN COMPLIANCE)





RUNWAY CENTERLINE PROFILE

LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	4,300'	4,300'
Take Off Distance Available (TODA)	4,300'	4,300'
Accelerate Stop Distance Available (ASDA)	4,300'	4,300'
Landing Distance Available (LDA)	4,300'	4,300'

0 300 600 900
FEET

Figure 5.1.2-1
Hilton Head Island Airport
Existing 4,300' Runway Configuration In Compliance

Table 5.1.2-1
Existing 4,300-Foot Runway
(Configuration in Compliance)
Preliminary Estimate of
Probable Construction Costs
Hilton Head Island Airport

	Local	State	Federal	Total
Property Acquisition	$180,000	$0	$3,420,000	$3,600,000
Construction	$43,750	$43,750	$1,662,500	$1,750,000
EMAS Construction	$50,000	$50,000	$1,900,000	$2,000,000
TOTAL	$273,750	$93,750	$6,982,500	$7,350,000

Source: Talbert & Bright, Inc., September 2010.

5.1.3 Alternative No. 1 (5,400-Foot Runway Unconstrained Configuration)

As shown in Figure 5.1.3-1 (page 43), this alternative (Alternative No. 1 [5,400-Foot Runway Unconstrained Configuration]) includes:

- Relocation of Beach City Road, Fish Haul Road, and Dillon Road (requiring the purchase of 21 parcels or portions of parcels)
- Relocation of the St. James Baptist Church
- Additional tree clearing for approaches for Runway 03/21

Alternative No. 1 (5,400-Foot Runway Unconstrained Configuration) considered the implementation of the 5,400-foot runway starting from the edge of the property line at the Runway 03 end. This alternative included installation of the 1,000-foot RSA, 5,400-foot runway, and 1,000-foot RSA. This unconstrained development option would have a significant impact on the surrounding community and was not considered as a viable option after the May 19, 2010, joint meeting of Beaufort County and Town of Hilton Head Island Councils and May 24-25, 2010, public comment meeting.

5.1.4 Alternative No. 2 (5,400-Foot Runway Constrained Configuration)

Alternative No. 2 (5,400-foot runway constrained configuration) assumed the same requirements of Alternative No. 1 (5,400-foot runway unconstrained configuration), but instead of implementing the 1,000-foot RSAs at either of the runway, EMAS' were considered, thereby reducing the impact to the surrounding community. As shown in Figure 5.1.4-1 (page 44), this alternative (Alternative No. 2 [5,400-foot runway constrained configuration]) includes:

- Construction of an approximate 450-foot long EMAS on both ends of the Runway 03/21 (RSA length of 600 feet)
- Extension of Runway 03 by 300 feet
- Extension of Runway 21 by 800 feet
- Landing thresholds located to match the current tree clearing projects for 34:1 approach slopes on both ends of the runway
- Relocation of Beach City Road
- Purchase of five parcels or portions of parcels to comply with FAA clearance requirements and road relocation

Table 5.1.4-1 outlines the preliminary estimate of probable construction costs for implementation Alternative No. 2 (5,400-Foot Runway Constrained Configuration).

Table 5.1.4-1
Alternative No. 2
(5,400-Foot Runway Constrained Configuration)
Preliminary Estimate of
Probable Construction Costs
Hilton Head Island Airport

	Local	State	Federal	Total
Deficiency Correction	$223,750	$43,750	$5,082,500	$5,350,000
Property Acquisition	$275,000	$0	$5,225,000	$5,500,000
Construction	$61,625	$61,625	$2,341,750	$2,465,000
EMAS Construction	$100,000	$100,000	$3,800,000	$4,000,000
Beach City Road Construction	$18,750	$18,750	$712,500	$750,000
TOTAL	$679,125	$224,125	$17,161,750	$18,065,000

Source: Talbert & Bright, Inc., September 2010.

Alternative No. 2 (5,400-Foot Runway Constrained Configuration) addresses the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26).

5.1.4.1 Alternative No. 2 – Phase 1 (5,000-Foot Runway Constrained Configuration)

As part of the development of the Airport Master Plan Update, a request was made to determine what improvements could be made to the runway on airport property. As shown in Figure 5.1.4.1-1 (page 45), this alternative (Alternative No. 2 – Phase 1 [5,000-Foot Runway Constrained Configuration]) includes:

- Construction of an approximate 450-foot long EMAS on the Runway 03 end (RSA length of 600 feet)
- Extension of Runway 03 by 300 feet
- Extension of Runway 21 by 400 feet
- Landing thresholds located to match the current tree clearing projects for 34:1 approach slopes on both ends of the runway
- Purchase of three parcels or portions of parcels to comply with FAA clearance requirements

Table 5.1.4.1-1 outlines the preliminary estimate of probable construction costs for implementation of Alternative No. 2 – Phase 1 (5,000-foot runway constrained configuration).

Although Alternative No. 2 – Phase 1 (5,000-foot runway constrained configuration) does not fully address the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26), it could be considered as an interim step to achieving a total extension length of 5,400 feet.

Table 5.1.4.1-1
Alternative No. 2 – Phase 1
(5,000-Foot Runway Constrained Configuration)
Preliminary Estimate of
Probable Construction Costs
Hilton Head Island Airport

	Local	State	Federal	Total
Deficiency Correction	$223,750	$43,750	$5,082,500	$5,350,000
Property Acquisition	$257,500	$0	$4,892,500	$5,150,000
Construction	$38,500	$38,500	$1,463,000	$1,540,000
EMAS Construction	$50,000	$50,000	$1,900,000	$2,000,000
TOTAL	$569,750	$132,250	$13,338,000	$14,040,000

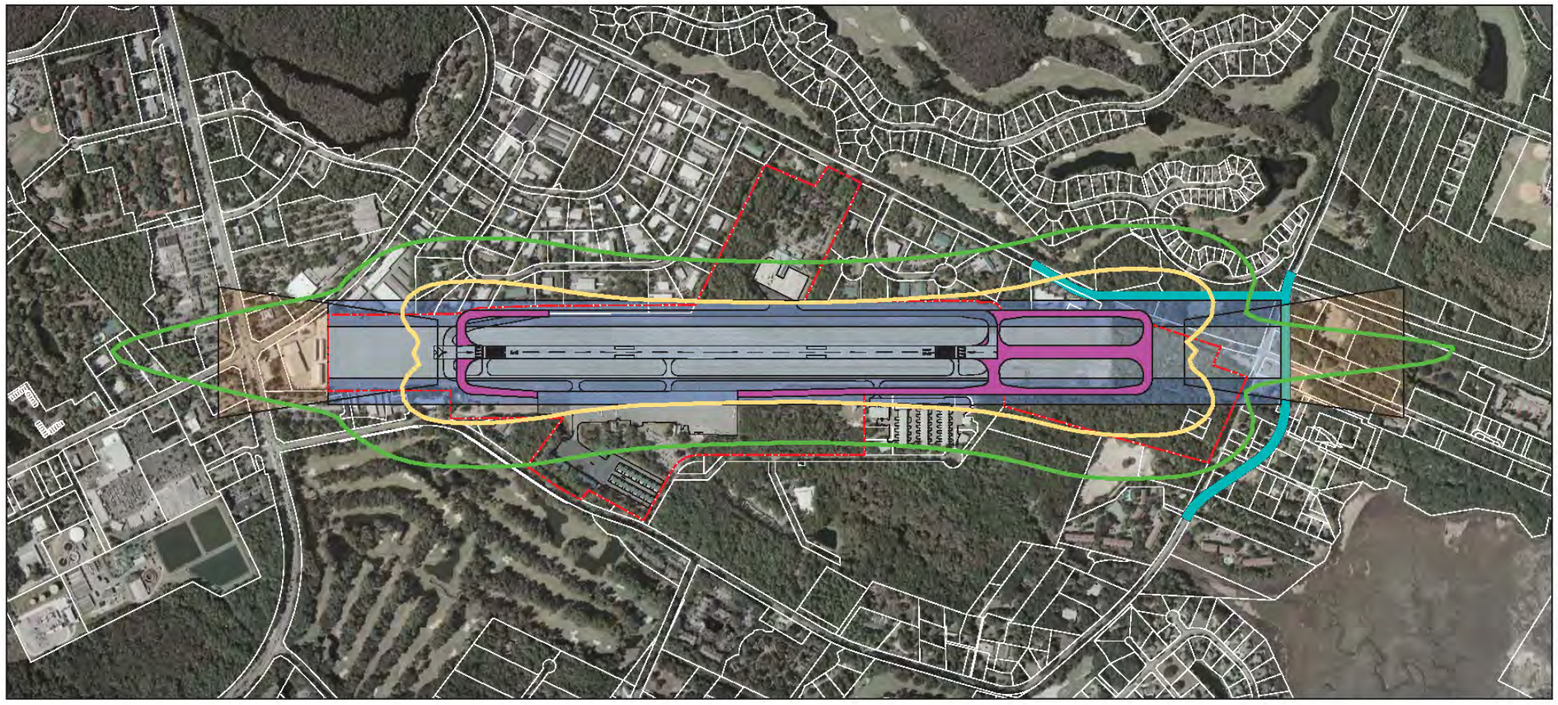
Source: Talbert & Bright, Inc., September 2010.

5.1.4.2 Alternative No. 2 – Phase 1a (4,600-Foot Runway Constrained Configuration)

During the July 12, 2010, of a joint meeting of Beaufort County and Town of Hilton Head Island Councils, a request was made to determine what improvements could be assessed with a 4,600-foot extension. As shown in Figure 5.1.4.1-1 (page 45), this alternative (Alternative No. 2 – Phase 1a [4,600-foot runway constrained configuration]) includes:

- Construction of an approximate 450-foot long EMAS on the Runway 03 end (RSA length of 600 feet)
- Extension of Runway 03 by 300 feet
- Landing thresholds located to match the current tree clearing projects for 34:1 approach slopes on both ends of the runway

ALTERNATIVE NO. 1
(5,400' RUNWAY UNCONSTRAINED CONFIGURATION)



LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ) (Not Applicable)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

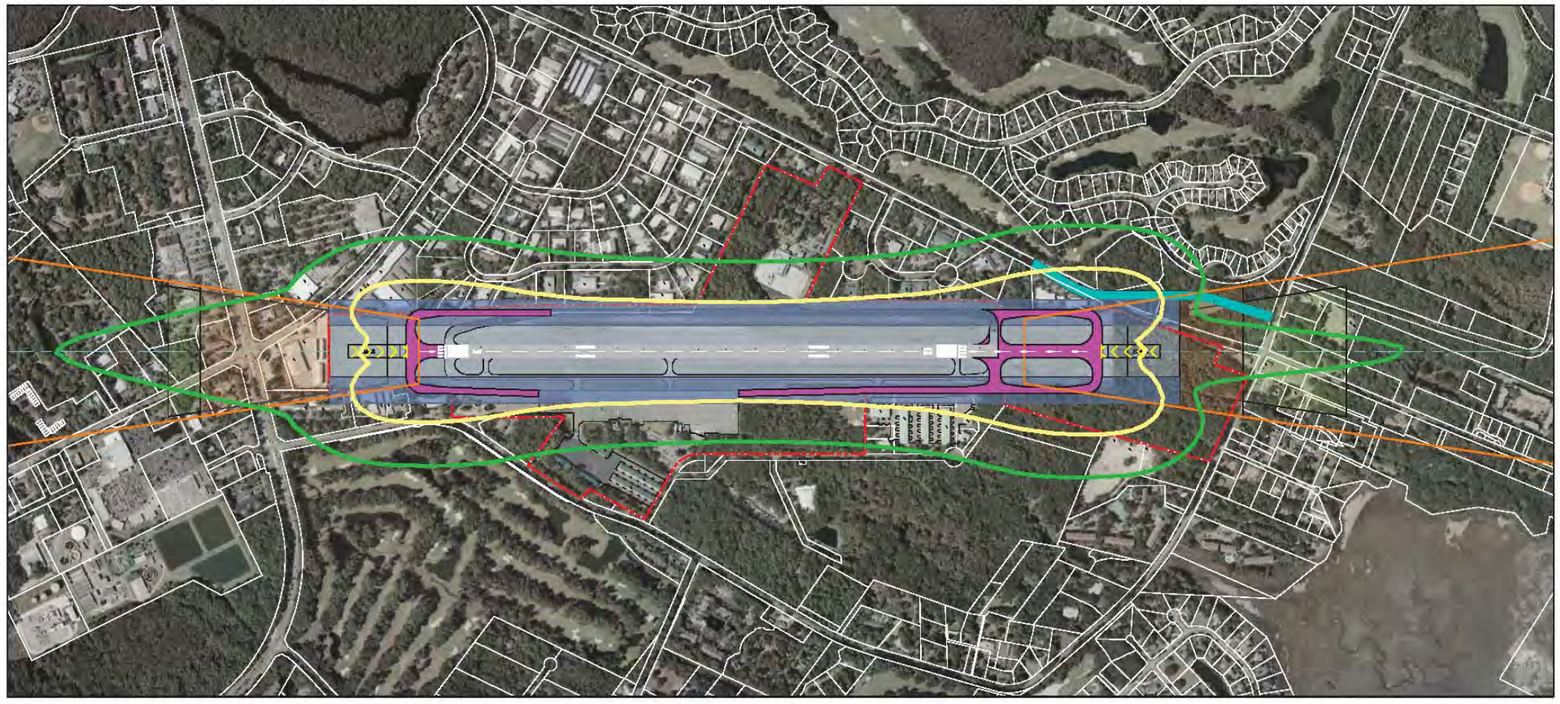
RUNWAY DECLARED DISTANCES

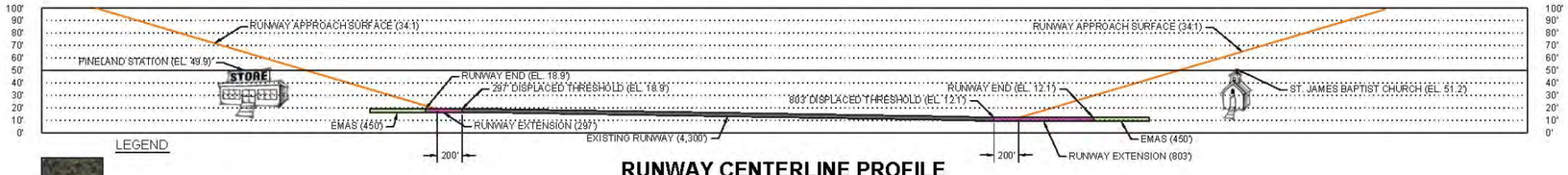
	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,400'	5,400'
Take Off Distance Available (TODA)	5,400'	5,400'
Accelerate Stop Distance Available (ASDA)	5,400'	5,400'
Landing Distance Available (LDA)	5,400'	5,400'

0 300 600 900
FEET

Figure 5.1.3-1
Hilton Head Island Airport
Alternative No. 1

ALTERNATIVE NO. 2
(5,400' RUNWAY CONSTRAINED CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

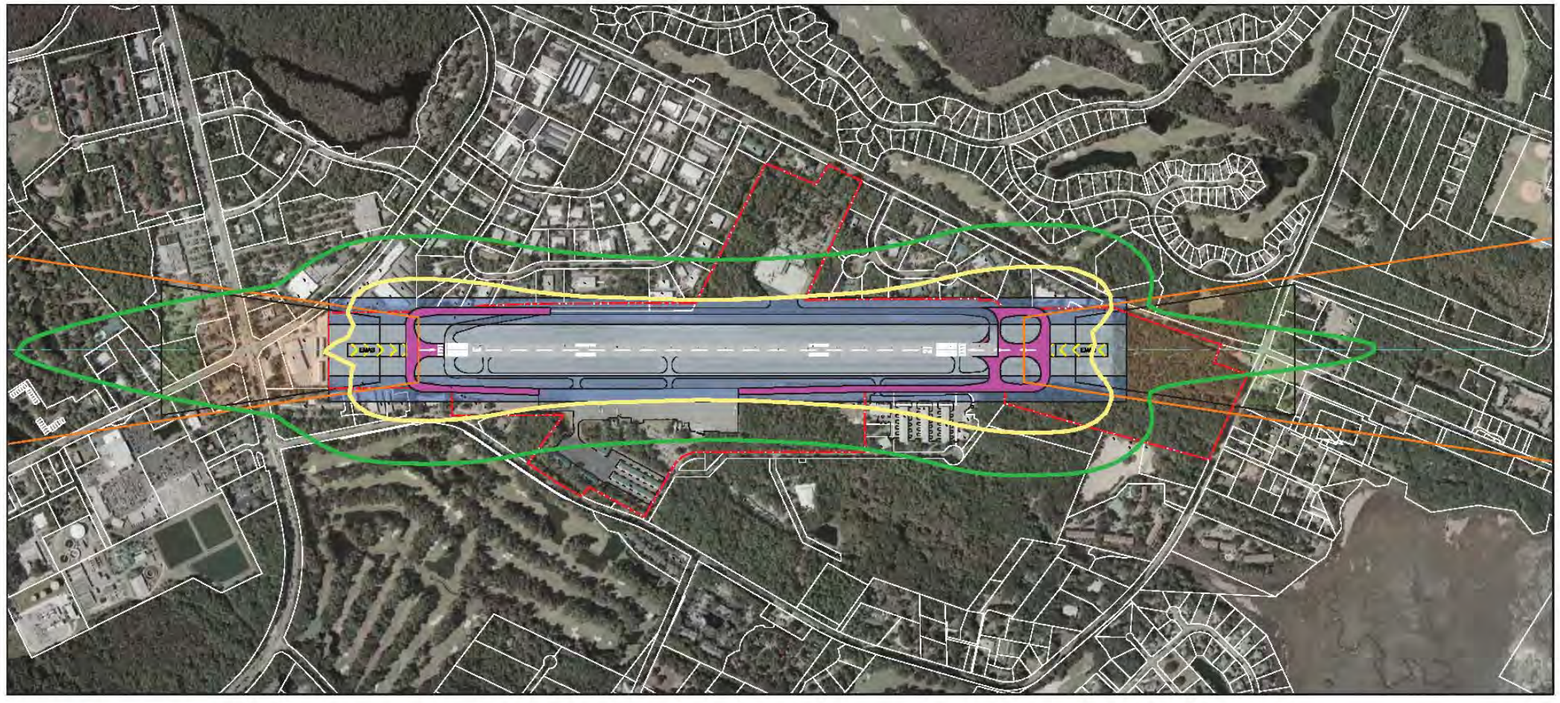
- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

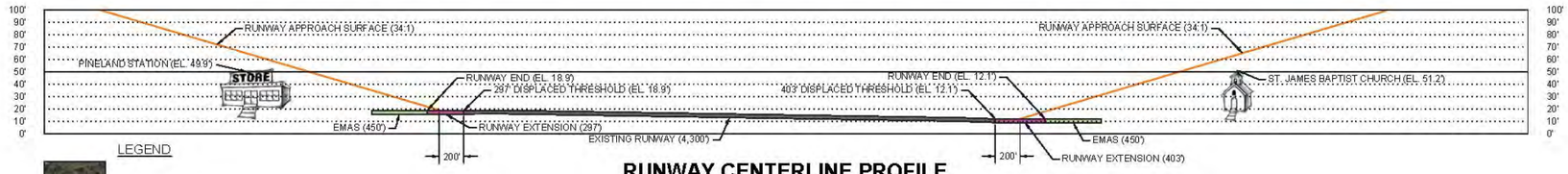
RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,400'	5,400'
Take Off Distance Available (TODA)	5,400'	5,400'
Accelerate Stop Distance Available (ASDA)	5,400'	5,400'
Landing Distance Available (LDA)	5,103'	4,597'

Figure 5.1.4-1
Hilton Head Island Airport
Alternative No. 2

ALTERNATIVE NO. 2 - PHASE 1
(5,000' RUNWAY CONSTRAINED CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,000'	5,000'
Take Off Distance Available (TODA)	5,000'	5,000'
Accelerate Stop Distance Available (ASDA)	5,000'	5,000'
Landing Distance Available (LDA)	4,703'	4,597'

0 300 600 900
FEET

Figure 5.1.4.1-1
Hilton Head Island Airport
Alternative No. 2 - Phase 1

Table 5.1.4.2-1 outlines the preliminary estimate of probable construction costs for implementation of Alternative No. 2 – Phase 1a (4,600-foot runway constrained configuration).

Table 5.1.4.2-1
Alternative No. 2 – Phase 1a
(4,600-Foot Runway Constrained Configuration)
Preliminary Estimate of
Probable Construction Costs
Hilton Head Island Airport

	Local	State	Federal	Total
Deficiency Correction	$223,750	$43,750	$5,082,500	$5,350,000
Construction	$10,825	$10,825	$411,350	$433,000
EMAS Construction	$50,000	$50,000	$1,900,000	$2,000,000
TOTAL	$284,575	$104,575	$7,393,850	$7,783,000

Source: Talbert & Bright, Inc., September 2010.

Alternative No. 2 – Phase 1a (4,600-foot runway constrained configuration) does not fully address the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26), and therefore was not considered a viable development alternative.

5.1.5 Alternative No. 3 (5,400-Foot Runway Realigned and Constrained Configuration)

As shown in Figure 5.1.5-1 (page 47), this alternative (Alternative No. 3 [5,400-Foot Runway Realigned and Constrained Configuration]) includes:

- Construction of new runway and taxiway system
- Construction of an approximate 450-foot long EMAS on both ends of the realigned Runway 03/21 (RSA length of 600 feet)
- Relocation of the ATCT
- Relocation of the ARFF building currently under construction
- Purchase of property including Exec Air
- Additional tree clearing in approaches to the new runway alignment

Alternative No. 3 (5,400-foot runway realigned and constrained configuration) considered the implementation of the 5,400-foot runway starting at the existing end of Runway 03 and rotating the runway 2.3 degrees to the east. This alternative included installation of a 600-foot RSA, 5,400-foot runway, and 600-foot RSA. This development option would have a significant impact on existing on-airport facilities and was not considered as a viable option after the May 19, 2010, joint meeting of Beaufort County and Town of Hilton Head Island Councils and May 24-25, 2010, public comment meeting.

5.1.6 Alternative No. 4 (New Airport – 5,400 Feet)

Development of a new airport in Beaufort County was considered as an alternate to expanding the Hilton Head Island Airport to 5,400 feet. Although a detailed site search for a new airport was not performed as part of the Airport Master Plan Update analysis, it is estimated that a new site would require airfield, terminal area, and access totaling a minimum of 600 acres of land acquisition and involving a minimum of 200 acres of construction disturbance. The cost of constructing a new airport is estimated to be several hundred million dollars, and not all investments of the new site would be recouped under the federal and state airport grant-in-aid program. Access, terrain, and hydrology features, prevalent throughout the County, suggest it is likely development of a new site would involve extensive secondary and social impacts, as a result of nonconforming land uses. Even if the physical and environmental conditions were favorable for airport relocation, any prospective site would not result in a net benefit as compared with the planned expansions at the Hilton Head Island Airport.

Although potentially feasible, this alternative was not considered as a prudent option as it includes extensive induced impacts, well beyond those just to the natural environment. This development option was not considered as a viable option after the May 19, 2010, joint meeting of Beaufort County and Town of Hilton Head Island Councils and May 24-25, 2010, public comment meeting for the following reasons:

- FAA has stated that they will not participate in the relocation of HXD
- No air transportation would be available for emergency evacuation and recovery if an airport is not located on Hilton Head Island
- Relocation of HXD would be a 10 to 20 year process
- Estimate of cost for a relocation of an airport comparable to HXD would exceed several hundred million dollars

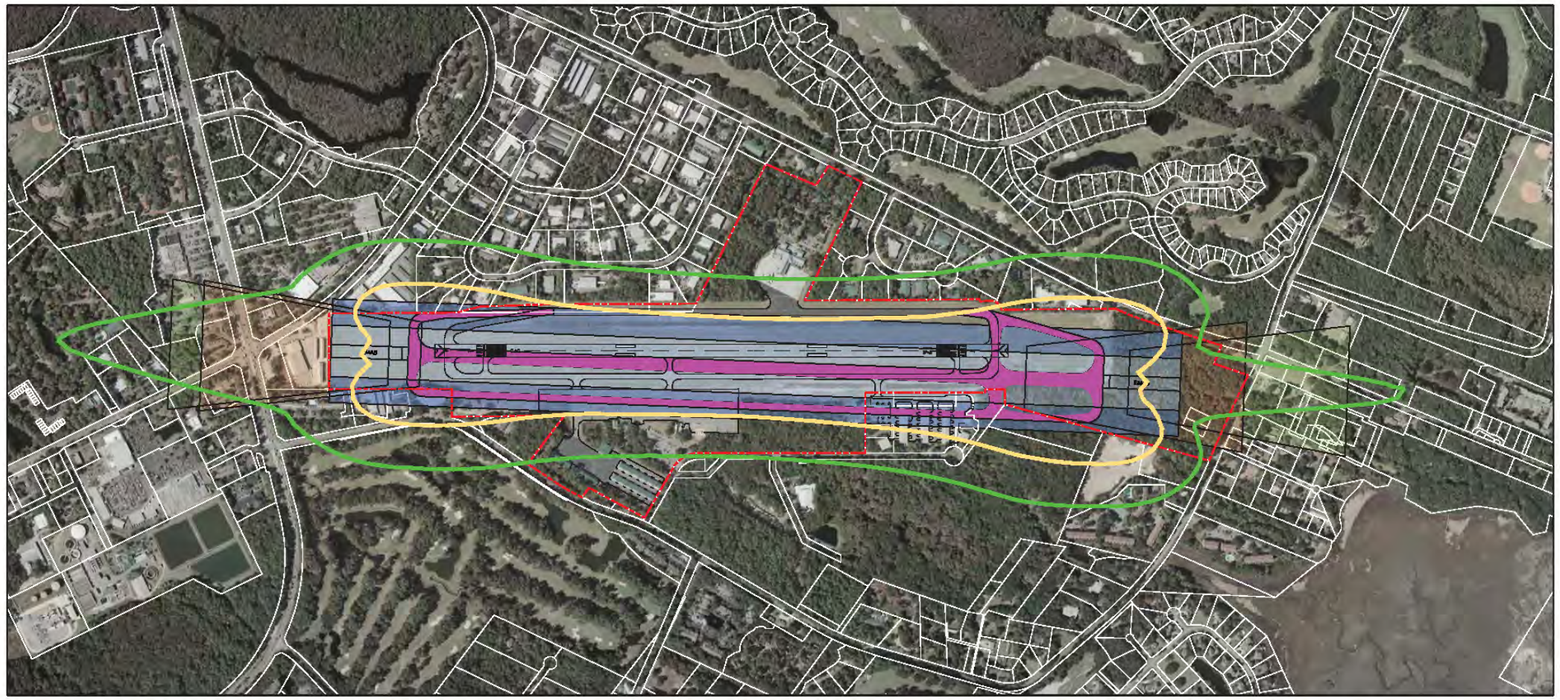
5.2 SUMMARY OF ALTERNATIVES AND RECOMMENDATION

The runway extension development alternatives were presented to joint meetings of Beaufort County and Town of Hilton Head Island Councils on May 19, 2010, July 12, 2010, and October 27, 2010. During the July 12, 2010, joint meeting of councils, Alternatives 1 (5,400-foot runway unconstrained configuration), 3 (5,400-foot runway realigned and constrained configuration), and 4 (new airport – 5,400 feet) were removed from further consideration because of excessive cost and potential impact on the surrounding community. Also during the July 12, 2010, joint meeting of councils, an additional alternative, Alternative 1a (4,600-foot runway constrained configuration), was added for evaluation.

Evaluation of the remaining runway extension alternatives were conducted using qualitative descriptors of favorable or not favorable. Explanations of the descriptors are as follows:

- Topography and Construction Considerations
  - Favorable – utilizes conventional design and construction techniques
  - Not favorable – utilizes specialized design and construction techniques
- Property Acquisition
  - Favorable – no additional property required
  - Not favorable – property acquisition required
- Environmental Requirements
  - Favorable – obtainable environmental permits and avoidance of non-compatible land use
  - Not favorable – strenuous environmental permitting and impacts to incompatible land use
- Airspace and Obstructions
  - Favorable – capable of achieving standard approach minimums or unobstructed approaches without initiating a clearing project
  - Not favorable – not capable of achieving standard approach minimums, or unobstructed approaches via initiating a clearing project

ALTERNATIVE NO. 3
(5,400 ' RUNWAY REALIGNED & CONSTRAINED CONFIGURATION)



LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION (Not applicable)
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,400'	5,400'
Take Off Distance Available (TODA)	5,400'	5,400'
Accelerate Stop Distance Available (ASDA)	5,400'	5,400'
Landing Distance Available (LDA)	5,100'	4,600'

0 300 600 900
FEET

Figure 5.1.5-1
Hilton Head Island Airport
Alternative No. 3

- Wind Coverage
  - Favorable – 95 percent wind coverage for a single runway (10.5 knots)
  - Not favorable – less than 95 percent wind coverage for a single runway (10.5 knots
- Satisfies Aeronautical Demand
  - Favorable – meets runway requirements for critical aircraft
  - Not favorable – does not meet runway requirements of critical aircraft

Table 5.2-1 illustrates each of the analysis criteria and its descriptor. Table 5.2-2 illustrates a preliminary project cost comparison.

Table 5.2-1
Runway Analysis Matrix
Hilton Head Island Airport

Preliminary Costs	Runway Length			
	4,300 Feet	4,600 Feet	5,000 Feet	5,400 Feet
Topographic and Construction Considerations	F	F	F	F
Property Acquisition	N	N	N	N
Environmental Requirements	F	F	F	F
Airspace and Obstructions	F	F	F	F
Wind Coverage	N	N	N	N
Satisfies Aeronautical Demand	N	N	N	F

F = Favorable
N = Not favorable
Source: Talbert & Bright, Inc., November 2010.

Of the runway extension alternatives considered as part this Master Plan Update, the Alternative 2 (5,400-foot runway constrained configuration, including Phase 1) was recommended for implementation. This recommendation was approved on October 27, 2010, during a joint council meeting of Beaufort County and Town of Hilton Head Island Councils.[27,28,29,30]

[27]Beaufort County Council and Town Council of the Town of Hilton Head Island, "Resolution R-2101-23, A Joint Resolution of the Beaufort County Council and the town Council for the Town of Hilton Head Island, South Carolina Adopting the 2010 Hilton Head Island Airport Master Plan Update and Directing Staff to begin to Implement the Plan," approved October 27, 2010.

Table 5.2-2
Alternative Runway Lengths
Preliminary Project Cost Estimate Summary
Hilton Head Island Airport

Preliminary Costs	Runway Length			
	4,300 Feet	4,600 Feet	5,000 Feet	5,400 Feet
Land Acquisition	$3,600,000	$3,600,000	$8,750,000	$9,100,000
Construction (includes design)	$1,750,000	$2,183,000	$3,290,000	$4,215,000
EMAS	$2,000,000	$2,000,000	$2,000,000	$4,000,000
Beach City Road Relocation	$0	$0	$0	$750,000
BCA/EA	$0	$500,000	$500,000	$500,000
Environmental Mitigation/ Litigation (estimated)	$291,000	$364,000	$550,000	$705,000
Total	$7,641,000	$8,647,000	$15,090,000	$19,270,000
4,300' vs. Extension Options		$1,006,000	$7,449,000	$11,629,000
Incremental Costs		$1,006,000	$6,443,000	$4,180,000

Source: Talbert & Bright, Inc., November 2010.

The most important element of the Master Plan Update for the long-term development of the Hilton Head Island Airport was the extension of Runway 03/21. Because the landside development is currently on the east and west side of the runway, the length and orientation of the runway were first determined prior to outlining the needs of the commercial service (west side of the runway) and general aviation (east side of the runway). Landside development of the Hilton Head Island Airport is described in Section 4.3 – Facility Requirements (page 32).

[28]Beaufort County Council, "Resolution R-2101-21, A Resolution of Beaufort County Council to Provide for a Runway Length of 5,000 Linear Feet at the Hilton Head Island Airport," approved October 27, 2010.
[29]Town of Hilton Head Island Council, "Resolution 2010-24, A Resolution of the Town Council for the Town of Hilton Head Island, South Carolina Directing the Town Manager to Begin the Process of Amending LMO Section 16-4-1307 to Provide for a Runway Length of 5,000 Linear Feet," approved October 27, 2010.
[30]Beaufort County Council, "Resolution R-2101-22, A Resolution," approved October 27, 2010.

The affect of an airport on its environment is an important consideration in continued development. The objective of this section is to note the potential changes in environmental conditions, which could result from the recommendations made in the Facility Requirements (page 24). This environmental overview is intended as a review of environmental conditions at HXD in accordance with Appendix A – Analysis of Environmental Impact Categories in FAA Order 1050.1E Change 1 *Environmental Impacts: Policies and Procedures* (March 20, 2006). Detailed environmental analyses will have to be performed as each proposed project outlined on the ALP is implemented to determine compliance with environmental rules and regulations.

6.1 AIR QUALITY

In accordance with the Clean Air Act of 1990 (as amended, 42 United States Code [USC] 7401 *et seq.*), the USEPA established the National Ambient Air Quality Standards (NAAQS), which defined six criteria pollutants and established ambient concentration limits to protect public health. Monitoring sites report data to the USEPA for the following six criteria air pollutants.

- Carbon monoxide (CO)
- Lead (Pb)
- Nitrogen dioxide (NO_2)
- Ozone (O_3)
- Particulate matter (PM_{10} and $PM_{2.5}$)[31]
- Sulfur dioxide (SO_2)

The South Carolina Department of Health and Environmental Control, Division of Air Quality (SCDHEC-DAQ) was granted authority by the USEPA to administer the Clean Air Act in South Carolina.

The Clean Air Act established primary (protect public health) and secondary (protect public welfare) standards, which are based on a pollutant's effect on plants and animals. Table 6.1-1 illustrates the primary and secondary standards for the six criteria pollutants.

Table 6.1-1
National Ambient Air Quality Standards
Hilton Head Island Airport

Pollutant	Primary Standards	Averaging Times	Secondary Standards
Carbon Monoxide (CO)	8-hour[1]	9 ppm (10 mg/m³)	None
	1-hour[1]	35 ppm (40 mg/m³)	None
Lead (Pb)	Quarterly Average	1.5 µg/m³	Same as Primary
Nitrogen Oxide (NO_x)	Rolling 3-Month Average[2]	0.15 µg/m³	Same as Primary
Particulate Matter (PM_{10})	Annual (arithmetic mean)	0.053 ppm (100 µg/m³)	Same as Primary
	24-hour[3]	150 µg/m³	Same as Primary
Particulate Matter ($PM_{2.5}$)	Annual (arithmetic mean)[4]	15.0 µg/m³	Same as Primary
	24-hour[5]	35 µg/m³	Same as Primary
Ozone (O_3)	8-hour[6]	0.075 ppm	Same as Primary
	8-hour[7]	0.08 ppm	Same as Primary
Sulfur Oxides (SO_x)	1-hour (applies only in limited areas)[8]	0.12 ppm	Same as Primary
	Annual (arithmetic mean)	0.03 ppm	None
	24-hour[1]	0.14 ppm	None

Notes: Units of measure for the standards are part per million (ppm) by volume, milligrams per cubic meter of air (mg/m³), and micrograms per cubic meter of air (µg/m³).
[1]Not to be exceeded more than once per year.
[2]Final rule signed October 15, 2008.
[3]Not to be exceeded more than once per year on an average over three years.
[4]To attain this standard, the three-year average of the weighed annual $PM_{2.5}$ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.
[5]To attain this standard, the three-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
[6]To attain this standard, the three-year average of the fourth highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area must not exceed 0.075 ppm (effective May 23, 2008).
[7]a. To attain this standard, the three-year average of the fourth highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm.
[7]b. The 1997 standard and the implementation rules for that standard will remain in place for implementation purposes as USEPA undertakes rulemaking to address the transition from 1997 ozone standard to the 2008 ozone standard.
[8]a. The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is <1.
[8]b. As of June 15, 2005, USEPA revoked the 1-hour ozone standard in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
Source: U.S. Environmental Protection Agency, "National Ambient Air Quality Standards (NAAQS)," <http://www.epa.gov/air/criteria.html>, accessed August 18, 2009.

Geographic areas of the United States have been divided into attainment and nonattainment areas. Attainment areas are defined as those areas where the NAAQS for each pollutant is not exceeded. Nonattainment areas are defined as any portion of an air quality control region for which any pollutant exceeds NAAQS for a particular pollutant. In nonattainment areas, regional goals for achieving attainment of the NAAQS are addressed in the State Implementation Plan (SIP), as approved by the USEPA. Beaufort County is an attainment area for all NAAQS pollutants.

USEPA collects emissions data for three criteria air pollutants:

- CO
- SO_2
- PM_{10} and $PM_{2.5}$

and three precursors/promoters of criteria air pollutants:

- Volatile organic compounds (VOC)
- NO_x
- Ammonia (NH_3)

The Clean Air Act also lists 188 hazardous air pollutants (HAPs), which are known as *toxic air pollutants* or *air toxics*. However, monitoring of ambient concentrations of HAPs is not mandated by the Clean Air Act, but USEPA is developing regulations to limit HAP emissions, thereby preventing ambient HAP concentrations from reaching levels that would pose significant health risks.

Beaufort County currently has no criteria pollutant monitoring sites.

Determination of the need for an air quality analysis at an airport is based on the ultimate forecast level of aircraft operations. FAA Order 1050.1E Change 1 *Environmental Impacts: Policies and Procedures* (March 20, 2006), Appendix A, Section 2.4b states that for *detailed guidance on air quality procedures see FAA's report "Air Quality for Civilian Airports and Air Force Bases."* The report states that "*if the level of annual enplanements exceeds 1,300,000, the level of general aviation and air taxi activity exceeds 180,000 operations per year or a combination thereof, a NAAQS assessment should be considered.*"[32] Forecasts for HXD indicate a total of approximately 56,901 annual operations by 2029 (Table 3.5.2-2, page 22), which is well below the minimum operations threshold requiring an air quality analysis.

[31]PM_{10} and $PM_{2.5}$ are acronyms for particulate matter consisting of particles smaller than 10 and 2.5 micrometers, respectively.

[32]Federal Aviation Administration, *FAA-AEE-97-03 – Air Quality Procedures for Civilian Airports and Air Force Bases*, April 1997, p 20. <http://www.faa.gov/>, accessed August 18, 2009.

6.2 COASTAL RESOURCES

The Coastal Zone Management Act of 1972 (Public Law [PL] 104-150, as amended) requires that development projects in the coastal zone comply to the maximum extent practicable with approved state coastal management programs. SCDHEC Office of Coastal Resource Management (SCDHEC-OCRM) is the federally approved coastal zone management authority and administers the South Carolina Coastal Management Program (SCCMP, South Carolina Coastal Management Act of 1977, updated July 1995). SCDHEC-OCRM has direct permitting authority over tidelands, coastal waters, beaches, and beach/dune systems (critical areas) east of U.S. Highway 17. Based on the location of HXD, any development at the Hilton Head Island Airport would have to be in compliance with the SCCMP (Figure 6.2-1).

SCDHEC-OCRM has certification authority over federal and state permits within the coastal zone, which includes Beaufort County. This includes U.S. Army Corps of Engineers (USACE) and U.S. Coast Guard (USCG) permits. The guidelines for SCDHEC-OCRM certification for airport projects are contained in the SCCMP. Review of the SCCMP identified the following policies and recommendations with regard to airport projects:

- To the extent feasible, the best available techniques and methods shall be used during design, construction, and maintenance of airports to avoid erosion or sedimentation problems and prevent concentrated runoff water from aircraft use areas, parking areas, and support facilities from directly entering and degrading adjacent surface water bodies or underground resources
- Proposals for airport facilities must demonstrate that they will meet applicable federal and state air quality and noise control guidelines
- Consideration of the existing and planned transportation system or network in the area, for example, relationship to other airports and access to adequate transportation service by other modes
- Encouragement of joint use of regional airport facilities where feasible (for example, joint military and civilian airports)
- Compatibility with character and use of the area, local governments are encouraged to develop plans and procedures, which maintain appropriate, compatible use areas around existing airports

The South Carolina coastal zone (tan) is comprised of coastal waters and submerged bottoms seaward to the state's jurisdictional line as well as the lands and waters of the eight coastal counties. The critical area (red) is defined as all tidelands, coastal waters, beaches, and oceanfront sand dune systems.

Source: <http://www.scdhec.gov/environment/ocrm/>

Figure 6.2-1
Hilton Head Island Airport
Coastal Zone Map

- Alignment of approach corridors and corresponding noise zones during airport planning should consider any bird rookeries located in the area.

Twelve (12) categories of geographical areas of particular concern (GAPC) are listed in the Plan that should be avoided when possible, these are:

- South Carolina Heritage Trust Program Preserves
- State Wildlife Preserves
- State Parks
- Scenic Rivers
- Marine and Estuarine Sanctuaries
- Shellfish Areas
- Groundwater Resources
- Threatened and Endangered Species Habitats
- State Ports
- Navigation Channels
- Mining Operations
- Areas of Special Historic, Archaeological, or Cultural Significance

Throughout the planning stages of the proposed improvements, efforts should be made to adhere to the policies and recommendations of the SCCMP, as well as avoidance of the GAPCs listed in the SCCMP, where practicable.

In addition, the Coastal Barrier Resource Act of 1982 (CBRA, PL 97-348, 16 USC 3501 *et seq.*), Coastal Barrier Improvement Act of 1990, and Coastal Barrier Resources Reauthorization Act of 2000 prohibit the use of federal funds for projects that would impact undeveloped coastal barrier units in the Coastal Barrier Resources System. Coastal barriers are unique land forms that provide protection for diverse aquatic habitats and serve as the first line of defense against the impacts of severe coastal storms and erosion. Located at the interface of land and sea, the dominant physical factors responsible for shaping coastal land forms are tidal range, wave energy, and sediment supply from rivers and older, preexisting coastal sand bodies. Relative changes in local sea level also profoundly affect coastal barrier diversity. CBRA units have been designated and maps showing

their locations are on file with the U.S. Fish and Wildlife Service (USFWS).[33]

There are five units designated in Beaufort County (Figure 6.2-2)

- M11 (Harbor Island)
- SC-09P (Hunting Island)
- M12 (St. Phillips Island)
- M13 (Daufuski Island)
- SC-10P (Turtle Island)

Based on review of CBRA unit location maps, it has been determined that the development at the Hilton Head Island Airport would not impact the CBRA units.

6.3 COMPATIBLE LAND USE

The Town of Hilton Head Island is comprised of 21,862 acres (34.2 square miles) above the high tide mark. Of the 21,862 acres, 20,524 acres (94 percent) are classified by specific land use types:

- Residential – 50.3%
- Public/Civic (parks, recreation beach access) – 32.3%
- Vacant – 9.8%
- Commercial – 5.0%
- Industrial – 1.3%
- Other – 1.3%

The remaining 1,338 acres (6 percent) are classified as road rights-of-way or other areas that may be water, wetlands, or other land.

The Hilton Head Island Airport is owned and operated by Beaufort County but is located within the municipal limits of the Town of Hilton Head Island. HXD is generally bounded by Dillon Road to the east and north, William Hilton Parkway (U.S. Highway 278) to the south, and Matthews Drive and Beach City Road to the west. Land use surrounding HXD includes (Figure 6.3-1, page 52):

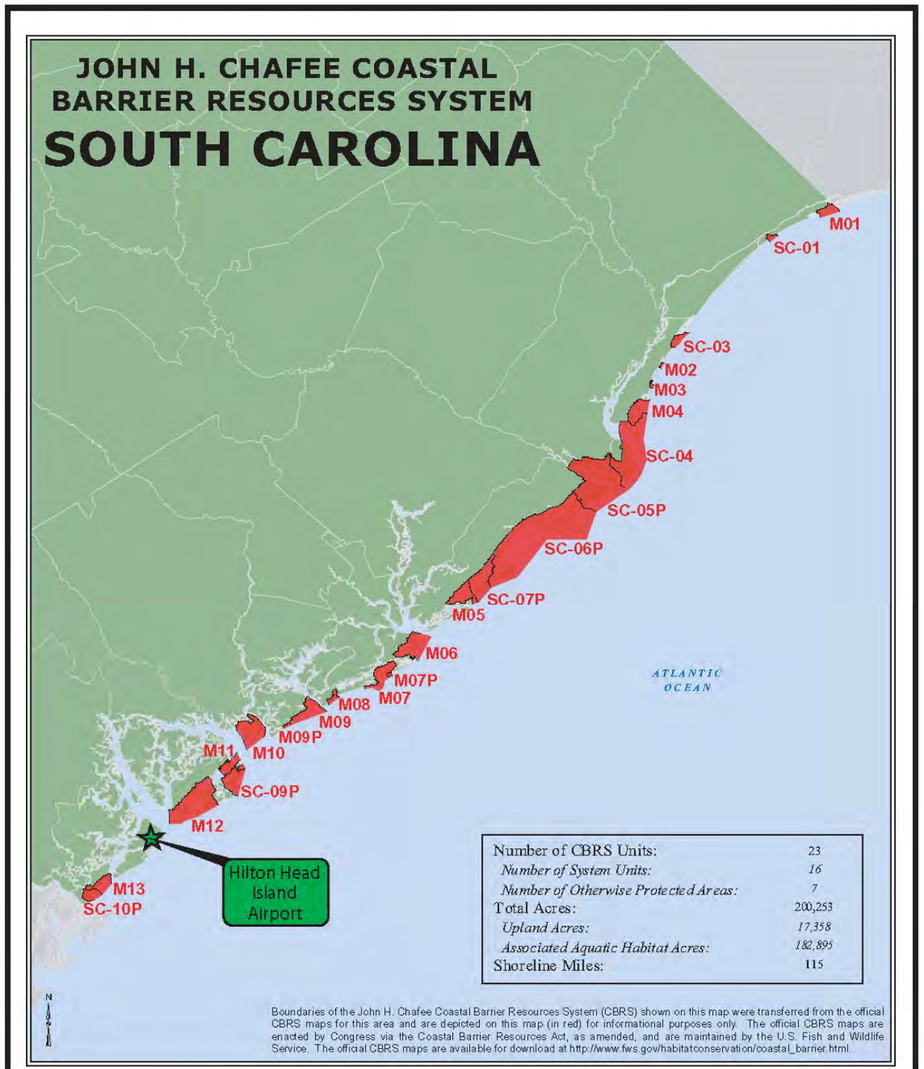


Figure 6.2-2
Hilton Head Island Airport
Coastal Barrier Resources System

- **North** – single-family (including manufactured housing), multi-family (including manufactured housing), undeveloped land, and institutional (St. James Baptist Church)
- **East** – undeveloped land, government facilities (Hilton Head Island Fire Training Center), light industrial, multi-family, and a golf course
- **South** – self storage and light industrial and commercial services
- **West** – retail and sales services, light industrial services, undeveloped land, and institutional (Queen Chapel AME Church)

HXD and the area around the Airport are zoned by the Town of Hilton Head Island[34] (Figure 6.3-2, page 53). Town zoning includes:

- **Commercial Center District (CC)** – provides for moderate to high intensity commercial development, especially office and general retail. Residential development as a component of a Planned Unit Development (PD-1) is allowed, and traffic and pedestrian interconnections throughout this district are strongly encouraged.

- **Light Industrial/Commercial Distribution District (IL)** – provides for light industrial and service-related land uses with large buildings or outdoor storage requirements. This district also provides for certain instructional and theatrical uses with similar space requirements.

- **Planned Unit Development (PD-1)** – recognizes the existence within the Town of certain unique mixed use developments, which are greater than 250 acres in size. Generally, these PD-1s have served to establish the special character of Hilton Head Island as a quality resort and residential community, and it is the intent in establishing this district to allow the continuation of well-planned development within these areas. Seventy (70) percent of Hilton Head Island is located within PD-1.

[33]U.S. Fish and Wildlife Service, John H. Chafee Coastal Barrier Resources System, Habitat and Resource Conservation, <http://www.fws.gov/>, accessed August 18, 2009.

[34]Beaufort County, *Land Management Ordinance*, Town of Hilton Head Island, South Carolina, Chapter 4. Zoning District Regulations, Article II. Base District Character and Purpose, Codified through Ordinance No. 2009-03, enacted February 3, 2009. (Supplement No. 4), <http://www.municode.com/>, accessed September 14, 2009.

Figure 6.3-1
Hilton Head Island Airport

Land Use

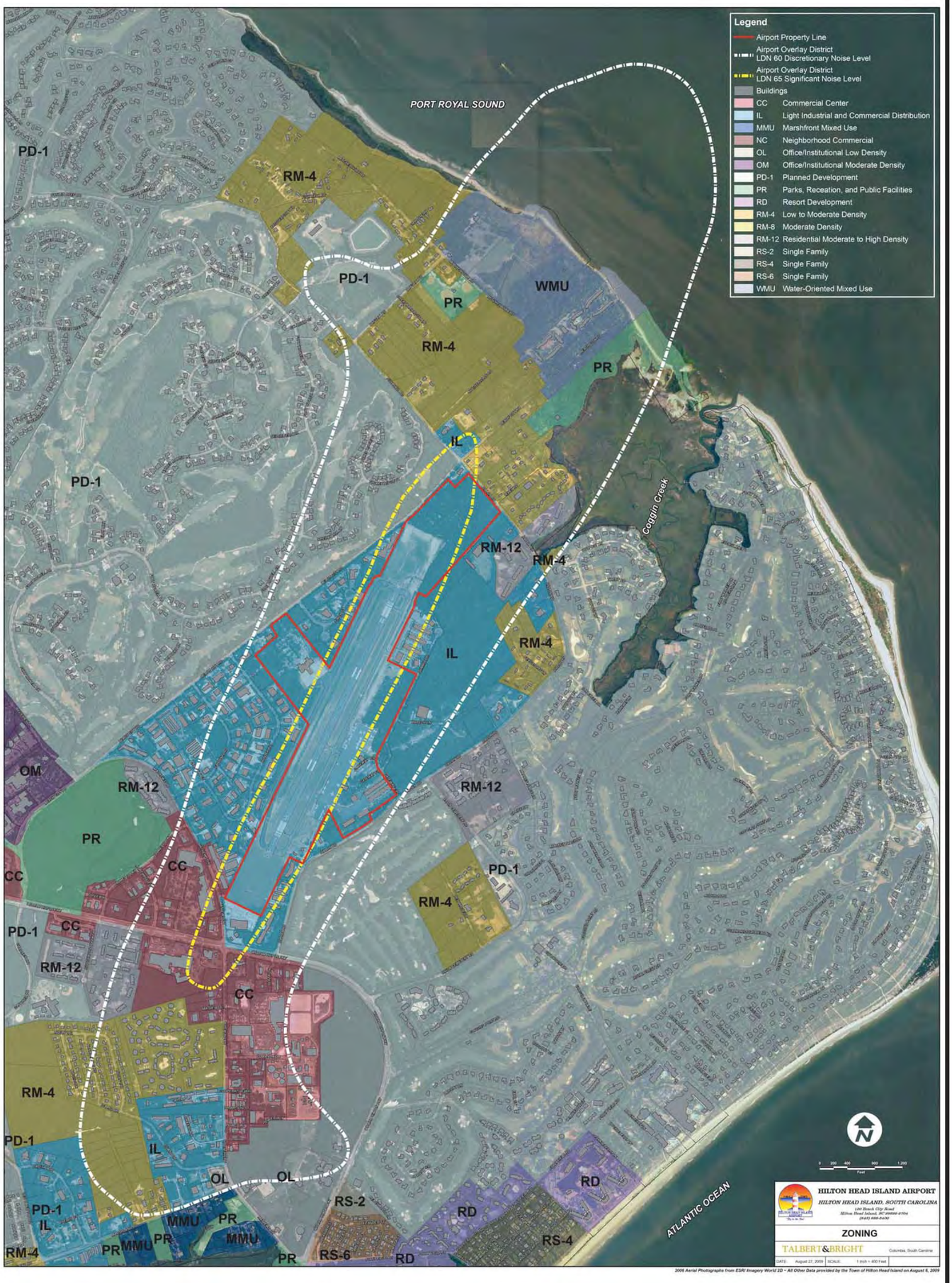


Figure 6.3-2
Hilton Head Island Airport

Zoning

- **Low to Moderate Density Residential District (4 to 8 units per acre, RM-4)** – provides for a residential district that protects and preserves the unique character of Native Islander areas and neighborhoods.

- **Moderate to High Density Residential District (12 units per acre, RM-12)** – provides for a residential district that protects and preserves the unique character of Native Islander areas and neighborhoods.

The Town of Hilton Head Island[35] has an airport overlay district (AOD), which protects HXD's imaginary surfaces and sections within their zoning ordinances specifically dedicated to aviation and states:

> *An Airport Hazard Overlay District is hereby established in order to insure against safety hazards, noise and obstruction problems associated with aircraft utilizing the Hilton Head Island Airport. All development proposed within this district shall be subject to the standards specified within this part, in addition to the standards and regulations contained in the particular base district in which the development occurs. Development activity within this district is subject to regulation primarily to mitigate safety and noise problems; however, land uses within this district also shall be regulated to mitigate their incompatibility with airport operations. The regulations governing use and height within the Airport Hazard Overlay District conform to the standards recommended by the Federal Aviation Administration's Advisory Circular, 150/5190-4A, "Model Zoning Ordinance to Limit Height of Objects Around Airports."*

Potential land use impacts associated with future development of the Hilton Head Island Airport as outlined on the ALP are described in terms of airport and community planning efforts, jurisdictional coordination, and development patterns. The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with two factors.

- The extent of noise impacts from and to the airport and related development

- Consistency with local land use plans and development policies

The principal factors influencing land use in the vicinity of an airport often include height obstructions, airport safety zones, and noise. Overall, noise exposure is often the most objectionable interference of the airport with the surrounding environment, as the compatibility with existing and planned land uses in the airport's vicinity is normally associated with the extent of noise impacts. Therefore, prior to development of the proposed projects outlined in the ALP, a noise survey shall be performed to determine the extent of noise impacts on the surrounding land use. Table 6.3-1 identifies FAA land use compatibility standards, as identified by the 65, 70, 75, and 80 day-night average sound level (DNL) noise contours.

It should be noted that the responsibility for determining the acceptable and permissible land use in the vicinity of an airport remains with local authorities in response to local needs and values in achieving compatible land use.

6.4 CONSTRUCTION IMPACTS

During construction of the proposed development at the Hilton Head Island Airport outlined on the ALP, there are a number of potential environmental impacts that could occur to air and water quality, as well as construction noise, but these would be controlled through careful attention to construction methods and implementation of best management practices (BMPs).

6.5 DEPARTMENT OF TRANSPORTATION ACT: SECTION 4(f)

Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 states that the Secretary of Transportation shall not approve any program or project, which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance as determined by federal, state, or local officials having jurisdiction thereof, or any land from an historic structure of national, state, or local significance as so determined by such officials unless:

- There is no feasible and prudent alternative to the use of such land

- The project includes all possible planning to minimize harm to the land resulting from such use

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property boundary, a cultural resources survey shall be performed to determine whether there are any Section 4(f) properties located on-site. Also, if additional property is to be acquired, compliance with Section 4(f) will be necessary, as well as coordination with appropriate federal and state agencies. In addition, an assessment will be performed to determine land use compatibility and

Table 6.3-1
Compatible Land Use for Noise Level Ranges
Hilton Head Island Airport

Land Use	Yearly DNL in Decibels (dB)					
	Below 65	65–70	70–75	75–80	80–85	Over 85
Residential, other than mobile homes and transient lodgings	Y	N	N	N	N	N
Mobile home parks	Y	N	N	N	N	N
Transient lodgings	Y	N	N	N	N	N
Public Use						
Schools	Y	N	N	N	N	N
Hospitals and nursing homes	Y	25	30	N	N	N
Churches, auditoriums, and concert halls	Y	25	30	N	N	N
Government services	Y	Y	25	30	N	N
Transportation	Y	Y	Y	Y	Y	Y
Parking	Y	Y	Y	Y	Y	Y
Commercial Use						
Offices, businesses, and professional	Y	Y	25	30	N	N
Wholesale and retail – building materials, hardware, and farm equipment	Y	Y	Y	Y	Y	N
Retail trade – general	Y	Y	25	30	N	N
Utilities	Y	Y	Y	Y	Y	N
Communication	Y	Y	25	30	N	N
Manufacturing and Production						
Manufacturing – general	Y	Y	Y	Y	Y	N
Photographic and optical	Y	Y	25	30	N	N
Agriculture (except livestock) and forestry	Y	Y	Y	Y	Y	Y
Livestock farming and breeding	Y	Y	Y	N	N	N
Mining and fishing, resource production and extraction	Y	Y	Y	Y	Y	Y
Recreational						
Outdoor sports areas and spectator sports	Y	Y	Y	N	N	N
Outdoor music amphitheaters	Y	N	N	N	N	N
Nature exhibits and zoos	Y	Y	N	N	N	N
Amusements, parks, resorts, and camps	Y	Y	Y	N	N	N
Golf courses, riding stables, and water recreation	Y	Y	25	30	N	N

Notes:
Y (Yes) – Land use and related structures compatible without restrictions.
N (No) – Land use and related structures are not compatible and should be prohibited.
NLR – Noise level reduction (outdoor and indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure.
25 or 30 – Land use and related structures generally compatible; measures to achieve NLR of 25, 30, or 35 dB must be incorporated in design and construction of structure.
Source: Federal Aviation Administration, *Advisory Circular 150/5020-1 – Noise Control And Compatibility Planning For Airports*, August 1983, <http://www.faa.gov/>, accessed August 25, 2009.

[35]Beaufort County, *Land Management Ordinance*, Town of Hilton Head Island, South Carolina, Chapter 4. Zoning District Regulations, Article IV. AHZ--Airport Hazard Overlay District, Codified through Ordinance No. 2009-03, enacted February 3, 2009. (Supplement No. 4), <http://www.municode.com/>, accessed September 14, 2009.

location of recreational areas in respect to potential impacts under the requirements of Section 4(f).

6.6 FARMLANDS

The U.S. Department of Agriculture (USDA) oversees the Farmland Protection Policy Act (FPPA). The purpose of FPPA is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. The FPPA establishes the protocol and criteria to be used by federal agencies to:

- Identify and take into account the adverse effects of their programs on the preservation of farmland
- Consider alternative actions, as appropriate, that could lessen adverse effects
- Ensure that their programs are compatible with state and units of local government and private programs and policies to protect farmland

The FPPA does not provide authority to withhold federal assistance for projects that convert farmland to non-agricultural uses. For the purposes of implementing the FPPA, farmland is defined as prime or unique farmlands or farmland that is determined by the state or unit of local government agency to be farmland of statewide or local importance (Figure 6.6-1 and Table 6.6-1, page 56).[36]

The Natural Resources Conservation Service (NRCS) farmland definitions are:[37]

- **Prime farmland** – land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and that is available for these uses. It has the combination of soil properties, growing season, and moisture supply needed to produce sustained high yields of crops in an economic manner if it is treated and managed according to acceptable farming methods. In general, prime farmland has an adequate and dependable water supply from precipitation or irrigation, a favorable temperature and growing season, an acceptable level of acidity or alkalinity, an acceptable content of salt or sodium, and few or no rocks. Its soils are permeable to water and air. Prime farmland is not excessively eroded or saturated with water for long periods of time, and it either does not flood frequently during the growing season or is protected from flooding.

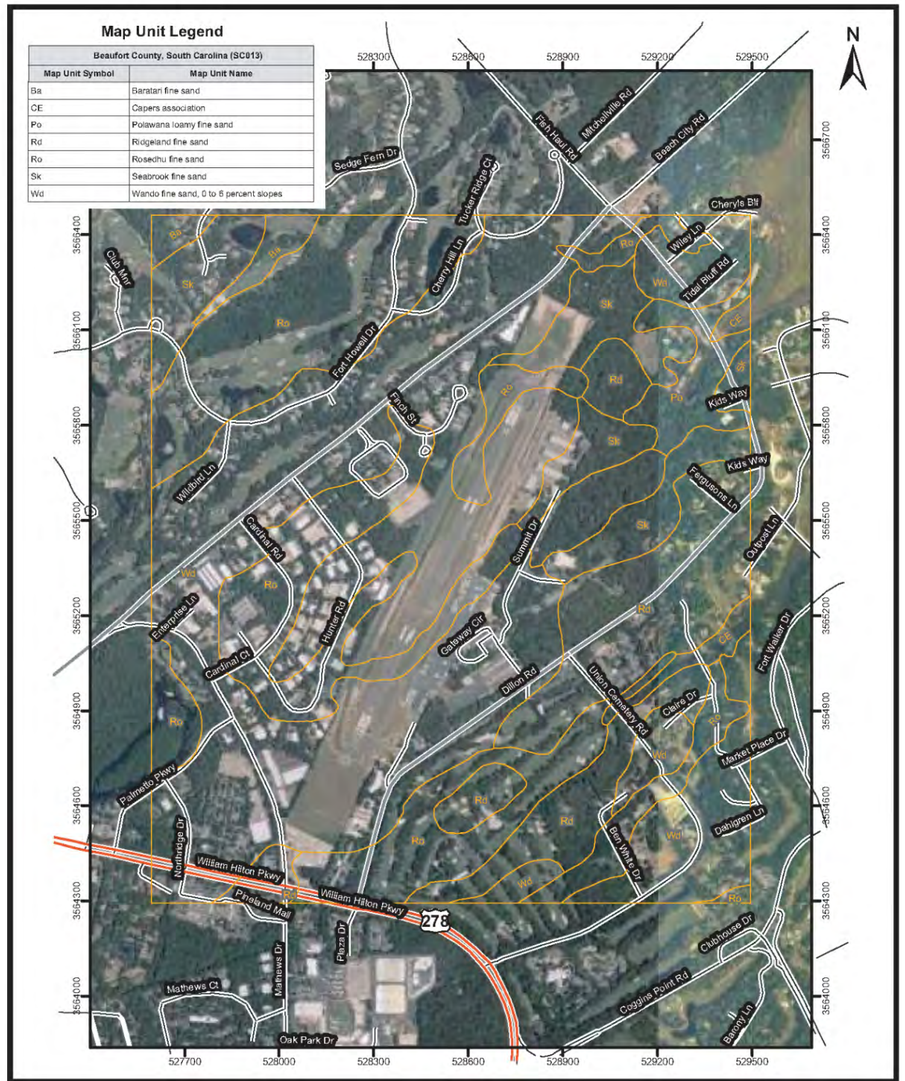


Figure 6.6-1
Hilton Head Island Airport
Soils Map

- **Unique farmland –** land other than prime farmland that is used for the production of specific high value food and fiber crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to economically produce sustained high quality and/or high yields of a specific crop when treated and managed according to acceptable farming methods.
- **Statewide or local important –** land, in addition to prime and unique farmlands, that is of statewide or local importance for the production of food, feed, fiber, forage, and oil seed crops. Criteria for defining and delineating this land are to be determined by the appropriate state agency or agencies. Generally, additional farmlands of statewide or local importance include those that are nearly prime farmland and economically produce high yields of crops when treated and managed according to acceptable farming methods. Some may produce as high a yield as prime farmlands if conditions are favorable.

Development of the Hilton Head Island Airport as outlined on the ALP will have an impact on soils by converting undeveloped land; however, these soils are not considered prime, unique, or statewide important because of the presence of zoning and land use ordinances for the Town of Hilton Head Island.[38] Therefore, there would be no impact to farmland.

Table 6.6-1 (page 56) illustrates the degree and soil limitations that affect small commercial buildings, buildings without basements, and roads and streets. The limitations indicate the extent to which the soils are limited by soil features that affect the specified use.

- **Not limited** – indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected.
- **Somewhat limited** – indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or

[36]Code of Federal Regulations Title 7 – Agriculture, Chapter VI – Natural Resources Conservation Service, Department Of Agriculture, Part 658 – Farmland Protection Policy Act. (January 1, 2006 edition).
[37]U.S. Department of Agriculture, "*Soil Survey Manual Handbook No. 18*," October 1993.

[38]Beaufort County, *Land Management Ordinance*, Town of Hilton Head Island, South Carolina, Chapter 4. Zoning District Regulations, Article II. Base District Character and Purpose, Codified through Ordinance No. 2009-03, enacted February 3, 2009. (Supplement No. 4), <http://www.municode.com/>, accessed September 14, 2009.

installation. Fair performance and moderate maintenance can be expected.

- **Very limited** – indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Special studies will be performed where soil limitations are very limited prior to development of the proposed projects outlined on the ALP.

Table 6.6-1
Soils within the Vicinity of the Airport
Hilton Head Island Airport

Map Unit Symbol	Map Unit Name	Development Suitabilities and Limitations for Use			Farmland Classification
		Small Commercial Buildings	Buildings without Basements	Roads and Streets	
Ba	Baratari fine sand, 0% to 2% slopes	very limited	very limited	somewhat limited	prime farmland, if irrigated and drained
CE	Capers association, 0% to 2% slopes	very limited	very limited	very limited	not prime farmland
Po	Polowana loamy fine sand, 0% to 2% slopes	very limited	very limited	very limited	prime farmland, if irrigated and drained
Rd	Ridgeland fine sand, 0% to 2% slopes	very limited	very limited	very limited	prime farmland, if irrigated
Ro	Rosedhu fine sand, 0% to 2% slopes	somewhat limited	somewhat limited	somewhat limited	prime farmland, if irrigated and drained
Sk	Seabrook fine sand, 0% to 2% slopes	not limited	not limited	not limited	prime farmland, if irrigated
Wd	Wando fine sand, 0% to 6% slopes	not limited	not limited	not limited	prime farmland, if irrigated

Source: Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture, "Web Soil Survey," <http://websoilsurvey.nrcs.usda.gov/>, accessed September 14, 2009.

6.7 FISH, WILDLIFE, AND PLANTS

The Endangered Species Act of 1973, as amended, gives the Secretary of the Interior, acting for the Secretary of Commerce, USFWS, and National Marine Fisheries Service (NMFS), the power to protect and conserve forms of wildlife and plants deemed to be in serious jeopardy. Section 7 of the Act requires federal agencies or their designated non-federal representatives, in consultation with and assisted by the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of endangered and threatened species or result in the destruction or adverse modification of critical habitat of such species.

The South Carolina Department of Natural Resources (SCDNR) and South Carolina Heritage Trust Program (SCHTP) online databases and the USFWS web site were consulted regarding current federal and state listed species within Beaufort County. The SCHTP database records did not identify the presence of known occurrences on or adjacent to the Hilton Head Island Airport. Listed species of concern and their respective federal and state status are identified in Table 6.7-1 (page 57).

Based on review of the aerial photographs,[39] it would appear that habitat for the West Indian manatee (*Trichechus manatus*), green sea turtle (*Chelonia mydas*), Kemp's ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), piping plover (*Charadrius melodus*), and shortnose sturgeon (*Acipenser brevirostrum*) is not present within the boundary of HXD. If wetlands are present on the airport property, potential habitat for the wood stork (*Mycteria americana*), flatwoods salamander (*Ambystoma cingulatum*), American chaffseed (*Schwalbea americana*), Canby's dropwort (*Oxypolis canbyi*), and pondberry (*Lindera melissifolia*) may be present. If mature pine stands are located within the wooded area of the Airport, potential habitat for the red-cockaded woodpecker (*Picoides borealis*) may be present.

Prior to development of the proposed projects outlined on the ALP in undeveloped areas, a threatened and endangered species survey will be performed to achieve compliance with Section 7 of the Endangered Species Act, as well as to coordinate with federal and state environmental agencies.

In addition, SCDNR was interviewed regarding bald eagle (*Haliaeetus leucocephalus*) nests in the vicinity of the Airport.[40] The SCDNR indicated that a bald eagle nest was located immediately adjacent to the airport approach on Runway 21 (32° 13.82'N, 80° 41.57'W, Figure 6.7-1, page 58) and noted that an eagle had been hit by an airplane in 2008. Current exclusion zones for the bald eagle for habitat destruction are 330 feet and 660 feet (for the nesting season, October through May). The SCDNR suggested that proposed airport development plans (expansion, tree cutting, or habitat alteration) be discussed with the USFWS prior to implementation. During these discussions, the nest tree and the primary and secondary zones, as well as the possibility of a "take" permit to remove the eagle nest, were determined. The bald eagle's nest was removed and the tree cut down in August 2010, prior to the initiation of the on-airport tree removal project on the Runway 21 end of the Airport.

[39]South Carolina Department of Natural Sources, "NAPP 2006, 1999, and 1994 Aerial Photographs," <http://dnr.state.sc.us>, accessed September 11, 2009.
[40]South Carolina Department of Natural Resources (Charlotte Hope) interviewed by S&ME (Chris Daves, Biologist), September 11, 2009.

6.8 FLOODPLAINS

As outlined in Executive Order 11988, *Floodplain Management*,[41] agencies are required to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by the floodplain.

Federal regulations permit development in the 100-year floodplain if it is demonstrated through hydraulic analysis that the development would meet the requirements set forth by the Federal Emergency Management Agency (FEMA) for the National Flood Insurance Program. These requirements allow encroachment in the floodplain as long as the base flood elevation does not increase by more than one foot. When a regulatory floodway has been defined for a waterway, the encroachment should remain outside the floodway limits.

Review of the Beaufort County floodplain maps provided by the FEMA Map Service Center[42] indicates that the Airport is located within Zones C, B, and A7 (Figure 6.8-1, page 59):

- **Zones B and C** – are areas outside the 1 percent annual chance floodplain; areas of 1 percent annual chance sheet flow flooding where average depths are less than 1 foot; areas of 1 percent annual chance stream flooding where the contributing drainage area is less than 1 square mile; or areas protected from the 1 percent annual chance flood by levees. No base flood elevations or depths are shown within this zone. Insurance purchase is not required in these zones.

- **Zone A7** – is an area with a 1 percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. In most instances, base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

The majority of HXD is located within an area zoned C.

[41]Federal Register, Vol. 42, Pg. 26951, May 24, 1977, "Floodplain Management," <https://propertydisposal.gsa.gov/>, accessed September 15, 2009.
[42]Federal Emergency Management Agency Map Service Center, "FEMA issued Flood Maps – Flood Insurance Rate Map Town of Hilton Head Island. South Carolina, Beaufort County, Panel 9 of 15, Community Panel Number 450250 0009 D, Map Revised September 29, 1986," <http://msc.fema.gov/>, accessed September 15, 2009.

Table 6.7-1
Species of Concern in Beaufort County
Hilton Head Island Airport

Common Name	Scientific Name	State Status	Federal Status	Habitat
Flora				
American chaffseed	*Schwalbea americana*	E	E	Various sandy soil areas on the coastal plain; plants are usually found on margins of savannahs and cypress ponds that are seasonally wet; best managed by prescribed fire
Canby's dropwort	*Oxypolis canbyi*	E	E	Pond-cypress savannahs in Carolina Bays formations dominated by grasses and sedges or ditches next to bays; prefer borders and shallows of cypress-pond pine ponds and sloughs
Pondberry	*Lindera melissifolia*	E	E	Swamp and pond margins, sandy sinks, swampy depressions, or wet flats that are subject to drying but the roots are submerged at times
Fauna				
Bald eagle	*Haliaeetus leucocephalus*	BGEPA	BGEPA	Coastlines, rivers, large lakes, or streams, which provide adequate feeding grounds; typically nest in SC between late October and late May; tend to return year after year to the same nest tree, once they have successfully established a nest
Flatwoods salamander	*Ambystoma cingulatum*	E	T	Adults and sub-adults are fossorial; found in open mesic pine/wiregrass flatwoods dominated by longleaf or slash pine and maintained by frequent fire; during breeding period, which coincides with heavy rains from October to December, move to isolated, shallow, small depressions (forested with emergent vegetation) that dry completely on a cyclic basis
Green sea turtle	*Chelonia mydas*	T	T	Rarely nests in SC, generally found in fairly shallow waters (except when migrating) inside reefs, bays, and inlets
Kemp's ridley sea turtle	*Lepidochelys kempii*	E	E	Outside of nesting season, primarily found in the near-shore and inshore waters of the Gulf of Mexico, although immature have been observed along the Atlantic as far north as Massachusetts
Leatherback sea turtle	*Dermochelys coriacea*	E	E	Rarely nests in SC, visits often coincide with periodic abundance of cannonball jellyfish; distributed worldwide in tropical and temperate waters of the Atlantic, Pacific, and Indian Oceans; most pelagic of the sea turtles
Loggerhead sea turtle	*Caretta caretta*	T	T	Nests on SC ocean beaches, forages primarily on mollusks and crustaceans in shallow ocean waters and stream channels, widely distributed throughout the world
Piping plover	*Charadrius melodus*	T	T	Winters on SC coast; prefers area with expansive sands and mudflats (for foraging) in close proximity to a sand beach (for roosting)
Red-cockaded woodpecker	*Picoides borealis*	E	E	Nest in mature pine with low understory vegetation (<1.5 m); forage in pine and pine hardwood stands >30 years of age, preferably 10" diameter at breast height
Shortnose sturgeon	*Acipenser brevirostrum*	E	E	Occur in major river systems along the eastern seaboard
West Indian manatee	*Trichechus manatus*	E	E	Coastal waters, estuaries, and warm water outfalls
Wood stork	*Mycteria americana*	E	E	Primarily feed in fresh and brackish wetlands and nest in cypress and other wooded swamps

BGEPA – Bald and Golden Eagle Protection Act
E – Endangered
T – Threatened
Source: South Carolina Department Natural Resources, "Rare, Threatened, & Endangered Species Inventory, Species Found in Beaufort County, Current Online Edition," <https://www.dnr.sc.gov/>, accessed September 11, 2009.
South Carolina Heritage Trust, "Geographic Database of Rare and Endangered Species," <https://www.dnr.sc.gov/>, accessed September 11, 2009.
U.S. Fish and Wildlife Service, "Listed Endangered Species in South Carolina," <http://www.fws.gov/>, accessed September 11, 2009.

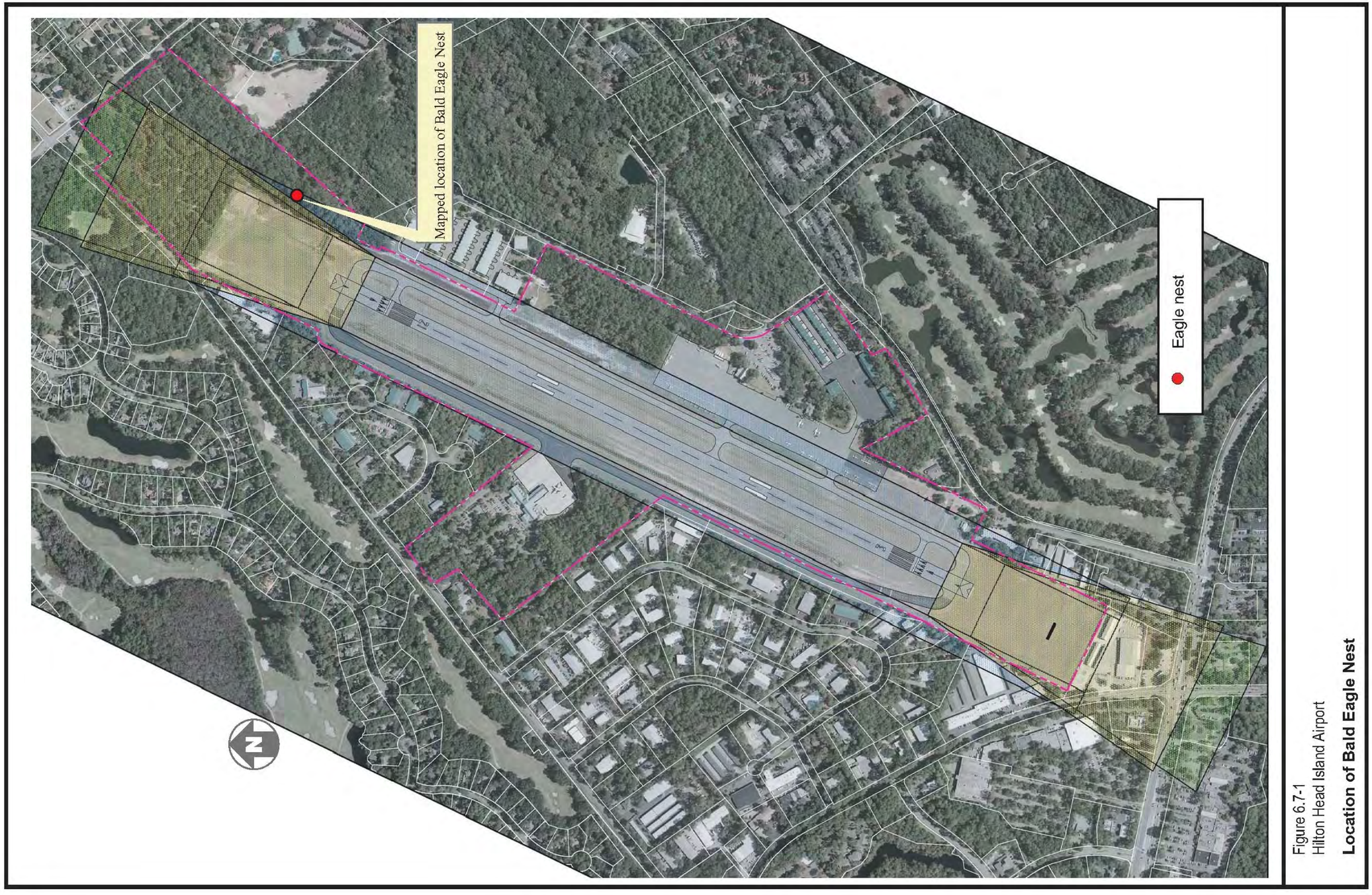


Figure 6.7-1
Hilton Head Island Airport
Location of Bald Eagle Nest

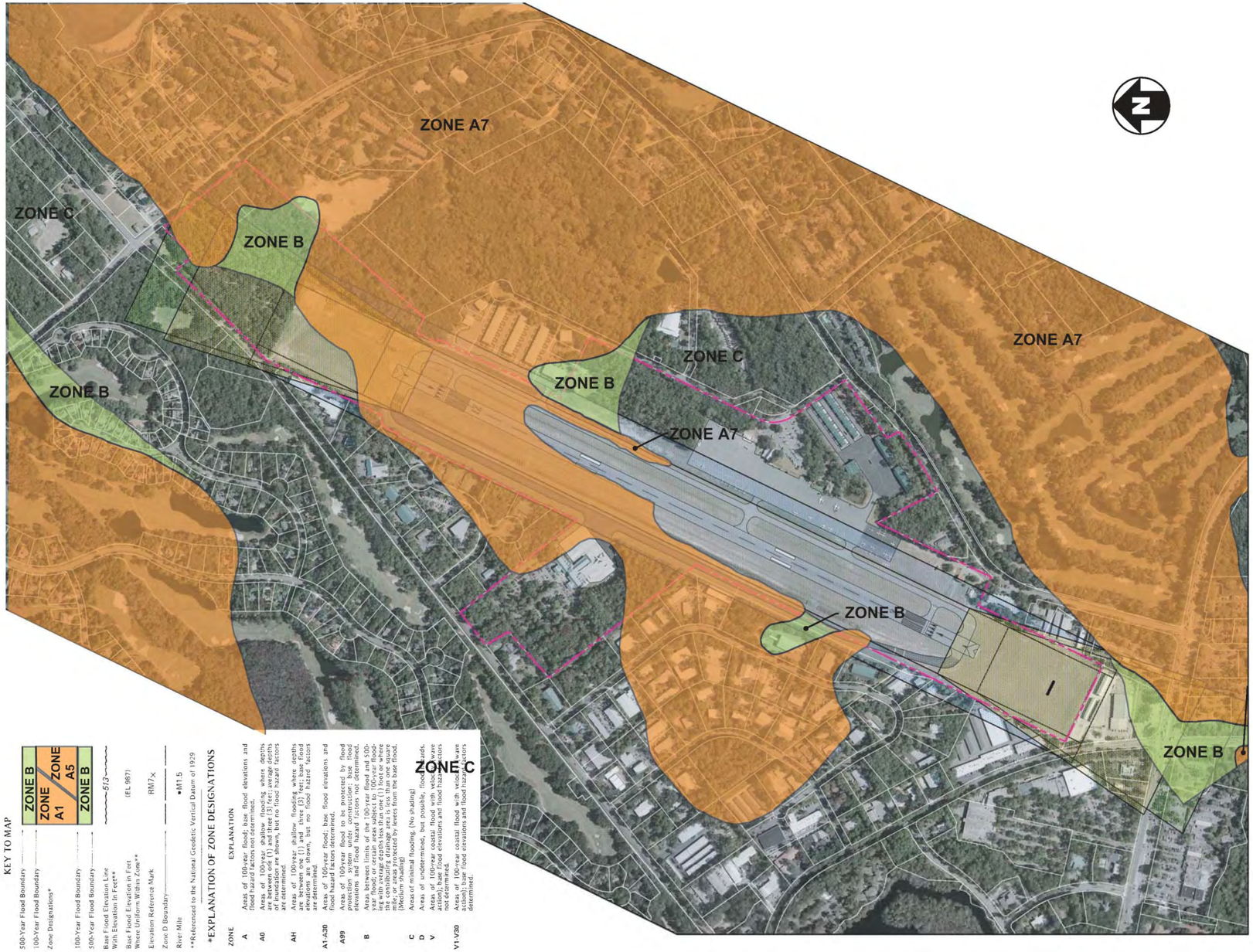


Figure 6.8-1
Hilton Head Island Airport
Floodplain

Prior to development of the proposed projects outlined on the ALP, floodplain analysis is recommended to determine whether there would be an impact in the areas designated Zone A7.

6.9 HAZARDOUS MATERIALS, POLLUTION PREVENTION, AND SOLID WASTE

6.9.1 Hazardous Materials

The purpose of a Phase I Environmental Site Assessment (ESA) is to identify, to the extent feasible, pursuant to American Society of Testing and Materials (ASTM) E 1527-00, R*ecognized Environmental Conditions* (RECs) in connection with the property. The ASTM Standard Practice E 1527-00 defines *good commercial and customary practice for conducting an environmental site assessment of a parcel of commercial real estate with respect to the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and to petroleum products*. This practice is intended to permit a user to satisfy one of the requirements to qualify for the *innocent landowner defense* to CERCLA liability.

Prior to development of the proposed projects outlined on the ALP, an ESA should be performed of the airport property and the surrounding environs to determine the potential extent (if any) of hazardous material contamination.

6.9.2 Pollution Prevention

HXD must comply with applicable regulations pertaining to the use, storage, and disposal of hazardous materials as outlined in FAA Order 1050.10B, *Prevention, Control and Abatement of Environmental Pollution at FAA Facilities*; FAA Order 1050.14A, *Polychlorinated Biphenyls (PCB) in the National Airspace System*; FAA Order 1050.15A, *Underground Storage Tanks at FAA Facilities*; FAA Order 1050.18, *Chlorofluorocarbons and Halon Use at FAA Facilities*; and FAA *Advisory Circular 150/5320-15 – Management of Airport Industrial Wastes*. This compliance can be in the form of a Spill Prevention, Control, and Countermeasures Plan (SPCC).[43]

Although each SPCC is unique to the facility, there are certain elements that must be included in order for the SPCC Plan to comply with the provisions of 40 CFR 112, *Oil Pollution Prevention*. Three areas which should be addressed in the Plan are:

1) Operating procedures the facility implements to prevent oil spills
2) Control measures installed to prevent oil from entering navigable waters or adjoining shorelines
3) Countermeasures to contain, clean up, and mitigate the effects of an oil spill that has an impact on navigable waters or adjoining shorelines. Other important elements of a SPCC include, but are not limited to, the following: professional engineer certification, notification requirements in the event of a spill, and reporting requirements for spills of various quantities

The Plan must follow the sequence of 40 CFR 112.7, *General Requirements for Spill Prevention, Control, and Countermeasures Plans* or provide cross-references to the requirements in 40 CFR 112.7, *General Requirements for Spill Prevention, Control, and Countermeasures Plans*:

- Facility diagram
- Oil spill predictions
- Facility drainage
- Facility inspections
- Site security
- Five-year plan review
- Management approval
- Appropriate secondary containment or diversionary structures
- Loading/unloading requirements and procedures for tank trucks
- Personnel training and oil discharge prevention briefings
- Bulk storage container compliance
- Transfer procedures and equipment (including piping)

6.9.3 Solid Waste

Development of the proposed projects outlined on the ALP would not have a direct effect on solid waste collection or disposal, other than during actual construction of the proposed projects. Building and hangar development would generate solid waste for disposal and would be the responsibility of the occupants of the facilities. The collection and disposal of solid waste is provided by private companies that contract with businesses and residents on the Island to collect waste and remove it to disposal facilities. Solid waste is disposed of at the Hickory Hill Landfill in Jasper County, which has an estimated 20-year lifespan remaining. Construction and demolition material is disposed of at either Barnwell Resources, in Beaufort County, or the Oakwood Landfill, in Jasper County.

[43]Code of Federal Regulations, "Title 40, Protection of Environment, Part 112 – Oil Pollution Prevention," <http://ecfr.gpoaccess.gov/>, accessed September 15, 2009.

6.10 HISTORICAL, ARCHITECTURAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act of 1966, as amended through 1992 (16 USC 470), and the Archeological and Historic Preservation Act of 1974 requires that a state or federal agency with jurisdiction over a specific project must identify and evaluate affected cultural resources, assess the project's effect on such resources, and grant opportunity for comment. Cultural resources are evaluated by their eligibility for placement on the National Register of Historic Places (NRHP).

6.10.1 History of Hilton Head Island[44]

Hilton Head Island is a sea island or large barrier island in the Atlantic Ocean. Due to its size (the second largest on the east coast) and strategic location near Port Royal Sound, Charleston, and Savannah, the Island played an important role in early Indian settlement, plantation agriculture, the American Revolutionary War, and the Civil War. After the Civil War, Islanders maintained a rural subsistence economy until the mid-1950s. At that time, developers, noting the natural beauty of the Island, began to create master planned resort and residential communities. The Town of Hilton Head Island was incorporated in 1983 in an effort to better manage the increasing development and protect the beauty of the Island.

6.10.2 Mitchelville[45]

Mitchelville (Figure 6.10.2-1, page 61), which was established in October 1862, was the Union's first chance to demonstrate how to treat the black man with the respect due all men and was formed with three goals in mind:

- To alleviate problems associated with a large number of idle contrabands in the post Hilton Head and surrounding military encampments
- To provide adequate living conditions for said contrabands
- To develop skills of self-management and self-control among the contrabands

[44]Town of Hilton Head Island, "Town of Hilton Head Island Comprehensive Plan, Cultural Resources Element," Adopted March 16, 2004, <http://service2.hiltonheadislandsc.gov/>, accessed September 15, 2009.
[45]Brockington and Associates, Inc., "Contraband, Refugee, Freedman: Archaeological and Historical Investigations of the Western Fringe of Mitchelville, Hilton Head, South Carolina," prepared for Greenwood Development Corporation, 1991.

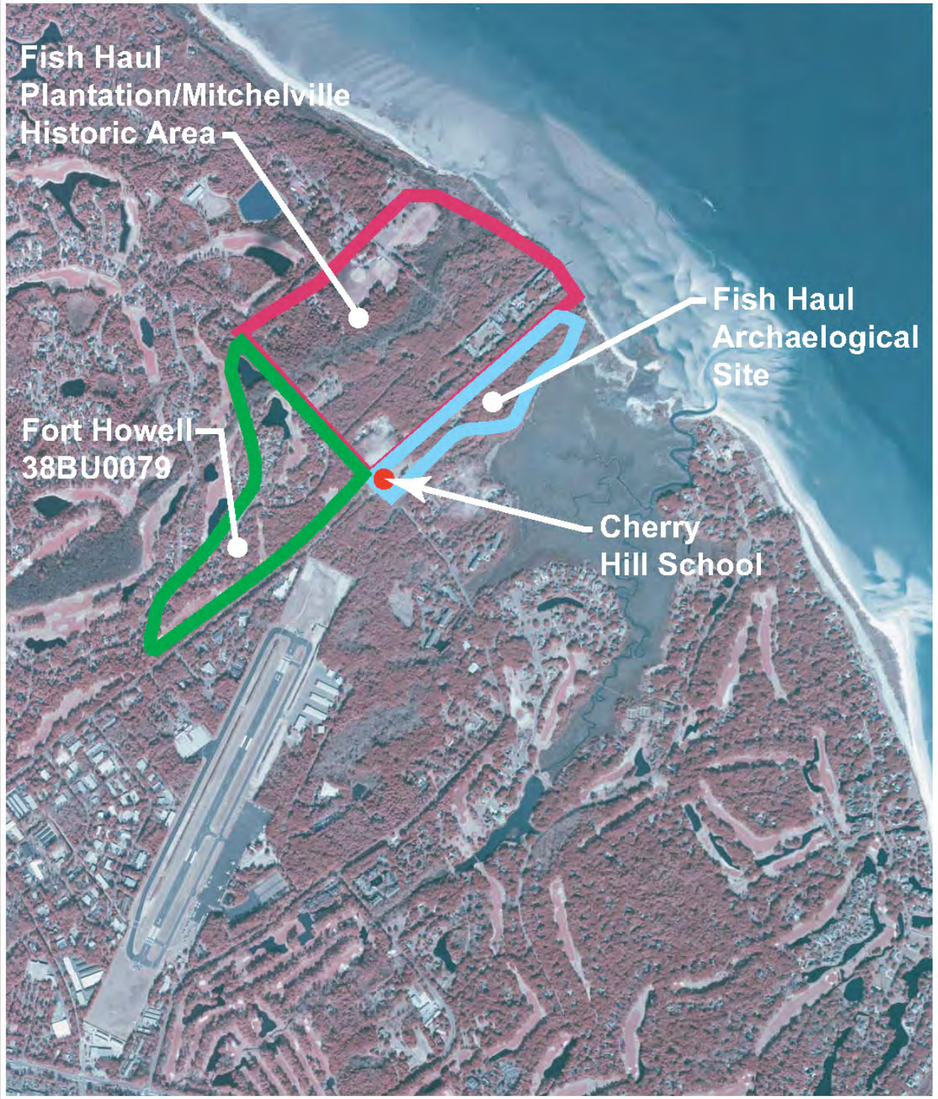


Figure 6.10.2-1
Hilton Head Island Airport

Mitchelville

The map available at the National Archives (Record Group 77: Map 152) shows Mitchelville as a formal community extending from the saltwater marsh east to Fort Howell and encompassing approximately 300 acres with 425 residences depicted, along with other large structures (schools, stores, etc.). However, over time, the community decreased as illustrated on the USACE 1920 map, which outlines what is considered the twentieth century remnant of the Mitchelville community (16 houses southeast of Beach City Road). Table 6.10.2-1 provides a brief history of Mitchelville.

In addition to the Mitchelville community, the one-room school house for the Island's African-American children (Cherry Hill School) at the northeast corner of Dillon Road and Beach City Road is considered potentially eligible for listing on the NRHP. The building was constructed circa 1931 and was added onto in 1961. The Fish Haul Plantation archaeological site (38BU805) was listed on the NRHP on June 30, 1988.

Fort Howell, located on the southwestern corner of Beach City Road and Dillon Road, was constructed by Union Forces occupying Hilton Head Island and was one of the final fortifications to be built during the war. The men of the 32nd U.S. Colored Infantry Volunteers labored to complete the fort in the fall of 1864. Its purpose was to protect Mitchelville, a freedman's town of newly emancipated slaves.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property boundary, a cultural resources survey shall be performed to determine whether there are any Section 106 properties located on-site. Also, if additional property is to be acquired, compliance with Section 106 will be necessary, as well as coordination with appropriate federal and state agencies.

Table 6.10.2-1
Mitchelville Through Time
Hilton Head Island Airport

Date	Description	Source
July 1862	Long rows of wooden buildings	New York Times
July 1862	Barracks (with woodcut)	Leslie's
October 8, 1862	Refugees order out of post	New York Times
October 1862	Mitchelville to be started	New South
March 20, 1863	"Upwards of 100 houses"	Charles Nordhoff
1893	About 20 houses	Coffin
March 1864	Map depicts Mitchelville east-northeast of Fort Howell	Daniel Eldredge
ca. 1984	Mitchelville depicted north-northeast of Fort Howell	National Archives Record Group 58: map 15
1864	Mitchelville surveyed as 1,300 feet by 2,000 feet (±60 acres) on marsh	Military Reservation Map (1876)
Late 1864 or 1865	Mitchelville extends from marsh to Fort Howell (±425 houses), at probable peak (±300 acres)	National Archives Record Group 77: Map 152
1865/1868	Mitchelville shown north-northeast of Fort Howell	USC and GS 438 (1873)
November 1865	"About 1,500 souls"	National Archives Record Group 105
January 7, 1868	"About 1,500 inhabitants"	AMA H6901
1869	Tax map shows Mitchelville as covering ±100 acres near marsh	National Archives Record Group 217
1870	3,002 colored people on Hilton Head Island	U.S. Census
1880	2,513 total population on Hilton Head Island	U.S. Census
1890	2,369 total population on Hilton Head Island	U.S. Census
1900	2,235 total population on Hilton Head Island	U.S. Census
1910	1,195 total population on Hilton Head Island	U.S. Census
1920	Less than 20 structures in former Mitchellville area	USACE Hilton Head 1920
1921	165.25-acre tract on marsh labeled "Mitchelville tract"	Beaufort County Register of Mesne Conveyance Judgment Roll 2795
1927	Very few residences in former Mitchelville area. Blocks C and D in active field	Beaufort County Plat Book 8: Page 15
1936	300 Negroes on Hilton Head Island	Virginia C. Holmgren 1959

Source: Brockington and Associates, Inc., "Contraband, Refugee, Freedman: Archaeological and Historical Investigations of the Western Fringe of Mitchelville, Hilton Head, South Carolina," prepared for Greenwood Development Corporation, 1991.

6.10.3 Previously Identified Cultural Resources[46]

Table 6.10.3-1 summarizes previously identified cultural resources in the area. The discussion following the table goes into detail about the resources.

Table 6.10.3-1
Previously Investigated Sites Near the Airport
Hilton Head Island Airport

Site Number	Name/Description	Site Type	NRHP Status
38BU78/1155/1156	Ft Sherman and Lines	Post-Contact	Potentially Eligible
38BU79/1151	Fort Howell/Mitchelville	Post-Contact	Eligible
38BU80/1153/1154/1155	Ft Walker	Post-Contact	Not Eligible
38BU805	Fish Haul	Pre-Contact/Post-Contact	Listed
38BU806	Drayton Fish Haul Slave Row	Post-Contact	Eligible
38BU807	Midden	Post-Contact	Potentially Eligible
38BU808	Civil War Camp	Post-Contact	Potentially Eligible
38BU811	Shell Midden	Pre-Contact	Eligible
38BU963	Tenant House	Post-Contact	Not Eligible
38BU965	School	Post-Contact	Eligible
38BU966	Tenant House	Post-Contact	Eligible
38BU1818	Pilings	Post-Contact	Potentially Eligible
38BU1931	Scatter	Post-Contact	Potentially Eligible
38BU1932	Shell Midden	Pre-Contact	Not Eligible
38BU1966	Tenant House	Post-Contact	Not Eligible
38BU1967	Scatter	Pre/Post-Contact	Potentially Eligible
38BU1968	Scatter	Pre/Post-Contact	Not Eligible
38BU2163	Scatter	Pre/Post-Contact	Not Eligible
38BU2164	Scatter/homesite(?)	Post-Contact	Potentially Eligible

Source: Brockington and Associates, Inc. (Josh Fletcher), "Hilton Head Airport," e-mail message, February 10, 2010.

Trinkley's (1987) survey of Hilton Head Island resulted in the identification of five sites (38BU805, 38BU806, 38BU807, 38BU808, and 38BU811) within one mile of the project tract. In addition, earlier investigators had recorded three sites within the same area (38BU78, 38BU79, and 38BU80). These sites were later given other site numbers by the Lowcountry Council of Governments (1979), resulting in their current designations. These sites are primarily associated with the antebellum and Civil War occupations of Hilton Head Island, although 38BU805 and 38BU811 contain shell middens associated with Pre-Contact Native American occupations. Trinkley (1986) conducted extensive excavations at 38BU805, examining the Ceramic Late Archaic component and the Civil War-era freedman's village of Mitchelville component.

Espenshade and Grunden (1989, 1991) surveyed the Palmetto Headlands/Hall Tract, identifying 38BU963, 38BU965, and 38BU966; this tract also contained 38BU79/1151 and 38BU811. The first three sites reflect late nineteenth to early twentieth century African-American occupations on Hilton Head Island and include two houses and one school. Site 38BU79/1151 contains deposits related to the Civil War occupation of Hilton Head Island, including Fort Howell, Camp Baird, and portions of Mitchelville. Site 38BU811 is an extensive Pre-Contact shell midden. Data recovery investigations examined three components of these occupations, including Camp Baird (Legg et al. 1991), the postbellum African Americans (Kennedy et al. 1991), and the freedman's village of Mitchelville (Espenshade and Grunden 1990).

Trinkley (1989) and Green (2002) examined portions of the Town of Hilton Head Island's Barker Field project. Trinkley (1989) encountered portions of 38BU806, the remnants of a slave settlement associated with the former Fish Haul Plantation during Drayton's management. Green (2002) identified three sites in the area he examined (38BU1966, 38BU1967, and 38BU1968); site 38BU1967 is potentially eligible for the NRHP. Webb (2002) assessed the proposed location of a cell tower to the north of the project tract; he considered the resources within one mile of the proposed location. Trinkley and Southerland (2001) examined the proposed Dillon Road Pathway prior to its construction; they identified two sites (38BU1931 and 38BU1932). Site 38BU1931 is a scatter of nineteenth century artifacts that may be associated with the slave settlement within 38BU806. Spirek et al. (1999) identified site 38BU1818 (a group of pilings on the edge of Port Royal Sound) to the northeast of the project tract; they recommended the site potentially eligible for the NRHP.

The South Carolina State Historic Preservation Office (SHPO) has defined a potential historic property, Fish Haul Plantation/Mitchelville, as the portion of Hilton Head Island bounded by the marshes of Coggin Creek south of Beach City Road, with Dillon Road as the west boundary, Mitchelville Road as the north boundary, and Port Royal Sound to the east. This potential historic property contains a number of archaeological sites, some of which could contribute to the NRHP eligibility of the larger property. Agha et al. (2006) surveyed a small parcel of land along Beach City Road that lies across the street from 38BU805. Investigators identified two sites (38BU2163 and 38BU2164) during these investigations. Site 38BU2163 is an unknown Pre-Contact and nineteenth/twentieth century scatter recommended not eligible for the NRHP. Site 38BU2164 has contexts relating to Mitchelville and was recommended potentially eligible for the NRHP. This site is being preserved in place.

[46]Brockington and Associates, Inc. (Josh Fletcher), "Hilton Head Airport," e-mail message, February 10, 2010.

6.11 LIGHT EMISSIONS AND VISUAL IMPACTS

6.11.1 Light Emissions

Currently there are two main sources of light emissions from HXD:

- A rotating beacon with alternating white and green lights located east of the end of Runway 03
- MIRLs and REILs on Runway 03/21.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property boundary or acquired property, a light emissions impact analysis will be performed to determine the extent of potential impacts.

6.11.2 Visual Impacts

Visual impacts are identified by examining the visual view-shed of the airport and its surrounding environs. The visual view-shed, which takes into account the entire landscape, is comprised of two main aspects: views to and views from the proposed projects.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property boundary or acquired property, a visual impact analysis will be performed to determine the extent of potential visual impacts.

6.12 NATURAL RESOURCES AND ENERGY SUPPLY

Executive Order 13123, *Greening the Government through Efficient Energy Management*,[47] encourages each federal agency to expand the use of renewable energy within its facilities and in its activities. Executive Order 13123, *Greening the Government through Efficient Energy Management*, also requires each federal agency to reduce petroleum use, total energy use and associated air emissions, and water consumption in its facilities.

The assessment of natural resources and energy supply generally entails altered requirements for stationary facilities. Energy consumption impacts associated with the development of the proposed projects outlined on the ALP consider the direct consumption of energy required to construct the facility.

[47]Federal Register, Vol. 64, No. 109, June 8, 1999, "Greening the Government through Efficient Energy Management," <http://www.ofee.gov/>, accessed June 15, 2009.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property boundary or acquired property, an energy analysis will be performed to determine the extent of potential impacts.

6.13 NOISE

6.13.1 Definition of Noise

Noise is comprised of three characteristics: frequency (or pitch), amplitude (or loudness), and intensity. Frequency relates to whether noise has a high pitch, low pitch, or contains a combination of pitches ranging from low (rumble) to high (squeal) and is measured in cycles per seconds, or Hertz units. The human ear is capable of discerning noise in the range of 20 to 20,000 Hertz. Various frequencies of noise allow identification of the source. For example, a door slamming shut would produce noise identified with the action.

The intensity of noise is a measure of the magnitude of the sound pressure level (SPL). The ear is responsive to sounds having a tremendous range in intensity. For this reason and because the sensitivity of the ear is more logarithmic than linear in its response, sound levels are expressed on a logarithmic scale. Using a base 10 logarithm to measure relative sound pressure, the range is compressed to a scale of 0 to 9. Thus, this is a system based on the number of tenfold increases, rather than on the actual number itself. The numbers 0 to 9 represent relative quantities, and the quantity measured on this scale is referred to as a level.

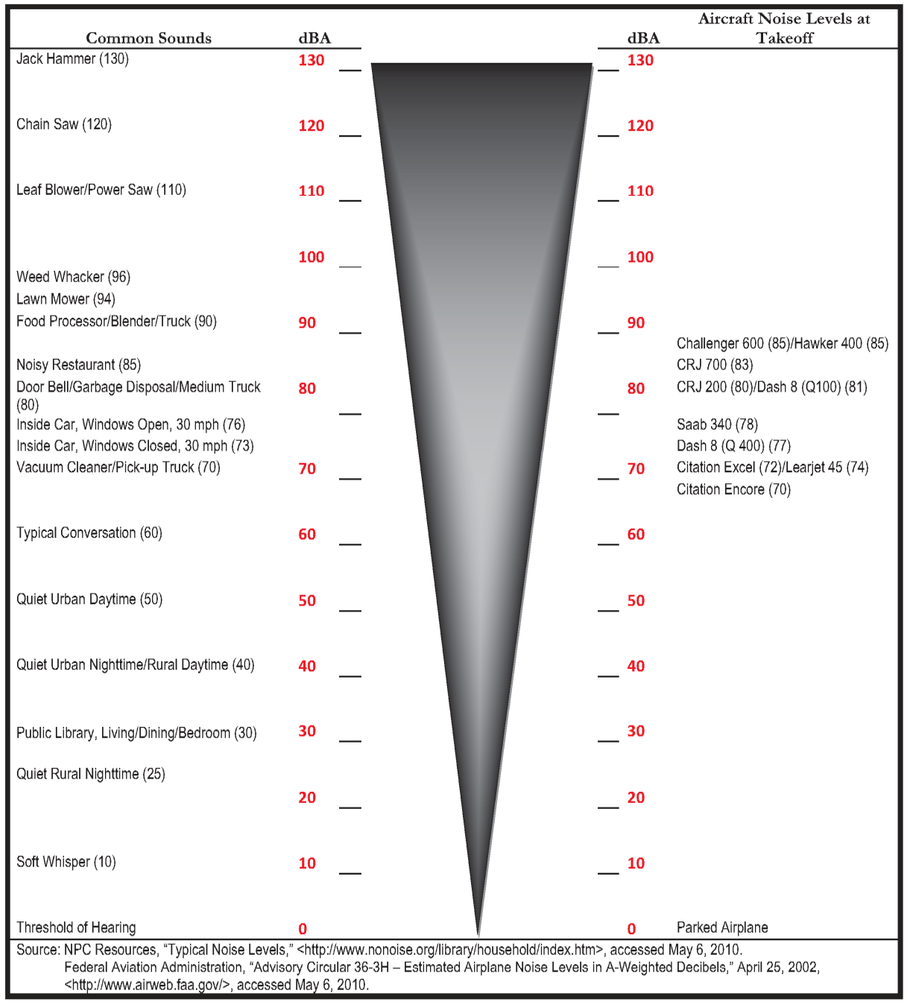
Scientists and engineers work with energy quantities that would be proportional to the square of the sound pressure rather than the sound pressure itself. This presents no difficulty, since the logarithm of a squared number is two times the logarithm of the original number; therefore, instead of a range of levels from 0 to 9, the range runs from 0 to 18 for sound pressure squared. The unit on this scale is called a bel. The bel has been divided into 10 smaller units known as decibels (dB), so that the range of sound pressures from the approximate threshold of hearing to rocket noise runs from 0 to 180 decibels. The decibel is the common term used for noise density. Human hearing is less sensitive at low and high frequencies than in the frequency mid-range; therefore, the A-weighted system favoring mid-range frequencies is used to determine how frequencies impact human hearing. The use of this system is denoted as dBA. Increases in noise levels produce varying effects. For example, a 1-dBA increase, except in controlled laboratory conditions, cannot be perceived; a 3-dBA increase is considered barely noticeable in exterior environments; and a 5-dBA increase is considered noticeable in exterior environments.

Since noise varies over time, a statistical parameter, known as the equivalent sound level $L_{(eq)}$, has been developed to quantify the time-varying pattern of noise, or the intensity of the noise. Noise levels are based on an $L_{(eq)}$ descriptor, which refers to the steady-state (constant sound) A-weighted sound level. This sound level contains the same acoustic energy as the actual time-varying sound levels during the same time period. In other words, the fluctuating sound levels of traffic noise over a period of time are represented in terms of a constant noise level with the same energy content.

Noise, often defined as unwanted sound, is one of the most common environmental issues associated with aircraft operations. Aircraft are not the only sources of noise in an urban or suburban surrounding, where interstate and local roadway traffic, rail, industrial, and neighborhood sources also intrude on the everyday quality of life. Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Whether that sound is interpreted as pleasant or unpleasant depends largely on the listener's current activity, past experience, and attitude toward the source of that sound.

The measurement and human perception of sound involve two basic physical characteristics: intensity and frequency (pitch). Intensity is a measure of the acoustic energy of sound vibrations and is expressed in terms of sound pressure. The higher the sound pressure, the more energy carried by the sound and the louder the perception of that sound. The second important physical characteristic is sound frequency, which is the number of times per second the air vibrates or oscillates. Low-frequency sounds are characterized as rumbles or roars, while high-frequency sounds are typified by sirens or screeches (Figure 6.13-1).

A logarithmic unit known as the dB is used to represent the intensity of a sound. Such a representation is called a sound level. Because of the logarithmic nature of the dB unit, sound levels cannot be added or subtracted directly. However, if a sound's intensity is doubled, the sound level increases by three dB, regardless of the initial sound level. But the total sound level produced by two sounds of different levels is usually only slightly more than the higher of the two. Measured in decibels, the 65 DNL ambient noise contour is compatible with all land uses.



Source: NPC Resources, "Typical Noise Levels," <http://www.nonoise.org/library/household/index.htm>, accessed May 6, 2010.
Federal Aviation Administration, "Advisory Circular 36-3H – Estimated Airplane Noise Levels in A-Weighted Decibels," April 25, 2002, <http://www.airweb.faa.gov/>, accessed May 6, 2010.

Figure 6.13-1
Hilton Head Island Airport

Typical A-Weighted Sound Levels of Common Sounds

6.13.2 Hilton Head Island Airport Noise Assessment

An assessment of airport noise establishes a baseline of existing and future noise impacts relative to the alternatives considered (expressed in day-night average sound level). This analysis identifies potential increases in noise levels resulting from operations and need for mitigation. Noise contours were developed for the baseline case (existing 2009 conditions) and the 2029 contours depicting the future runway alternative at the Hilton Head Island Airport.

The Hilton Head Island Airport has a noise abatement program in place to limit noise impacts on the local residences from aircraft operating to and from the Airport. The intent is to identify a common takeoff procedure for pilots to use to help reduce the noise effects.

For the noise analysis, the FAA computer-generated Integrated Noise Model (INM Version 7.0A) was used to evaluate aircraft noise at HXD based on 2009 and 2029 activity levels, from which a Noise Exposure Map (NEM) was prepared for the existing and future airfield configurations. Measured in decibels, the 65 DNL ambient noise contour is compatible with land uses; however, the 60 DNL was also calculated and is shown on the exhibits. The DNL is determined from a cumulative exposure of sound (time and level), measured in decibels, and averaged over the span of one year.

Typically, noise sensitive areas include residential areas within the 65 DNL and above, and public facilities including schools, hospitals, churches, and recreational areas. The 2029 operations numbers represent the anticipated noise exposure from the development of the 5,400-foot future runway. The 2009 noise exposure represents a baseline from which to compare the current and anticipated noise levels. Noise levels were modeled using the total number of daily operations averaged over each of the approach and departure tracks for existing and future traffic.

Table 6.13.2-1 lists the operations by aircraft type and Table 6.13.2-2 describes the assigned civilian aircraft used for the 2009 and 2029 NEMs. In 2009, annual aircraft operations at HXD totaled 38,237 and are forecast to reach 56,901 by 2029. Of these future operations, approximately 32 percent were to be performed by single-engine aircraft, 20 percent by twin-engine aircraft, 35 percent by turboprop aircraft, and 10 percent by jets. Rotorcraft operations, which utilize the airfield differently than fixed-wing aircraft, were projected to account for approximately 3 percent of the annual operations.

Table 6.13.2-3 describes the flight tracks used to prepare the NEM. The NEMs generated for HXD involved developing conditions to resemble actual noise conditions. The assignment of runway use and flight tracks was determined using information from the 2008 FAR Part 150 Noise Study for the Hilton Head Airport.[48] Three touch and go flight tracks were used to approximate the noise impact from training flights at the Airport.

Table 6.13.2-1
Operations Forecast by Aircraft Type

Year	Single-Engine (32%)	Multi-Engine (20%)	Turboprop (35%)	Jet (10%)	Helicopter (3%)	Total (100%)
2009	12,236	7,647	13,383	3,824	1,147	38,237
2029	18,208	11,380	19,915	5,690	1,707	56,901

Source: Talbert & Bright, Inc., January 2010.

Table 6.13.2-2
Assigned Integrated Noise Model Aircraft
Hilton head Island Airport

Aircraft Category	Aircraft Type	Equivalent INM Aircraft	INM Aircraft Designation
Small single-engine propeller	4 to 6 seat cabin constant-speed propeller	Composite single-engine family	GASEPF
Small single-engine propeller	4 to 6 seat cabin variable-speed propeller	Composite single-engine family	GASEPV
Small twin-engine propeller	6 to 8 seat cabin constant-speed propeller	Beechcraft Baron	BEC58P
Medium-cabin turboprop	20 to 30 seat cabin turbine propeller	De Havilland DHC-8 "Dash 8"	DHC8
Small-cabin business jet	4 to 8 seat cabin turbofan	Cessna Citation 550 Series	CNA55B
Medium-cabin business jet	8 to 12 seat cabin turbofan	Learjet 30, 40, 50 Series	LEAR35
Business-class helicopter	4 to 6 seat cabin turbine propeller	Bell Jet Ranger Series	B206L

Note: The INM aircraft database does not contain all aircraft. A FAA-approved list of aircraft has been identified to serve as substitutes for equivalent aircraft based on the number of seats and engines, type of propulsion system, and aircraft weight.
Source: Talbert & Bright, Inc., January 2010.

The following assumptions were used to determine the noise contours:

- 3 percent of the operations occur at night (10 p.m. to 7 a.m.)
- 66 percent of the operations occur on Runway 21 with 34 percent on Runway 03
- 5 percent of the single-engine and multi-engine reciprocating aircraft operations were touch and go's
- 50 percent of the operations are takeoffs and 50 percent are landings

Table 6.13.2-3
Assigned Integrated Noise Model Flight Tracks
Hilton Head Island Airport

Runway End	Departure Track[1]	Arrival Track[1]	Helicopter Track
Runway 03	Straight departure (50 NM)	Straight arrival (50 NM)	Approaches from south, departures to the north
Runway 21	Straight departure (50 NM)	Straight arrival (50 NM)	Approaches from south, departures to the north

Note:
[1]Under visual flight conditions, aircraft arrive and depart the airport traffic area along unspecified vectors. For the purpose of the INM, it is assumed arriving and departing itinerant traffic fly the runway heading. It should be noted that changes in the track configuration (traffic pattern) have relatively small impacts on the noise contours, since the most significant noise incidents are caused at the point of takeoff and during the initial climb out beyond the opposite runway threshold.
Source: ESA Airports and Wilbur Smith Associates, "Hilton Head Island Airport FAR Part 150 Noise and Land Use Compatibility Study, Noise Exposure Maps and Noise Compatibility Program," prepared for Beaufort County and Hilton Head Island Airport, January 2008.
Talbert & Bright, Inc., January 2010.

These assumptions are based on recorded flight operations data, as well as the 2008 FAR Part 150 Noise Study, and represent the current and projected runway utilization at HXD.

The existing and future operations were divided among the runway ends as per the aforementioned assumptions. These operations were then divided amongst the arrival and departure tracks. The final categorization of the operations was among aircraft type approach and arrival flight tracks at HXD. The single-engine propeller operations and jet operations were split amongst the two types of aircraft in each of these categories; i.e., 50 percent operations for the GASEPF and 50 percent for the GASEPV.

The operations for each arrival and departure tracks were calculated for 2009 and 2029.

The jet aircraft used in INM were chosen based on existing and proposed aircraft operating at HXD. The Learjet 35 was chosen to represent 50 percent of the operations because it is one of the louder business jets currently flying and an effort was made to not underestimate the noise impact by this category of aircraft.

The INM program is also able to simulate the noise impact from rotorcraft operations. These operations are represented by the Bell 206 Jet Ranger. This

[48]ESA Airports and Wilbur Smith Associates, "Hilton Head Island Airport FAR Part 150 Noise and Land Use Compatibility Study, Noise Exposure Maps and Noise Compatibility Program," prepared for Beaufort County and Hilton Head Island Airport, January 2008.

helicopter was chosen due to its high level of use among general aviation operators.

Noise levels higher than 65 db DNL, including occasional flights generating higher than normal single-noise event levels, were not expected to contribute to substantial noise impacts based on the projected frequency of larger aircraft using HXD. Commonly, the noise generated during the aircraft's approach exceeds that of the takeoff.

With respect to departures, typically, higher performance aircraft are capable of much steeper departure angles than single- and twin-engine aircraft, which result in lower noise exposure due to superior climb performance. The transition to more frequent turbine traffic, including small- to medium-cabin business jets, does not significantly add to noise levels at HXD. When assessed as a single-noise event, turbine aircraft produce a DNL of 75 decibels to 95 decibels, which is equivalent to noise along a busy urban street. These noise levels do not extend beyond the airfield taxiway system. Noise from turbine aircraft is largely a function of aircraft model, engine type, and pilot operating characteristics, including the use of power settings that are largely based on payload weight, flap settings, and use of thrust-reversers. Also, the new generation of Stage 3 jets is quieter than the predominant fleet of Stage 2 business jets. As a matter of comparison, the quieter Stage 2 and 3 business jets, such as the Citation Excel and Hawker 1000, have a noise level equal to that of the medium to large turboprop planes, such as the De Havilland Dash 8 and Beechcraft King Air aircraft, which currently conduct several thousand operations a year at HXD.

Cumulative noise levels at HXD would be consistent with an increase in total operations, as the larger noise footprint in the future would be attributed from both local and transient flights.

It is desirable that the airport acquires areas impacted by the 70 DNL contour or greater. Typically, this level of noise impact beyond airport property is associated with large, high-activity airports. For airports with low activity, noise contours of 70 DNL and above are usually contained within airport property. Often, the 65 DNL noise contour extends off airport property. Land uses that should not be located within areas exposed to 65 DNL and above include all residential development. When public institutions, such as schools, hospitals, and churches, are constructed within noise contours of 65 DNL or higher, measures should be taken to achieve reduced noise levels. Most land uses are compatible in areas impacted by noise levels less than 65 DNL.

Tables 6.13.2-4 and 6.13.2-5 (page 66) outline aircraft operation forecasts from the forecast section (pages 17 through 23) used to create the noise contours to evaluate potential noise impacts for existing and future operations using the flight tracks from the FAR Part 150 Noise and Land Use Compatibility Study (Figure 6.13.2-1, page 67).

The existing noise contours show no significant noise impact to the areas adjacent to HXD (Figure 5.1.2-1, page 41). The 65 DNL sound exposure contour encompasses 126.5 acres, of which 32.2 acres extend off existing airport property.

The future operations forecast shows an increase in runway usage; therefore, the future sound exposure level increased in size (135.3 acres) over the existing baseline model (Figure 5.1.4-1, page 44). This increase can be attributed to an increase in the total number of operations and a slight increase in operations by heavier aircraft. The future 65 DNL noise contour extends 13.5 acres outside the existing property line on the Runway 21 end; however, this property will be acquired as part of the runway extension and RPZ requirements. The 65 DNL extends 27.5 acres outside the existing property on the Runway 03. The model showed no significant impact on adjacent areas. The future airport boundaries would either include this land in fee simple ownership or the Airport would control the land by avigation easement. Other adjacent parcels, upon which the 65 DNL noise contours overlap, are undeveloped. Therefore, all land use adjacent to airport property would be considered compatible according to FAA guidelines.

6.13.3 Noise Compatibility Study[49]

The FAR Part 150 Noise and Land Use Compatibility Study performed at the Hilton Head Island Airport made the following recommendations:

- Continue to encourage the use of the Broad Creek noise abatement approach to Runway 03 (Figure 2.2.5.5-2, page 10) to the greatest extent possible
- Ensure that land use planning and control continue within the flight close-in to the Airport. It was recommended that the AOD discretionary noise level be revised from 60 DNL to 55 DNL. It was recommended that the AOD significant noise level of 65 DNL remain the same because it is an FAA definition
- Consider the voluntary sound insulation of St. James Baptist Church. It would be decided by the church whether or not it wanted to participate in the sound insulation program
- Prepare a noise compatibility plan brochure that identifies the noise abatement program. The brochure would be made available to:
  - Pilots who fly in and out of the Airport
  - ATCT
  - Land use planners
  - Public
- Continuation of the Airport noise complaint hotline

The study was submitted to the FAA in 2008 for review and approval.

[49] *Ibid.*

6.14 SECONDARY (INDUCED) IMPACTS

Positive economic impacts, due to development of the proposed projects outlined on the ALP, could include an increase in business locations in the vicinity of HXD, as well as economic development because of new businesses locating to the region. Construction of the proposed projects outlined on the ALP could also directly benefit local retailers and commercial establishments particularly those providing construction equipment and materials. In addition, the proposed projects would create temporary employment opportunities for laborers, equipment operators, and other construction-type employees.

Also during the construction period, retail and service facilities in the vicinity of the HXD should experience an increase in sales from construction employees.

Negative impacts would result from the expenditure of public funds for construction and long-term maintenance of the proposed projects outlined on the ALP. Regardless of how the facility is funded, there would be an additional economic burden imposed on the general public.

Overall, any principle negative social impacts on existing or planned property from the proposed projects outlined on the ALP are not expected to cause shifts in population patterns or growth or place demands on public services, as outlined in FAA Order 1050.1E Change 1 *Environmental Impacts: Policies and Procedures* (March 20, 2006), Appendix A, Section 15.

6.15 SOCIOECONOMIC IMPACTS, ENVIRONMENTAL JUSTICE, AND CHILDREN'S ENVIRONMENTAL HEALTH AND SAFETY RISKS

6.15.1 Socioeconomic Impacts

The population of Beaufort County and the Town of Hilton Head Island was 139,333 and 33,913, respectively, in 2008 according to the South Carolina Budget and Control Board, Office of Research and Statistics. Current projections anticipate that Beaufort County will increase its population an additional 3.0 percent by 2010. From 2000 to 2035, it is expected to increase an additional 90.4 percent, as illustrated in the Table 6.15.1-1 (page 68).

Table 6.13.2-4
Existing (2009) Operations by Aircraft Type
Hilton Head Island Airport

Flight Track	Single-Engine Piston		Multi-Engine Piston		Turboprop		Jet		Helicopter	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2009 Runway 03 Operations – Track										
A	0.263	0.008	0.328	0.010	0.689	0.021	0.164	0.005	-	-
A1	0.525	0.016	0.656	0.020	2.700	0.083	0.016	0.001	-	-
A2	0.263	0.008	0.164	0.005	0.172	0.005	0.016	0.001	-	-
A3	0.263	0.008	0.164	0.005	0.172	0.005	0.016	0.001	-	-
A4	0.788	0.024	1.313	0.041	1.436	0.044	1.428	0.044	-	-
A5	3.151	0.097	0.656	0.020	0.574	0.018	-	-	-	-
D	5.252	0.162	3.282	0.102	5.744	0.178	1.641	0.051	-	-
T	0.553	0.017	0.345	0.011	-	-	-	-	-	-
2009 Runway 21 Operations – Track										
D	0.102	0.003	0.319	0.010	0.334	0.010	0.319	0.010	-	-
D1	2.956	0.091	1.593	0.049	1.951	0.060	2.549	0.079	-	-
D2	-	-	3.345	0.103	7.610	0.235	0.159	0.005	-	-
D3	-	-	1.115	0.034	1.254	0.039	0.159	0.005	-	-
D4	5.352	0.166	-	-	-	-	-	-	-	-
D5	1.784	0.055	-	-	-	-	-	-	-	-
A	10.194	0.315	6.371	0.197	11.150	0.345	3.186	0.099	-	-
T	0.537	0.017	0.335	0.010	-	-	-	-	-	-
T1	0.537	0.017	0.335	0.010	-	-	-	-	-	-
Helo 03/21 Arrival									1.524	0.047
Helo 03/21 Departure									1.524	0.047

Operations Breakdown	2009	INM Aircraft	Operations/ Runway	2009
Single-Engine Piston (SEP)	12,236	GASEPF, GASEPV	SEP Runway 03	4,160
Multi-Engine Piston (MEP)	7,647	BEC58P	SEP Runway 21	8,076
Turboprop (TP)	13,383	DHC8	MEP Runway 03	2,600
Turbojet (TJ)	3,824	CNA55B, LEAR35	MEP Runway 21	5,047
Rotorcraft	1,147	B206L	TP Runway 03	4,550
Total	38,237		TP Runway 21	8,833
			TJ Runway 03	1,300
			TJ Runway 21	2,524
			SEP Runway 03	4,160

Assumptions:
3% of operations are at night (10:00 p.m. to 7:00 a.m.)
66% of operations are on Runway 21 (34% on Runway 03)
5% of SEP and MEP are touch and go's

Notes:
GASEPF – Single-engine piston fixed pitch
GASEPV – Single-engine piston variable pitch
BEC58P – Twin-engine piston fixed pitch
DHC8 – de Havilland DHC-8 Dash-8
CNA55B – Cessna Citation II
LEAR35 – Learjet 35
B206L – Bell 206 Jet Ranger
Source: Talbert & Bright, Inc., February 2010.

Table 6.13.2-5
Future (2029) Operations by Aircraft Type
Hilton Head Island Airport

Flight Track	Single-Engine Piston		Multi-Engine Piston		Turboprop		Jet		Helicopter	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
2029 Runway 03 Operations – Track										
A	0.391	0.012	0.488	0.015	1.026	0.032	0.244	0.008	-	-
A1	0.781	0.024	0.977	0.030	4.017	0.124	0.024	0.001	-	-
A2	0.391	0.012	0.244	0.008	0.256	0.008	0.024	0.001	-	-
A3	0.391	0.012	0.244	0.008	0.256	0.008	0.024	0.001	-	-
A4	1.172	0.036	1.954	0.060	2.137	0.066	2.125	0.066	-	-
A5	4.689	0.145	0.977	0.030	0.855	0.026	-	-	-	-
D	7.815	0.242	4.884	0.151	8.548	0.264	2.442	0.076	-	-
T	0.823	0.025	0.514	0.016	-	-	-	-	-	-
2029 Runway 21 Operations – Track										
D	0.152	0.005	0.474	0.015	0.498	0.015	0.474	0.015	-	-
D1	4.399	0.136	2.370	0.073	2.904	0.090	3.793	0.117	-	-
D2	-	-	4.978	0.154	11.324	0.350	0.237	0.007	-	-
D3	-	-	1.659	0.051	1.867	0.058	0.237	0.007	-	-
D4	7.964	0.246	-	-	-	-	-	-	-	-
D5	2.655	0.082	-	-	-	-	-	-	-	-
A	15.170	0.469	9.481	0.293	16.592	0.513	4.741	0.147	-	-
T	0.798	0.025	0.499	0.015	-	-	-	-	-	-
T1	0.798	0.025	0.499	0.015	-	-	-	-	-	-
Helo 03/21 Arrival									2.268	0.070
Helo 03/21 Departure									2.268	0.070

Operations Breakdown	2029	INM Aircraft	Operations/ Runway	2029
Single-Engine Piston (SEP)	18,208	GASEPF, GASEPV	SEP Runway 03	6,191
Multi-Engine Piston (MEP)	11,380	BEC58P	SEP Runway 21	12,017
Turboprop (TP)	19,915	DHC8	MEP Runway 03	3,869
Turbojet (TJ)	5,690	CNA55B, LEAR35	MEP Runway 21	7,511
Rotorcraft	1,707	B206L	TP Runway 03	6,771
Total	56,901		TP Runway 21	13,144
			TJ Runway 03	1,935
			TJ Runway 21	3,755
			SEP Runway 03	6,191

Assumptions:
3% of operations are at night (10:00 p.m. to 7:00 a.m.)
66% of operations are on Runway 21 (34% on Runway 03)
5% of SEP and MEP are touch and go's

Notes:
GASEPF – Single-engine piston fixed pitch
GASEPV – Single-engine piston variable pitch
BEC58P – Twin-engine piston fixed pitch
DHC8 – de Havilland DHC-8 Dash-8
CNA55B – Cessna Citation II
LEAR35 – Learjet 35
B206L – Bell 206 Jet Ranger
Source: Talbert & Bright, Inc., February 2010.

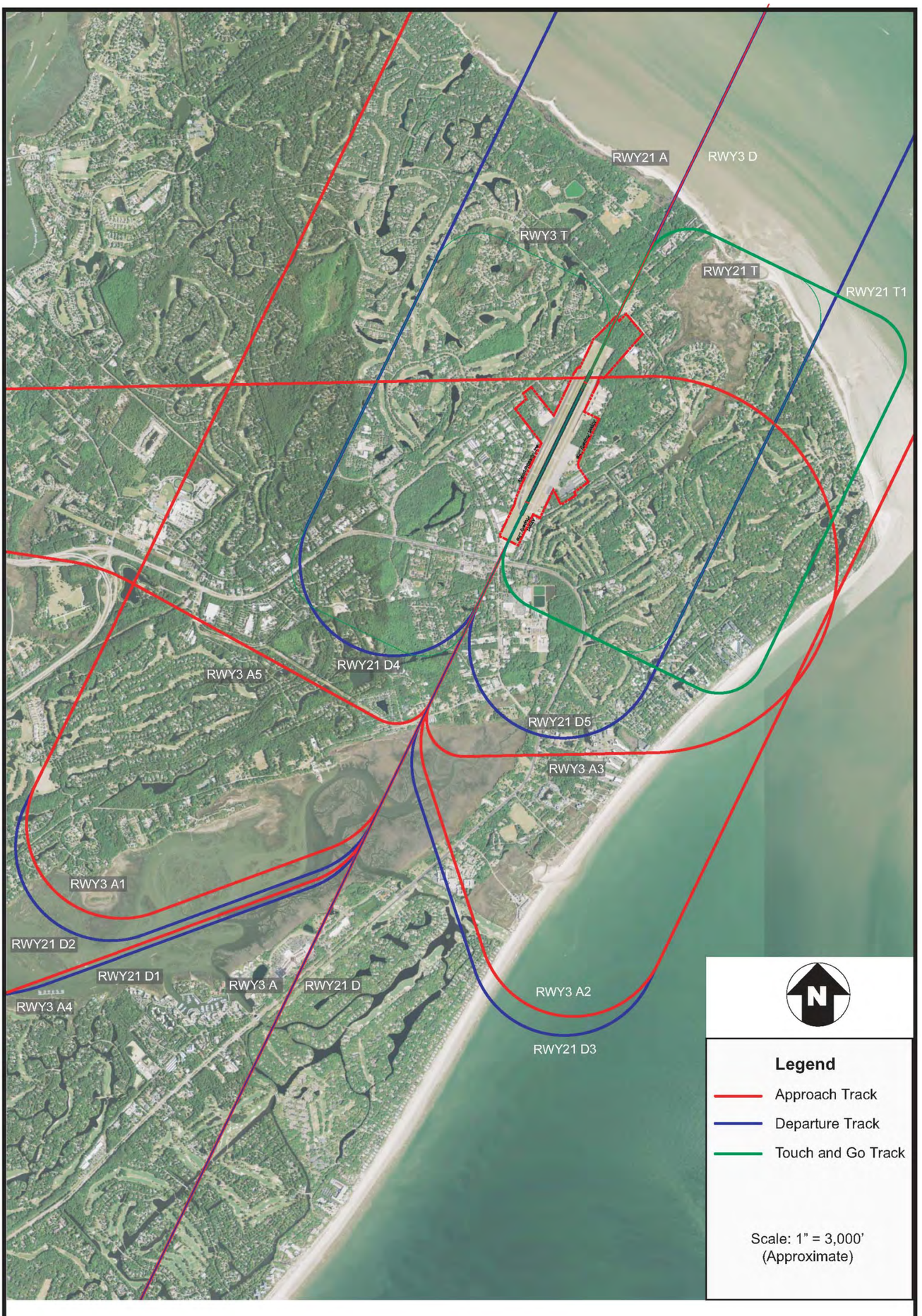


Figure 6.13.2-1
Hilton Head Island Airport

Flight Tracks

Table 6.15.1-1
Population Projections
Hilton Head Island Airport

Year	Hilton Head Island Population	Hilton Head Island Percent Change	Beaufort County Population	Beaufort County Percent Change	South Carolina Population	South Carolina Percent Change
1970	–	–	51,136	–	2,590,516	–
1980	11,344	–	65,364	27.8%	3,121,820	20.5%
1990	23,694	108.9%	86,425	32.2%	3,486,703	11.7%
2000	33,862	42.9%	120,937	39.9%	4,012,012	15.1%
2005	34,855	2.9%	139,333	15.2%	4,254,989	6.1%
2008	33,913	-2.7%	150,415	8.0%	4,479,800	5.3%
2010	–	–	156,070	3.8%	4,549,150	1.5%
2015	–	–	170,640	9.3%	4,784,700	5.2%
2020	–	–	185,220	8.5%	5,020,400	4.9%
2025	–	–	199,780	7.9%	5,256,080	4.7%
2030	–	–	215,270	7.8%	5,488,460	4.4%
2035	–	–	230,240	7.0%	5,722,720	4.3%

Source: South Carolina Budget and Control Board, Office of Research and Statistics, "The South Carolina Statistical Abstract 2008," <http://www.ors2.state.sc.us/>accessed September 15, 2009.

Table 6.15.1-2 illustrates the current demographic characteristics for Beaufort County. Table 6.15.1-3 illustrates the major employers for Beaufort County.

Prior to development of the proposed projects outlined on the ALP or additional property to be acquired, an analysis will be performed to determine whether there will be any impacts to the socioeconomics of the area.

6.15.2 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*,[50] states that to the greatest extent practicable and permitted by law, each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations.

Disproportionate can mean that an impact occurs predominantly in environmental justice populations (those populations with percentages of low-income and/or minority individuals above the percentages for the county in which the individuals live) or that the impact is more severe in these populations than non-environmental justice populations. The terms minority persons, minority population, low-income persons, and low-income populations, as defined are useful in understanding environmental justice.

- **Minority populations** are
  - Origins of any of the black racial groups from Africa
  - Hispanic origins such as Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race
  - Asian origins such as any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent
  - America Indian and Alaskan Native people such as those with origins in any of the original people of North America and who

[50]Federal Register, Vol. 59, No. 32, February 16, 1994, "Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations," <http://www.epa.gov/>, accessed September 15, 2009.

Table 6.15.1-2
General Demographic Characteristics (2000)
Hilton Head Island Airport

Subject	Hilton Head Island	Beaufort County	South Carolina
Population			
Total population	33,862	120,937	4,012,012
Sex and Age			
Male	16,947	61,193	1,948,929
Female	16,915	59,744	2,063,083
Under 5 years	1,502	8,110	264,679
5 to 9 years	1,671	8,033	285,243
10 to 14 years	1,736	7,747	290,479
15 to 19 years	1,557	8,722	295,377
20 to 24 years	1,714	10,002	281,714
25 to 34 years	3,985	16,434	560,831
35 to 44 years	4,319	16,433	625,124
45 to 54 years	4,433	14,019	550,321
55 to 59 years	2,359	6,397	206,762
60 to 64 years	2,336	6,286	166,149
65 to 74 years	4,744	11,329	270,048
75 to 84 years	2,653	5,913	165,016
85 years and over	753	1,512	50,269
Median age (years)	46.0	35.8	35.4
18 years and over	28,004	92,794	3,002,371
Male	13,931	46,859	1,432,4113
Female	14,073	45,935	1,569,958
Average household size	2.32	2.51	2.53
Average family size	2.68	2.90	3.02
Housing Occupancy			
Total housing units	24,647	60,509	1,753,670
Occupied housing units	14,408	45,532	1,533,854
Vacant housing units	10,239	14,977	219,816
For seasonal, recreational, or occasional use	7,360	9,613	70,198
Homeowner vacancy rate (percent)	1.5	1.6	1.9
Rental vacancy rate (percent)	40.6	19.2	12.0
Occupied housing units	14,408	45,532	1,533,854
Owner-occupied housing units	11,191	33,338	1,107,617
Renter-occupied housing units	3,217	12,194	426,237
Average household size of owner-occupied unit	2.21	2.44	2.59
Average household size of renter-occupied unit	2.70	2.71	2.37

Source: U.S. Census Bureau, Census 2000, "Profiles of General Demographic Characteristics 2000 Census of Population and Housing, South Carolina," <http://www2.census.gov/>, accessed September 15, 2009.

Table 6.15.1-3
Major Employers in Beaufort County
Hilton Head Island Airport

Company
Beaufort County School District
Beaufort Jasper Water & Sewer Authority
Beaufort County Government
Beaufort Memorial Hospital
Callaswassie Island Co. LP
CareCore National, LLC
Columbia Sussex Corp.
Cypress Club, Inc.
Department of Defense
Hargray Communications Group, Inc.
Lowes Home Centers, Inc.
Marine Corps Community Services
Marriott Resorts Hospitality Corp.
National Health Corp.
OS Restaurant Services, Inc.
Publix Supermarkets
Sea Pines Resort, LLC
Starwood Hotels and Resorts
Technical College of the Lowcountry
Tenet Health System, Hilton Head, Inc.
The Greenery, Inc.
University of South Carolina Beaufort
Wal-Mart Associates, Inc.

Source: Lowcountry Economic Network (Angela Williams, Director of Communications and Research, "Key Employers," e-mail message, September 16, 2009.

maintain cultural identification through tribal affiliation or community recognition

- Native Hawaiian or Other Pacific Islander people such as those having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands

- **Minority persons** are any readily identifiable groups or minority populations who live in close geographic proximity and, if circumstances warrant, geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed activity.

- **Low-income populations** are any readily identifiable community or group whose median household income is at or below the U.S. Department of Health and Human Services (USDHHS) poverty guidelines (Table 6.15.2-1). The U.S. Census Bureau Office of Statistics also provides census data used in calculating low-income populations.

- **Low-income persons** are persons whose household income is at or below the USDHHS poverty guidelines outlined in Table 6.15.2-1.

Table 6.15.2-1
USDHHS Poverty Guidelines
Hilton head Island Airport

Size of Family Unit	Weighted Average Thresholds
One person	$8,350
Two people	$11,250
Three people	$14,150
Four people	$17,050
Five people	$19,950
Six people	$22,850
Seven people	$25,750
Eight people	$28,650
Each Additional Person	+$2,900

Source: *Federal Register*, Vol. 65, No. 31, February 15, 2000, pp. 7555-7557. <http://www.workworld.org/>, accessed September 15, 2009.

A block group analysis was conducted to identify the number of minority and low-income areas within the vicinity of HXD.

Total minority population in the study area (Census Tract 107, Block Group 1; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2, Figure 6.15.2-1) in 2000 was estimated at approximately 20.4 percent (Table 6.15.2-2). This percentage is 12.4 percent lower than South Carolina (32.8 percent).

Table 6.15.2-2
U.S. Census Minority Populations
by Individuals
Hilton Head Island Airport

	Total Population	Total Minority Population	Percent Minority Population
United States	281,421,906	70,068,181	24.9%
South Carolina	4,012,012	1,316,452	32.8%
Beaufort County	120,937	35,486	29.3%
Hilton Head Island	33,862	4,969	14.7%
Evaluation Area*	6,823	1,1389	20.4%

*Census Tract 107, Block Group 1; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2.
Source: U.S. Census Bureau, American FactFinder (2000) <http://factfinder.census.gov/>, accessed September 15, 2009.

The total percentage of people in the study area (Census Tract 107, Block Group 1; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2), classified as living below the poverty level in 2000 was approximately 9.0 percent (Table 6.15.2-3). This rate is 5.1 percent lower than South Carolina (14.1 percent) as a whole.

Table 6.15.2-3
U.S. Census Low-Income Populations
by Individuals (1999)
Hilton Head Island Airport

	Total Population	Total Low-Income Population	Percent Low-Income Population
United States	273,882,232	33,899,812	12.4%
South Carolina	3,883,329	547,869	14.1%
Beaufort County	114,377	12,195	10.7%
Hilton Head Island	33,265	2,442	7.3%
Evaluation Area*	6,655	598	9.0%

*Census Tract 107, Block Group 1; Census Tract 108, Block Groups 1 and 2; and Census Tract 109, Block Groups 1 and 2.
Source: U.S. Census Bureau, American FactFinder (2000) <http://factfinder.census.gov/>, accessed September 15, 2009.

As a result, the minority and/or low-income populations that reside within the environmental justice evaluation area do not exceed the thresholds for the state of South Carolina.

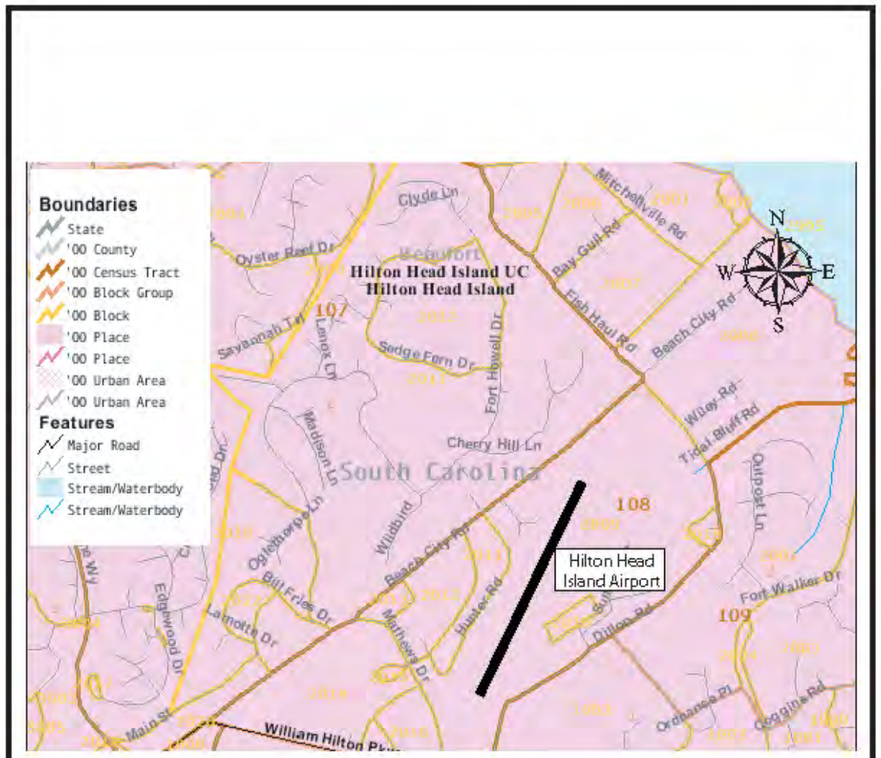


Figure 6.15.2-1
Hilton Head Island Airport

Environmental Justice Evaluation Area

Prior to development of the proposed projects outlined on the ALP or additional property to be acquired, an analysis will be performed to determine whether there are environmental justice impacts.

6.15.3 Children's Environmental Health and Safety Risks

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks* (April 23, 1997),[51] states that each federal agency shall:

- Make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children
- Ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks

Prior to development of the proposed projects outlined on the ALP or additional property to be acquired, an analysis will be performed to determine whether there will be impacts to the health and safety of children.

6.16 WATER QUALITY

Beaufort County is located in the Salkehatchie River Basin, which incorporates 25 watersheds and two million acres of land. Within the Salkehatchie River Basin are the Salkehatchie River Basin and the Combahee River/Ashepoo River/Broad River Basin. The Salkehatchie River Basin extends from the Upper and Lower Coastal Plain regions to the Coastal Zone region. There are approximately 1,820 stream miles, 4,679 acres of lake waters, and 129,683 acres of estuarine areas in the basin.

HXD is located in Watershed 03050208-110, which consists primarily of Calibogue Sound and its tributaries, including the May River, Cooper River, and Broad Creek. The watershed occupies 80,668 acres of the Coastal Zone region of South Carolina (Figure 6.16-1).[52] Waters in the area are classified as:

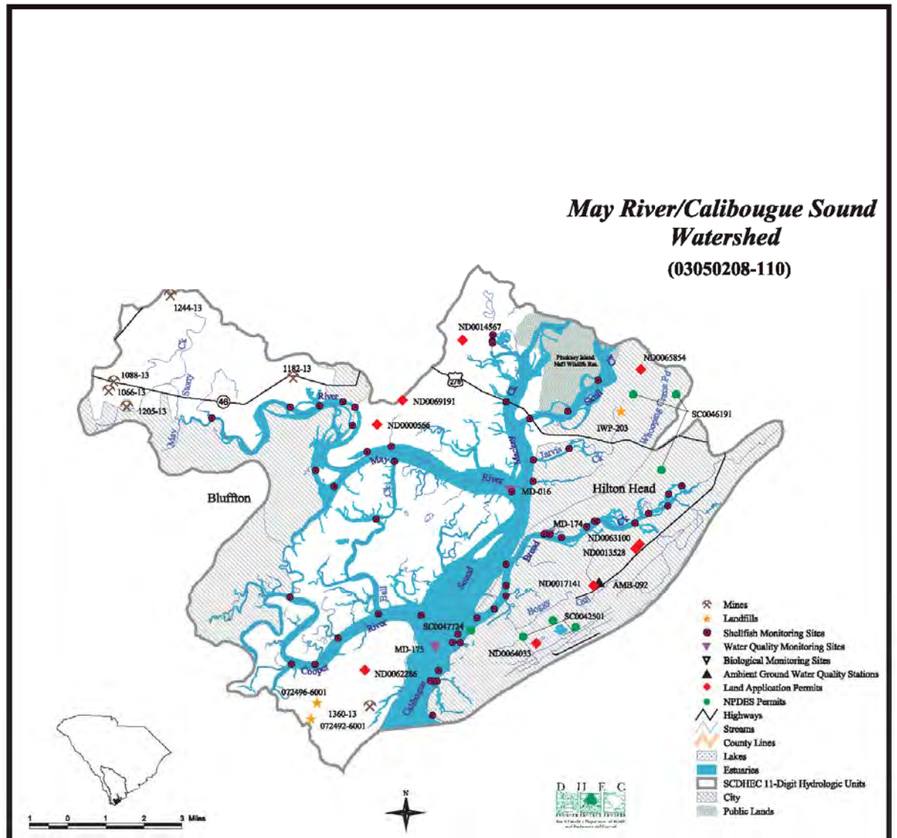


Figure 6.16-1
Hilton Head Island Airport

Watershed

- **Outstanding Resource Waters (Class ORW)** are freshwaters or salt waters that constitute an outstanding recreational or ecological resource, or those freshwaters suitable as a source for drinking water supply purposes, with treatment levels specified by SCDHEC.
- **Shellfish Harvesting Waters (Class SFH)** are tidal salt waters protected for shellfish harvesting and are suitable also for uses listed in Classes SA and SB.
- **Tidal Saltwaters (Class SA)** are suitable for primary and secondary contact recreation, crabbing, and fishing. These waters are not protected for harvesting of clams, mussels, or oysters for market purposes or human consumption. The waters are suitable for the survival and propagation of a balanced indigenous aquatic community of marine fauna and flora.
- **Tidal Saltwaters (Class SB)** are suitable for the same uses listed in SA. The difference between the Class SA and SB saltwater concerns the DO limitations. Class SA waters must maintain daily DO averages not less than 5.0 mg/l, with a minimum of 4.0 mg/l, and Class SB waters must maintain DO levels not less than 4.0 mg/l.
- **Groundwaters (Class GB)** include all ground waters of the state, unless classified otherwise, which meet the definition of underground sources of drinking water.

Short-term impacts, which may occur as a result of the proposed projects outlined on the ALP, are a result of construction activities. Erosion could occur during the construction phase when the vegetation would be cleared and the surface layer disturbed for the proposed action. Soil erosion may lead to silt deposits and increased turbidity in surface waters (ditches), which could temporarily upset flow and impact aquatic organisms.

Oil and grease spills during construction are another possible source of water pollution. The chance for serious mishaps of this type is small; however, since such incidents would be handled by an SPCC, as specified in a National Pollution Discharge Elimination System (NPDES) permit, any undetected accidental leakage would be absorbed and/or filtered by slopes and ditches before reaching major streams. Appropriate BMPs would be used during construction for erosion control and water quality protection, as well as other mitigative measures required for NPDES permit approval.

[51]Federal Register, Vol. 62, No. 78, April 23, 1997, "Protection of Children from Environmental Health Risks and Safety Risks," <http://www.epa.gov/>, accessed September 15, 2009.
[52]South Carolina Department of Health and Environment Control Division of Water, "Watershed Water Quality Assessment Salkehatchie River Basin," October 2003, <http://www.scdhec.gov/>, accessed September 16, 2009.

Long-term water quality impact that may result from the proposed projects outlined on the ALP would be pollutant wash off. The primary components of pollutant wash off include the following potential contaminants: biochemical oxygen demand, chemical oxygen demand, volatile suspended solids, oil, grease, pesticides, polychlorinated biphenyls, total and suspended solids, algal nutrients, heavy metals, salts, asbestos, and coliform bacterial indicators. Pollutant concentration and discharge rates of runoff are dependent on rainfall rates. Rainfall energy dislodges deposited particles on the impervious surfaces, which are then conveyed in stormwater runoff to the receiving drainage appurtenances.

However, BMPs based on NDPES requirements would be implemented to reduce introduction of contaminants to adjacent surface water resources.

Detention basins, if necessary, would be designed to provide the level of treatment necessary to ensure that stormwater discharges would not result in degradation of the physical, chemical, or biological integrity of the receiving waters; i.e., Grants Creek. Detention basins use a temporary pool of water as the primary mechanism to treat stormwater. The pool of water allows settling of sediments (including fine sediments) and removal of soluble pollutants.

Detention basins also can be used to control the peak rate of stormwater runoff. In addition, swales for collecting and conveying stormwater runoff can be an effective BMP for water quality enhancement. The primary components of swales for water quality enhancement are the length of the swale and the velocity of the stormwater runoff as it travels through the swale; pollutant removal efficiency of grass swales increases proportionately to their length.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property or additional property to be acquired, compliance with the Clean Water Act will be necessary, as well as coordination with appropriate federal and state agencies regarding potential water quality impacts.

6.17 WETLANDS

Executive Order 11990, *Protection of Wetlands*,[53] requires federally supported projects to preserve wetlands and avoid and minimize wetland impacts to the maximum extent practicable. In addition, Section 404 of the Clean Water Act requires regulation for the fill or discharge of materials into waters of the United States. Water bodies, such as rivers, lakes, and streams, as well as wetlands, are subject to jurisdictional consideration under the Section 404 program. Although the principal administrative agency of the Clean Water Act is the USEPA, the USACE has the major responsibility for implementing, permitting, and enforcing provisions of the Clean Water Act. The USACE regulatory program is defined in 33 CFR Parts 320-330.[54]

As of June 5, 2007, the USEPA and USACE have issued guidance concerning coordination on jurisdictional area delineations under the Clean Water Act Section 404 in light of SWANCC and Rapanos Supreme Court Decisions. The new regulatory guidance (RGL 07-01)[55] is currently being interpreted and implemented by USACE field representatives.[56, 57]

The currently accepted methods of wetland determination described in the *1987 United States Army Corps of Engineers Manual for Identifying and Delineating Wetland Areas* will be utilized. The manual states that under normal circumstances, an area must demonstrate the presence of three components to be declared a jurisdictional wetland: 1) hydrophytic vegetation, 2) hydric soils, and 3) wetland hydrology. In accordance with the three-component approach to identifying wetland areas, soils, hydrology, and vegetation will be simultaneously characterized at each observation point (sample location). The collected field data will then be utilized to make a routine wetland determination. Upland/wetland boundaries will be determined by proceeding away from the wetlands toward uplands and noting any changes in soil, vegetation, and hydrology. The boundaries of any wetland areas, identified within the proposed projects outlined on the ALP, will be flagged at the locations where hydrophytic vegetation and/or hydric soils give way to non-hydrophytic vegetation and/or non-hydric soils. When the three components test positive, a wetland designation will be assigned. The specific testing conducted at each sample location will be as follows:

- **Vegetation** – vegetation in each stratum will be examined at each sample location. Herbaceous vegetation, saplings, and shrubs will be examined within a 5-foot radius. Trees and woody vines will be examined within a 30-foot radius. Dominant plant species will be identified in each stratum. The wetland indicator status for each dominant plant was recorded using the USFWS *National List of Plant Species that Occur in Wetlands* (1996). Where greater than 50 percent of the dominant species will be identified as OBL,[58] facultative (FAC, excluding FAC-),[59] or facultative wetlands (FACW, including FACW- and FACW+),[60] the sample location will be considered to have hydrophytic vegetation.

- **Soils** – excavations with a Dutch auger will be made by hand to a depth of approximately 16 inches at each sample location. Soil below the 'A' horizon will be examined at a depth of 12 inches to 16 inches and compared to the following hydric soil indicators:

  - gleying (gray coloring)
  - matrix chroma of two or fewer in both mottled and unmottled mineral soils
  - high organic content in the upper layers
  - organic streaking (sandy soils)
  - iron and manganese concretions

  Soil colors will be evaluated using Munsell Soil Color Charts. Additional soil characteristics, including texture, soil series, and drainage class, will also be examined at each sample location.

- **Hydrology –** each sample location will be examined for indicators of wetland hydrology, especially inundation, soil saturation of the upper 16 inches, drift lines, drainage patterns, watermarks, and sediment deposits.

Based on review of aerial photography, the U.S. Geologic Survey 7.5-minute topographic map, the Beaufort County Soil Survey, and the USFWS National Wetland Inventory map, the Hilton Head Island Airport contains the potential for wetlands (Figure 6.17-1, page 72). Potential wetlands are located on the northern, eastern, and western portions of the Airport property. These wetland areas are underlain by Polowana and Rosedhu soil series, which are listed as hydric soils and very poorly drained.

Prior to development of the proposed projects outlined on the ALP on currently undeveloped areas within the HXD property or additional property to be acquired, compliance with the Clean Water Act will be necessary, as well as coordination with appropriate federal and state agencies regarding potential wetland impacts.

[53]Federal Register, Vol. 42, Pg. 26961, May 24, 1977, "Protection of Wetlands," <https://propertydisposal.gsa.gov/>, accessed June 15, 2009.

[54]Code of Federal Regulations, "Title 33 Navigation and Navigable Waters, Parts 320-330, U.S. Army Corps of Engineers Regulatory Program Regulations," <http://www.usace.army.mil/>, accessed September 15, 2009.

[55]Clean Water Act Jurisdiction following the U.S. Supreme Court's Decision in Rapanos vs. United States and Carabell vs. United States.

[56]U.S. Army Corps of Engineers, "Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coastal Plain Region, ERDC/EL TR-08-30, October 2008," <http://el.erdc.usace.army.mil/elpubs/pdf/trel08-30.pdf>, accessed December 14, 2009.

[57]U.S. Army Corps of Engineers, "DRAFT Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region, Draft for Peer Review and Field Testing 6-25-2009," <http://www.usace.army.mil/CECW/Documents/cecwo/reg/EMP_Peer_Rev.pdf>, accessed December 14, 2009.

[58]OBL, Obligate Wetland, occurs almost always (estimated probability 99 percent) under natural conditions in wetlands, <http://plants.usda.gov/>, accessed September 17, 2009.

[59]FAC, Facultative, equally likely to occur in wetlands or non-wetlands (estimated probability 34 percent to 66 percent), <http://plants.usda.gov/>, accessed September 17, 2009.

[60]FACW, Facultative Wetland, usually occurs in wetlands (estimated probability 67 percent to 99 percent), but occasionally found in non-wetlands, <http://plants.usda.gov/>, accessed September 17, 2009.

The location of wetlands is approximate. An official delineation has not been conducted. The Army Corps of Engineers has not verified the site. This map should be used for planning purposes only.

Potential Wetlands

Figure 6.17-1
Hilton Head Island Airport

Location of Potential Wetlands

6.18 WILD AND SCENIC RIVERS

The Wild and Scenic Rivers Act (P.L. *90-542, as amended*, 16 USC 1271-1287) established the National Wild and Scenic Rivers System and prescribed the methods and standards through which rivers were identified and added to the system. The Act authorizes the Secretaries of the Interior and Agriculture to study areas and submit proposals for addition to the system. It describes procedures and limitations for control of lands in federally administered components of the system and for dealing with disposition of lands and minerals under federal ownership. Rivers are classified as wild, scenic, or recreational. Definitions of each are presented below:

- *Wild river areas* are rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted. These represent vestiges of primitive America.

- *Scenic river areas* are rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

- *Recreational river areas* are rivers or sections of rivers that are readily accessible by road or railroad, may have some development along their shorelines, and may have undergone some impoundment or diversion in the past.

There is currently one river, or portions thereof, in South Carolina listed as a federal wild and scenic river – Chattooga River (P.L .93-279 – May 10, 1974).

In addition, South Carolina enacted the South Carolina Scenic Rivers Act of 1989 (SC Code of Laws Title 49 – Waters, Water Resources and Drainage, Chapter 29 – South Carolina Scenic Rivers Act), which protects *unique or outstanding scenic, recreational, geologic, botanical, fish, wildlife, historic or cultural values* of selected rivers or segments of rivers in the state. Rivers or portions thereof, protected by this Act include:

- **Ashley River** – 24-mile segment extending from Sland's Bridge (U.S. Highway 17A) near Summerville to the Mark Clark Expressway (I-526) bridge in Charleston.
- **Black River** – 75-mile segment beginning at S-14-40 in Clarendon County and extends southeast through Williamsburg County to Pea House Landing at the end of S-22-38 in Georgetown County.
- **Broad River** – 15-mile segment extending from the 99 Islands dam to the confluence with the Pacolet River.
- **Great Pee Dee River** – 70-mile segment extending from U.S. Highway 378 Bridge between Florence and Marion Counties to the U.S. Highway 17 bridge in Georgetown.
- **Little Pee Dee River** – 14-mile segment from U.S. Highway 378 to the confluence with the Great Pee Dee River and a 48-mile segment through Dillon County from the Marlboro County line above Parish Mill Bridge on S-17-363 to the confluence with Buck Swamp at the Marion County line.
- **Lower Saluda River** – 10-mile segment beginning one mile below Lake Murray Dam to its confluence with the Broad River.
- **Lynches River** – 54-mile segment between U.S. Highway 15 in Lee County and the eastern boundary of Lynches River State Park.
- **Middle Saluda River** – 5-mile segment, extending from U.S. Highway 276 to a point about one mile upstream of the abandoned Cleveland Fish Hatchery in Greenville County.

There are no rivers listed on the National Wild and Scenic Rivers System or South Carolina Scenic Rivers Act located on Hilton Head Island; therefore, compliance with the National Wild and Scenic Rivers Act is not required for development projects outlined on the ALP.

6.19 INDIRECT AND CUMULATIVE IMPACTS

Impacts to the human and natural environment are studied through detailed analyses, as required by the Council on Environmental Quality (CEQ). There are three types of impacts that may occur when an action takes place: direct, indirect, and cumulative.

- Direct impacts are caused by the proposed projects and occur at the same time and place (e.g., sediment runoff associated with construction)

- Indirect impacts area caused by the proposed projects and are later in time and farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and the related impacts on air and water and other natural systems, including ecosystems (e.g. runoff associated with future taxiway use)

- Cumulative impacts are impacts on the environment, which results from the incremental impact of the projects when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (e.g., impacts to wetlands associated with other aviation-related projects and/or private development projects).

Indirect impacts may include growth of the community and changes in land use, demographics, and socioeconomics that are created as a by-product of the projects proposed in the Master Plan Update.

Cumulative impacts could result from individual projects that are each minor in nature, but together create a combined effect that may be considered significant. Cumulative impacts would be addressed as each project is developed in the required environmental documentation.

The purpose of this section is to present the graphic representation of the items addressed and recommended in the Facility Requirements (page 24). The ALP drawing set components consist of the following:

- Cover Sheet
- Airport Layout Plan
- Terminal Area Plan
- Runway 03 Inner Approach Surfaces – Plan and Profile
- Runway 21 Inner Approach Surfaces – Plan and Profile
- Airport Airspace Drawing – Plan
- Airport Airspace Drawing – Profile
- Land Use Plan
- Airport Property Map (Exhibit 'A')

7.1 COVER SHEET

The cover sheet is included as the first drawing of the ALP drawing set. The cover sheet includes the following information:

- Project Title
- Airport Name
- Location
- Sponsor
- Funding Agency Project Identification Numbers
- Preparer's Project Identification Number
- Date
- Sheet Index
- Preparer
- Vicinity Map
- Location Map

7.2 AIRPORT LAYOUT PLAN

The ALP drawing represents a 20-year, three-phased program, which is required to support the projected activity for HXD. Data blocks on the drawing present pertinent information including wind coverage, airport elevations, navigational aids, pavement data, selected design standards, approach data, approach zone dimensions, runway declared distances, runway coordinates, plan drawing legends, and other data. The HXD ALP is designed as a C-II ARC. This dictates several of the plan's development elements including the following:

- T-Hangars and Corporate Hangar Areas
- Apron Expansion
- Land Acquisition
- Taxiway 'A' Relocation (compliance)

The ALP is shown on Drawing Nos. 2, 3, 4, and 5 of 14 (pages 79 through 82) and presented at a scale of 1 inch = 400 feet and a contour interval of 5 feet, provided by aerial photography.

7.3 TERMINAL AREA PLAN

The Terminal Area Plan (TAP) is a larger-scaled representation of the ALP, focusing on development around the terminal building. The TAP includes such features as existing and proposed aprons, buildings, hangars, parking lots, etc., and their locations. The various phases for each improvement project are also shown on this plan. The TAP is presented at a scale of 1 inch = 200 feet and is shown on Drawing Nos. 10 and 11 of 14 (pages 87 and 88).

The improvements represented on this drawing include the following:

- New Terminal Area
- T-Hangars and Corporate Hangar Areas
- Apron Expansion
- New Automobile Parking Areas

7.4 AIRPORT AIRSPACE PROFILE AND INNER APPROACH SURFACE DRAWING

This drawing illustrates the Part 77 approaches in profile as well as approaches for displaced thresholds. The inner approach surface drawing depicts the "close-in" approach surfaces and runway protection zones. The surfaces are imposed over the existing terrain to determine the number and magnitude of any penetrations to the surfaces. The drawing includes the proposed conditions (Drawing Nos. 6, 7, 8, and 9 of 14; pages 83 through 85).

7.5 AIRPORT AIRSPACE DRAWING

The airport airspace surface drawing depicts the proposed FAR Part 77 imaginary surfaces for the Airport. The drawing includes topography, which underlies the FAR Part 77 surfaces, and a graphical and tabular representation of the surfaces. The surrounding topography was taken from USGS quadrangle sheets and encompasses the area within the proposed FAR Part 77 imaginary surfaces. Beyond 3,500 feet from the runway ends, the search for possible surface penetrations was centered around manmade structures, such as towers, buildings, power lines, etc. (Drawing No. 12 of 14, page 89).

7.6 LAND USE PLAN

The land use plan is a graphic representation, to scale, of airport facilities overlaid on the current land use as provided by the Beaufort County and the Town of Hilton Head Island. The land uses are depicted by general land use categories (i.e., residential, recreational, industrial, commercial, etc.). This drawing has been developed to show both existing and recommended land use conditions (Drawing No. 13 of 14, page 90).

7.7 AIRPORT PROPERTY MAP

The airport property map (Exhibit 'A') illustrates ownership or interest in each tract within the airport boundaries. How and when the airport property was obtained is noted by parcel number and described separately in tabular form. Exhibit 'A' is prepared at a scale of 1 inch = 400 feet on Drawing No. 14 of 14 (page 91).

7.8 CHECKLIST

In order to ensure that complete and appropriate information is included in the ALP drawing set, the following checklist provided by the FAA was utilized to construct and check the drawings included in this document.

U.S. Department of Transportation
Federal Aviation Administration
Southern Region – Airports Division
Effective Date: 10/2010

Airport Layout Plan Drawing Set Checklist

Name of Airport:	Hilton Head Island Airport		
Location of Airport:	Hilton Head Island, Beaufort County, South Carolina		
Date of Review:		Reviewed by:	

Significant Development Changes Since Previous ALP Approval/or Narrative

1.	Refer to Master Plan Update Report
2.	
3.	
4.	
5.	
6.	

In order to protect the airspace for future conditions, complete the following information:

Future Airport Reference Point (ARP) (if same as existing, provide existing ARP)

Existing	Refer to data tables on ALP drawing			
ARP Latitude		ARP Longitude		
Proposed				
ARP Latitude		ARP Longitude		

Future RWY End Coordinates & RWY End Elevation (if same as existing, provide existing coordinates)

Existing		Refer to data tables on ALP drawing		
RWY End	03	Latitude	Longitude	Elevation
RWY End	21	Latitude	Longitude	Elevation
Proposed		Refer to data tables on ALP drawing		
RWY End	03	Latitude	Longitude	Elevation
RWY End	21	Latitude	Longitude	Elevation

Existing and Proposed Modification of Standards (MoDS) – Show Table on ALP Sheet

Existing Deviation of Standard/FAA Approved MoDS		FAA Approval Date (if any)	Expiration Date (if any)
1.	Taxiway 'A' separation 200' instead of 240'	AS No: 00-ASO-082-NRA	
2.			
3.			

Proposed Deviation of Standard/FAA Modification of Standards

1.	Permit the use of declared distance runway standards
2.	Permit the use if EMA RSA/OFA standards
3.	Permit 50' taxiway widths for new construction
4.	

Runway Safety Area Re-Evaluations

(X)	Concur with Runway Safety Area Determination currently on file with FAA.
(X)	Reevaluation of Runway Safety Area Determination completed as part of planning document and shown on this ALP set.

	Yes	No	Comments
Narrative Report			
Report Provided	(X)	( )	Refer to Master Plan Update Report
Aeronautical Forecasts	(X)	( )	Refer to Master Plan Update Report
- 0-5 yrs., 6-10 yrs., 10-20 yrs	(X)	( )	Refer to Master Plan Update Report
- Total annual operations	(X)	( )	Refer to Master Plan Update Report
- Annual itinerant operations	(X)	( )	Refer to Master Plan Update Report
- Based aircraft	(X)	( )	Refer to Master Plan Update Report
- Annual instrument approaches (if applicable)	(X)	( )	Refer to Master Plan Update Report
- Annual itinerant operations by critical aircraft	(X)	( )	Refer to Master Plan Update Report
- Annual itinerant operations by more demanding aircraft	(X)	( )	Refer to Master Plan Update Report
Proposed Development Justification	(X)	( )	Refer to Master Plan Update Report
Special Issues (MoDS, etc.)	(X)	( )	Refer to Master Plan Update Report
Development Schedule and Graphics	(X)	( )	Refer to Master Plan Update Report
Proper Agency Coordination (sponsor, local, state)	(X)	( )	Master Plan Update Report being reviewed by agencies
Airport Layout Drawing			
Proper Agency Approval (sponsor, local, state)	( )	(X)	Master Plan Update Report being reviewed by agencies
Sheet Size - 24" x 36"/22" x 34"	(X)	( )	24" x 36"
Scale 1" = 200' - 600'	(X)	( )	Scale 1" = 400'
2' - 10' Labeled Contours	(X)	( )	5' contour interval (no labeled)
North Arrow			
- True & magnetic	(X)	( )	
- Declination w/annual rate of change	(X)	( )	
Wind Rose			
- Source & time period	(X)	( )	
- MPH & knots	(X)	( )	
- 10.5 Knot individual & combined coverage	(X)	( )	
- 13 Knot individual & combined coverage	(X)	( )	
Airport Reference Point (ARP)			
- Existing w/Lat./Long. (NAD 83)	(X)	( )	
- Ultimate w/Lat./Long/ (NAD 83)	(X)	( )	
Elevations (Existing & Ultimate)			
- Existing runway ends	(X)	( )	
- Displaced thresholds	(X)	( )	
- Ultimate runway ends	(X)	( )	
- Runway intersections	( )	( )	Not applicable
- Runway high & low points	(X)	( )	Low point is the threshold of RWY 21 Location of high point is not available
- Touchdown zone elevation (highest RWY elevation in first 3,000' of any RWY having published or planned straight-in minima)	( )	(X)	Information is not available
Drawing Lines			
- Existing property boundary	(X)	( )	
- Ultimate property boundary	( )	(X)	Update as property is acquired
- Building restriction line (both sides)	(X)	( )	
- Existing development shown as solid	(X)	( )	
- Future development shown as dashed/shaded	(X)	( )	
- ILS Critical Areas (LOC & GS)	( )	( )	

	Yes	No	Comments
- Survey Monuments (PACS/SACS)	( )	( )	
- Runway Visibility Zones	( )	( )	
Runway Drawing Details (Existing & Ultimate)			
- Runway(s) depiction	(X)	( )	
- Length & width	(X)	( )	Refer to data tables
- End numbers	(X)	( )	Refer to data tables
- True bearing (nearest sec.)	(X)	( )	Refer to data tables
- Markings (basic, NPI, PIR)	(X)	( )	NPI
- Lighting (thresholds only)	(X)	( )	
- Threshold lat/long & elevations	(X)	( )	Refer to data tables
- Displaced threshold lat/long & elevations	(X)	( )	Refer to data tables
- Runway safety areas & dimensions	(X)	( )	Refer to data tables
- Runway obstacle free areas & dimensions	(X)	( )	Refer to data tables
- Runway obstacle free zones	(X)	( )	
- Centerline w/true bearing	(X)	( )	
- Approach aids indicated (ILS, REILS, etc.)	(X)	( )	
- Lat/long & elevation for non-federal on-airport NAVAIDS (used for instrument approach procedure)	( )	(X)	
Taxiway Details (Existing & Ultimate)			
- Taxiway widths	(X)	( )	
- Designations	(X)	( )	
- Separation Dimensions to:			
Runway centerline(s)	(X)	( )	
Parallel taxiway(s)	(X)	( )	
Aircraft parking area(s)	(X)	( )	
Aircraft Parking Aprons			
- Existing & ultimate aprons shown	(X)	( )	
- Dimensions	( )	(X)	
- Tie-down layout/locations	( )	(X)	
Runway protection Zones (RPZs)			
- Existing & ultimate RPZs shown (Type of Ownership)	(X)	( )	
- Dimensions	(X)	( )	
- Approach slope (20:1, 34:1, 50:1)	(X)	( )	Refer to data tables
Title & Revision Blocks			
- Name and location of airport	(X)	( )	
- Name of preparer	(X)	( )	
- Date of drawing	(X)	( )	
- Drawing title	(X)	( )	
- Revision block	(X)	( )	
- FAA disclaimer	(X)	( )	
- Sponsor approval block	(X)	( )	
Airport Data Block (Existing & Ultimate)			
- Airport elevation (MSL)	(X)	( )	
- Airport reference point (ARP) data	( )	( )	
- Airport & terminal NAVAIDS (beacon, ILS)	(X)	( )	
- Mean maximum temperature	(X)	( )	

	Yes	No	Comments
- Airport reference code (ARC) for each runway	( )	( )	
- Design aircraft for each runway	(X)	( )	
- Identify GPS at airport	( )	( )	Not applicable
Runway Data Block (Existing & Ultimate)			
- % effective gradient	(X)	( )	
- % wind coverage (MPH & knots)	(X)	( )	
- Maximum elevation above MSL	(X)	( )	
- Runway length	(X)	( )	
- Runway width	(X)	( )	
- Runway surface type (turf asphalt...)	(X)	( )	
- Runway strength (SWG, DWG, or PCN if required...)	(X)	( )	
- Part 77 approach category (visual, NPI, PIR)	(X)	( )	
- Type instrument approach (ILS, GPS...)	(X)	( )	
- Approach slope (20:1, 34:1, 50:1)	(X)	( )	
- Runway lighting (HIRL, MIRL, LIRL)	(X)	( )	MIRL
- Runway marking (PIR, NPI, BCS)	(X)	( )	NPI
- NAVAIDS & visual aids	(X)	( )	
- Runway safety area dimensions (standard and non-standard)	(X)	( )	
Miscellaneous			
- Airport facility/building list (existing & future)	(X)	( )	
- Standard legend	( )	( )	
- Location map	(X)	( )	On cover drawing
- Vicinity map	(X)	( )	On cover drawing
- Roadways, traverse ways identified	(X)	( )	
Additional Comments:			
** Existing and proposed declared distance figures for each runway (ASDA, LDA, TORA, TODA)			
** Obstacle Free X=Zone (OFZ) Penetrations Table – If none, State “No OFZ Penetrations”			
** Threshold Siting Surfaces (TSS) Object Penetrations Table – If none, State “No TSS Penetrations”			
Airport Airspace Drawing			
Ultimate Runway Length Plan View of Surfaces	(X)	( )	
Profile View of Ultimate Runway Lengths	(X)	( )	
Obstruction Data Tables	( )	(X)	Obstruction information is not available
Sheet Size Same as ALP	(X)	( )	
Plan View Scale 1" = 2,000'	(X)	( )	
Profile View Scale 1" = 1,000' Horizontal, 1" = 100' Vertical	(X)	( )	
Approach Plan View Details			
- USGS base map	( )	(X)	Aerial photography
- Runway end numbers shown	(X)	( )	
- Elevation contours of 50' on all slopes	(X)	( )	
- Show most demanding surface lines as solid and others as dashed	(X)	( )	
- Identify penetrating objects & top elevations (for those in inner approach add note, “Refer to the inner portion of the approach surface plan view details for close-in obstructions.”)	( )	(X)	Obstruction information is not available.
- Show PIR approach of 50,000 on separate sheet as necessary	( )	(X)	Not Applicable

	Yes	No	Comments
- Note any height restriction zoning/ordinances/statutes in place	(X)	( )	Beaufort County, *Land Management Ordinance*, Town of Hilton Head Island, South Carolina, Chapter 4. Zoning District Regulations, Article IV. AHZ--Airport Hazard Overlay District, Codified through Ordinance No. 2009-03, enacted February 3, 2009. (Supplement No. 4)
Approach Profile View Details			
- Ground profile along extended centerline (highest profile elevations of width & length of approach)	(X)	( )	
- Identify significant objects (roads, rivers, etc.) w/elevations	(X)	( )	
- Existing & ultimate runway ends and approach slopes	(X)	( )	
Additional Comments:			
Inner Portion of the Approach Surface Drawing			
Large-Scale Plan View for Each Runway End (up to 100' height above runway end)	(X)	( )	
Large-Scale Profile View for Each Runway End (up to 100' height above runway end)	(X)	( )	
Sheet Size Scale 1" = 200' Horizontal, 1" = 20' Vertical	(X)	( )	
Title & Revision Block	(X)	( )	
Separate Approach Tables with Obstruction Data			
- Type of Approach (NPI, etc.)	( )	(X)	Obstruction information is not available
- Approach slope (20:1, etc.)	( )	(X)	Obstruction information is not available
- Obstruction number	( )	(X)	Obstruction information is not available
- Obstruction description	( )	(X)	Obstruction information is not available
- Approach penetration (in feet)	( )	(X)	Obstruction information is not available
- Proposed mitigation (including "none")	( )	(X)	Obstruction information is not available
Inner Approach Plan View Details			
- Aerial photo base map	(X)	( )	
- Obstructions numbered	( )	(X)	
- Property line depicted	(X)	( )	
- Identify by numbers all traverse ways w/elevations & vertical clearances in approach (At approach edge & extended centerline)	( )	(X)	Obstruction information is not available
- Depict existing & ultimate runway ends	(X)	( )	
- Ground contours shown	(X)	( )	
Inner Approach Profile View Details			
- Identify significant terrain/items in RSA	(X)	( )	
- Identify obstructions with numbers on plan view	( )	(X)	Obstruction information is not available
- Depict roads and railroads at edge of approach as dashed	( )	(X)	
Additional Comments:			
Terminal Area Drawing			
Large-Scale Plan View of Terminal/GA Area(s) as Needed	(X)	( )	Commercial service and general aviation area are separate drawings
Show Existing & Future Buildings	(X)	( )	
Sheet Size Same as ALP	(X)	( )	
Scale 1" = 50' - 100'	(X)	( )	1" = 100'
Title & Revision Blocks	(X)	( )	
Legend	(X)	( )	
Building Data Table (Existing & Ultimate)			
- Number of facilities	(X)	( )	
- Include top elevations	( )	(X)	Information is not available
- Identify obstruction marking	( )	(X)	Information is not available
Additional Comments:			

	Yes	No	Comments
Land Use Drawing (Existing & Ultimate)			
- Basic airport features/surfaces	(X)	( )	
- Property lines	(X)	( )	
- Include all land uses (industrial, residential, etc.) on & off airport (including non-aeronautical) to minimum 65 LDN	(X)	( )	
- Line of sight or runway visibility zones shown	( )	(X)	
- Note any existing land use ordinances/statutes in place	(X)	( )	Beaufort County, *Land Management Ordinance*, Town of Hilton Head Island, South Carolina, Chapter 4. Zoning District Regulations, Article IV. AHZ--Airport Hazard Overlay District, Codified through Ordinance No. 2009-03, enacted February 3, 2009. (Supplement No. 4)
- Noise contours as required in scope of work (60, 65 & 70 LDN)	(X)	( )	65 DNL only
- Sheet size same as ALP	(X)	( )	
- Scale same as ALP	(X)	( )	
- Title & revision block	(X)	( )	
- Aerial base map	(X)	( )	
- Legend (symbols and land use descriptions)	(X)	( )	
- Identify recommended land use changes	( )	(X)	
- Identify public facilities (schools, parks, etc.)	(X)	( )	
Additional Comments:			
Airport Property Map (Existing & Ultimate)			
Property Lines (Clear & Bold)	(X)	( )	
RPZs Shown	(X)	( )	
Tracts of Land on and off Airport	(X)	( )	
Sheet Size Same as ALP	(X)	( )	
Scale Same as ALP	( )	(X)	Scale 1" = 300'
Title & Revision Block	(X)	( )	
Legend	(X)	( )	
Airport Features (expansion, etc.)/Critical Surfaces (RSAs, etc.) Shown (to aid in determining eligible land needs)	(X)	( )	
Data Table			
- Numbering system for parcels	(X)	( )	
- Date of acquisition	(X)	( )	
- Federal aid project number	(X)	( )	
- Type of ownership (fee, easement, federal surplus, etc.)	(X)	( )	
- Parcel acreage	(X)	( )	
Additional Comments:			
** Added Drawings to be included in the ALP set: Utility Plan – Depicts the location and capacity of major utilities on the airport and in surrounding area Runway Departure Surface Drawing – Depicts the applicable departure surfaces as defined in Appendix 2 of FAA AC 150/5300-13. The surfaces are shown for runway end(s) designated primarily for instrument departures.			

BEAUFORT COUNTY

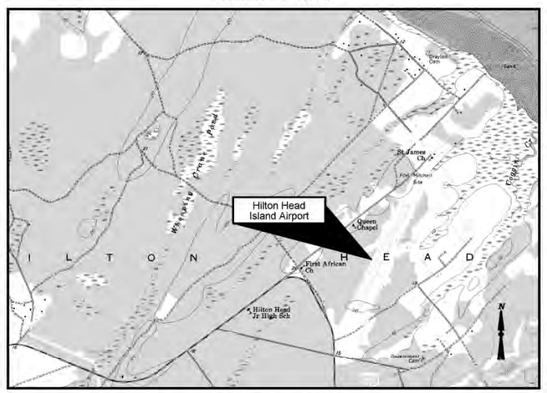
BEAUFORT, SOUTH CAROLINA

HILTON HEAD ISLAND AIRPORT
"Fly to the Fun"

AIRPORT LAYOUT PLAN

FAA PROJECT NO. 3-45-0030-029
TBI PROJECT NO. 2119-0801

VICINITY MAP



SCALE: 1" = 2000'

INDEX OF DRAWINGS

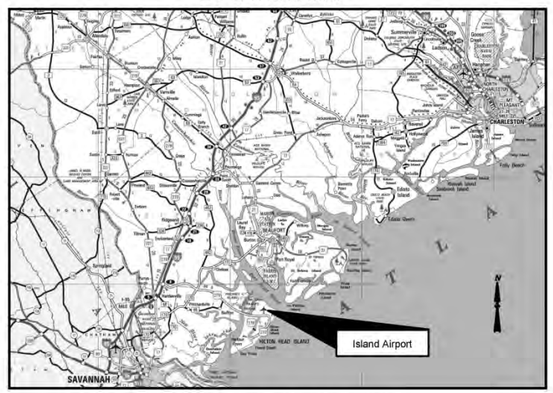
SHEET NO.	TITLE
1 of 14	Cover
2 of 14	Airport Layout Plan (Current Configuration)
3 of 14	Airport Layout Plan (Phase 1 Development)
4 of 14	Airport Layout Plan (Ultimate Development)
5 of 14	Airport Layout Plan Data
6 of 14	Runway 3 Inner Approach Plan
7 of 14	Runway 21 Inner Approach Plan
8 of 14	Runway 21 Inner Approach On-Airport Property Tree Data
9 of 14	Runway 21 Inner Approach Off-Airport Property Tree Data
10 of 14	Terminal Area Plan
11 of 14	General Aviation Area Plan
12 of 14	Airspace Plan
13 of 14	Land Use Plan
14 of 14	Exhibit A - Airport Property Map

September 6, 2011

PREPARED BY:

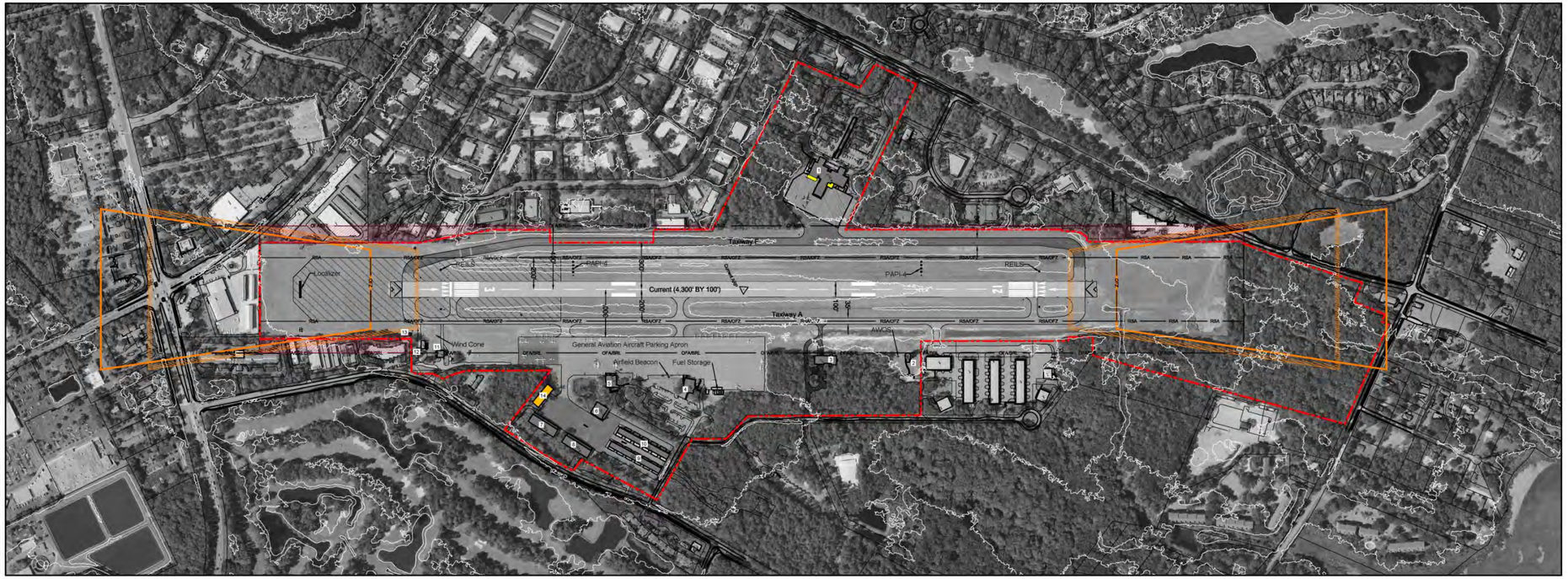
TALBERT & BRIGHT
ENGINEERING & PLANNING CONSULTANTS
2000 PARK STREET, SUITE 101
COLUMBIA, SOUTH CAROLINA 29201
PHONE: 803-933-9290 FAX: 803-933-9205

LOCATION MAP



SCALE: 1" = 12 Miles (Approximate)

DRAWING NO. 1 OF 14

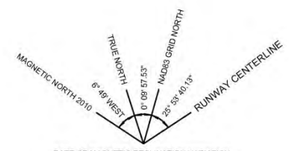


LEGEND

- CURRENT PHASE TERMINAL BUILDING DEVELOPMENT
- CURRENT PHASE HANGAR DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- RUNWAY PROTECTION ZONE (RPZ)
- DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE AREA
- OBJECT FREE ZONE
- BUILDING RESTRICTION LINE
- RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- AIRPORT BUILDING

AIRPORT BUILDINGS

BUILDING NO.	NAME	TOP ELEVATION
1	Airport Passenger Terminal	56.8
2	Air Traffic Control Tower (ATCT)	80.7
3	Airport Rescue and Fire Fighting (ARFF)	Unknown
4	Civil Air Patrol (CAP)	48.5
5	Fixed Base Operation (FBO)	50.9
6	Hangar	52.8
7	T-hangar	50.9
8	T-hangar	50.9
9	T-hangar	35.3
10	T-hangar	35.4
11	Abandoned ARFF Facility	45.6
12	Storage Building	28.9
13	Airfield Electrical Vault	30.1
14	Hangar (Under Construction)	Not Available



RATE OF MAGNETIC DECLINATION VARIATION = 5 MINUTES WEST PER YEAR

NORTH DECLINATION DIAGRAM
NTS

FAA DISCLAMER

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0 300 600 900
FEET

BEAUFORT COUNTY, SOUTH CAROLINA

BY: _____ DATE: _____
GARY KUBIC
COUNTY ADMINISTRATOR

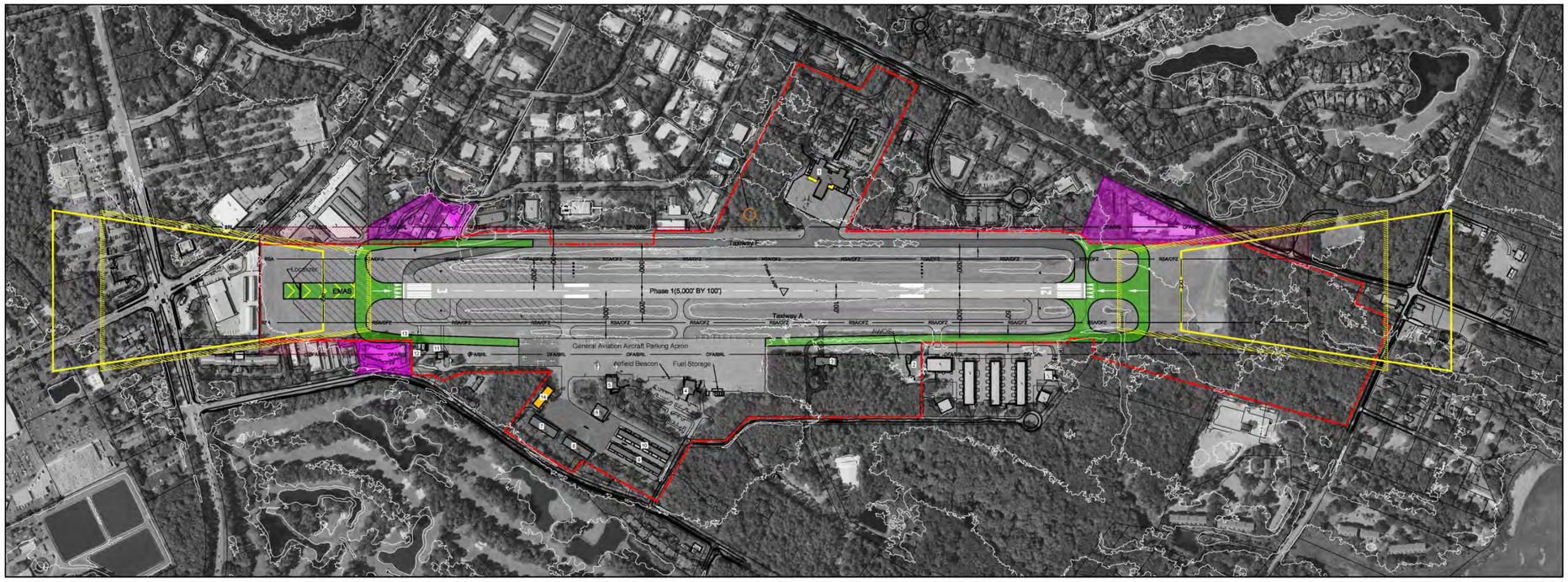
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Airport Layout Plan (Current Configuration)

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 300 Feet | SHEET: 2 OF 14



LEGEND

- CURRENT PHASE TERMINAL BUILDING DEVELOPMENT
- CURRENT PHASE HANGAR DEVELOPMENT
- PHASE 1 PROPERTY ACQUISITION
- PHASE 1 RUNWAY AND TAXIWAY DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- PHASE 1 RUNWAY PROTECTION ZONE (RPZ)
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- RSA — PHASE 1 RUNWAY SAFETY AREA
- OFA — PHASE 1 RUNWAY OBJECT FREE AREA
- OFZ — PHASE 1 OBJECT FREE ZONE
- BRL — PHASE 1 BUILDING RESTRICTION LINE
- OFA/BRL — PHASE 1 RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- RSA/OFZ — PHASE 1 RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- PHASE 1 AIRPORT PROPERTY LINE
- AIRPORT BUILDING

AIRPORT BUILDINGS

BUILDING NO.	NAME	TOP ELEVATION
1	Airport Passenger Terminal	56.8
2	Air Traffic Control Tower (ATCT)	80.7
3	Airport Rescue and Fire Fighting (ARFF)	44.0
4	Civil Air Patrol (CAP)	48.5
5	Fixed Base Operation (FBO)	50.9
6	Hangar	52.8
7	T-hangar	50.9
8	T-hangar	50.9
9	T-hangar	35.3
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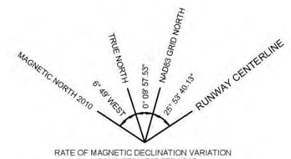

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0 300 600 900
FEET

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BY: _____ DATE: _____
GARY KUBIC
COUNTY ADMINISTRATOR

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
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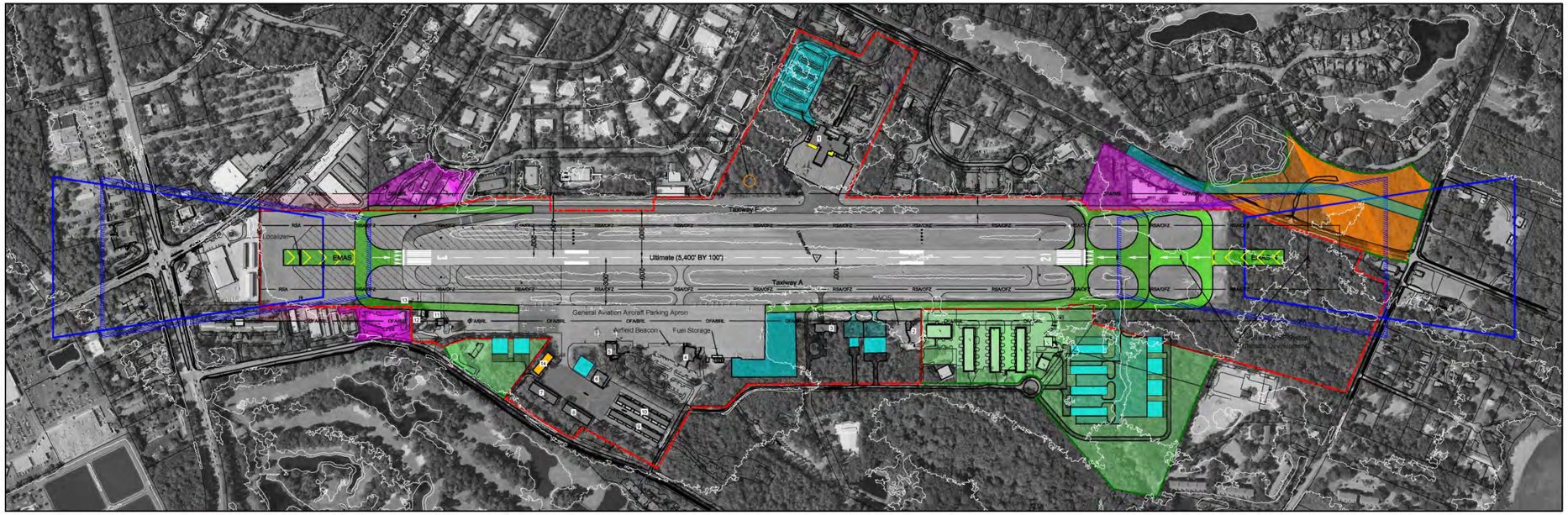
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Airport Layout Plan (Phase 1 Development)

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 600 Feet | SHEET: 3 OF 14



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- ULTIMATE PHASE PROPERTY ACQUISITION FOR RUNWAY DEVELOPMENT
- ULTIMATE PHASE RUNWAY AND TAXIWAY DEVELOPMENT
- ULTIMATE PROPERTY ACQUISITION
- FUTURE AIRPORT TERMINAL PARKING DEVELOPMENT
- FUTURE GA APRON DEVELOPMENT
- FUTURE HANGAR DEVELOPMENT
- FUTURE APRON DEVELOPMENT
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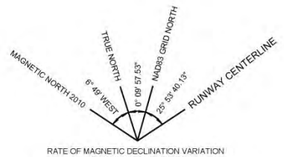

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BY: _____ DATE: _____
GARY KUBIC
COUNTY ADMINISTRATOR

REVISION	DATE	DESCRIPTION

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Hilton Head Island, SC 29926-2704
(843) 689-5400

Airport Layout Plan (Ultimate Development)

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch=300 Feet | SHEET: 4 OF 14

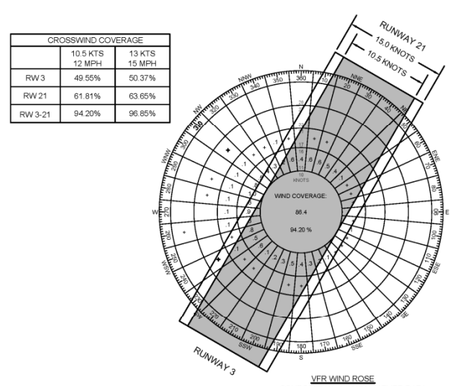
RUNWAY APPROACH DATA

	APPROACH CODE (AC)	FAR PART 77 APPROACH SLOPE	APPROACH MINIMUMS	APPROACH THRESHOLD ELEVATION	TOUCHDOWN ZONE ELEVATION	RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS			LANDING AIDS
						INNER WIDTH	OUTER WIDTH	LENGTH	
RUNWAY 3									
EXISTING	C	34:1	RNAV GPS: (540-1 MI *AC: A & B), (540-1 ½ MI AC: C), (540- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	19.0'	19.0'	500'	1,010	1,700	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI. (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	19.0'	19.0'	500'	1,010	1,700	MIRL, PAPI-4, REILS
RUNWAY 21									
EXISTING	C	34:1	RNAV GPS: (480-1 MI *AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) LOC/DME: (480-1 MI AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	13.0'	18.3'	500'	1,010	1,700	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI. (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	12.1'	18.3'	500'	1,010	1,700	MIRL, PAPI-4, MALS

*AC: APPROACH CODE

Modification to FAA Design Standards					
Non-Standard Modification	Location of Modification	Standard	Actual	Aeronautical Study Number	FAA Approval
Runway to Taxiway Separation	Taxiway 'A'	300 Feet	200 Feet	2011-ASO-890-NRA	With Conditions
Runway Object Free Area	Various Locations along Runway	800 Feet	Various from 600 Feet to 770 Feet	2011-ASO-890-NRA	With Conditions

CROSSWIND COVERAGE		
	10.5 KTS 12 MPH	13 KTS 15 MPH
RW 3	49.56%	50.37%
RW 21	61.81%	63.65%
RW 3-21	94.20%	96.85%



VFR WIND ROSE
SOURCE: NATIONAL WEATHER DATA CENTER, ASHEVILLE, N.C.
STATION-BEAUFORT MCAS, SC
PERIOD: 2000-2009

AIRPORT DATA

DEVELOPMENT PHASE	EXISTING	PHASE 1	ULTIMATE
AIRPORT ELEVATION	19.1'	19.1	19.1
AIRPORT REFERENCE POINT (ARP) COORDINATES	32° 13' 27.71" N 80° 41' 50.92" W	32° 13' 29.93" N 80° 41' 49.64" W	32° 13' 31.78" N 80° 41' 48.58" W
MEAN MAX. TEMP. OF HOTTEST MONTH	89.4° F	89.4° F	89.4° F
AIRPORT LANDING AIDS	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21, MALS RW 21	WIND CONE, BEACON, PAPI-4 RW 3 & 21, REILS RW 3 & 21, MALS RW 21
TERMINAL NAVIGATIONAL AIDS	LOCALIZER/DME RW 21, VORTAC	LOCALIZER/DME RW 21, VORTAC	LOCALIZER/DME RW 21, VORTAC
AIRPORT REFERENCE CODE	C-II	C-II	C-II

RUNWAY DATA

DESCRIPTION			RUNWAY DATA		
DEVELOPMENT PHASE			EXISTING	PHASE 1	ULTIMATE
RUNWAY LENGTH & WIDTH			4,300' X 100'	5,000' X 100'	5,400' X 100'
EFFECTIVE GRADIENT			0.16%	0.14%	0.13%
PAVEMENT TYPE			ASPHALT	ASPHALT	ASPHALT
DESIGN AIRCRAFT			FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)	FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)	FAMILY GROUPING (>12,500 LBS. BUT < 60,000 LBS.)
PAVEMENT STRENGTH			38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR	38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR	38,000 LBS. SINGLE GEAR 75,000 LBS. DUAL GEAR
PAVEMENT CLASSIFICATION NUMBER (PCN)					
AIRCRAFT REFERENCE CODE (ARC)			C-II	C-II	C-II
RUNWAY SAFTY AREA (RSA)	WIDTH		400'	400'	400'
	RUNWAY 3	LENGTH	600' PRIOR TO BEGINNING OF RUNWAY TO 1,000' BEYOND RUNWAY END (LENGTH = 5,900')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
	RUNWAY 21	LENGTH	600' PRIOR TO LANDING THRESHOLD TO 897' BEYOND RUNWAY END (LENGTH 5,797')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
OBJECT FREE AREA (OFA)	WIDTH		800'	800'	800'
	RUNWAY 3	LENGTH	600' PRIOR TO BEGINNING OF RUNWAY TO 1,000' BEYOND RUNWAY END (LENGTH = 5,900')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
	RUNWAY 21	LENGTH	600' PRIOR TO LANDING THRESHOLD TO 897' BEYOND RUNWAY END (LENGTH 5,797')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,200')	600' PRIOR TO BEGINNING OF RUNWAY TO 600' WITH EMAS BEYOND BEYOND RUNWAY END (LENGTH 6,600')
OBSTACLE FREE ZONE (OFZ)	WIDTH		400'	400'	400'
	RUNWAY 3	LENGTH	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND RUNWAY END (LENGTH = 4,700')	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND LAST MALS LIGHT (LENGTH = 6,600')	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND LAST MALS LIGHT (LENGTH = 7,200')
	RUNWAY 21	LENGTH	200' PRIOR TO BEGINNING OF RUNWAY TO 200' BEYOND RUNWAY END (LENGTH = 4,700')	200' PRIOR TO BEGINNING OF FIRST MALS LIGHT TO 200' BEYOND RUNWAY END (LENGTH = 6,800')	200' PRIOR TO BEGINNING OF FIRST MALS LIGHT TO 200' BEYOND RUNWAY END (LENGTH = 7,200')
RUNWAY LIGHTING			MIRL	MIRL	MIRL
TAXIWAY LIGHTING			MITL	MITL	MITL
RUNWAY MARKING TYPE			NON-PRECISION	NON-PRECISION	NON-PRECISION
NAD 83 RUNWAY END COORDINATES	RUNWAY 3	LATITUDE	32° 13' 08.60" N	32° 13' 05.94" N	32° 13' 05.94" N
		LONGITUDE	80° 42' 01.91" W	80° 42' 03.44" W	80° 42' 03.44" W
		TRUE BEARING	N 26° 03' 38.08" E	N 26° 03' 41.14" E	N 26° 03' 32.46" E
	RUNWAY 21	LATITUDE	32° 13' 46.82" N	32° 13' 50.38" N	32° 13' 53.93" N
		LONGITUDE	80° 41' 39.92" W	80° 41' 37.87" W	80° 41' 35.83" W
		TRUE BEARING	S 26° 03' 49.78" W	S 26° 03' 54.77 W	S 26° 03' 47.18" E
NAVD 88 RUNWAY END ELEVATION	RUNWAY 3	ELEVATION	18.9'	19.0'±	19.0'±
	RUNWAY 21	ELEVATION	12.1'	12.0'±	12.0'±
NAD 83 DISPLACED THRESHOLD COORDINATES	RUNWAY 3	LATITUDE	32° 13' 11.26" N	32° 13' 08.60" N	32° 13' 08.60" N
		LONGITUDE	80° 42' 01.91" W	80° 42' 01.91" W	80° 42' 01.91" W
		TRUE BEARING	N 26° 03' 39.88" E	N 26° 03' 42.96" E	N 26° 03' 33.70" E
	RUNWAY 21	LATITUDE	32° 13' 37.65" N	32° 13' 46.82" N	32° 13' 46.82" N
		LONGITUDE	80° 41' 41.45" W	80° 41' 39.92" W	80° 41' 39.92" W
		TRUE BEARING	S 26° 04' 14.36" W	S 26° 03' 49.00" W	S 26° 03' 49.00" W
NAVD88 DISPLACED THRESHOLD ELEVATION	RUNWAY 3	ELEVATION	19.0'	18.9'	18.9'
	RUNWAY 21	ELEVATION	13.0'	12.1'	12.1'
DECLARED DISTANCE RUNWAY LENGTHS	RUNWAY 3	TORA	4,300'	5,000'	5,400'
		TODA	4,300'	5,000'	5,400'
		ASDA	4,300'	5,000'	5,400'
		LDA	4,000'	4,703'	5,103'
	RUNWAY 21	TORA	4,300'	5,000'	5,400'
		TODA	4,300'	5,000'	5,400'
		ASDA	4,103'	5,000'	5,400'
		LDA	3,803'	4,597'	4,597'

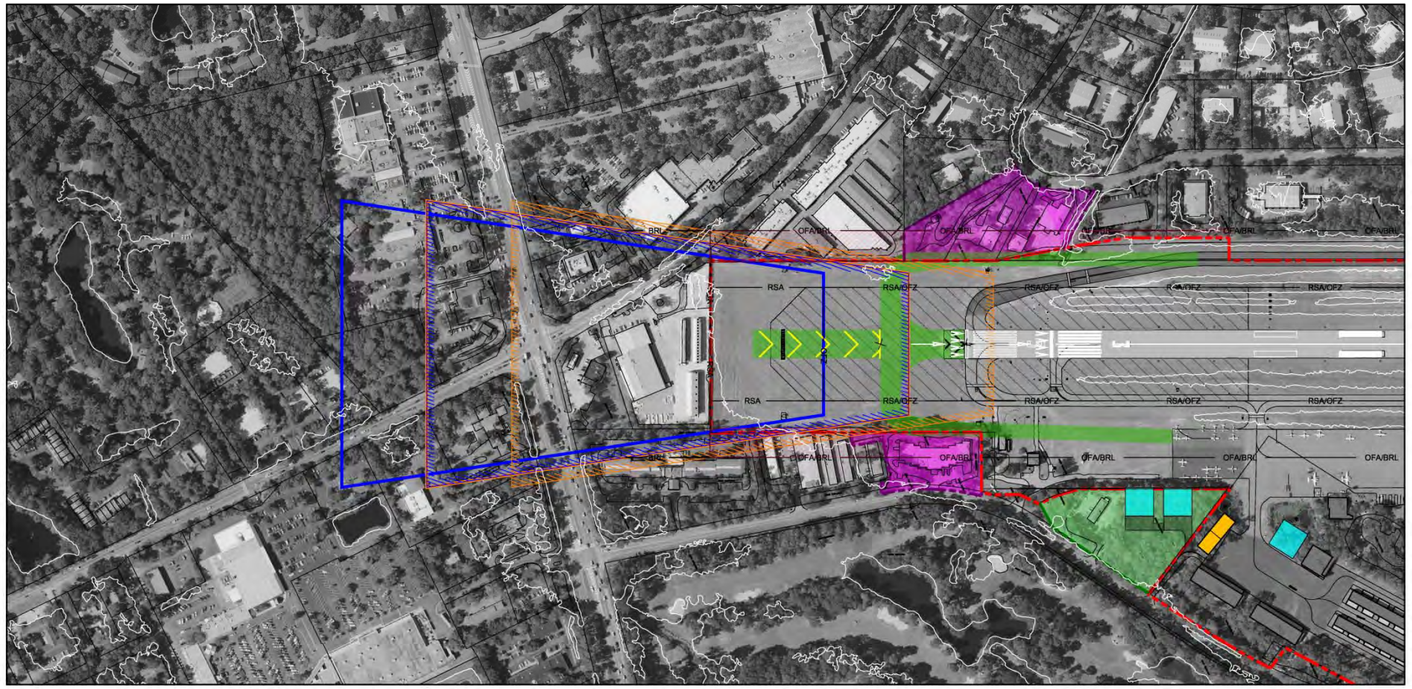
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Airport Layout Plan Data

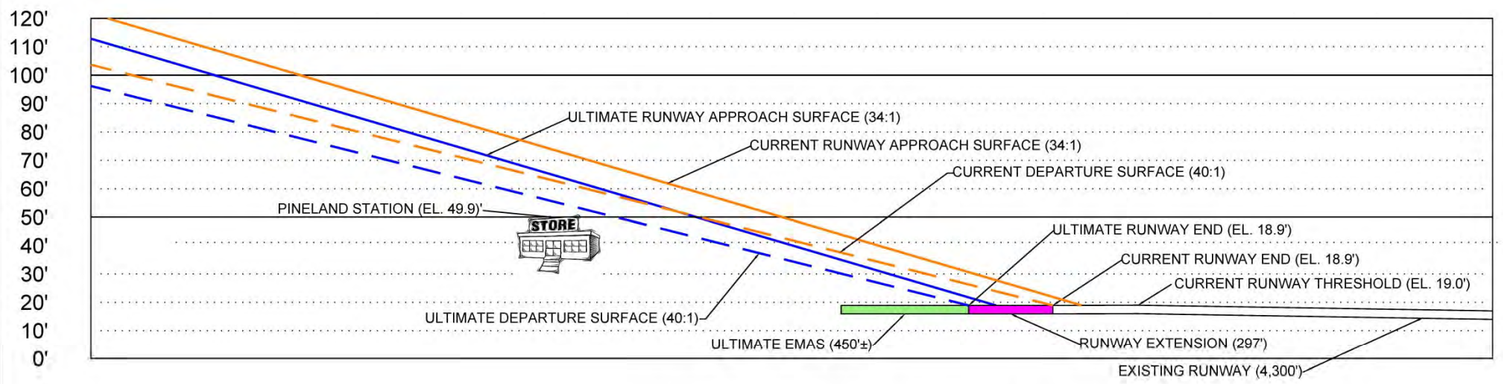
TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: | SHEET: 5 OF 14



LEGEND

- CURRENT PHASE HANGAR DEVELOPMENT
- PHASE 1 RUNWAY PROPERTY ACQUISITION
- PHASE 1 RUNWAY AND TAXIWAY DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- ULTIMATE PHASE RUNWAY PROPERTY ACQUISITION
- ULTIMATE PHASE RUNWAY AND TAXIWAY DEVELOPMENT
- ULTIMATE PROPERTY ACQUISITION
- FUTURE AIRPORT TERMINAL PARKING DEVELOPMENT
- FUTURE GA APRON DEVELOPMENT
- FUTURE HANGAR DEVELOPMENT
- FUTURE APRON DEVELOPMENT
- FUTURE ROADWAY AND PARKING DEVELOPMENT
- RUNWAY PROTECTION ZONE (RPZ)
- DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- ULTIMATE RUNWAY PROTECTION ZONE (RPZ)
- ULTIMATE DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- ULTIMATE RUNWAY SAFETY AREA
- ULTIMATE RUNWAY OBJECT FREE AREA
- ULTIMATE OBJECT FREE ZONE
- ULTIMATE BUILDING RESTRICTION LINE
- RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- ULTIMATE RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- PHASE 1 AIRPORT PROPERTY LINE
- ULTIMATE AIRPORT PROPERTY LINE
- AIRPORT BUILDING



RUNWAY CENTERLINE PROFILE

N

0 200 400 600
FEET

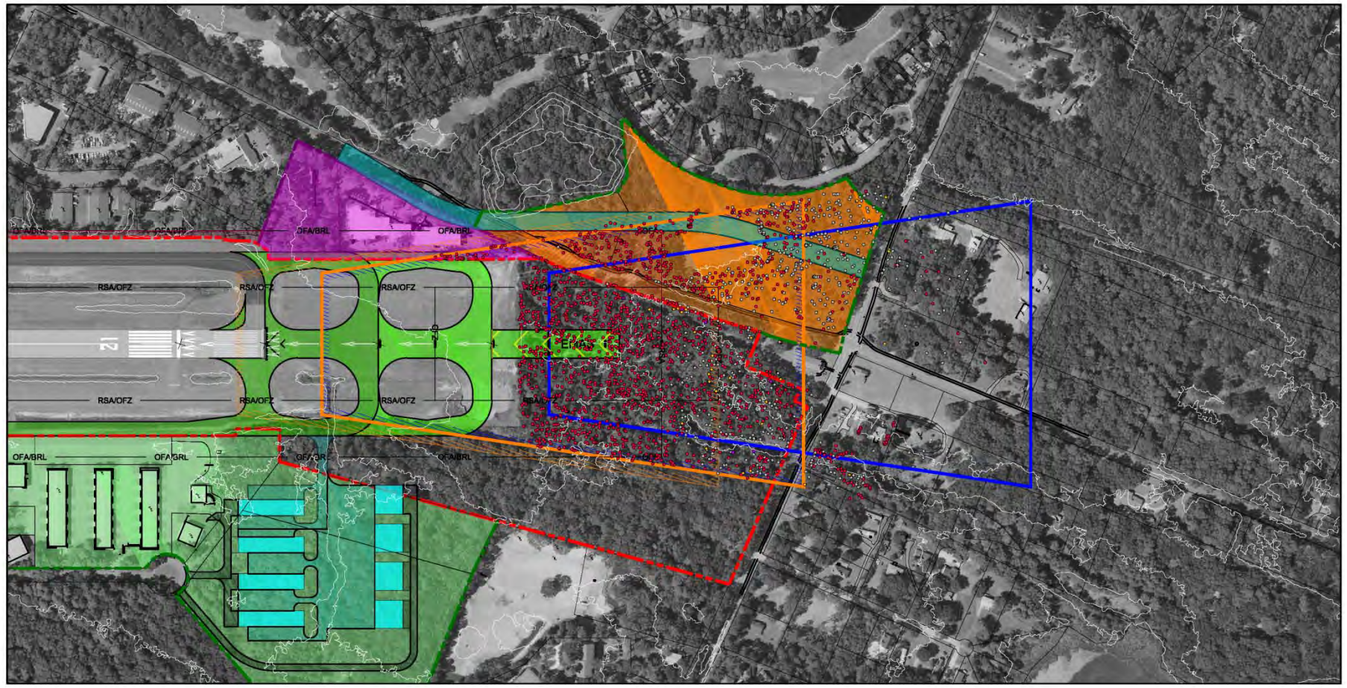
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Runway 3 Inner Approach Plan

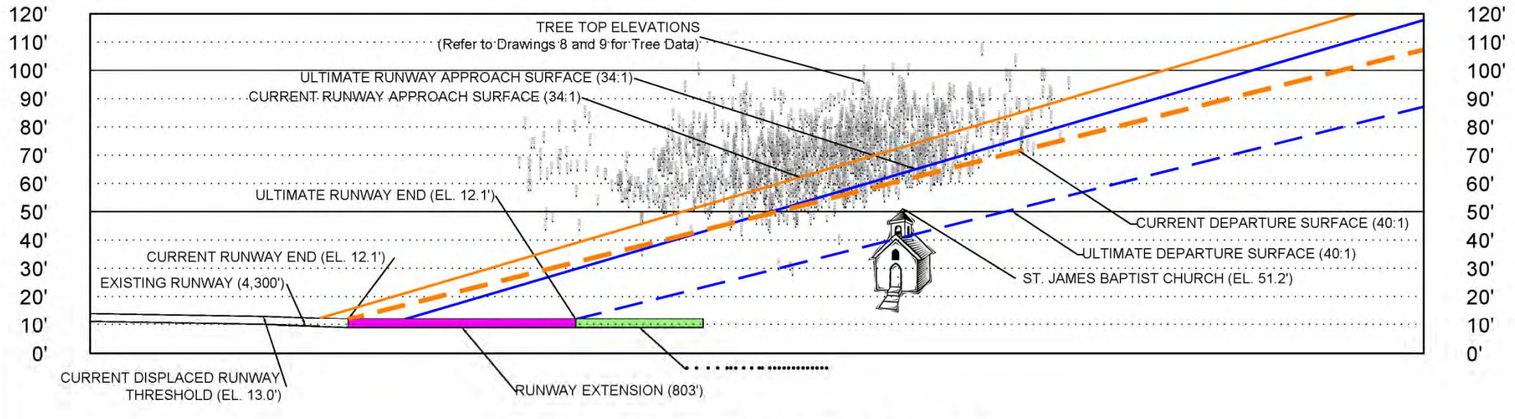
TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 200 Feet | SHEET: 6 OF 14



LEGEND

- PHASE 1 RUNWAY PROPERTY ACQUISITION
- PHASE 1 RUNWAY AND TAXIWAY DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- ULTIMATE PHASE RUNWAY PROPERTY ACQUISITION
- ULTIMATE PHASE RUNWAY AND TAXIWAY DEVELOPMENT
- ULTIMATE PROPERTY ACQUISITION
- FUTURE AIRPORT TERMINAL PARKING DEVELOPMENT
- FUTURE GA APRON DEVELOPMENT
- FUTURE HANGAR DEVELOPMENT
- FUTURE APRON DEVELOPMENT
- FUTURE ROADWAY AND PARKING DEVELOPMENT
- RUNWAY PROTECTION ZONE (RPZ)
- DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- ULTIMATE RUNWAY PROTECTION ZONE (RPZ)
- ULTIMATE DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- ULTIMATE RUNWAY SAFETY AREA
- ULTIMATE RUNWAY OBJECT FREE AREA
- ULTIMATE OBJECT FREE ZONE
- ULTIMATE BUILDING RESTRICTION LINE
- RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- ULTIMATE RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- PHASE 1 AIRPORT PROPERTY LINE
- ULTIMATE AIRPORT PROPERTY LINE
- AIRPORT BUILDING
- TREE OBSTRUCTION



RUNWAY CENTERLINE PROFILE

0 200 400 600
FEET

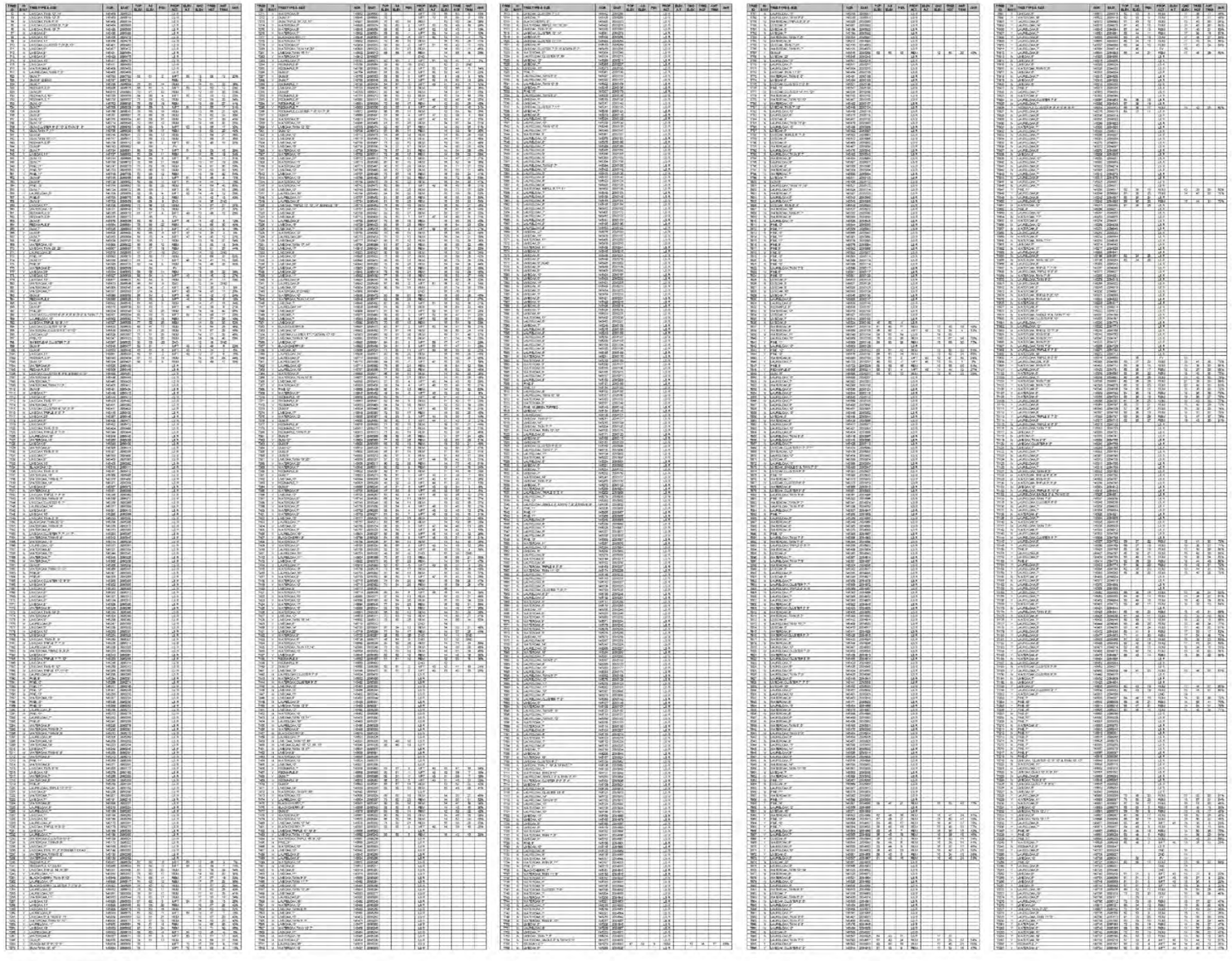
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Runway 21 Inner Approach Plan

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 200 Feet | SHEET: 7 OF 14



NOTES (INCLUDED IN WILBUR SMITH ASSOCIATES ON-SITE TREE SPREADSHEET):

1. DATA SHOWN HEREIN WERE DERIVED FROM SURVEY AND PLAT TITLED "TREE OBSTRUCTION SURVEY 34:1 APPROACH SLOPE" PREPARED FOR HXD BY WILBUR SMITH ASSOCIATES, DATED JULY 23, 2009.
2. PER TOWN OF HILTON HEAD ISLAND LAND MANAGEMENT ORDINANCE:

   > SPECIMEN LIVEOAK TREES ARE TO BE TRIMMED TO ONE (1) FOOT BELOW AIRSPACE ELEVATION

   > HARDWOODS OTHER THAN SPECIMEN LIVEOAK TREES ARE TO BE TRIMMED A SUFFICIENT DISTANCE BELOW THE AIRSPACE ELEVATION TO ALLOW FIVE YEARS GROWTH (ESTIMATED TO BE 8 FEET)

   > PINES AND OTHER CONIFERS ARE TO BE TRIMMED A SUFFICIENT DISTANCE BELOW THE AIRSPACE ELEVATION TO ALLOW TEN YEARS GROWTH (ESTIMATED TO BE 20 FEET)
3. IT IS ASSUMED THAT A TREE WOULD BE REMOVED IF THE RESULTANT HEIGHT REDUCTION BY TRIMMING IS 33% OR GREATER. NO TREE SHALL BE REMOVED WITHOUT APPROVAL OF THE PROJECT ARBORIST.
4. THE PROJECT ARBORIST SHALL DETERMINE WHICH TREES SHALL BE MARKED FOR TRIMMING WHETHER SHOWN TO BE TRIMMED OR REMOVED.
5. CONTRACTOR SHALL USE THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR TO MARK TREES FOR TRIMMING.
6. SURVEYOR SHALL MARK THE CUTOFF ELEVATION BY MEASURING FROM A KNOWN ELEVATION ON THE GROUND UPWARD RATHER THAN FROM THE TOP OF THE TREE DOWNWARD.
7. FOR PAYMENT PURPOSES EACH ROW OF DATA DEFINES A SINGLE TREE. SIZE OF A CLUSTER, TWIN, TRIPLE AND/OR QUAD IS DETERMINED BY ADDING THE DIAMETERS, I.E. CLUSTER 8", 8", & TWIN 7", 9" = 32" DBH.
8. DATA DOES NOT INCLUDE TREES <6" DBH. TREES <6" DBH SHALL BE TRIMMED OR REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS AND NOTES 2 THRU 6.

ALL TREE DATA PROVIDED BY WILBUR SMITH ASSOCIATES.

TABULATION ABBREVIATIONS KEY:

IN B/W?	IN BUFFER OR WETLAND?	PROP. ACT.	PROPOSED ACTION	ELEV. A.T.	ELEVATION AFTER TRIMMING
NOR.	NORTHING	LS R	LS REMOVE	GND ELEV.	GROUND ELEVATION
EAST.	EASTING	REM	REMOVE	TREE HGT	TREE HEIGHT
TOP ELEV.	TOP OF TREE ELEVATION	MFT	MARK FOR TRIMMING	AMT TRIM	AMOUNT TRIMMED
AS ELEV.	AIRSPACE ELEVATION	DND	DO NOT DISTURB	AHR	APPROXIMATE HEIGHT REDUCTION
PEN.	PENETRATION	FV	FIELD VERIFY		

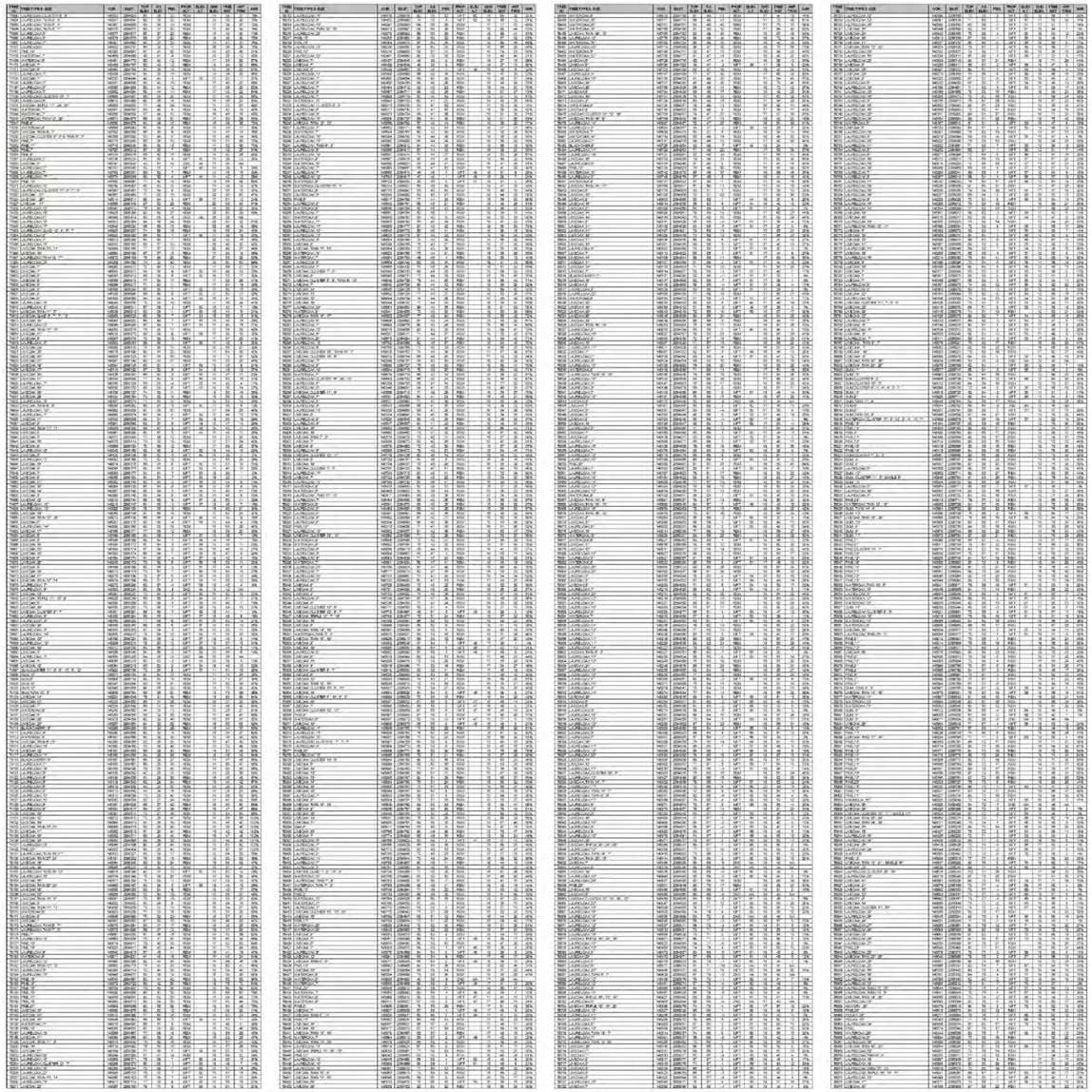
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Runway 21 Inner Approach Plan
On-Airport Property Tree Data

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: | SHEET: 8 OF 14



TABULATION ABBREVIATIONS KEY:

NOR.	NORTHING
EAST.	EASTING
TOP ELEV.	TOP OF TREE ELEVATION
AS ELEV.	AIRSPACE ELEVATION
PEN.	PENETRATION

PROP. ACT.	PROPOSED ACTION
LS R	LS REMOVE
REM	REMOVE
MFT	MARK FOR TRIMMING
DND	DO NOT DISTURB
FV	FIELD VERIFY

ELEV. A.T.	ELEVATION AFTER TRIMMING
GND ELEV.	GROUND ELEVATION
TREE HGT	TREE HEIGHT
AMT TRIM	AMOUNT TRIMMED
AHR	APPROXIMATE HEIGHT REDUCTION

NOTES (INCLUDED IN WILBUR SMITH ASSOCIATES ON-SITE TREE SPREADSHEET):

1. DATA SHOWN HEREIN WERE DERIVED FROM SURVEY AND PLAT TITLED "TREE OBSTRUCTION SURVEY 34:1 APPROACH SLOPE" PREPARED FOR HXD BY WILBUR SMITH ASSOCIATES, DATED JULY 23, 2009.
2. PER TOWN OF HILTON HEAD ISLAND LAND MANAGEMENT ORDINANCE:
   > SPECIMEN LIVEOAK TREES ARE TO BE TRIMMED TO ONE (1) FOOT BELOW AIRSPACE ELEVATION
   > HARDWOODS OTHER THAN SPECIMEN LIVEOAK TREES ARE TO BE TRIMMMED A SUFFICIENT DISTANCE BELOW THE AIRSPACE ELEVATION TO ALLOW FIVE YEARS GROWTH (ESTIMATED TO BE 8 FEET)
   > PINES AND OTHER CONIFERS ARE TO BE TRIMMMED A SUFFICIENT DISTANCE BELOW THE AIRSPACE ELEVATION TO ALLOW TEN YEARS GROWTH (ESTIMATED TO BE 20 FEET)
3. IT IS ASSUMED THAT A TREE WOULD BE REMOVED IF THE RESULTANT HEIGHT REDUCTION BY TRIMMING IS 33% OR GREATER. NO TREE SHALL BE REMOVED WITHOUT APPROVAL OF THE PROJECT ARBORIST.
4. THE PROJECT ARBORIST SHALL DETERMINE WHICH TREES SHALL BE MARKED FOR TRIMMING WHETHER SHOWN TO BE TRIMMED OR REMOVED.
5. CONTRACTOR SHALL USE THE SERVICES OF A REGISTERED PROFESSIONAL LAND SURVEYOR TO MARK TREES FOR TRIMMING.
6. SURVEYOR SHALL MARK THE CUTOFF ELEVATION BY MEASURING FROM A KNOWN ELEVATION ON THE GROUND UPWARD RATHER THAN FROM THE TOP OF THE TREE DOWNWARD.
7. FOR PAYMENT PURPOSES EACH ROW OF DATA DEFINES A SINGLE TREE. SIZE OF A CLUSTER, TWIN, TRIPLE AND/OR QUAD IS DETERMINED BY ADDING THE DIAMETERS, I.E. CLUSTER 8", 8", & TWIN 7", 9" = 32" DBH.
8. DATA DOES NOT INCLUDE TREES <8" DBH. TREES <8" DBH SHALL BE TRIMMED OR REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS AND NOTES 2 THRU 6.

ALL TREE DATA PROVIDED BY WILBUR SMITH ASSOCIATES.

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-3704
(843) 689-5400

Runway 21 Inner Approach Plan
Off-Airport Property Tree Data

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: | SHEET: 9 OF 14

AIRPORT BUILDINGS

BUILDING NO.	NAME	TOP ELEVATION
1	Airport Passenger Terminal	56.8

LEGEND

- CURRENT PHASE TERMINAL BUILDING DEVELOPMENT
- FUTURE AIRPORT TERMINAL PARKING DEVELOPMENT
- MoDS NRA # 2011-ASO-890-NRA
- RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE
- AIRPORT BUILDING

N

0 100 200 300
FEET

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Terminal Area Plan

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1 inch = 100 Feet | SHEET: 10 OF 14

AIRPORT BUILDINGS

BUILDING NO.	NAME	TOP ELEVATION
3	Airport Rescue and Fire Fighting (ARFF)	Unknown
4	Civil Air Patrol (CAP)	48.5
5	Fixed Base Operation (FBO)	50.9
6	Hangar	52.8
7	T-hangar	50.9
8	T-hangar	50.9
9	T-hangar	35.3
10	T-hangar	35.4
14	Hangar (Under Construction)	Unknown

LEGEND

- CURRENT PHASE HANGAR DEVELOPMENT
- PHASE 1 RUNWAY/TAXIWAY DEVELOPMENT
- ULTIMATE GA APRON DEVELOPMENT
- FUTURE HANGAR DEVELOPMENT
- FUTURE APRON DEVELOPMENT
- FUTURE ROADWAY AND PARKING DEVELOPMENT
- ULTIMATE RUNWAY OBJECT FREE AREA/BUILDING RESTRICTION LINE
- ULTIMATE RUNWAY SAFETY AREA/OBJECT FREE ZONE
- AIRPORT PROPERTY LINE

N

0 100 200 300
FEET

REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

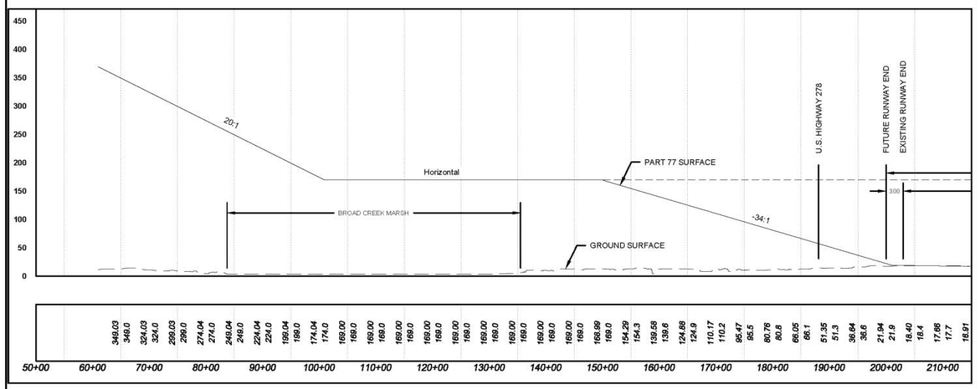
GA Terminal Area Plan

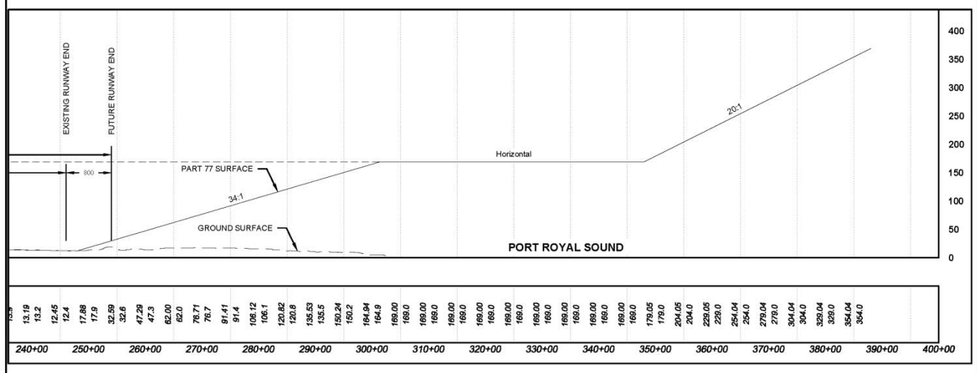
TALBERT & BRIGHT Columbia, South Carolina

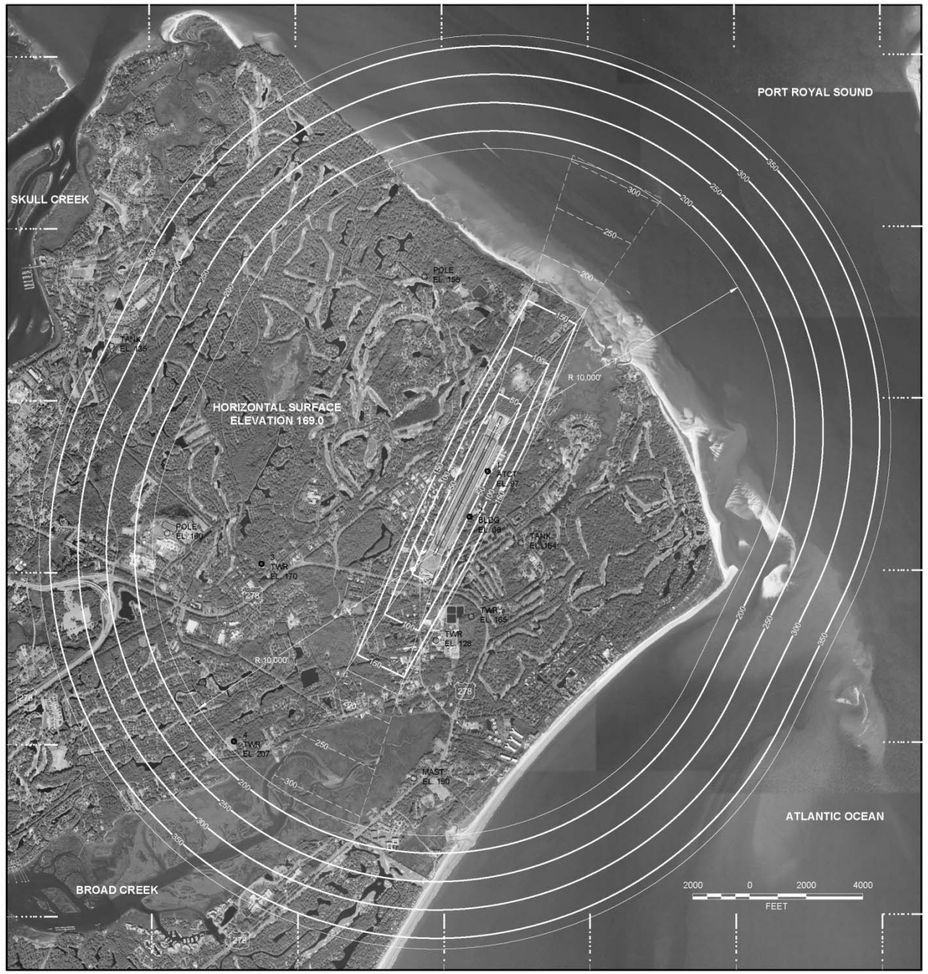
DATE: September 6, 2011 | SCALE: 1 Inch = 100 Feet | SHEET: 11 OF 14

OBSTACLES PENETRATING FAR PART 77 SURFACES

Obstruction No.	Obstacle Repository System No.	Latitude	Longitude	Structure Type	Surface Penetrated	Height of Structure	Top Elevation	Height of Penetration	FAA Study
1	45-002382			ATCT	Transitional	79'	97'	56'	02-ASO-107-NRA
2	45-000813			GA Terminal Bldg	Transitional	50'	66'	7'	None Listed
3	None Listed			Tower	Horizontal	165'	190'	1'	93-ASO-2040-OE
4	45-000614			Tower	Horizontal	197'	207'	38'	None Listed



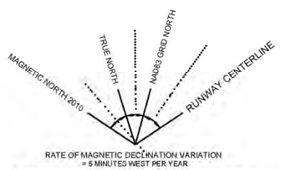




RUNWAY APPROACH DATA

	APPROACH CODE (AC)	FAR PART 77 APPROACH SLOPE	APPROACH MINIMUMS	APPROACH MINIMUMS	TOUCHDOWN ZONE ELEVATION	RUNWAY PROTECTION ZONE (RPZ) DIMENSIONS			LANDING AIDS
						INNER WIDTH	OUTER WIDTH	LENGTH	
RUNWAY 3									
EXISTING	C	34:1	RNAV GPS: (540-1 MI *AC: A & B), (540-1 ½ MI AC: C), (540- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME-A: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	19.0'	19.0'	500'	1,010'	1,700'	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	19.0'	19.0'	500'	1,010'	1,700'	MIRL, PAPI-4, REILS
RUNWAY 21									
EXISTING	C	34:1	RNAV GPS: (480-1 MI *AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) LOC/DME: (480-1 MI AC: A & B), (480-1 ½ MI AC: C), (480- 1 ½ MI AC: D) CIRCLING: (540-1 MI AC: A & B), (640-1 ½ MI AC: C), (640- 2 MI AC: D) VOR/DME: (800-1 MI AC: A), (800-1 ½ MI AC: B), (800-2 ½ MI AC: C), (800-2 ½ MI AC: D)	13.0'	18.3'	500'	1,010'	1,700'	MIRL, PAPI-4, REILS
ULTIMATE	C	34:1	NON-PRECISION INSTRUMENT WITH VISIBILITY MINIMUMS GREATER THAN ¾ MI. (TYPE OF APPROACHES AND VISIBILITY MINIMUMS TO BE DETERMINED)	13.0'	18.3'	500'	1,010'	1,700'	MIRL, PAPI-4; MALS

*AC: APPROACH CODE



RATE OF MAGNETIC DECLINATION VARIATION
= 5 MINUTES WEST PER YEAR

NORTH DECLINATION DIAGRAM
NTS

LEGEND

- TWR EL. 207 — OBSTACLE PENETRATING AN OBSTRUCTION IDENTIFICATION SURFACE
- POLE EL. 180 — OBSTACLE **NOT** PENETRATING AN OBSTRUCTION IDENTIFICATION SURFACE

NOTES:

1. OBSTACLES IN THE EXTENDED APPROACH, HORIZONTAL SURFACE, AND CONICAL SURFACE ARE TAKEN FROM THE FAA DIGITAL OBSTACLE FILE AND THE FCC ANTENNA STRUCTURE REGISTRATION DATABASE. SEE THE INNER PORTION OF THE APPROACH PLAN FOR CLOSE-IN OBSTRUCTIONS.
2. BASE AERIAL PHOTOGRAPHY IS DATED 2006 AND PROVIDED BY THE SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES.

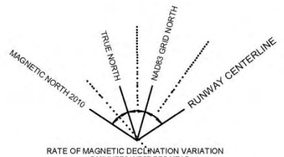
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-2704
(843) 689-5400

Airspace Plan

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: AS SHOWN | SHEET: 12 OF 14



NORTH DECLINATION DIAGRAM
NTS

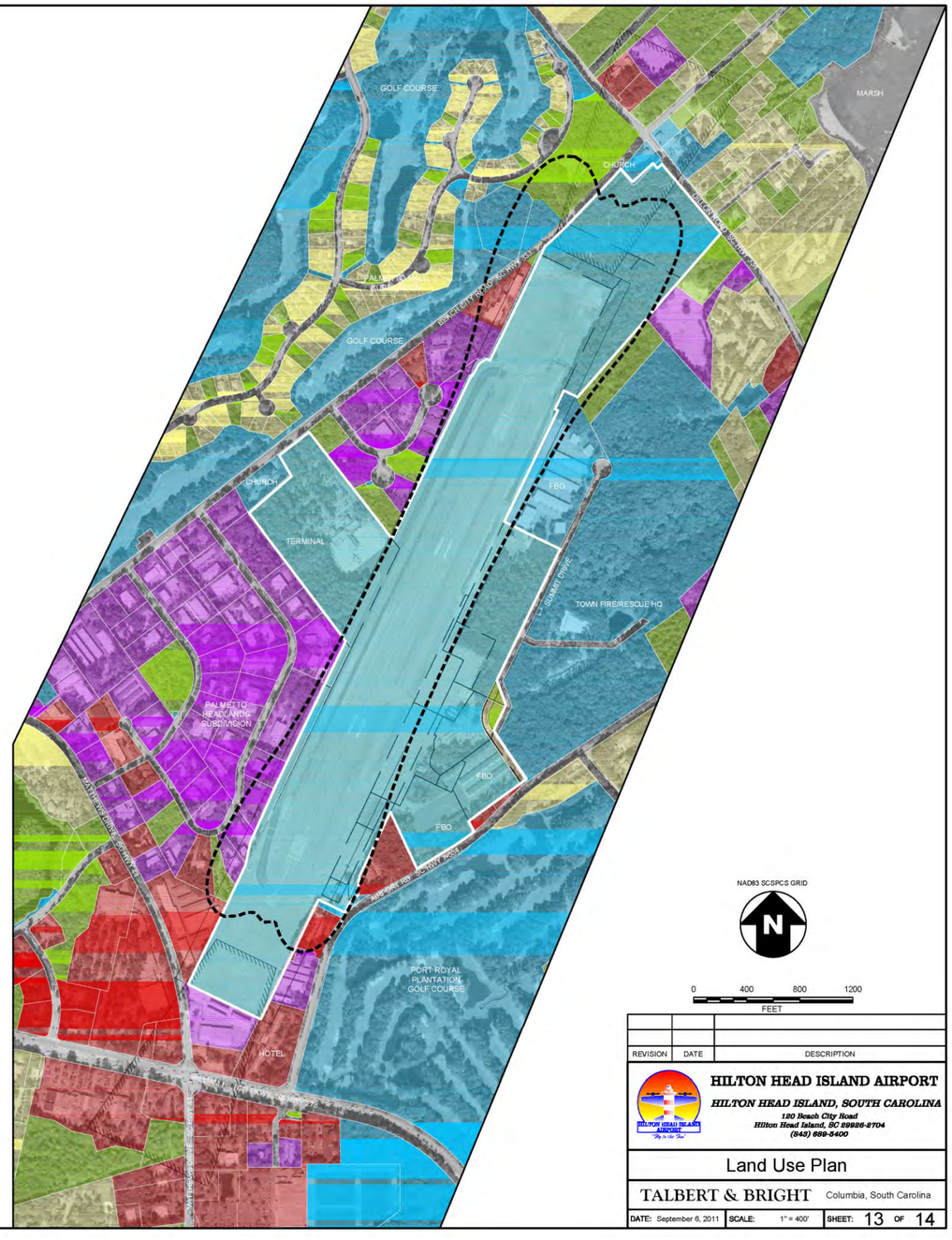
NOTES:

1. PROPERTY PARCEL LINES AND LAND USE CLASSIFICATIONS ARE PROVIDED BY BEAUFORT COUNTY AND THE TOWN OF HILTON HEAD ISLAND.

2. BASE AERIAL PHOTOGRAPHY IS DATED 2007 AND PROVIDED BY THE SOUTH CAROLINA AERONAUTICS COMMISSION.

LEGEND

- EXISTING PROPERTY LINE
- PARCEL BOUNDARIES
- YR 2029 65 LDN NOISE CONTOUR
- ULTIMATE RPZ
- COMMERCIAL LAND USE
- INDUSTRIAL LAND USE
- OTHER LAND USE
- PUBLIC AND CIVIC LAND USE
- RESIDENTIAL LAND USE



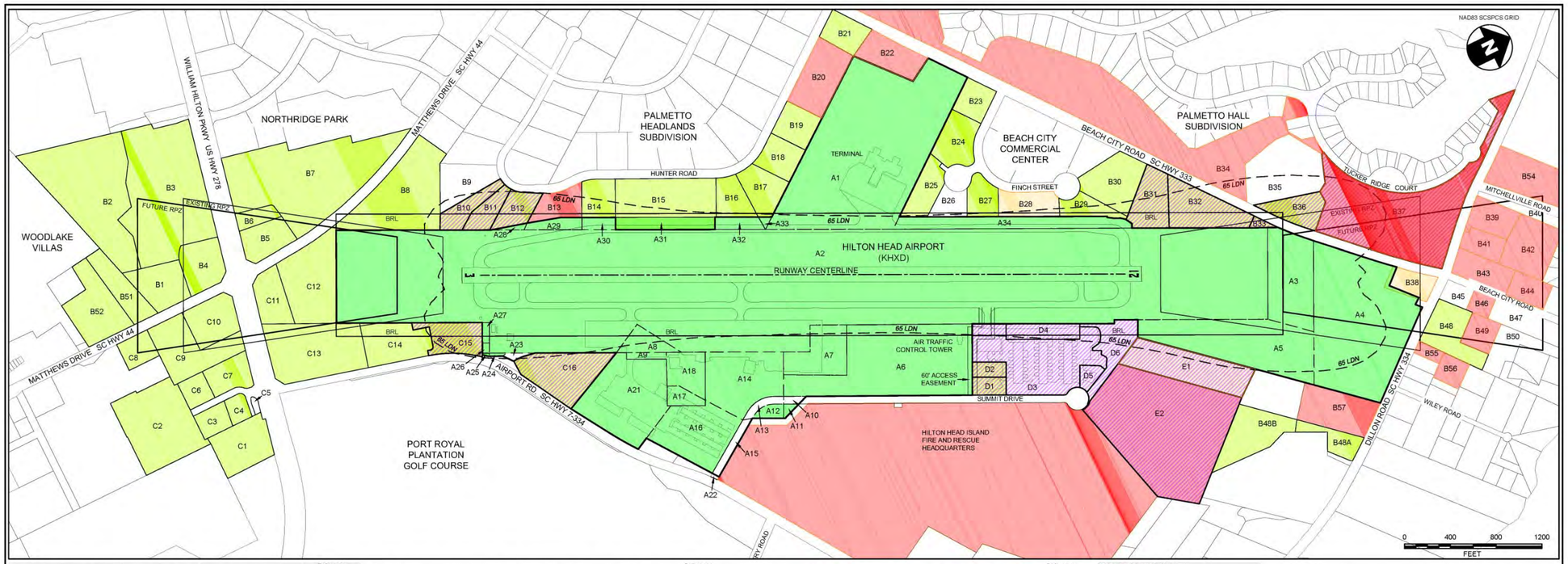
REVISION	DATE	DESCRIPTION

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-8704
(843) 689-5400

Land Use Plan

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1" = 400' | SHEET: 13 OF 14



Parcel	Area	Grant	Year	Purpose	Title	Grantor	Reference Documents
A1	20.13	None	1989	Current Aeronautical	Fee	Greenwood Development Corp.	DB 522/925, PB 35/332, PB 106/142
A2	97.07	None	1968	Current Aeronautical	Fee	Honey Horn Plantation	DB 137/206, PB 106/142
A3	4.17	None	1995	Current Aeronautical	Fee	Judge Gerald C. Smoak	PB 106/142, PB 42/151, DB 764/2339
A4	12.23	None	1991	Current Aeronautical	Fee	Greenwood Development Corp.	DB 890/256, PB 106/142, PB 42/151
A5	6.19	None	1995	Current Aeronautical	Fee	Judge Gerald C. Smoak	PB 106/142, PB 42/151, DB 764/2339
A6	10.216	AIP 03-45-0030-18, 019-2001, 029-2002, 024-2003, 028-2006	2000, 2001,2002,2 003,2006	Future Development	Fee	Thomas G. Heyward	DB 1343/1491, PB 106/142
A7	2.42	AIP 03-45-0030-03	1988	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 356/1560, PB 106/142, PB 27/145, DB 90/196
A8	0.89	None	1966	Current Aeronautical	Fee	Martha L. Smith	DB 137/211
A9	0.30	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 269/987
A10	portion of 0.28	AIP 03-45-0030-18	2000	Current Aeronautical	Fee	Thomas G. Heyward	DB 1343/1491, PB 106/142
A11	portion of 0.26	AIP 03-45-0030-18	2000	Current Aeronautical	Fee	Thomas G. Heyward	DB 1343/1491, PB 106/142
A12	portion of 5.30	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 356/1556, PB 106/142
A13	portion of 5.30	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 356/1556, PB 106/142
A14	portion of 5.30	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 356/1556, PB 106/142
A15	portion of 5.30	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 356/1556, PB 106/142
A16	3.83	AIP 03-45-0030-03	1988	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	PB 106/142
A17	0.55	AIP 03-45-0030-03	1988	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	PB 106/142
A18	1.46	None	1978	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	DB 269/987, PB 106/142, DB 90/196
A21	5.75	AIP 03-45-0030-03	1988	Current Aeronautical	Fee	Airport Company Of Hilton Head Island, Inc.	PB 106/142
A22	0.03	None	1978	Current Aeronautical	Fee	Palmetto Dunes Resort, Inc.	DB 275/1994
A23	0.84	None	No Data	No Data	Fee	Hilton Head Co., Inc.	N/A
A24	0.846	None	1983	Current Aeronautical	Fee	The Hilton Head Company, Inc.	PB 31/91, DB 367/885
A25	0.017	None	1983	Current Aeronautical	Fee	The Hilton Head Company, Inc.	PB 31/91, DB 367/885
A26	0.069	None	1983	Current Aeronautical	Fee	The Hilton Head Company, Inc.	PB 31/91, DB 370/1736
A27	0.143	None	1983	Current Aeronautical	Fee	The Hilton Head Company, Inc.	PB 31/91, DB 367/885
A28	0.107	None	1995	Current Aeronautical	Fee	AJA, LLC	DB 804/154
A29	0.672	AIP 03-45-0030-06	1995	Current Aeronautical	Fee	Besser, Inc.	DB 804/162
A30	0.403	AIP 03-45-0030-06	1995	Current Aeronautical	Fee	William E. Johnson, III	DB 809/234
A31	1.206	AIP 03-45-0030-06	1998	Current Aeronautical	Easement	Scool Company, Inc.	DB 854/404
A32	0.564	AIP 03-45-0030-08	1994	Current Aeronautical	Fee	Clifford Interiors Limited	DB 680/1495
A33	0.079	AIP 03-45-0030-08	1994	Current Aeronautical	Fee	Greenwood Development Corp.	DB 680/1488
A34	2.752	AIP 03-45-0030-08	1994	Current Aeronautical	Fee	Greenwood Development Corp.	DB 680/1488
B01	2.1+/-	None	2006	Avigation	Easement	The Town of Hilton Head	DB 2375/120, PB 30/112
B02	8.4+/-	None	2006	Avigation	Easement	The Town of Hilton Head	DB 2375/111, PB 30/112
B03	10.02	None	2006	Avigation	Easement	Pineland Associates, LLC and Cahoon Hilton Head, LLC	DB 2375/102, PB 32/112
B04	1.90	None	2006	Avigation	Easement	Pineland Associates, LLC and Cahoon Hilton Head, LLC	DB 2375/102, PB 32/112
B05	1.50	None	2006	Avigation	Easement	TC Hilton Head, LLC	DB 2507/1879, PD 76/176
B06	0.66	None	2005	Avigation	Easement	JRA Holdings, Inc.	DB 2298/928, PB 32/116
B07	10.3+/-	None	2005	Avigation	Easement	Galileo CMBS T1 HL, LLC and CBL & Associates Management, Inc.	DB 2298/920, PB 47/150
B08	2.41	None	2005	Avigation	Easement	AcquiportAmsdell III, LLC	DB 2298/910
B09	N/A	None	N/A	N/A	No Data	Stanipur, LLC	PB 28/208
B10	1.1+/-	None	2007	Avigation	Easement	Z Investments, LLC	DB 2608/1044, PB 37/163
B11	1.0+/-	None	2007	Avigation	Easement	Scott Gochnauer	DB 2643/1858, PB 37/163
B12	1.1+/-	None	2007	Avigation	Easement	AJA, LLC c/o John Antunes, Distinctive Granite and Marble	DB 2608/1028, PB 28/208
B13	1.29	None	N/A	N/A	Unsuccessful Easement Acquisition	Mathesoya Management Corp.	PB 32/188
B14	1.3+/-	None	2007	Avigation	Easement	Johnson Ginger Snapp, LLC	DB 2608/1012, PB 41/164
B15	3.8+/-	None	2007	Avigation	Easement	BT-OH, LLC	DB 2643/1840, PB 32/188
B16	1.3+/-	None	2007	Avigation	Easement	Lot 51 Hunter Road, LLC c/o Patrick C. Wrenn	DB 2608/1036, PB 32/188
B17	1.6+/-	None	2007	Avigation	Easement	Emerick Properties, LLC	DB 2651/518, PB 32/188
B18	1.4+/-	None	2007	Avigation	Easement	Tomdlings Partnership	DB 2643/1850, PB 32/188
B19	1.4+/-	None	2008	Avigation	Easement	The Fraser Fishburne P/S	DB 2783/1341, DB 32/188
B20	2.8+/-	None	N/A	N/A	N/A	N/A	N/A
B21	1.3+/-	None	2007	Avigation	Easement	Island Commercial Contractors, Inc.	DB 2626/2432, PB 32/188
B22	1.8+/-	None	No Data	No Data	No Data	No Data	No Data
B23	1.2+/-	None	2008	Avigation	Easement	Cuda Company, LLC	DB 2749/1680, PB 53/78
B24	1.8+/-	None	2007	Avigation	Easement	Michael A. Morrison c/o Coastal Transmission Service	DB 2608/1020, PB 53/78
B25	1.5+/-	None	2006	Avigation	Easement	Solitude Associates, LLC	DB 2425/18
B26	0.9+/-	None	z	No Data	No Data	No Data	PB 53/20
B27	1.1+/-	None	z	Avigation	Easement	Bay Oaks Development, LLC	DB 2425/1, PB 53/78
B28	1.5+/-	None	No Data	No Data	No Data	No Data	PB 53/20
B29	1.0+/-	None	2006	Avigation	Easement	Robert O. Jones, Jr. and Christine A Jones	DB 2425/27, PB 53/78
B30	2.5+/-	None	2007	Avigation	Easement	SAVS13, LLC	DB 2608/996, PB 53/78
B31	1.9+/-	None	2006	Avigation	Easement	Frances Marie Hartis, Trustee	DB 2444/2014, PB 53/78
B32	2.4+/-	None	2006	Avigation	Easement	Brooklyn Bridge Ltd., Co.	DB 2455/87, PB 53/78
B33	0.07	None	2006	Avigation	Easement	Brooklyn Bridge Ltd., Co.	DB 2455/87, DB 595/1664
B36	1.42	None	2006	Avigation	Easement	Hilton Head Island Land Trust, Inc.	DB 2452/692, PB 42/146
B48	2.26	None	2009	Avigation	Easement	The Town of Hilton Head	DB 2665/1143, PB 32/114
B48A	1.0	None	2006	Avigation	Easement	Hilton Head Small Business Center, LLC	DB 2501/1355, PB 35/354
B48A	2.496	None	2006	Avigation	Easement	Hilton Head Small Business Center, LLC	DB 2501/1355
B51	1.8+/-	None	2006	Avigation	Easement	JMKH Properties, LLC	DB2452/110, PB 41/43
B52	3.0+/-	None	2006	Avigation	Easement	JMKH Properties, LLC	DB2452/101, PB 41/43
C01	2.50	None	2005	Avigation	Easement	Heritage Property Holdings, LLC	N/A DB 2298/953, PB 59/199
C02	5.26	None	2007	Avigation	Easement	Mina Jeger, et. al.	DB 2517/2353, PB 33/134
C03	0.9+/-	None	2006	Avigation	Easement	Dillon Road Properties, Inc.	DB 2325/839, PB 32/57
C04	0.50	None	2007	Avigation	Easement	The Irving J. Sherman Revocable Trust	DB 2626/2449, PB 31/76
C05	N/A	None	N/A	N/A	N/A	N/A	N/A
C06	0.8+/-	None	2006	Avigation	Easement	Jiffy Management Company, Inc.	DB 2501/1348, PB 32/57
C07	1.20	None	2007	Avigation	Easement	McDonalds Corporation	DB 2643/1876, PB 32/57
C08	0.88	None	2007	Avigation	Easement	Matthews Drive Associates, LP	DB 2691/2009, PB 59/176
C09	3.2+/-	None	2005	Avigation	Easement	KPP Mathews Drive, LLC	DB 2298/645, PB 73/68
C10	5.0	None	2006	Avigation	Easement	Wachovia Bank	DB 2403/527
C11	1.5	None	2005	Avigation	Easement	Pantry, Inc.	DB 2298/636, PB 28/136
C12	5.48	None	2005	Avigation	Easement	Seacoast Building Centers	DB 2298/961
C13	5.00	None	2006	Avigation	Easement	HI Hilton Head, LLC	DB 2425/10
C14	2.41	None	2005	Avigation	Easement	AcquiportAmsdell III, LLC	DB 2298/910
C15	1.7+/-	None	2007	Avigation	Easement	Airport Office Park Horizontal Property Regime	DB 2658/158, PB 33/184
C16	3.27	None	2007	Avigation	Easement	Joanne Rodenberg	DB 2606/1004, PB 31/85
D1	0.60	None	2008	Avigation	Easement	Hatfield Investment Company	DB 2691/1992, PB 60/184
D2	0.50	None	2008	Avigation	Easement	Hatfield Investment Company	DB 2691/1992, PB 60/184

Future Acquisition

Parcel	Area	Purpose
B10	1.1+/-	Future Development
B11	1.0+/-	Future Development
B12	1.1+/-	Future Development
B31	1.9+/-	Future Development
B32	2.4+/-	Future Development
B33	0.07	Future Development
B36	1.4+/-	Future Development
B37	9.0+/-	Future Development
B38	1.1+/-	Avigation Easement
B39	1.4+/-	Avigation Easement
B40	14.9+/-	Avigation Easement
B41	1.0+/-	Avigation Easement
B42	2.6+/-	Avigation Easement
B43	1.5+/-	Avigation Easement
B44	1.0+/-	Avigation Easement
B45	0.6+/-	Avigation Easement
B46	0.5+/-	Avigation Easement
B47	1.5+/-	Avigation Easement
B49	1.0+/-	Avigation Easement
B50	3.0+/-	Avigation Easement
C15	1.7+/-	Future Development
C16	3.27	Future Development
D1	0.60	Future Development
D2	0.50	Future Development
D3	6.0+/-	Future Development
D4	1.1+/-	Future Development
D5	0.4+/-	Future Development
D6	1.7+/-	Future Development
E1	3.7+/-	Future Development
E2	13.0+/-	Future Development

NOTES:

1. PROPERTY PARCEL REPRESENTATIONS WERE COMPILED FROM REFERENCE DOCUMENTS AND FROM TAX PARCEL DATA PROVIDED BY BEAUFORT COUNTY.
2. THE ONLY EASEMENTS SHOWN ARE AVIGATION. SEE THE REFERENCE PLATS FOR UTILITY, ACCESS, AND OTHER EASEMENT INFORMATION.
3. TOTAL FEE SIMPLE ACREAGE IS 174±. TOTAL ACREAGE IN AVIGATION EASEMENTS IS 126±.

LEGEND

- EXISTING PROPERTY LINE
- INTERNAL PARCEL BOUNDARIES
- EXISTING FEE SIMPLE PURCHASED WITH LOCAL FUNDS
- EXISTING FEE SIMPLE PURCHASED WITH FEDERAL ASSISTANCE, SEE TABLE
- EXISTING AVIGATION EASEMENT PURCHASED WITH FEDERAL ASSISTANCE, SEE TABLE
- AVIGATION EASEMENT FUTURE ACQUISITION
- FEE SIMPLE FUTURE ACQUISITION

FOR CURRENT CLEARING PROJECT

- UNSUCCESSFUL EASEMENT ACQUISITION
- UNSUCCESSFUL EASEMENT ACQUISITION BUT EXRESS WRITTEN PERMISSION GRANTED

REVISION	DATE	DESCRIPTION
2	12/2/2010	REVISE 'D' AND 'E' PARCELS
1	10/20/2010	GENERAL CORRECTIONS AND REVISIONS

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-3704
(843) 689-5400

Exhibit A Property Map

TALBERT & BRIGHT Columbia, South Carolina

DATE: September 6, 2011 | SCALE: 1" = 300' | SHEET: 14 OF 14

This chapter details the various projects required for continued improvement and operation of Hilton Head Island Airport for a period of 20 years (2010-2029). These projects, by phase (time period), include estimates of probable construction costs in constant 2010 dollars. These planning cost estimates are intended as order of magnitude costs only. More detailed project definitions and associated estimates must be developed prior to implementation of any project identified herein.

The 20-year airport improvement program is broken into one of the three following development phases:

- Phase I (2010-2014)
- Phase II (2014-2019)
- Phase III (2020-2029)

A brief description of each improvement is provided for each development phase, as illustrated on the ALP. The recommended staging is not absolute, and changes in demand, priorities, economy, or funding may alter the need or timing of each proposed development.

The estimated costs include various equipment, construction, and development items scheduled for each phase, along with estimated costs at 2010 constant dollars. These costs should be periodically reviewed and updated to account for inflation and other changing conditions. Each figure represents an order of magnitude estimate of the total project cost for each item, including not only construction, but also incidental expenses such as engineering, planning, construction administration, surveying, and testing. Since these are preliminary order of magnitude estimates for planning purposes, a contingency amount was added to each cost item to cover unforeseen conditions, which may occur during actual development. This approach is an industry standard used to prepare preliminary planning estimates and, though somewhat conservative, reduces the likelihood of budget overruns when detailed design is completed and bids received.

Table 8.1-1
Preliminary Project Cost Estimates (2010 $)*
Hilton Head Island Airport

Phase	Project	Cost	Federal	State	Local
I	Commercial Service Terminal Expansion	$1,900,000	$1,805,000	$0	$95,000
I	Land Acquisition for Airfield Deficiency Correction	$3,600,000	$3,420,000	$0	$180,000
I	Airfield Deficiency Correction	$2,041,400	$1,939,330	$51,035	$51,035
I	Runway 03 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Runway Extension Benefit Cost Analysis/Environmental Documentation	$500,000	$475,000	$12,500	$12,500
I	Land Acquisition for Runway Extension and Road Relocation	$5,500,000	$5,225,000	$0	$275,000
I	700' Runway Extension Design and Construction	$2,245,200	$2,132,940	$56,130	$56,130
I	400' Runway Extension Design and Construction	$925,000	$878,750	$23,125	$23,125
I	Runway 21 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Relocation of Beach City Road Design and Construction	$750,000	$712,500	$18,750	$18,750
I	Runway 03 34:1 Obstruction Removal (trees)	$1,500,000	$1,425,000	$37,500	$37,500
I	Transitional Surface Obstruction Removal (trees)	$2,000,000	$1,900,000	$50,000	$50,000
	TOTAL	$24,961,600	$23,713,520	$349,040	$899,040
II	Avigation Easements within Runway 21 RPZ	$1,145,000	$1,087,750	$0	$57,250
II	Commercial Service Parking Lot Expansion (120 spaces)	$922,100	$0	$0	$922,100
II	General Aviation Apron Expansion (18,500 sq yd)	$1,600,000	$1,520,000	$40,000	$40,000
II	10-Unit T-Hangar	$1,350,000	$1,282,500	$33,750	$33,750
II	Conventional Hangars (2)	$2,830,000	$2,688,500	$70,750	$70,750
II	Land Acquisition General Aviation Side	$3,335,000	$3,168,250	$0	$83,375
	TOTAL	$11,182,100	$9,747,000	$144,500	$1,207,225
III	10-Unit T-Hangar (2)	$2,660,000	$2,527,000	$66,500	$66,500
III	Conventional Hangars (2)	$2,450,000	$2,327,500	$61,250	$61,250
III	General Aviation Apron Expansion (17,000 sq yd)	$1,520,000	$1,444,000	$38,000	$38,000
III	Commercial Service Parking Lot Expansion (150 spaces)	$720,000	$0	$0	$720,000
III	Land Acquisition (Exec Air)	$9,400,000	$8,930,000	$0	$470,000
	TOTAL	$16,750,000	$15,228,500	$165,750	$1,355,750
	GRAND TOTAL	$52,893,700	$48,689,020	$659,290	$3,462,015

* - These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc. October 2010.

8.1 AIRPORT DEVELOMENT PROGRAM

This section lists each future airport improvement project by phase for the 20-year planning period (2010-2029). Planning estimates of probable construction cost are listed on Table 8.1-1, as well as a breakdown of potential FAA, state, and local funding sources, and Appendix F.

This section presents an analysis to determine the financial overview of the capital improvements proposed for the Hilton Head Island Airport over the 20-year planning period. The analyses presented in this section assess the financial implications of the Airport undertaking the proposed Master Plan Update improvement program. The Airport's ability to generate future revenues in excess of projected future operating expenses, any new debt service, and proposed capital projects are examined. The financial overview was conducted as follows:

- The Airport's existing financial structure was examined to determine its primary revenue generating sources, as well as major expenses.
- A phasing plan (a schedule of proposed capital projects) was previously prepared to illustrate the staging of the projects recommended for the Airport throughout the 20-year planning period. This 20-year period was further subdivided into three planning periods: short-term (2010-2014), intermediate-term (2015-2019), and long-term (2020-2029).
- Funding sources, including the FAA and SCAC, were examined based on eligibility guidelines contained in the FAA's Airport Improvement Program and SCAC guidelines. Options for funding the local share of project costs, such as general obligation or revenue bonds or passenger facility charge (PFC) revenue, were also explored.
- Projections of revenues and expenses, as they relate to the operation of the Airport, were produced. An analysis of the Airport's future operating income/deficit was developed to determine an estimate of net remaining revenues available to meet projected capital costs.

Given the number of variables involved in an airport's financial environment, such as the entry or exit of airlines, financial projections beyond five years tend to be speculative and of little practical value. In addition, capital projects beyond five years are often uncertain and can change in their order of importance and priority. Therefore, this analysis focused primarily on the short-term planning period (2011-2015).

This section, which presents the results of the financial overview, is organized as follows:

- Airport Financial Structure
- Capital Improvement Program (CIP)
- Development Plan Financing
- Historical Financial Information
- Pro Forma Cash Flow Analysis
- Summary and Recommendations

9.1 AIRPORT FINANCIAL STRUCTURE

The Airport operates on a fiscal year (FY) ending June 30. Revenues and expenses are recorded on an accrual basis. Accordingly, revenues are recorded when they are earned, and expenses are recognized when they are incurred. The Airport's revenues, expenses, and other financial transactions are recorded in the Beaufort County's financial records as a part of the County's general fund. For this financial overview analysis, revenues and expenses have been depicted based on specific revenue and expense categories as recorded by Beaufort County.

9.2 CAPITAL IMPROVEMENT PROGRAM

Prudent financial planning requires the use of quality, order of magnitude project cost estimates, as well as conservative funding and financing assumptions. Based on the recommended capital improvement program (CIP) developed as part of this Master Plan Update (Table 8.1-1, page 92), a phasing plan and cost estimates were prepared to illustrate the timing and relative magnitude of the capital expenditures required to fully implement the CIP. As previously mentioned, emphasis was placed on the short-term planning period projects and the intermediate- and long-term planning period projects were discussed in general.

The cost estimates associated with the recommended projects in the Master Plan Update are intended to be order of magnitude and presented in 2010 construction year dollars. The cost estimates are based on traditional design, bid, and build and include an allowance for professional design, construction administration, building permits, and testing and inspection, as well as a 10 percent construction contingency.

As depicted on Table 9.2-1 (page 94), the proposed projects are summarized into the following project categories: airfield, general aviation, and commercial service passenger terminal area projects.

9.3 DEVELOPMENT PLAN FINANCING

9.3.1 Potential Funding Sources

An airport typically does not provide all the needed capital development funds from internal sources. Federal, state, and private funding together with airport funds and bond proceeds (supported by airport revenues and/or municipal support) are usually combined to produce the total funds required to undertake a CIP. Typically, these sources include: FAA, state, private funds (tenant or third-party provided), airport funds, PFCs, loans or bond proceeds, among other sources of capital funding. These sources are heavily relied upon by commercial airports for funding support, although several of these key sources are subject to change by Congress or other political entities. Some, such as the FAA Airport Improvement Program, have been modified significantly from time to time. One source, the Passenger Facility Charge program, was authorized by Congress in 1991 and has become a major source of capital funds for airport development.

In identifying potential sources of funds, it is necessary to examine each project element to determine its eligibility for each program or funding source. It is also important to consider the availability of funds for each funding source. The following paragraphs briefly describe the primary external funding sources, which may be available to provide funding for projects recommended in this Master Plan Update.

9.3.2 Federal Aviation Administration – Aviation Trust Fund

Congress began appropriating money for airport development in 1946 through the enactment of the Federal Airport Act. Since that time, Congress has passed multiple legislative measures intended to develop the national air transportation system in the United States. Congress enacted the Airport and Airway Revenue Act of 1970, which established the Airport and Airways Trust Fund. The Trust Fund is intended to provide the primary source of funding for FAA operations, facilities, and equipment and to provide funding for the development of certain public use airports. The Trust Fund is supported by a series of aviation-related excise taxes through charges on passenger tickets, cargo waybills, and aviation gasoline and jet fuel.

The majority of the Trust Fund is supported by passenger ticket taxes paid by users of the commercial airline industry. As a result, the amount of aviation taxes generated in a given year to support the Trust Fund is dependent on the national level of commercial aviation activity and total revenues generated from these activities.

The revenues supporting the Trust Fund come from a variety of aviation user fees and fuel taxes. These tax revenues were authorized until September 30, 2007, by the Taxpayer Relief Act of 1997 (P.L. 105-34). The authority for these taxes has been extended through December 31, 2010. Revenue sources include:

- 7.5 percent ticket tax
- $3.60 flight segment tax[61]
- 6.25 percent tax on cargo waybills

[61] A flight segment is defined as "a single takeoff and a single landing." The flight segment fee has been inflation adjusted (rounded off to the nearest dime) on an annual basis since January 1, 2004.

Table 9.2-1
Schedule of Project Costs and Phasing
Hilton Head Island Airport

Capital Improvement Projects	Planning Period Short (0-5 yrs)	Intermediate (6-10 yrs)	Long (11-20 yrs)	Total
Airfield Projects				
Land Acquisition for Airfield Deficiency Correction	$3,600,000	$0	$0	$3,600,000
Airfield Deficiency Correction	$2,041,400	$0	$0	$2,041,400
Runway 03 EMAS	$2,000,000	$0	$0	$2,000,000
Runway Extension Cost-Benefit Analysis/Environmental Documentation	$500,000	$0	$0	$500,000
Land Acquisition for Runway Extension and Road Relocation	$5,500,000	$0	$0	$5,500,000
700' Runway Extension Design and Construction	$2,245,200	$0	$0	$2,245,200
400' Runway Extension Design and Construction	$925,000	$0	$0	$925,000
Runway 21 EMAS	$2,000,000	$0	$0	$2,000,000
Relocation of Beach City Road Design and Construction	$750,000	$0	$0	$750,000
Runway 03 34:1 Obstruction Removal (trees)	$1,500,000	$0	$0	$1,500,000
Transitional Surface Obstruction Removal (trees)	$2,000,000	$0	$0	$2,000,000
Avigation Easements within Runway 21 RPZ	$0	$1,145,000	$0	$1,145,000
Subtotal Airfield Projects	$23,061,600	$1,145,000	$0	$24,206,600
General Aviation Projects				
General Aviation Apron Expansion (18,500 sq yd)	$0	$1,600,000	$0	$1,600,000
10-Unit T-Hangar	$0	$1,350,000	$0	$1,350,000
Conventional Hangar (2)	$0	$2,830,000	$0	$2,830,000
Land Acquisition General Aviation Side	$0	$3,335,000	$0	$3,335,000
10-Unit T-Hangar (2)	$0	$0	$2,660,000	$2,660,000
Conventional Hangar (2)	$0	$0	$2,450,000	$2,450,000
General Aviation Apron Expansion (17,000 sq yd)	$0	$0	$1,520,000	$1,520,000
Land Acquisition (Exec Air)	$0	$0	$9,400,000	$9,400,000
Subtotal General Aviation Projects	$0	$9,115,000	$16,030,000	$25,145,000
Commercial Service Passenger Terminal Area				
Commercial Service Terminal Expansion	$1,900,000	$0	$0	$1,900,000
Commercial Service Parking Lot Expansion (120 spaces)	$0	922,100	$0	$922,100
Commercial Service Parking Lot Expansion (150 spaces)	$0	$0	$720,000	$720,000
Subtotal Commercial Service Passenger Terminal Area	$1,900,000	$922,100	$720,000	$3,542,100
Total Airport Master Plan Projects	$24,961,600	$11,182,100	$16,750,000	$52,893,700

Source: Talbert & Bright, Inc. October 2010.
Newton & Associates, Inc., October 2010.

- $0.043 cents on commercial aviation fuel
- $0.193 cents on general aviation gasoline
- $0.218 cents on general aviation jet fuel
- $16.10 international arrival tax[62]
- $16.10 international departure tax

[62]Both the international arrival and departure taxes have been adjusted (rounded off to the nearest dime) for inflation since January 1, 1999. The rate for U.S. flights to and from Alaska or Hawaii is $8.00.

- 7.5 percent "frequent flyer" award tax[63]
- 7.5 percent ticket tax at rural airports[64]

Since the creation of the Trust Fund in 1970, aviation excise taxes have exceeded spending commitments from the FAA's appropriations resulting in an aggregate surplus. However, since 2001 the Trust Fund's uncommitted balance has declined as Trust Fund revenues have been lower than projected. This trend has been exaggerated as the U.S. economy entered an economic recession beginning in December 2007. The economic slowdown, combined with a 60 percent increase in the cost of aviation jet fuel in 2008, contributed to a net industry loss of $9.5 billion according the Air Transport Association. The airline industry has responded to the national and global economic slowdown and volatile changes in oil prices by attempting to enhance yields by implementing a series of capacity cuts, reductions in labor, and other measures. With the resulting declines in passenger traffic, aircraft operations, and fuel consumption, revenues generated to support the Trust Fund are estimated to be 4 percent less than estimated by the FAA in Federal Fiscal Year 2009.

In Federal Fiscal Year 2009, these taxes produced approximately $10.9 billion, which is $1.3 billion less than estimated that contributed to a reduction in the balance of the Trust Fund from $10.1 billion to $9.7 billion, and a reduction in the uncommitted balance from $928 million in 2009 to $334 million in 2010. The FAA's budget for 2011 estimates that total aviation excise taxes will increase to $12.5 billion.

As shown in Figure 9.3.2-1, the total aviation excise taxes paid to the Trust Fund increased from $10.8 billion in Federal Fiscal Year 2005 to a high of $12.4 billion in Federal Fiscal Year 2008. Total aviation excise taxes decreased by $1.6 billion from Federal Fiscal Year 2008 to Federal Fiscal Year 2009.

[63]This tax is not limited to frequent flyers but includes all second-party purchases of airline miles.
[64]Rural airport passengers pay only the rural airport ticket tax. They do not pay the segment tax on the segment to or from the rural airport and do not pay the general ticket tax in addition to the rural airport ticket tax.

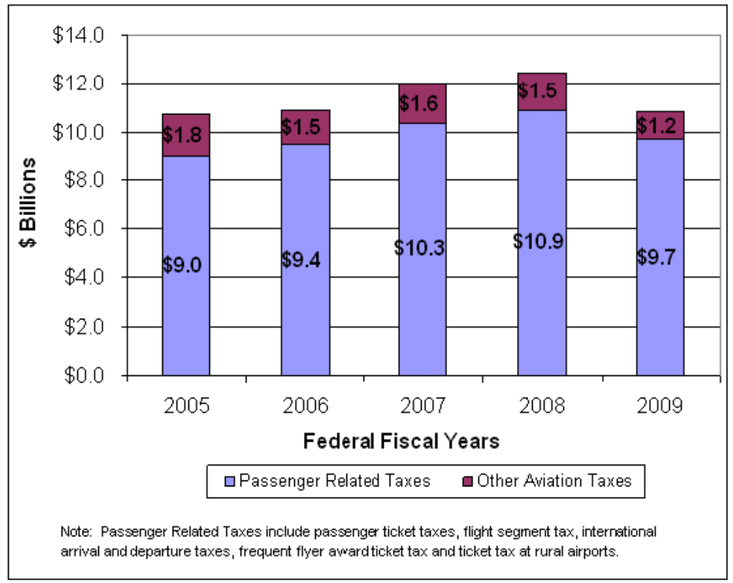


Figure 9.3.2-1
Hilton Head Island Airport
Aviation Trust Fund Funding Sources

According to a report to Congress from the U.S. Government Accounting Office, further declines in the Trust Fund's uncommitted balance could pose future budgetary challenges for the FAA. Furthermore, if the Trust Fund revenues continue to fall below projected levels, the FAA's ability to cover existing and future funding obligations could be jeopardized.[65]

The funding of the FAA (including FAA operations, facilities and equipment, and the Airport Improvement Program, among other items) is provided from a combination of the Trust Fund and a transfer of funds from the general fund as appropriated by the U.S. Congress. However, according to the FAA, funding appropriated from the general fund is limited to FAA operations. As shown in Figure 9.3.2-2, the amount of funding required from the general fund for FAA operations has ranged from approximately 16 percent of the FAA's total budget in Federal Fiscal Year 2008 to 25 percent in federal fiscal year 2009. Figure 9.3.2-2 presents this historical relationship between Federal Fiscal Year 2005 through 2009.

In the Federal Fiscal Year 2008 budget, President George W. Bush called for a change in the funding structure for the Trust Fund, from an excise tax-based system into a cost-based user system for commercial air carriers and general aviation. Congress may address the Trust Fund issue with the authorization of a new or revised aviation excise tax or user fee structure to support the Trust Fund. At the time of this Master Plan Update's printing, this mechanism of funding the Trust Fund is currently in review for reauthorization by Congress.

9.3.2.1 Overview and Status of the Airport Improvement Program

The Airport and Airway Improvement Act of 1982 authorized the capital grant-in-aid program known as the Airport Improvement Program (AIP). The AIP is funded by the Trust Fund. Congress authorizes and appropriates funds used for eligible airport improvements, which are administered by the FAA. AIP eligible projects include airport planning, airport development, noise compatibility programs (80 percent at large and medium hub airports), and terminal development at all but large hub airports. An airport must be included in the National Plan of Integrated Airport Systems to be eligible to receive a grant from the AIP. Congress amends the Airport and Airway Improvement Act from time to time, as required, to authorize funding levels on an annual or multi-year basis. However, as depicted on Figure 9.3.2.1-1 (page 96), Congress typically appropriates less AIP funding than authorization allows. Since its inception in 1982, the total amount of the AIP appropriated by Congress is approximately $8.6 billion less than its authorization authority through 2009.

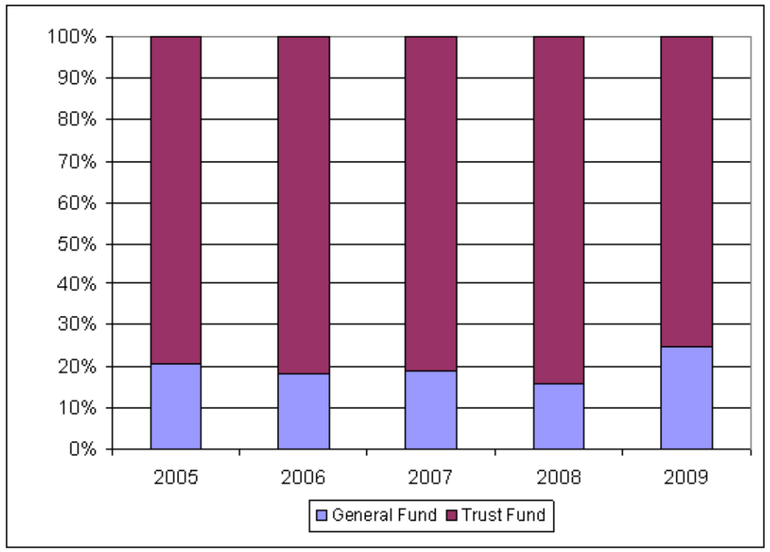


Figure 9.3.2-2
Hilton Head Island Airport

FAA Funding

In combination with an allocation from the federal general fund (approximately 25 percent in 2009), the Trust Fund provides for the funding of the FAA, including the AIP. In Federal Fiscal Year 2010, the Aviation Trust Fund is estimated to provide approximately 75 percent or $12.9 billion of the FAA's budget ($17 billion). The FAA's budget authority included approximately $3.5 billion in funding for the AIP program.

On December 13, 2003, President George W. Bush signed into law the Vision 100-Century of Aviation Reauthorization Act (Vision 100). Also known as the FAA Reauthorization Bill, Congress authorized the AIP for over $14 billion over a period of four years, from 2004 through 2007. Vision 100 provided that certain projects are eligible for AIP funding at the 95 percent level at commercial service airports classified by the FAA as 'small hub' or smaller. Large and medium hub airports are eligible for funding at the 75 percent level. As defined by the FAA, the Hilton Head Island Airport is a 'non-hub' and, therefore, is currently eligible for FAA funding at 95 percent for AIP eligible projects. It should be noted that there is a distinction between the eligibility and justification of a project to be funded by the AIP.

Under multiple authorization extension acts, Congress authorized the AIP at $3.675 billion for 2008 and $3.9 billion for 2009. The Appropriations Committees of the U.S. House of Representatives and U.S. Senate ultimately appropriated the AIP at $3.5 billion for both 2008 and 2009.

The President's 2010 budget also includes proposed AIP appropriations of $3.5 billion, or effectively the same level as 2009. However, in September 2009, the House and Senate passed a bill extending FAA programs and aviation excise taxes through December 31, 2009, which has been extended to December 31, 2010. Congress has been working on a multi-year FAA reauthorization bill since the expiration of Vision 100 in 2007.

Although the future of the AIP is not guaranteed, federal funding for public use airports has been provided since 1946. Therefore, for the purpose of this Master Plan Update, it is assumed that the AIP, or some form of it, will continue to be available and a viable capital funding option available to Beaufort County during the 20-year planning period.

[65]U.S. Government Accounting Office, "Commercial Aviation. Airline Industry Contraction Due to Volatile Fuel Prices and Falling Demand Affects Airports, Passengers, and Federal Government Revenues," April 2009.

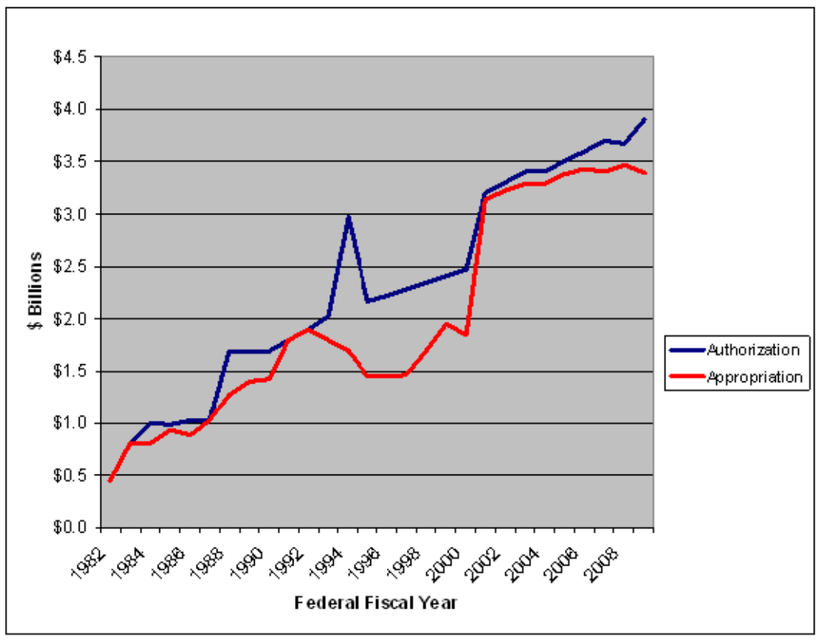


Figure 9.3.2.1-1
Hilton Head Island Airport

Historical AIP Authorization and Appropriations

9.3.2.2 Obligations and Assurances

The Airport and Airways Improvements Act of 1982, among other things, requires airport sponsors to provide certain assurances (sponsor's assurances) that it will comply with federal law and regulation in using FAA AIP grant funds and in operating the airport. The airport sponsor must comply with the sponsor's assurances in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants. The sponsor's assurances are required to be submitted as part of the project application by airport sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended.

As of the date of this Master Plan Update, there are 37 sponsor's assurances. Among these sponsor's assurances is the assurance that the airport operator will (i) make the airport available as an airport for public use on fair and reasonable terms without unjust discrimination (Assurance 22); (ii) permit no exclusive aeronautical rights for use of the airport (Assurance 23); and (iii) maintain a fee and rental structure, consistent with Assurances 22 and 23, for facilities and services being provided to the airport users that will make the airport as financially self-sustaining as possible under the circumstances existing at the particular airport (Assurance 24).

9.3.3 Airport Improvement Program - Funding Sources

Grants administered by the FAA through the AIP represent a critical capital funding source for Beaufort County to accomplish the projects recommended in this Master Plan Update. However, given the uncertainty of the future status of the AIP Program, it is not possible to confirm the level of future AIP grants available to provide funding for the recommended projects. Notwithstanding, for the purpose of this Master Plan Update, it is assumed that the AIP will continue to be authorized and appropriated at levels reasonably consistent with the Congressional authorization Vision 100 and the 2010 AIP appropriation.

Within the existing AIP authorization, there are two major subcategories that are generally used for improvement programs: entitlement grant and discretionary grant programs.

9.3.3.1 Passenger Entitlement Grants

One of the most common types of federal funding available for commercial service airports in the United States is passenger entitlement grants (entitlement grants) funded through the AIP and administered by the FAA. Entitlement grants are essentially an allocation of certain AIP funds based upon an airport's total number of annual enplaned passengers in a given year. Only airports defined by the FAA as primary airports (those having 10,000 or more enplanements) are eligible to receive AIP entitlement grants. Hilton Head Island Airport is classified by the FAA as a primary airport. Pursuant to Vision 100, in any federal fiscal year in which Congress appropriates funding for the AIP program at the $3.2 billion level or more, then primary airports receive apportionments based on the following number of enplaned passengers:

- $15.60 for each of the first 50,000 enplanements
- $10.40 for each of the next 50,000 enplanements
- $5.20 for each of the next 400,000 enplanements
- $1.20 for each additional enplanement

Given the AIP appropriation level of $3.5 billion in 2009 and 2010, Vision 100 provides primary airports with a minimum of $1.0 million per federal fiscal year. For the purpose of determining passenger entitlements grants apportioned in 2011, the FAA uses the number of passengers enplaned at each airport in calendar year 2009. According to the FAA, the Hilton Head Island Airport enplaned 66,893 passengers in calendar year 2009. This difference from the 75,453 enplanements described in Section 3.3.2 – Commercial Service Air Carrier Enplanement Forecast Scenarios (page 18) may be explained by charter and other unscheduled enplanement activity occurring at the Airport. Based on the number of enplaned passengers in calendar year 2009 according to the FAA, the AIP passenger entitlement grant apportionment formula yields $955,687 per year. However, given the 2010 AIP appropriation level, the FAA has apportioned a minimum of $1.0 million in AIP passenger entitlement grants to the Hilton Head Island Airport.

Actual final amounts of AIP passenger entitlement grants may be affected by the total amounts periodically authorized and appropriated by Congress for this program. Entitlement grants may be carried over from one year to the next, used to pay eligible debt service on bonds issued to finance eligible projects; and among other provisions, future allocation may be earmarked for repayment of current expenditures if the FAA concurs and issues a letter of intent.

9.3.3.2 Cargo Service Entitlement Grants

While originally designed to provide a source of reliable funding for commercial service airports that provide passenger service, changes to the AIP have also resulted in entitlement set asides, for cargo service airports. Certain airports are designated by the FAA as cargo service airports. According to FAA Order 5100.38C *Airport Improvement Program Handbook* (June 28, 2005), a cargo service airport is any airport that, in addition to any other air transportation services that may be available, is served by aircraft providing air transportation of only cargo with a total annual landed weight of more than 100 million pounds. Landed weight for this purpose means the weight of aircraft transporting only cargo intrastate, interstate, and in foreign air transportation. An airport may be both a commercial passenger service and cargo service airport.

The Hilton Head Island Airport is not currently designated as a cargo service airport. Therefore, for the purpose of this Master Plan Update, it is assumed that the Airport will not receive cargo service entitlements during the short-term development period, which must be used on cargo-related capital projects.

9.3.3.3 Discretionary Grants

Discretionary grants are based upon commitments to certain eligible development projects at the discretion of the FAA. Discretionary grants are available for use by most types of public use airports. Discretionary grant funding comprises two types of funds: set-aside and remaining funds. The set-aside funds are allocated for noise compatibility and military airport programs. The remaining discretionary funds are used for projects that enhance capacity, safety, security, and noise compatibility programs based on a priority system, which is designed to allocate the available funds using a point-value system, which gives the highest priority to safety, security, reconstruction, standards, and capacity in that order. The FAA has established the National Priority System (NPS) to assist in deciding how to allocate AIP discretionary grants. Projects, which enhance safety, security, reconstruction, standards, and capacity, in that order are given highest priority. Therefore, a project that is eligible for funding may not necessarily be funded because of its priority.

9.3.4 Airport Improvement Program Eligibility and Funding Assumptions

AIP grants are subject to approval by the Secretary of Transportation and periodic appropriation by Congress. Certain project work elements may be eligible for AIP funding at the 95 percent level. The *Airport Improvement Program Handbook* (FAA Order 5100.38C, June 28, 2005) sets forth project eligibility guidelines for AIP funding. Table 9.3.4-1 sets forth the anticipated AIP eligibility of each Master Plan Update element. As depicted on Table 9.3.4-1, the total AIP eligibility of the proposed projects is estimated to be approximately $39.8 million, or 75 percent of the total estimated cost during the development period.

Table 9.3.4-1
Airport Improvement Program Eligibility
Hilton Head Island Airport

	Project Cost	Percent AIP Eligible	Total AIP Eligibility
Airfield Projects			
Land Acquisition for Airfield Deficiency Correction	$3,600,000	95%	$3,420,000
Airfield Deficiency Correction	$2,041,400	95%	$1,939,330
Runway 03 EMAS	$2,000,000	95%	$1,900,000
Runway Extension Cost-Benefit Analysis/Environmental Documentation	$500,000	95%	$475,000
Land Acquisition for Runway Extension and Road Relocation	$5,500,000	95%	$5,225,000
700' Runway Extension Design and Construction	$2,245,200	95%	$2,132,940
400' Runway Extension Design and Construction	$925,000	95%	$878,750
Runway 21 EMAS	$2,000,000	95%	$1,900,000
Relocation of Beach City Road Design and Construction	$750,000	95%	$712,500
Runway 03 34:1 Obstruction Removal (trees)	$1,500,000	95%	$1,425,000
Transitional Surface Obstruction Removal (trees)	$2,000,000	95%	$1,900,000
Avigation Easements within Runway 21 RPZ	$1,145,000	95%	$1,087,750
Subtotal Airfield Projects	$24,206,600	95%	$22,996,270
General Aviation Projects			
General Aviation Apron Expansion (18,500 sq yd)	$1,600,000	95%	$1,520,000
10-Unit T-Hangar	$1,350,000	0%	$0
Conventional Hangar (2)	$2,830,000	0%	$0
Land Acquisition General Aviation Side	$3,335,000	95%	$3,168,250
10-Unit T-Hangar (2)	$2,660,000	0%	$0
Conventional Hangar (2)	$2,450,000	0%	$0
General Aviation Apron Expansion (17,000 sq yd)	$1,520,000	95%	$1,444,000
Land Acquisition (Exec Air)	$9,400,000	95%	$8,930,000
Subtotal General Aviation Projects	$25,145,000	60%	$15,062,250
Commercial Service Passenger Terminal Area			
Commercial Service Terminal Expansion	$1,900,000	95%	$1,805,000
Commercial Service Parking Lot Expansion (120 spaces)	$922,100	0%	$0
Commercial Service Parking Lot Expansion (150 spaces)	$720,000	0%	$0
Subtotal Commercial Service Passenger Terminal Area	$3,542,100	51%	$1,805,000
Total Airport Master Plan Projects	$52,893,700	75%	$39,863,520

Source: Talbert & Bright, Inc., October 2010.
Newton & Associates, Inc., October 2010.

Due to the demand for AIP grant funds and the uncertainty regarding the future of the AIP, Beaufort County may not be able to secure AIP funding at the maximum level for each project recommended in this Master Plan Update. As previously described, it is assumed that the AIP program or some variation thereof will continue to be authorized and appropriated by Congress through the development period.

Therefore, it is assumed that Beaufort County will receive entitlement grants in the amount of $1.0 million per year during the short-term planning period. In addition to these annual entitlements, Beaufort County will compete for discretionary grants during the short-term planning period.

Table 9.3.4-2 (page 98) presents the estimated funding plan by project element for the short-term planning period. As depicted on Table 9.3.4-2 (page 98), it is estimated that approximately $23.7 million in AIP funding will be used to fund the proposed projects during the short-term planning period. This funding level will provide approximately 95 percent of the funding for the projects included in the short-term planning period.

The estimated funding plan for the projects included in the intermediate- and long-term planning periods are set forth on Table 9.3.4-3 (page 98). Based on the availability of AIP funds at that time and under the assumption that AIP funding will be applied at the 95 percent level for eligible projects, the intermediate- and long-term projects are estimated to be funded with approximately $13.0 million in AIP funds, which represents 46.5 percent of the total project cost of projects proposed during that time.

9.3.5 Facilities and Equipment Program

The FAA is funded by four primary appropriation accounts: AIP, facilities and equipment (F&E), operations and research, and engineering and development. The F&E program is the principal means for modernizing and improving the air traffic control and airway facilities. Certain projects may be eligible for funding under the F&E program or the Air Traffic Organization (ATO) account. However, for the purpose of this financial overview, it is assumed that funding under the F&E will be unavailable for the proposed projects.

9.3.6 South Carolina Aeronautics Commission

The SCAC provides for maintenance and capital needs to publicly owned airports. Funding is derived by a sales tax on fuel purchased for aircraft used for pleasure at a rate of 6 percent of the retail sales price of fuel.

The SCAC provides state funding assistance for eligible airport projects as noted below:

- State-funded maintenance projects (where no federal funds are involved) are eligible for funding at the 60 percent level
- Federally funded projects are typically funded at 95 percent by the FAA. Those federal projects, which are eligible for state-funding assistance, are funded by the SCAC at 2.5 percent

It is anticipated that Beaufort County will receive SCAC funding for the FAA-funded projects in the CIP.

Table 9.3.4-2
Short-Term Projects Funding Plan
Hilton Head Island Airport

	Fiscal Year	Project Cost	FAA			State	Local
			Entitlement	Discretionary	Total		
Airfield Projects							
Land Acquisition for Airfield Deficiency Correction	2013	$3,600,000	$1,000,000	$2,420,000	$3,420,000	$90,000	$90,000
Airfield Deficiency Correction	2013	$2,041,400	$500,000	$1,439,330	$1,939,330	$51,035	$51,035
Runway 03 EMAS	2013	$2,000,000	$0	$1,900,000	$1,900,000	$50,000	$50,000
Runway Extension Cost-Benefit Analysis/Environmental Documentation	2011	$500,000	$0	$475,000	$475,000	$12,500	$12,500
Land Acquisition for Runway Extension and Road Relocation	2012	$5,500,000	$0	$5,225,000	$5,225,000	$137,500	$137,500
700' Runway Extension Design and Construction	2013	$2,245,200	$1,000,000	$1,132,940	$2,132,940	$56,130	$56,130
400' Runway Extension Design and Construction	2015	$925,000	$878,750	$0	$878,750	$23,125	$23,125
Runway 21 EMAS	2015	$2,000,000	$0	$1,900,000	$1,900,000	$50,000	$50,000
Relocation of Beach City Road Design and Construction	2014	$750,000	$0	$712,500	$712,500	$18,750	$18,750
Runway 03 34:1 Obstruction Removal (trees)	2011	$1,500,000	$0	$1,425,000	$1,425,000	$37,500	$37,500
Transitional Surface Obstruction Removal (trees)	2012	$2,000,000	$0	$1,900,000	$1,900,000	$50,000	$50,000
Subtotal Airfield Projects		$23,061,600	$3,378,750	$18,529,770	$21,908,520	$576,540	$576,538
Commercial Service Passenger Terminal Area							
Commercial Service Terminal Expansion	2011	$1,900,000	$1,805,000	$0	$1,805,000	$47,500	$47,500
Subtotal Commercial Service Passenger Terminal Area		$1,900,000	$1,805,000	$0	$1,805,000	$47,500	$47,500
Total Short-Term Projects		$24,961,600	$5,183,750	$18,529,770	$23,713,520	$624,040	$624,038
Percent of Total					95.0%	2.5%	2.5%

Source: Talbert & Bright, Inc., October 2010.
Newton & Associates, Inc., October 2010.

9.3.7 Third-Party/Tenant Financing

Funding by third-party/tenant financing (or third-party/tenant funding) is another important source of funding for certain of the proposed project elements. This source of funding is facility-related and directly reduces the amount that must be funded by the County. Third-party/tenant funding is a particularly important financing arrangement to pay the cost of proprietary facilities that may be ineligible for FAA- and/or state-funding participation and are capital investment by third parties, existing tenants, or prospective tenants.

Third-party/tenant funding may take many forms depending upon the particular facility to be constructed. The third party or tenant may either pay for facilities directly or pledge to pay debt service on municipal or special facility bonds issued to construct the proposed facilities. For instance, one option in this regard would be to request proposals for the development of the general aviation hangars that will be built at the Hilton Head Island Airport in the intermediate- and long-term development plan by Beaufort County. A proposal could be structured to allow non-tenant investors the opportunity to build and lease certain facilities, which would otherwise be funded by the tenant or the owner. This would require a minimum initial capital investment from the County and other local sources.

Table 9.3.4-3
Intermediate- and Long-Term Projects Funding Plan
Hilton Head Island Airport

	Project Cost	FAA			State	Local
		Entitlement	Discretionary	Total		
Airfield Projects						
Avigation Easements within Runway 21 RPZ	$1,145,000	$1,087,750	$0	$1,087,750	$28,625	$28,625
Subtotal Airfield Projects	$1,145,000	$1,087,750	$0	$1,087,750	$28,625	$28,625
General Aviation Projects						
General Aviation Apron Expansion (18,500 sq yd)	$1,600,000	$0	$1,520,000	$1,520,000	$40,000	$40,000
10-Unit T-Hangar	$1,350,000	$0	$0	$0	$0	$1,350,000
Conventional Hangar (2)	$2,830,000	$0	$0	$0	$0	$2,830,000
Land Acquisition General Aviation Side	$3,335,000	$0	$3,168,250	$3,168,250	$0	$166,750
10-Unit T-Hangar (2)	$2,660,000	$0	$0	$0	$0	$2,660,000
Conventional Hangar (2)	$2,450,000	$0	$0	$0	$0	$2,450,000
General Aviation Apron Expansion (17,000 sq yd)	$1,520,000	$0	$1,444,000	$1,444,000	$38,000	$38,000
Land Acquisition (Exec Air)	$9,400,000	$0	$8,930,000	$8,930,000	$235,000	$234,999
Subtotal General Aviation Projects	$25,145,000	$0	$15,062,250	$15,062,250	$313,000	$9,769,749
Commercial Service Passenger Terminal Area						
Commercial Service Parking Lot Expansion (120 spaces)	$922,100	$0	$0	$0	$0	$922,100
Commercial Service Parking Lot Expansion (150 spaces)	$720,000	$0	$0	$0	$0	720,000
Subtotal Commercial Service Passenger Terminal Area	$1,642,100	$0	$0	$0	$0	$1,642,100
Total Intermediate- and Long-Term Projects	$27,932,100	$1,087,750	$15,062,250	$16,150,000	$341,625	$11,440,474
Percent of Total				58%	1%	41%

Source: Talbert & Bright, Inc., October 2010.
Newton & Associates, Inc., October 2010.

It should be noted that for facilities financed by tenant/investors, through use of industrial development bonds or special facility bonds, that the third party/tenant would likely require a long-term lease of up to 30 years to ensure the third party or tenant's (investor's) recovery of its investment in the facility. The Airport would collect a land rental and benefit from the residual value of the facility remaining upon expiration of the lease.

Beaufort County may manage the quality and services provided in the general aviation hangar facilities through the development and implementation of a set of minimum standards. The minimum standards are a way to establish the minimum threshold entry requirements for those wishing to provide commercial aeronautical services to the public and to ensure that those who have undertaken to provide commodities and services are not exposed to unfair or irresponsible competition. Therefore, the minimum standards would help protect the third-party/tenant investor while protecting the quality of aeronautical services offered at the Hilton Head Island Airport.

9.3.8 Non-Traditional Funding Sources

There are a number of other potential non-traditional funding sources, which the County may consider, to be used for funding various portions of the proposed projects. At the federal level, these may include agencies dealing with transportation (highways), soil conservation, forestry, multi-modal transportation, environmental mitigation, or waste management. State and regional agencies may be involved with economic development, transportation, agricultural diversity, or various environmental concerns and other agencies, which may have crossover-funding potential. Because of the uncertain nature of these sources of funding, the financial overview assumes that the Hilton Head Island Airport will not receive any such funds. Nevertheless, Beaufort County should thoroughly examine these potential sources to fund the proposed projects in the Master Plan Update and to reduce the County's local funding requirement.

9.3.9 Local Funding Requirement

Beaufort County will be required to provide the remaining funding requirement after the application of federal and state (if any) grants to complete the proposed projects during the short-term planning period. Several local funding sources have been identified and are hereinafter described in the financial overview. In the case of financially self-sufficient airports with positive cash flows and accumulated cash reserves, a portion of the local share may be funded by such cash reserves, and the remaining local share requirements may be funded with a debt instrument and the resulting annual debt service would be paid from cash flow surpluses. However, given the Hilton Head Island Airport's existing cash flows, as will be described in the Section 9.4 – Historical Financial Information (page 100), it is recommended that Beaufort County maximize the use of other available funding sources.

Table 9.3.4-2 (page 98) presents the local funding plan for the short-term projects. As depicted, Beaufort County's local funding requirement for the short-term projects is estimated to be approximately $0.6 million.

The County may utilize passenger facility charges to provide for the local share required to complete the proposed projects in this Master Plan Update.

9.3.10 FAA-Approved Passenger Facility Charges

Arguably the most important source of restricted revenue available to fund certain qualified airport capital development projects at commercial service airports in the United States is the initiation and expansion in the use of passenger facility charges. The Aviation Safety and Capacity Expansion Act of 1990 (ASECEA) authorized the Secretary of the Department of Transportation to grant public agencies, which control commercial service airports enplaning more than 2,500 annual passengers, the authority to impose a PFC for each passenger boarding an aircraft (enplanement) at a given airport. The purpose of the PFC program is to preserve or enhance safety, security, capacity, and competition and mitigate the impact of aircraft noise. The ASECEA provides that PFC revenues may only be used for projects approved by the FAA including:

- Payment of all or part of allowable project costs
- For an airport's AIP matching funds
- To augment AIP-funded projects
- For payment of debt service or financing costs associated with eligible airport development bonds

Under existing authorization by Congress, airport sponsors may impose a PFC at a level of up to $4.50 per enplaned passenger. These fees are collected by the air carriers when tickets are sold and are later remitted to the airport, less a handling fee of $0.11 per PFC collected. Beaufort County previously imposed a PFC, which expired in FY 2008. Based on an estimated revenue passenger enplanement level of approximately 75,000 and a PFC level of $4.50, it is estimated that approximately $329,250 in PFC revenues may be generated each year, net of the air carrier compensation. This is a valuable funding source available to the County and should be examined in the near future to make these funds available to reduce the local funding requirement previously depicted in Table 9.3.4-2 (page 98) for the short-term development period or to reimburse itself for PFC capital projects previously completed.

As depicted on Table 9.3.10-1, if the County implemented a PFC, the total local share of the capital projects planned for the short-term planning period could be paid for with PFC revenues, thereby eliminating the local cash needed to fund these projects during this time period based on the funding assumptions assumed in this financial overview.

Table 9.3.10-1
Alternative Short-Term Local Funding Plan
Hilton Head Island Airport

	Local Funding Requirement	PFC	Cash and Reserves
Airfield Projects			
Land Acquisition for Airfield Deficiency Correction	$90,000	$90,000	$0
Airfield Deficiency Correction	$51,035	$51,035	$0
Runway 03 EMAS	$50,000	$50,000	$0
Runway Extension Cost-Benefit Analysis/Environmental Documentation	$12,500	$12,500	$0
Land Acquisition for Runway Extension and Road Relocation	$137,500	$137,500	$0
700' Runway Extension Design and Construction	$56,130	$56,130	$0
400' Runway Extension Design and Construction	$23,125	$23,125	$0
Runway 21 EMAs	$50,000	$50,000	$0
Relocation of Beach City Road Design and Construction	$18,750	$18,750	$0
Runway 03 34:1 Obstruction Removal (trees)	$37,500	$37,500	$0
Transitional Surface Obstruction Removal (trees)	$50,000	$50,000	$0
Subtotal Airfield Projects	$576,538	$576,538	$0
Commercial Service Passenger Terminal Area			
Commercial Service Terminal Expansion	$47,500	$47,500	$0
Subtotal Commercial Service Passenger Terminal Area	$47,500	$47,500	$0
Total Short-Term Projects	$624,038	$624,038	$0

Source: Talbert & Bright, Inc. October 2010.
Newton & Associates, Inc., October 2010.

9.3.11 Contract Facility Charges

Rental car contract facility charges (CFCs) are another type of restricted airport revenue similar to the PFC. The distinction between a CFC and a PFC is that a PFC must be approved by the FAA. A CFC is a charge paid by rental car customers per the number of contract days that a person has rented a vehicle. The CFC can be negotiated and implemented contractually between Beaufort County and a rental car company. Generally, CFC revenue is limited to:

- Funding rental car facilities at an airport
- Rental car-related capital expense (debt service)
- Certain rental car-related operating and maintenance expenses in some cases

Beaufort County currently does not charge a CFC, and it is assumed that the County will not collect these CFCs through the short-term planning period.

9.3.12 County's Remaining Funding Requirement

Beaufort County will be required to provide for the remaining local funding for the projects included in the short-term planning period. As previously depicted on Table 9.3.4-2 (page 99), this amount represents approximately $643,000, which remains after the application of applicable federal and state grants available to fund the cost of the proposed short-term planning period.

9.3.13 Airport Cash Flows and Reserves

Airport cash flows refer to the inflow of revenues earned or received and outflow of expenses incurred during a particular period of time, typically a fiscal year. The ability of Beaufort County to use cash flows and reserves as a source of funding depends on its ability to generate airport revenues in excess of the cost of operating and maintaining the Hilton Head Island Airport. The availability of the Airport to use cash flows and reserves will be described in more detail in Section 9.4 – Historical Financial Information (page 101) and Section 9.5 – Pro Forma Cash Flow Analysis (page 102).

9.3.14 General Aviation Financing Alternative

As previously noted, it is unlikely that sufficient demand to justify construction of the general aviation hangar and land acquisition projects will occur during the short-term planning period. Nevertheless, the financial overview assumes for presentation purposes that local financing will provide construction funding of $22.0 million to fund the hangar projects and land acquisition, as provided on Table 9.3.14 -1(page 100).

Table 9.3.14-1
General Aviation Financing Sources and Uses of Funds
Hilton Head Island Airport

Local Financing		$12,859,999
Uses of Funds		
Project Fund Deposits		
10-Unit T-Hangar		$1,350,000
Conventional Hangar (2)		2,830,000
Land Acquisition General Aviation Side		3,335,000
10-Unit T-Hangar (2)		2,660,000
Conventional Hangar (2)		2,450,000
Subtotal Project Fund Deposits		$12,625,000
Financing Contingency	8.0%	$1,010,000
Cost of Issuance	2.0%	$278,265
Total Uses of Funds		$13,913,265
Estimated Average Annual Debt Service		($1,116,436)
Financing Assumptions:		
Interest Rate	5.0%	
Financing Period (years)	20	
Source: Newton & Associates, Inc., October 2010.		

In addition to the construction cost of the proposed hangar projects and land acquisition, certain other costs will likely be incurred in connection with an airport debt financing. These other costs may include the cost of:

- A debt service reserve account
- Capitalizing interest during the period of construction of the proposed projects
- Obtaining various credit enhancements such as bond insurance
- Other miscellaneous costs of issuance.

For financial planning purposes, total additional financial costs used for this purpose include a financing contingency of 8 percent and a 2 percent cost of issuance.

Based on these assumptions, it is estimated that the $22.0 million in project costs would require a financing of approximately $24.3 million, as depicted on Table 9.3.14-1.

To calculate the annual debt service (principal and interest) requirement based on a $24.3 million financing, an assumed interest rate of 5 percent and a financing term of 20 years were used. These assumptions have been adopted to provide a reasonable framework with which to estimate the financing costs to be incurred if Beaufort County proceeds with the development of these projects. It is important to recognize, however, that due to the inherent fluctuations of the bond investment market and of factors related to identifying probable construction costs, it is inevitable that some or all of the financing assumptions will vary to some degree from those actually employed and such variances may be significant and adverse to the estimates contained in this Master Plan Update.

Based on these financing assumptions, the average annual debt service would be approximately $1.9 million per year.

9.3.15 Allocation of Average Annual Debt Service to Project Elements

As previously described, it is unlikely that the demand for additional hangar facilities and land acquisition during the short-term development period would not be sufficient to justify the simultaneous construction of the general aviation development included in the financial overview. Beaufort County would likely fund each of the hangar improvements when sufficient demand justifies the construction of each individual hangar project. Therefore, an allocation of average annual debt service among the hangar elements and land acquisition being financed is necessary for the purpose of identifying the annual cost of undertaking each project element. Table 9.3.15-1 presents an allocation of average annual debt service among the hangar projects and the land acquisition. The average annual debt service for each project element is useful in analyzing the sufficiency of rental levels for the facilities and land being financed and the minimum annual revenues the County must generate to break even on these projects.

Table 9.3.15-1
General Aviation Financing Allocation of Debt Service
Hilton Head Island Airport

Hangar Projects	Construction Fund Deposit	Pro Rata Share	Allocation of Average Annual Debt Service
10-Unit T-Hangar	$1,350,000	6.1%	$119,381
Conventional Hangar (2)	2,830,000	12.8%	250,259
Land Acquisition General Aviation Side	3,335,000	15.1%	294,916
10-Unit T-Hangar (2)	2,660,000	12.1%	235,225
Conventional Hangar (2)	2,450,000	11.1%	216,655
Subtotal Project Fund Deposits	$12,625,000	100.0%	$1,116,436
Source: Newton & Associates, Inc., October 2010			

9.4 HISTORICAL FINANCIAL INFORMATION

The Hilton Head Island Airport's historical operating revenues from FY 2007 through FY 2010 are summarized in Table 9.4-1 (page 101). The line items assigned to each category have not historically been classified into any cost centers at the Airport. As shown in Table 9.4-1 (page 101), total operating revenue has increased by 2.3 percent from FY 2007 through FY 2010. The County's budget for FY 2011 anticipates operating revenue to increase by approximately 22.7 percent from FY 2010, to approximately $1.7 million, primarily as a result of increases in firefighter fees and rentals.

Historical expenses at the Airport during the same period are also depicted on Table 9.4-1 (page 101). As shown, the expense detail from the County's Statement of Revenues, Expense, and Changes in Fund Net Assets has been summarized into three primary categories: personnel, purchased services, and supplies. Personnel expenses contain the operating expenses associated with salary and fringe benefits required to retain qualified personnel to operate the Airport and purchased services and supplies contain the expenses necessary to operate the Airport. Personnel services accounted for 64.8 percent of the total operating expenses in FY 2010.

Total operating expenses have increased by 2.7 percent over this time period. The County anticipates the budget for FY 2011 total operating expenses to decrease by 8.2 percent over the prior year.

As shown on Table 9.4-1 (page 101), the Airport generated an operating deficit each year, which increased by 17.4 percent from FY 2007 to FY 2010. As a result of the increase in operating revenues in budget FY 2011 and a decrease in operating expenses, the Airport is projected to generate an operating income of approximately $84,000 in budget FY 2011.

Also shown in Table 9.4-1 (page 101) are the non-operating revenue and expense items from FY 2007 to FY 2010. The line items in this category are interest income, passenger facility charges, Transportation Security Administration (TSA) reimbursements, and debt service. Total non-operating revenue and expense items have decreased by 37.8 percent from FY 2007 to FY 2010 as a result of the expiration of the collection of PFC revenues in FY 2009. Non-operating revenue and expenses are projected by the County to increase by 2.2 percent in budget FY 2011, as a result of an increase in the TSA reimbursement.

Table 9.4-1
Historical Revenues and Expenses
Hilton Head Island Airport

Description	Actual FY 2007	Actual FY 2008	Actual FY 2009	Actual FY 2010	2007-2010 Average Annual Growth	Budget FY 2011	2010-2011 Average Annual Growth
Operating Revenue							
Hangar Leases	$0	$30,000	$111,631	$122,721	NA	$128,500	4.7%
FBO Ground Lease	$0	$0	$34,331	$40,681	NA	$44,892	10.4%
FBO Concessions	$0	$22,005	$38,722	$7,816	NA	$18,500	136.7%
FBO Fuel Commission	$0	$96,985	$86,141	$90,699	NA	$100,800	11.1%
Concession Sales	$38,300	$0	$0	$0	-100.0%	$0	NA
Firefighting Fees	$292,661	$267,911	$333,731	$297,755	0.6%	$346,650	16.4%
Landing Fees	$162,981	$196,266	$164,011	$151,128	-2.5%	$161,370	6.8%
Parking/Taxi Fees	$21,123	$45,245	$32,505	$43,419	27.1%	$55,000	26.7%
Rentals	$755,064	$827,399	$670,526	$616,093	-6.6%	$826,718	34.2%
Other Charges	$44,519	$22,657	$2,360	$37,212	-5.8%	$45,064	21.1%
Total Operating Revenue	$1,314,648	$1,508,468	$1,473,958	$1,407,524	2.3%	$1,727,494	22.7%
Operating Expenses							
Personnel Services	$813,400	$936,470	$964,510	$949,357	5.3%	$837,175	-11.8%
Purchased Services	$480,063	$579,634	$519,099	$478,361	-0.1%	$458,775	-4.1%
Supplies	$55,748	$54,939	$43,529	$35,793	-13.7%	$47,582	32.9%
Total Operating Expenses	$1,349,211	$1,571,043	$1,527,138	$1,463,511	2.7%	$1,343,532	-8.2%
Operating Income/(Deficit)	($34,563)	($62,575)	($53,180)	($55,987)	17.4%	$383,962	585.8%
Non-Operating Revenue (Expense)							
Interest Income	$144,917	$67,079	$29,052	$36,194	-37.0%	$35,000	-3.3%
Passenger Facility Charges	$171,145	$101,257	$0	$0	-100.0%	$0	NA
TSA Reimbursement	$47,934	$143,211	$124,881	$133,223	40.6%	152,688	14.6%
Debt Service	($15,301)	($94,181)	($87,413)	($85,419)	77.4%	($83,325)	-2.5%
Non-Operating Revenue (Expense)	$348,695	$217,366	$66,520	$83,998	-37.8%	$104,363	24.2%
Net Remaining Revenue/(Deficit)	$314,132	$154,791	$13,340	$28,011	-55.3%	$488,325	1,643.3%

Source: Hilton Head Island Airport Records, September 2010.
Newton & Associates, Inc., October 2010.

9.5 PRO FORMA CASH FLOW ANALYSIS

A Pro Forma cash flow analysis was developed to project the operating revenues and operating expenses over the short-term planning period to determine the operating income/deficit that will be available to meet the local funding requirement to meet the projected capital costs over the short-term planning period.

9.5.1 Operating Revenues

Projected operating revenues for the short-term planning period are presented in Table 9.5.1-1 (page 102) and were projected based on historical trends. As shown on Table 9.5.1-1 (page 102), total operating revenue is projected to increase from $1.7 million in budget FY 2011 to $1.9 million in FY 2015, representing an average annual growth rate of 2.0 percent over this time period.

9.5.2 Operating Expenses

Estimates of the Airport's future operating expenses were based on a review of historical trends from FY 2007 to FY 2010 and the impacts of inflation. Projected operating expenses for the short-term planning period are also presented in Table 9.5.1-1 (page 103).

As shown, the Hilton Head Island Airport records its operating expenses according to the following categories:

- Personnel Services
- Purchased Services
- Supplies

The following operating expense categories represent the Airport's operations and maintenance (O&M) expenses associated with the day-to-day operations. Each expense category and the assumptions used to project expenses for each are discussed in the following subsections.

9.5.2.1 Personnel Services

Personnel services at the Airport represent expenses related to Airport employee salaries and benefits, employer taxes, employee health insurance, etc. Personnel services account for the Airport's largest expense, which is common for airports of similar size.

Between FY 2007 and FY 2010, personnel services increased at an average annual growth rate of 5.3 percent, increasing from $813,000 in FY 2007 to $949,000 in FY 2010. Budget FY 2011 personnel services O&M expenses are projected by the County to decrease by 1.8 percent in budget FY 2011.

Based on historical growth, future personnel services O&M expenses are projected to increase from $837,000 in FY 2011 to $1.0 million in FY 2015, representing an average annual growth rate of 5.0 percent during this time period.

9.5.2.2 Other Operating Expenses

Purchased services and supplies at the Airport include items such as office supplies, utilities, professional fees, travel and training expenses, vehicle insurance, buildings and equipment maintenance, dues and subscriptions, material and supplies, and other items necessary to operate the Airport on an annual basis. Historically, these expenses decreased from $536,000 in FY 2007 to $514,000 in FY 2010, representing an average annual decrease of 1.4 percent. Other operating expenses are projected to decrease by 1.5 percent in budget FY 2011 from the actual expenses in FY 2010.

As shown in Table 9.5.1-1 (page 102), future other operating expenses are projected to increase from $506,000 in FY 2011 to $581,000 in FY 2015, representing an average annual growth rate of 3.5 percent over the short-term planning period.

Historical trend analysis has shown that total O&M expenses at the Airport have increased by 2.7 percent from FY 2007 to FY 2010. As a result of the projections discussed above, total operating expenses are projected to increase from $1.3 million in FY 2011 to $1.6 million in FY 2015, representing an average annual growth rate of 4.4 percent over the short-term planning period, slightly higher than the historical growth of O&M expenses at the Airport.

9.5.3 Non-Operating Revenue and Expense

Interest income and debt service were held constant over the short-term planning period based on the levels the County anticipates in budget FY 2011. TSA reimbursements were projected to increase by 2.0 percent over the same time period. As a result, total non-operating revenue and expense are projected to increase by 2.9 percent over the short-term planning period.

9.5.4 Capital Improvement Program – Local Share

As previously discussed in Section 9.3.9 – Local Funding Requirement (page 99) and presented on Table 9.3.4-2 (page 98), the local funding requirement for the short-term planning period projects is reduced by federal and state funding. The remaining local share is assumed to be reimbursed by the County and/or the Airport's annual cash flow. As a result, the operating income/(deficit) each year is further reduced by the remaining local share for each project over the short-term planning period previously presented in Table 9.3.4-2 (page 98).

Table 9.5.1-1
Pro Forma Cash Flow Analysis
Hilton Head Island Airport

Description	Budget FY 2011	Projected Budget FY 2012	FY 2013	FY 2014	FY 2015	2011-2015 Average Annual Growth
Operating Revenue						
Hangar Leases	$128,500	$131,070	$133,691	$136,365	$139,093	2.0%
FBO Ground Lease	$44,892	$45,790	$46,706	$47,640	$48,593	2.0%
FBO Concessions	$18,500	$18,870	$19,247	$19,632	$20,025	2.0%
FBO Fuel Commission	$100,800	$102,816	$104,872	$106,970	$109,109	2.0%
Concession Sales	$0	$0	$0	$0	$0	NA
Firefighting Fees	$346,650	$353,583	$360,655	$367,868	$375,225	2.0%
Landing Fees	$161,370	$164,597	$167,889	$171,247	$174,672	2.0%
Parking/Taxi Fees	$55,000	$56,100	$57,222	$58,366	$59,534	2.0%
Rentals	$826,718	$843,252	$860,117	$877,320	$894,866	2.0%
Other Charges	$45,064	$45,965	$46,885	$47,822	$48,779	2.0%
Total Operating Revenue	$1,727,494	$1,762,044	$1,797,285	$1,833,230	$1,869,895	2.0%
Operating Expenses						
Personnel Services	$837,175	$879,034	$922,985	$969,135	$1,017,591	5.0%
Purchased Services	$458,775	$474,832	$491,451	$508,652	$526,455	3.5%
Supplies	$47,582	$49,247	$50,971	$52,755	$54,601	3.5%
Total Operating Expenses	$1,343,532	$1,403,113	$1,465,408	$1,530,542	$1,598,648	4.4%
Operating Income/(Deficit)	$383,962	$358,931	$331,877	$302,689	$271,247	
Non-Operating Revenue (Expense)						
Interest Income	$35,000	$35,000	$35,000	$35,000	$35,000	0.0%
Passenger Facility Charges	$0	$0	$0	$0	$0	NA
TSA Reimbursement	$152,688	$155,742	$158,857	$162,034	$165,274	2.0%
Debt Service	($83,325)	($83,325)	($83,325)	($83,325)	($83,325)	0.0%
Non-Operating Revenue (Expense)	$104,363	$107,417	$110,532	$113,709	$116,949	2.9%
Operating Income/(Deficit)	$488,325	$466,347	$442,409	$416,397	$388,197	-5.6%
Local Share of Capital Projects	$97,500	$187,500	$247,164	$18,750	$73,124	-6.9%
Net Remaining Revenue/(Deficit)	$390,825	$278,847	$195,245	$397,647	$315,073	-5.2%

Source: Newton & Associates, Inc., October 2010.

9.5.5 Pro Forma Cash Flow Analysis – Summary

Table 9.5.1-1 presents the Airport's estimated operating income for the period of FY 2011 through FY 2015 based on the projection of operating revenues, operating expenses and non-operating revenue and expense discussed in the previous subsection. Based on the analysis discussed herein, operating income/(deficit) is anticipated to decrease over the short-term planning period, from approximately $488,000 in FY 2011 to $388,000 in FY 2015. Net remaining revenue/(deficit) represents the operating income/(deficit) reduced by the remaining local share for the proposed projects during the short-term planning period. As shown in Table 9.5.1-1, the net remaining revenue/(deficit) decreases from approximately $391,000 to $315,000 in FY 2015, representing an average annual decrease of 5.2 percent over the short-term planning period. It should be noted that if Beaufort County receives FAA approval to implement a PFC, the net remaining revenues/(deficit) will be improved.

9.6 SUMMARY AND RECOMMENDATIONS

As a result of the proposed projects outlined in this Master Plan Update, the financial impact to Beaufort County can be drawn based on the information presented in this Section.

- County's financial structure and historical revenues and expenses were examined to project future operating revenues, operating expenses, and non-operating revenue and expense at the Airport over the short-term planning period.

- The total proposed projects in the CIP amounts to $52.8 million, as presented in Table 9.3.4-1 (page 97).

- The funding for the proposed projects during the short-term development program is presented in Table 9.3.4-2 (page 98) and is as follows:

  - FAA $23.8 million
  - State 0.6 million
  - Local 0.6 million
  - Total $25.0 million

- Funding the local share of the proposed projects short-term planning period, with the proposed funding levels from the FAA and SCAC results in Beaufort County's funding approximately $624,000 of the local share from its general fund and/or annual cash flow from the Airport, which is consistent with the manner in which capital projects have been paid for historically at the Hilton Head Island Airport.

- It is recommended that Beaufort County closely monitor the federal AIP and the SCAC funding program for any changes that may enhance or adversely affect future funding of the proposed projects.

- Total operating revenues are projected to increase from $1.7 million in FY 2011 to approximately $1.9 million in FY 2015, representing an average annual growth rate of 2.0 percent.

- Operating expenses are projected to increase from $1.3 million in FY 2011 to $1.6 million in FY 2015, representing an average annual growth rate of 4.5 percent.

- Non-operating revenue and expense are projected to increase by 2.9 percent over the short-term planning period.

- Operating income/(deficit) is projected to decrease from $391,000 in FY 2011 to $315,000 in FY 2015 based on the assumptions contained in this Section.

- The staging of the proposed projects is flexible. Beaufort County should proactively monitor/revise these projects on an annual basis to ensure that projects are not implemented before the appropriate demand levels.

- Beaufort County should submit another PFC application to impose and use PFCs on PFC-eligible projects in the CIP or to reimburse itself for prior PFC eligible projects as soon as possible.

Based on the assumptions and the financial analyses presented herein, the proposed projects in the CIP are considered practicable, and it is anticipated that the County will be able to meet its future financial operational obligations with additional local subsidies. The financial overview presented as part of this Section reflects implementation of the proposed projects in the short-term development program. It is important that Beaufort County continually monitor the status of its operating revenues and operating expenses and the implementation of its capital program. Future analyses may suggest adjusting the implementation of certain projects in the CIP to meet Beaufort County's other financial objectives.

µg	microgram
3J1	Ridgeland Airport
AAC	Aircraft Approach Category
ADAP	Airport Deveopment-Aid Program
ADG	Airplane Design Group
AFD	Airport/Facility Directory
AGC	Allegheny County Airport
AGL	Above Ground Level
AIP	Airport Improvement Program
ALP	Airport Layout Plan
AMSL	Above Mean Sea Level
AOC	Airport Operating Certificates
AOD	Airport Overlay District
APF	Naples Municipal Airport
ARC	Airport Reference Code
ARFF	Airport Rescue and Firefighting Facilities
ARP	Airport Reference Point
ARW	Beaufort County Airport
ASA	Airport Service Area
ASECEA	Aviation Safety and Capacity Expansion Act
ASTM	Americal Society of Testing and Materials
ASV	Annual Service Volume
ATC	Air Traffic Control
ATCT	Air Traffic Control Tower
ATL	Atlanta Hartsfield International Airport
ATO	Air Traffic Organization
AWOS	Automated Weather Observing System
B206L	Bell 206 Jet Ranger
Ba	Baratari fine sand, 0% to 2% slopes
BCT	Boca Raton Airport Airport
BEC58P	Twin-engine piston fixed pitch
BED	Laurence G. Hanscom Field Airport
BGEPA	Bald and Golden Eagle Protection Act
BHM	Birmingham-Shuttlesworth International Airport
BKL	Burke Lakefront Airport
BMG	Monroe County Airport
BMP	Best Management Practice
BNA	Nashville International Airport
CAE	Columbia Metropolitan Airport
CBRA	Coastal Barrier Resource Act
CC	Commercial Center District
CE	Capers association, 0% to 2% slopes
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFC	Contract Facility Charges
CHA	Lovell Field Airport
CHS	Charleston International Airport
CID	Eastern Iowa Airport
CIP	Capital Improvement Program
CLT	Charlotte-Douglas International Airport
CMH	Port Columbus International Airport
CNA55B	Cessna Citation II
CO	Carbon Monoxide
CRJ	Canadair Regional Jet
dB	Decibel
DHC8	de Havilland DHC-8 Dash-8
DME	Distance Measuring Equipment
DNL	Day-Night Average Sound Level
E	Endangered
EAC	Early Action Compact
EMAS	Engineered Materials Arresting System
ESA	Environmental Site Assessment
F&E	Facilities and Equipment
FAA	Federal Aviation Administration
FAAP	Federal-Aid Airport Program
FAC	Facultative
FACW	Facultative Wetland
FBO	Fixed Base Operator
FEMA	Federal Emergency Management Agency
FLL	Fort Lauderdale-Hollywood International Airport
FPPA	Farmland Protection Policy Act
FTY	Fulton County-Brown Field Airport
FTZ	Free Trade Zone
FY	Fiscal Year
GA	General Aviation
gal	Gallon
GAPC	Geographical Areas of Particular Concenr
GASEPF	Single-engine piston fixed pitch
GASEPV	Single-engine piston variable pitch
GB	Groundwater
GMU	Greenville Downtown Airport
GPS	Global Positioning System
GSO	Piedmont Triad International Airport
HAP	Hazardous Air Pollutant
HMZ	Bedford County Airport
HPN	Westchester County Airport
HXD	Hilton Head Island Airport
IAD	Washington-Dulles International Airport
IFR	Instrument Flight Rules
IL	Light Industrial/Commercial Distribution District
ILS	Instrument Landing System
INM	Integrated Noise Model
INT	Smith Reynolds Airport
ISO	International Standard Observation
JAX	Jacksonville International Airport
JNX	Johnston County Airport Airport

JZI	Charleston Executive Airport
KIAS	Knot Indicated Air Speed
$L_{(eq)}$	Equivalent Sound Level
LEAR35	Learjet 35
LED	Light-Emitting Diode
LPV	Localizer Performance with Vertical Guidance
LUK	Cincinnati Municipal-Luken Field Airport
m^3	Cubic Meter
MALSR	Medium Intensity Approach Lighting System with Runway Alignment Indicator Lights
MCO	Orlando International Airport
MDW	Chicago Midway International Airport
Mg	Milligram
MIRL	Medium Intensity Runway Lights
MITL	Medium Intensity Taxiway Lights
MKL	McKellar-Sipes Regional Airport
MMU	Morristown Municipal Airport
MOA	Military Operations Area
MP	Master Plan
N/A	Not Applicable
N94	Carlisle Airport
NAAQS	National Ambient Air Quality Standards
NEM	Noise Exposure Map
NH_3	Ammonia
NLR	Noise Level Reduction
NM	Nautical Mile
NMFS	National Marine Fisheries Service
NO_2	Nitrogen Dioxide
NO_x	Nitrogen Oxide
NPDES	National Pollution Discharge Elimination System
NPIAS	National Plan of Integrated Airport Systems
NPS	National Priority System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&D	Origin and Destination
O&M	Operations and Maintenance
O_3	Ozone
OBL	Obligate Wetland
OFA	Obstacle Free Area
OFZ	Obstacle Free Zone
ORL	Orlando Executive Airport
ORW	Outstanding Resource Waters
OSU	Ohio State University Airport
PAPI	Precision Approach Path Indicators
Pb	Lead
PBI	Palm Beach International Airport
PCB	Polychlorinated Biphenyls
PD-1	Planned Unit Devleopment
PDK	DeKalb-Peachtree Airport
PFC	Passenger Facility Charge
PGP	Planning Grant Program
PL	Public Law
PM	Particulate Matter
Po	Polowana loamy fine sand, 0% to 2% slopes
POFZ	Precision Obstacle Free Zone
POU	Duchess County Airport
ppm	Parts per Million
PVD	Theodore Francis Green State Airport
PWK	Chicago Executive Airport
RBW	Lowcountry Regional Airport
Rd	Ridgeland fine sand, 0% to 2% slopes
RDU	Raleigh-Durham International Airport
REC	Recognized Environmental Condition
REIL	Runway End Identifier Lights
RIC	Richmond International Airport
RM-12	Moderate to High Density Residential District (12 units per acre)
RM-4	Low to Moderate Density Residential District (4 to 8 units per acre)
RNAV	Area Navigation
Ro	Rosedhu fine sand, 0% to 2% slopes
ROFA	Runway Obstacle Free Area
ROFZ	Runway Obstacle Free Zone
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RYY	Cobb County-McCollum Field Airport
SA	Tidal Saltwaters
SAV	Savannah-Hilton Head International Airport
SB	Tidal Saltwaters
SC	South Carolina
SCAC	South Carolina Aeronautics Commission
SCASP	South Carolina Airports System Plan
SCCMP	South Carolina Costal Management Plan
SCDHEC-DAQ	South Carolina Department of Health and Environment Concern Division of Air Quality
SCDHEC-OCRM	South Carolina Department of Health and Environment Concern Office of Coastal Resource Management
SCDNR	South Carolina Department of Natural Resources
SCHTP	South Carolina Heritage Trust Program
sf	Square Feet
SFH	Shellfish Harvesting Waters
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
Sk	Seabrook fine sand, 0% to 2% slopes
SO_2	Sulfur Dioxide
SO_x	Sulfur Oxide
SPCC	Spill Prevention, Control, and Countermeasure Plan
SPL	Sound Pressure Level
SRQ	Sarasota-Bradenton International Airport
SSI	Malcolm McKinnon Airport

SUA	Witham Field Airport
SUS	Spirit of St. Louis Airport
T	Threatened
TAF	Terminal Area Forecast
TAP	Terminal Area Plan
TEB	Teterboro Airport
TERPS	Terminal Instrument Procedures
TMDL	Total Maximum Daily Load
TRI	Tri-Cities Regional Airport
TSA	Transportation Security Administration
TTN	Trenton-Mercer Airport
TVI	Thomasville Regional Airport
TYS	McGhee Tyson Airport
UGN	Waukegan Regional Airport
U.S.	United States
USACE	United States Army Corps of Engineers
USC	United States Code
USCG	United States Coast Guard
USDA	United States Department of Agriculture
USDHHS	United States Department of Health and Human Services
USDOT	United States Department of Transportation
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VFR	Visual Flight Rule
VOC	Volatile Organic Compound
VOR	VHF Omni-Directional Radio Range
Wd	Wando fine sand, 0% to 6% slopes

B.1 PUBLIC INVOLVEMENT

Public participation is an essential element in FAA AC 150/5070-6B, *Airport Master Plans*, and is proportional to the complexity of the study. For the preparation of the Hilton Head Island Airport Master Plan Update, public participation was considered to be an integral part of the process because of the ongoing issues of the economical viability of the Airport to the Town of Hilton Head Island and Beaufort County.

B.1.1 How was public participation accomplished for the Master Plan Update?

The intent of public involvement is to encourage and facilitate public input and comments in the decision-making process of the project. The opportunities for input incorporated several methods including use of the media, public comment meetings, and public information meetings, coupled with a project web site maintained by Beaufort County.

B.1.2 What are the goals of public involvement?

It is the goal of the project team, which included the FAA, SCAC, Beaufort County, Town of Hilton Head Island, and the consultant team led by Talbert & Bright, Inc., to inform, educate, and seek input from the public about the project. To achieve this goal, the project team:

- Created an open and objective environment to allow the public to understand the project and provide their opinions
- Integrated citizen concerns and needs into the project development process
- Educated the public on the Airport
- Invited the public to provide input on the project

The public was provided three opportunities to comment on the project, summaries of which are provided below.

B.2 AUGUST 27-28, 2009, PUBLIC COMMENT MEETING

B.2.1 What was the purpose of the public comment meeting?

The public comment meeting was the first step to introduce the project to the public. These meetings occurred at the beginning of the project before the preparation of the aviation operations forecasts and demand capacity analysis and facility requirements. The meetings allowed the project team to provide an opportunity for the public to participate in the project development process by providing input on issues such as adequacy of existing facilities, concerns within the vicinity of the Airport, and the range of alternatives the public believed should be considered in the preparation of the Master Plan Update. To facilitate this input process, each attendee was asked to complete a public input survey form. These forms were either completed at the public comment meeting or mailed or e-mailed.

Public Notice

NOTICE OF OPPORTUNITY FOR PUBLIC COMMENT FOR THE HILTON HEAD ISLAND AIRPORT MASTER PLAN UPDATE

Beaufort County and the Town of Hilton Head Island are in the process of updating the master plan for the Hilton Head Island Airport. As part of the process, the County and Town are offering the public an opportunity to provide input on the future needs and improvements to the airport. This opportunity will be provided at the **Hilton Head Island Library, 11 Beach City Road, Hilton Head Island, SC** Thursday, August 27, 2009, between 1:30 p.m. and 6:00 p.m., and Friday, August 28, 2009, between 9:00 a.m. and 12:00 p.m., and 1:30 p.m. and 3:00 p.m.

The meeting took place over a two-day period (Thursday, August 27, 2009, from 1:30 p.m. to 8:00 p.m. and Friday, August 28, 2009, from 9:00 a.m. to 12:00 p.m. and 1:30 p.m. to 3:00 p.m.) at the Hilton Head Island Library, 11 Beach City Road on Hilton Head Island, approximately one mile from the Hilton Head Island Airport. The project team set up displays that included the Master Plan Update process chart, land use map, zoning map, and an existing airport facilities map. Project team representatives were available to answer questions. A table was set up for those who wished to fill out the public input survey at the meeting. In addition, a series of blank sheets were taped on the wall, which allowed the public to provide their comments on five by eight cards, a summary of which is provided in the following sections. The following questions were asked:

- How does the public view this airport?
- Who uses the airport?
- What are the issues as you see it?
- Is the 25 percent decline in tourists a concern?
- What are the questions?

HILTON HEAD ISLAND AIRPORT
PUBLIC INPUT SURVEY

Dear Public Citizen:

The Hilton Head Island Airport is currently undergoing a Master Plan Update and as part of this study, input is being solicited from the general public regarding the Airport.

1. Location/ Subdivision _____
Current Zip Code: _____

2. What is your general impression of the Hilton Head Island Airport? ☐ Favorable ☐ Unfavorable ☐ No Opinion
Reason: _____

3. How often do you fly into or out of the Hilton Head Island Airport per year? _____

4. If you travel do you fly out of? ☐ Hilton Head Island Airport ☐ Savannah-Hilton Head International Airport

5. What improvements would you like to see at the Hilton Head Island Airport?

6. What are the drawbacks, if any, of the Hilton Head Island Airport?

7. Other Comments

Thank you for your help – Hilton Head Island Airport, Paul Andres, Airport Director

If not completed at the Public Comment Sessions, please mail to:

Mr. Paul Andres, Airport Director
Hilton Head Island Airport
120 Beach City Road
Hilton Head Island, SC 29926

Three hundred and sixty-seven (367) people attended the public comment meetings. Four hundred and seventy one (471) comments were turned in at the meetings, 97 surveys and five letters were received by mail, seven e-mail surveys were received from the Beaufort County web survey, and 335 e-mail surveys were received from the Hilton Head Island-Bluffton Chamber of Commerce web survey.

B.2.2 What were the survey results?

Based on the comments received from the public and through the web survey, the following results were tabulated (Tables B.2.2-1 and B.2.2-2).

Table B.2.2-1
Public Comment Meetings and Web Survey Results
Hilton Head Island Airport

	General Impression of HXD			What To Do With HXD		
	Favorable	Unfavorable	No Opinion	Expand/ Grow/ Change/ Improve	Stay As Is	Move/ Close
Public Comment Meeting survey	351	87	33	317	134	20
Surveys received by mail	66	22	5	67	16	10
Beaufort County Web Survey	6	0	0	6	0	0
Chamber of Commerce web survey	272	53	16	303	32	2

B.2.3 What were the public's goals for the airport?

The goals for the airport expressed by the public are as follows:

- The airport should remain a viable and economic engine (Hilton Head Association of Realtors)
- Safe operation of aircraft
- To determine real and current information so an intelligent decision can be made
- Expand service by extending runway and encouraging more airlines and flights
- Be a great airport for smaller planes (if desire larger planes, need more suitable location – rural, lots of space)
- Sensitive development (2030 Comprehensive Plan)
- Become a viable economic engine
- Preserve the land of St. James Church and school house – move dwellings into Mitchelville and create a historic district
- Increase of carriers serving the airport; increase number of destination locations (e.g., more direct flights to major cities) without expanding runway (that is a red herring)
- Airport decisions – market, technology, concerns of Island residents (2030 Comprehensive Plan)
- Be safe, too dense
- Keep airport as is, no more money for expansion
- Provide economic benefit with least impact, but some impact will have to be accommodated. No expansion will mean no airport, which equals less economy for Hilton Head Island
- Add 700 feet to runway, cut trees per FAA recent letter, improve land light system, and maintain commercial service
- Safety of passengers top priority for expanding runway

Table B.2.2-2
Public Input Survey Results
Hilton Head Island Airport

Question	Favorable	Unfavorable	No Opinion	
2. What is your general impression of the Hilton Head Island Airport?	681	158	55	
	0-5	5-10	More than 10	
3. How often do you fly into or out of the Hilton Head Island Airport per year?	475	7	112	
	HXD	SAV	Both	
4. If you travel do you fly out of?	226	249	284	
	Expand/Grow/ Change/Improve	Stay As Is	Move/ Close	Limited Carrier Choices; Non-Competitive Pricing
5. What improvements would you like to see at the Hilton Head Island Airport?	682	178	32	
	Trees	Runway Length	Noise	
6. What are the drawbacks, if any, of the Hilton Head Island Airport?	106	383	70	272

B.2.4 What were the public's options for the airport?

The options for the airport expressed by the public are as follows:

- Growth/expand
- Relocate airport to Jasper County
- If St. James Church has to relocate, place a marker to memorialize that "sacred ground" as part of a park, then build a new church
- Relocate airport off island (pristine island)
- Airport is vital to the tourist/business economy and quality of life; it needs to remain
- Status quo
- Not in favor of expanding or shrinking the airport
- Have all the airport that the community can sustain
- Cut some trees; can put in instrument landing system and airport will be safer for all planes landing at night and in weather
  - If runway is expanded, will it be done on both ends to balance the impact
- Safety is the issue; if someone is hurt, it will be on the conscience of the mayor
- Decline/shrink
- If you close the airport, you're doing a great disservice to the community
- The airport's use of land is a lost economic opportunity
- Go with FAA recommendation for a 5,000-foot minimum runway
- The airport must stay; lengthen the runway and cut some trees for safety
- Essential for continued growth and safety (trees)
- Are we so spoiled on Hilton Head that we have to have a bigger airport for bigger planes? The drive to the great Savannah Airport is only 50 minutes. Get a life!
- Love the airport just as it is

- Support the airport as a viable service for residents, visitors, and business and expand service
- We've been able to co-exist with status quo. Oppose any expansion from the St. James end
- Keep airport as is
- Longer runway is safer for executive jets, commercial, and residents
- Keep current airport for private use, move commercial/longer runway off Island with less density (population), small island
- Investigate a second bridge off the Island from Beach City to St. Helena and a new site for the airport
- Airport in Bluffton

B.2.5 What were the public's issues of the airport?

The issues for the airport expressed by the public are as follows:

- Safety
- Noise
- Economic development
- Better enforcement of flight paths
- Airport landlocked
- Find a way to expand the airport
- Meeting/event planning decisions to come to Hilton Head directly affected by runway length
- Too many cancellations to HXD due to equipment used and aircraft reliability
- Airport's capacity has a direct impact on Hilton Head's economy
- Hangars – rent deficit in quantity, property tax – aircraft and buildings
- Landing fees for general aviation aircraft would drive away aircraft
- Potential impact on historical areas by airport expansion
- Hurricane recovery using airport
- Business (potential) relocation linked to accessibility of airport
- This level of tourism impairs the quality of life
- Aircraft noise over Matthews Drive (residential area – life-long resident)
- Airport is a convenience but not a necessity
- Expand air service with longer runway
- Does anyone know anything about safety of an airport? It is obvious not
- HXD is a vital community asset that needs to be protected; please address the runway and trees as soon as possible
- Extend it or we lose it – that simple
- The airport debate resembles the one over the cross island expressway; extend the runway
- It's dangerous to drive to Savannah for a 6:00 a.m. flight (must leave Hilton Head at 4:30 a.m.) and the drive home from business meetings in Savannah at 11:00 p.m. in darkness (and intoxicated drivers – see crosses on the road)
- Better enforcement of fly zones
- Have public hearings at key points in the process – not just at the beginning and end
- Keep out big jets and big noise. Don't lengthen the runway for corporate jets
- Corporate jets are not big
- Modern airport with longer runway needed – tourism, commercial service, evacuation of sick people, and resupply and reconstruction after storm. Substitutes won't work
- We have enough
- Much greater noise impact every hour with incessant landscape blowers and tractors than any plane
- Air pollution: what about the impact the airport has on air quality? Pollution caused by aircraft and ground support equipment must be factored into the equation
- Savannah is a nice airport, but it already takes 45 minutes to drive and will likely to get longer with increased development in Jasper County, Bluffton, etc., i.e., 1.5 hours
- Loss of commercial services leading to loss of FAA funding places burden on citizens
- NetJets will not use Hilton Head Island Airport (runway has to be 5,000 feet)
- The airport is an important business asset
- I wouldn't have moved 80 jobs and created 300 jobs without the Hilton Head Island Airport
- It is a luxury not a vital necessity; Savannah is only one hour away and very safe
- Extend Runway to 5,000 feet, cut trees to clear vertical obstacles, put in precision approach to extent possible, and entice airlines to service Hilton Head with commercial incentives
- We live in Port Royal Plantation, and noise is not a problem
- To fly to Savannah is one of the top five most expensive airports in the country (USA Today)
- Concern for continued economic vitality
- While Savannah Airport is safe, the drive to it is very dangerous
- Savannah is a great airport, easy to use, more flights, cheaper, and easy to get to
- Savannah hasn't moved, but it's getting further away (travel time) every day
- Go to Delta and find out what it takes to get them to return
- If there are lane closures on I-95, it can take 2-3 hours to get to Savannah Airport. You can't anticipate road problems

B.2.6 What were the public's facts on the airport?

The facts for the airport expressed by the public are as follows:

- Hilton Head Island: 23,000 acres (36 square miles)
- Hilton Head Island population is 33,944 (2007, SC Statistical Abstract)
- No longer a "low-cost" carrier in the area
- We consider Savannah to be the best "local" airport that we've ever experienced
- Requirements: disaster relief, ramp space, economic development, and precision approach
- 2.6% of visitors use HXD (not including residents (2005 Wilder Smith)
- Hilton Head Island Airport's runway is the shortest commercial one in South Carolina
- Property values are supported by ability to land aircraft at the airport

- If you extend the runway 700 feet, it will still be over 900 feet from the church
- Don't use Hilton because of the lack of direct flights and airfare
- When airport was closed for one month, there was no economic impact
- Similar runway requirements for commercial and business aircraft
- Aircraft insurance company concerned about landing at Hilton Head and use Savannah
- To drive to Savannah takes one hour, accidents (I-95), quality of road
- Savannah parking: long-term $12/day, $60/week; economy $8/day, $40/week; transportation to Hilton Head $49/one way, $93/round trip; Hilton Head parking: $6/day, $36/week, keeping the airport on Hilton Head – priceless
- Make the airport safe; cut the trees and make the runway 5,000 feet
- First priority: safety (cut trees in flight path)
- Second priority: noise (manage noise over community and enforce patterns)
- Aircraft noise on north end of airport runway (residential)
- New jets are quieter than most props
- Private planes make more noise than any commercial commuter jet. We are not about landing a 747. Savannah airport is one hour away with no reasonable parking ($)
- The noise study two years ago was bogus
- Quality of life
- The airport is an essential part of not just business growth and opportunity but for community growth
- Where is the business case for jets (commercial) to justify runway expansion
- Driving U.S. Highway 278 to Savannah is not a good quality of life – very stressful
- It is not any safer at 5,000 feet – still restrictive, waste of money
- The virtual office allows a growing number of people to move here who are still working and fly from Hilton Head to see their clients
- More tourists would fly directly to Hilton Head if we had larger planes
- Air service competition and direct flights
- Savannah is better equipped to handle larger jets/be an economical hub – and it is not very far away
- Cost of fuel, parking, time, and many other factors are greater when forced to use Savannah Airport

B.2.7 What was the public's idea of airport strengths?

The strengths for the airport expressed by the public are as follows:

- Economic impact
- Airport's proximity to the island
- Emergency response
- Direct visitor access – they contribute to airport tax and hospitality tax. Do we really want them to stop/stay in Savannah first
- Lower costs with more carriers, lower fuel cost, lower parking fees, lower transportation fees per flight from Savannah
- A great asset for a small town dependent on tourism and visitors
- We need the airport badly, great service for the wonderful residents. Needed in the event of evacuation and bringing in medical supplies after a hurricane. USAir brought in two aircraft to help evacuation before Hugo. All the joy that is brought through family meetings here. Most residents want the airport extended. Believe people have ulterior motive for fighting the airport, uses church as reason. Ethics classes always taught me the greater good always takes precedence over the individual good.
- FAA pays 90% cost of expansion
- People with jets and black Americans especially will come back and spend money

B.2.8 What was the public's idea of airport weaknesses?

The weaknesses for the airport expressed by the public are as follows:

- Lack of community vision backed by leadership
- What is the "vision" for the airport
- Runway length and strength
- Declining real estate sales that are linked with airport shortcomings
- Declining tax base for County due to lack of longer runway
- Town and County government dragging their feet, can't even get the trees cut
- No restrooms inside the boarding area
- Lack of control of noise and flight paths
- Very limited service due to short runway – unattractive to airlines commercially
- Delta's decision points to a dim future unless we extend runway
- Why not offer bus/shuttle service to the Savannah Airport in lieu of the County/Town investing any more tax dollars on the Hilton Head Island Airport? Is this currently available, not publicized

B.2.9 What was the public's idea of airport opportunities?

The opportunities for the airport expressed by the public are as follows:

- Decreased tax and POA dues by supported commercial dollars from airport use
- We live on Fish Haul Creek in Port Royal – as close to the airport as you can get – noise is not an issue
- The Internet is allowing business people to work and live in resort areas. There are only three resort islands with major airline connections - Hilton Head Island; St. Simons, GA; and Key West, FL
- Let's put it to a vote to extend the runway

B.2.10 What was the public's idea of airport threats?

The threats for the airport expressed by the public are as follows:

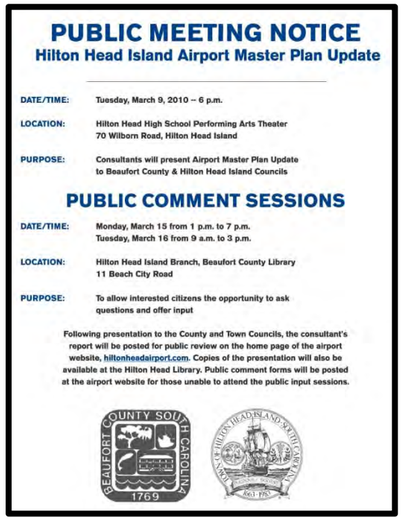
- Money goes where its best treated
- Redevelopment restrictions
- Competitive and aggressive neighbor (Savannah)
- Having no airport is a threat (closure due to safety issue)
- Potential loss of PGA tournament
- Likely decline of property values due to noise and safety issues if air traffic increases. Fewer retirees deciding to relocate to Hilton Head
- Concerned about negative impact of runway extension on St. James Church and community
- Interference by government officials because they don't like the way the research is trending
- Total loss of airport due to aging prop fleet and no competition

- Lawsuit: current operating conditions has set a legal liability…reasonable responsibility for safety…see Banks vs. Hyatt 1984
- In a catastrophic event, will be unable to support high volume emergency evacuations and/or incoming emergency support personnel and equipment
- Airport is not a key part of the Town's emergency response. This does appear to be a valid reason to expand
- Property values will decrease with longer runway (crash zones, noise)
- If airport shuts down, in time the site will get housing there

B.3 MARCH 15-16, 2010, PUBLIC COMMENT MEETING

B.3.1 What was the purpose of the public comment meeting?

The public comment meeting was a follow-up to the presentation made to a joint session of the Beaufort County and Town of Hilton Head Island Councils on Tuesday, March 9, 2010 at 6:00 p.m. at the Performing Arts Theater at the Hilton Head High School, 70 Wilborn Road on Hilton Head Island, approximately three miles from the Hilton Head Island Airport.



PUBLIC MEETING NOTICE
Hilton Head Island Airport Master Plan Update

DATE/TIME: Tuesday, March 9, 2010 – 6 p.m.

LOCATION: Hilton Head High School Performing Arts Theater
70 Wilborn Road, Hilton Head Island

PURPOSE: Consultants will present Airport Master Plan Update to Beaufort County & Hilton Head Island Councils

PUBLIC COMMENT SESSIONS

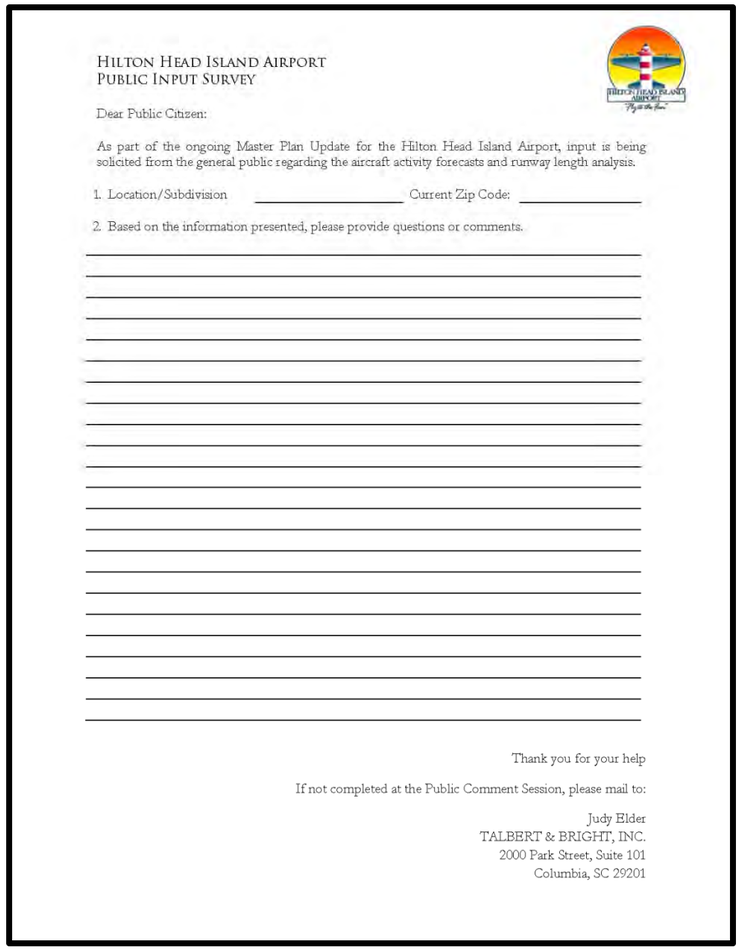
DATE/TIME: Monday, March 15 from 1 p.m. to 7 p.m.
Tuesday, March 16 from 9 a.m. to 3 p.m.

LOCATION: Hilton Head Island Branch, Beaufort County Library
11 Beach City Road

PURPOSE: To allow interested citizens the opportunity to ask questions and offer input

Following presentation to the County and Town Councils, the consultant's report will be posted for public review on the home page of the airport website, hiltonheadairport.com. Copies of the presentation will also be available at the Hilton Head Library. Public comment forms will be posted at the airport website for those unable to attend the public input sessions.

The meeting took place over a two-day period (Monday, March 15, 2010, from 1:00 p.m. to 7:00 p.m. and Tuesday, March 16, 2010, from 9:00 a.m. to 3:00 p.m.) at the Hilton Head Island Library, 11 Beach City Road on Hilton Head Island, approximately one mile from the Hilton Head Island Airport. The project team set up displays that included the aircraft activity forecasts and runway length analysis, as well as a loop DVD of the presentation to the joint session of County and Town Councils on March 9, 2010. Project team representatives were available to answer questions. A table was set up for those who wished to fill out the public input survey at the meeting.



HILTON HEAD ISLAND AIRPORT
PUBLIC INPUT SURVEY

Dear Public Citizen:

As part of the ongoing Master Plan Update for the Hilton Head Island Airport, input is being solicited from the general public regarding the aircraft activity forecasts and runway length analysis.

1. Location/Subdivision _____ Current Zip Code: _____

2. Based on the information presented, please provide questions or comments.

Thank you for your help

If not completed at the Public Comment Session, please mail to:

Judy Elder
TALBERT & BRIGHT, INC.
2000 Park Street, Suite 101
Columbia, SC 29201

One hundred eighty three (183) people attended the public comment meeting. Two hundred and two (202) comments were turned in at the meeting, 14 surveys were received by mail, and 93 e-mail surveys were received from the Beaufort County web survey.

B.3.2 What were the survey results?

Based on the comments received from the public and through the web survey, the following results were tabulated (Tables B.3.2-1 and B.3.2-2).

Table B.3.2-1
Public Comment Meetings and Web Survey Results
Hilton Head Island Airport

	Extend	Do Not Extend	Other[1]
Public Comment Meeting survey	72	95[2]	25
Surveys received by mail	8	5	1
Beaufort County Web Survey	48	40	5

Note:
[1]Commented on tree clearing issue or expressed comments or concerns on the project.
[2]Package of 64 comments from the St. James Baptist Church congregation delivered to the public meeting.

Table B.3.2-2
Public Input Survey Results
Hilton Head Island Airport

	Economy/ Growth/ Tourism	Safety	Do not have to drive to SAV	
In Favor	84	29	9	
	Land/ Environmental Impact/ Infringement of Property	Noise	Relocation of St. James Baptist Church	Go to SAV
Not in Favor	25	21	66[1]	32

Note:
[1]Package of 64 comments from the St. James Baptist Church congregation delivered to the public meeting.

B.3.3 Response to Questions

As part of the master planning process, Talbert & Bright, Inc. (TBI) has received questions and comments from the public as a result of the public comment meetings over the past several months. TBI is in the process of answering these questions, which will be posted on the Beaufort County web site. Copies of questions and comments will be appended to the Final Master Plan Report.

During the past several months, TBI has received questions from specific individuals and elected officials of the Town of Hilton Head Island and Beaufort County. TBI has been directed by Beaufort County to respond to these questions. As of today's date, the study is approximately 70 percent complete and is expected to be finished within the next four months. TBI is currently at the alternatives analysis phase of the 20-year Master Plan, and the development costs, financial considerations, and Airport Layout Plan drawing set, as well as other items, remain to be completed. Because the study is not complete at this time, responses to the questions are subject to the following conditions:

1. The answers given today are subject to change as additional analysis is performed and the study is completed
2. Some questions cannot be answered as the pertinent portions of the study have not been completed
3. Some information requested is outside of the scope of the study
4. Some questions need clarification

The answers to the questions received from the March 15-16, 2010, public meeting are provided below.

B.3.3.1 Economy

Why throw good money after bad – is the airport at current levels of profitable?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Are we charging appropriate fee's for planes landing, taking off, or staying?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Has the possible economic impact been studied and if yes has the idea above been included in these studies?

TBI is in the process of the financial portion of the Master Plan, and financial information will be included in the Final Master Plan Report. However, the economic impact to Hilton Head Island as a result of the runway extension will not be reported as part of the Master Plan Study.

Why are we spending the money to lengthen the runway in order to cater to a very small special interest group on the island?

The recommended runway length was determined from FAA requirements using the family of aircraft that currently utilizes the Hilton Head Island Airport, as presented in the March 9, 2010, presentation.

How will taxes be covered if we don't invest for the future of this resort community?

This question is outside of the scope of the Master Plan Study.

What is the economic impact to Hilton Head if the runway is increased in length?

TBI is in the process of the financial portion of the Master Plan, and financial information will be included in the Final Master Plan Report. However, the economic impact to Hilton Head Island as a result of the runway extension will not be reported as part of the Master Plan Study.

B.3.3.2 Environment

Why disrupt our Hilton Head environment to please a few people that make all this noise?

The recommended runway length was determined from FAA requirements using the family of aircraft that currently utilizes the Hilton Head Island Airport, as presented in the March 9, 2010, presentation.

How will clear cutting affect the noise level?

The noise contours for the proposed alternatives were created using the FAA's Integrated Noise Modeling (INM) program for the family of aircraft currently using the Hilton Head Island Airport. These contours were developed independently of the proposed tree-cutting project.

What will clear cutting do to the waterways and wildlife on the property?

This question is outside of the scope of the Master Plan Study.

Why has there been no recommendation by anyone that the impact of the master plan could and would affect the currently proposed FAA & MPAC scope of work requiring cut backs and repetitious tree work?

This question needs clarification; however; questions concerning tree cutting are outside of the scope of the Master Plan Study.

B.3.3.3 Multiple Questions

Why not build an airport in Bluffton (there is plenty of land to make a larger airport and it will create more jobs) rather than creating more noise for HHI?)

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

Does it make sense to disrupt the tranquility (this is what attracts vacationers) of vacationers and residents for the convenience of a few?

The master planning process will conclude with a 20-year development plan for the Hilton Head Island Airport. It will be the decision of the Airport Sponsor on when and how to implement the elements of the Master Plan.

I know of no one who wants to live or vacation near an airport. So why on earth do we want to put our entire economy of our island at risk?

The master planning process will conclude with a 20-year development plan for the Hilton Head Island Airport. It will be the decision of the Airport Sponsor on when and how to implement the elements of the Master Plan.

Why is there very little said about the private aircraft that truly make the most noise?

The noise contours for the proposed alternatives were created using the FAA's INM program for the family of aircraft currently using the Hilton Head Island Airport.

Why has there been no mention about the value of homes that will be affected by the increases of air traffic and noise?

The noise contours for the proposed alternatives were created using the FAA's Integrated Noise Modeling (INM) program for the family of aircraft currently using the Hilton Head Island Airport.

Is the tourist move more important than the family dwelling that surround the airport?

The master planning process will conclude with a 20-year development plan for the Hilton Head Island Airport. It will be the decision of the Airport Sponsor on when and how to implement the elements of the Master Plan.

Why don't you just move the airport and be done with this problem?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

Why not build a larger airport somewhere else?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

Is it time to consider a second bridge to the mainland on the south end of HHI with fasters access to SAV?

This question is outside of the scope of the Master Plan Study.

What sacrifice is being made for an airport that provides service to 2.6% of travelers to and from the greater HH area?

The master planning process will conclude with a 20-year development plan for the Hilton Head Island Airport. It will be the decision of the Airport Sponsor on when and how to implement the elements of the Master Plan.

What is the taxpayer burden?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

What sacrifices are island residents making?

This question is outside of the scope of the Master Plan Study.

How many people does the airport really benefit given the cost to the taxpayer, environment, residents, wildlife, and air quality?

This question is outside of the scope of the Master Plan Study.

How much does the airport cost the taxpayers to keep open each year?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Considering the preponderance of private traffic and limited commercial traffic, i.e., Delta and U.S. Air, who really benefits the taxpayer expense?

This question is outside of the scope of the Master Plan Study.

Do we want commercial airline service to HHI or not?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County.

How can we shift to a different type of economy – not tourist driven – if we lack commercial airline service?

This question is outside of the scope of the Master Plan Study.

What do carriers project for traffic if new Regional Jets are used?

TBI does not have that information at this time. TBI is continuing to gather information from the airlines serving Hilton Head Island, and this information will be included in the Final Master Plan Report.

Who is going to pay for it?

It is assumed that this question addresses capital improvements at the Airport. Typically, qualifying projects are paid for in the following manner: FAA 95 percent, State of South Carolina 2.5 percent, and Beaufort County 2.5 percent.

How many more people will use it on a day to day basis?

A forecast of enplanements and operations was provided at the March 9, 2010, presentation and is available for review on the Beaufort County web site and will be included in the Final Master Plan Report.

What about noise level changes?

Noise contours were developed for each development alternative and provided in the May 19, 2010, presentation, which is available for review on the Beaufort County web site and will be included in the Final Master Plan Report.

Will it employ more people?

This question is outside of the scope of the Master Plan Study.

Is the consultant prepared to counter the political position of the mayor (as is evidence by the current zoning at 4300 ft) in discussion of alternatives?

TBI has recommended a runway length of 5,400 feet and has analyzed alternatives for implementation; however, the runway length to be developed remains a local decision.

Our news paper is not an advocate for the island airport, why?

This question needs to be asked of the newspaper.

Our Chamber of Commerce is not an advocate for the island airport, why?

This question needs to be asked of the Chamber of Commerce.

What are the numbers of planes by weight class predicted for this airport by year?

A forecast of enplanements and operations was provided at the March 9, 2010, presentation and is available for review on the Beaufort County web site and will be included in the Final Master Plan Report.

What seat percentage capacity in commercial planes corresponds to the 60% useful load figure used?

The 60 percent useful load figure does not correspond with seat capacity in commercial aircraft.

What is the maximum length available to commercial planes on the existing airport property?

TBI assumes that the question means fully developed within airport property. Alternative 2, Phase I (5,000 feet), as shown in the May 19, 2010, presentation, utilizes airport property available without acquisition of adjacent property and relocation of existing businesses.

For that length, what are the hazard and safety zone lengths on the existing property?

TBI assumes that the question means fully developed within airport property. Alternative 2, Phase I (5,000 feet), as shown in the May 19, 2010, presentation, utilizes airport property available without acquisition of adjacent property and relocation of existing businesses. If an EMAS is utilized, the runway safety area would be approximately 600 feet.

For that length what are the vertical clearances to the St. James Church, Pineland Station, homes, etc.?

The vertical clearances at the St. James Baptist Church and Pineland Station for the Phase I (5,000 feet) option are 12.5 feet and 20.7 feet, respectively, with a 34:1 approach.

What and where are the tree impacts resulting from that length?

The runway extension alternatives were developed utilizing the proposed tree-clearing project.

What are the noise impacts form that length and where?

The results of FAA Integrated Noise Model (INM) were illustrated on each of the alternatives at the May 19, 2010, presentation. The extent of the 65 DNL does not impact land uses that are considered incompatible with the noise model. The noise contours can be reviewed on the Beaufort County web site.

What steps can be taken to better keep planes on their recommended approach and departure routes?

The steps that can be taken include continued encouragement of the use of the Broad Creek noise abatement approach to Runway 03 to the greatest extent possible.

When can we have radar at this airport? If no, why not?

Yes.

What are the vertical impacts of the precision approach being considered? Will this cause a new round of tree and building elimination?

The runway extension alternatives were developed utilizing the proposed tree-clearing project.

Is the cost in dollars to expand the airport justified by the expected return in dollars?

There is a series of steps that are required, once the Airport Layout Plan (ALP) is "conditionally approved" by the FAA, for the implementation of a runway extension program at Hilton Head Island Airport; these may include the preparation of a benefit-cost analysis.

Are we a "fly to" resort or a "family drive to" vacation spot?

This question is outside of the scope of the Master Plan Study.

Will we expand our major industry, tourism, by expanding the runway? By how much?

This question is outside of the scope of the Master Plan Study.

Would it be more economically sound to provide regularly scheduled reasonable transportation between Savannah Hilton Head Airport and Hilton Head Island?

This question is outside of the scope of the Master Plan Study.

In the past this type of transportation system between Savannah and HHI has existed but stopped due to a lack of passengers. Is there anything different now that would change this picture?

This question is outside of the scope of the Master Plan Study.

What's this we are hearing about a little publicized plan to re-align the runway at such an angle that homes would have to be removed from HHP? Another plan to angle it such that it is aimed more E&W, perhaps directly at our house?

The realignment of the runway was considered as one of the development alternatives presented in the May 19, 2010, presentation and can be viewed on the Beaufort County web site. This alternative was not chosen due to the impact it would have on the existing facilities at the Airport.

B.3.3.4 Airport/Airline

The 2007 recommendation by Wilber Smith proposed 5020ft. Did this need more airport property or was this the max available on then current property?

TBI did not participate in the development of documents produced by Wilbur Smith.

What length runway is needed to keep HHI compliant with FAA?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

What length runway is needed to make HHI a viable destination?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

Would 4800ft be enough to do what is needed?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

What length runway is needed for new quieter jets?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

Are you sure you need this length if you can't get anyone to land here?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

Have we approached Bombardier, Embraer, Gulf Stream, etc. about a new class of Regional Jet that would be compatible with HHI as well as many of potential new markets?

Discussions have been held with the airlines that provide commercial service to Hilton Head Island Airport, not with manufacturers of aircraft.

What happened to Delta Turbo Prop 2008 and before?

This question is outside of the scope of the Master Plan Study.

Would there be room if the runway was in a different direction?

The realignment of the runway was considered as one of the development alternatives presented in the May 19, 2010, presentation and can be viewed on the Beaufort County web site. This alternative was not chosen due to the impact it would have on the existing facilities at the Airport.

Why does the local news paper claim that Turbo Props will not be operating in 20yrs?

This question needs to be asked of the newspaper.

Where is the air service going to come from when Delta and US Air retire the SAAB 340 and the ATR 42/72?

Delta Airlines (Mesaba Airlines) has indicated that they will go to a regional jet. US Airways (Piedmont Airlines) does not have Saab 340 or ATR 42/72 in its fleet.

Are there existing commitments from other commercial entities?

TBI is not aware of any commitments from other commercial entities.

B.3.3.5 Location/Other

Why don't we plan to move the airport to Savannah?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

Why are we trying to duplicate the airports of either Myrtle Beach or Atlantic City NJ?

This question is outside of the scope of the Master Plan Study.

Why not travel to Savannah Airport as we all had to do in our former residences in other states?

This question is outside of the scope of the Master Plan Study.

Has anyone seriously considered moving the airport?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

How many of nonresident owners intend to retire to HHI and use the home here as their residence?

This question is outside of the scope of the Master Plan Study.

Why has it taken 3-4 Years to resolve the true issue?

This question is outside of the scope of the Master Plan Study.

Why send the jobs created by our travel to Georgia?

This question is outside of the scope of the Master Plan Study.

Why this location?

This is a decision that needs to be made by the Town of Hilton Head Island and Beaufort County. However, at the May 19, 2010, presentation, TBI discussed the relocation of the Airport, and TBI's recommendation is that relocation is not feasible.

B.4 MAY 24-25, 2010, PUBLIC MEETING

B.4.1 What was the purpose of the public comment meeting?

The public comment meeting was a follow-up to the presentation made to a joint session of the Beaufort County and Town of Hilton Head Island Councils on Wednesday, May 19, 2010, at 6:00 p.m. at the Performing Arts Theater at the Hilton Head High School, 70 Wilborn Road on Hilton Head Island, approximately three miles from the Hilton Head Island Airport.

PUBLIC MEETING NOTICE

Hilton Head Island Airport Master Plan Update

DATE/TIME: Wednesday, May 19, 2010 -- 6 p.m.

LOCATION: Hilton Head High School Performing Arts Theater
70 Wilborn Road, Hilton Head Island

PURPOSE: Consultants will present Airport Master Plan Update
to Beaufort County & Hilton Head Island Councils

PUBLIC COMMENT SESSIONS

DATE/TIME: Monday, May 24 from 1 p.m. to 7 p.m. • Tuesday, May 25 from 9 a.m. to 3 p.m.

LOCATION: Hilton Head Island branch, Beaufort County Library, 11 Beach City Road

PURPOSE: To allow interested citizens the opportunity to ask questions and offer input

Following presentation to the County and Town Councils, the consultant's report will be posted for public review on the home page of the airport website, hiltonheadairport.com. Public comment forms will be posted there as well. Copies of the consultant's presentation will also be available at the County Library, Hilton Head Island.

The meeting took place over a two-day period (Monday, May 24, 2010, from 1:00 p.m. to 7:00 p.m. and Tuesday, May 25, 2010, from 9:00 a.m. to 3:00 p.m.) at the Hilton Head Island Library, 11 Beach City Road on Hilton Head Island, approximately one mile from the Hilton Head Island Airport. The project team set up displays that included the runway length development alternatives, as well as a loop DVD of the presentation to the joint session of County and Town Councils on May 19, 2010. Project team representatives were available to answer questions. A table was set up for those who wished to fill out the public input survey at the meeting.

One hundred seventeen (117) people attended the public comment meeting. Seventy nine (79) comments were turned in at the meeting, 53 surveys were received by mail, and 5 e-mail surveys were received from the Beaufort County web survey.

B.4.2 What were the survey results?

Based on the comments received from the public and through the web survey, the following results were tabulated (Tables B.4.2-1 and B.4.2-2).

Table B.4.2-1
Public Comment Meetings and Web Survey Results
Hilton Head Island Airport

	Extend	Do Not Extend	Other
Public Comment Meeting survey	46	15	18
Surveys received by mail	35	15	3
Beaufort County Web Survey	0	2	3

Table B.4.2-2
Public Input Survey Results
Hilton Head Island Airport

	Survey
Not in favor of expansion	24
Close/Relocate Airport	6
Favor Expansion	14

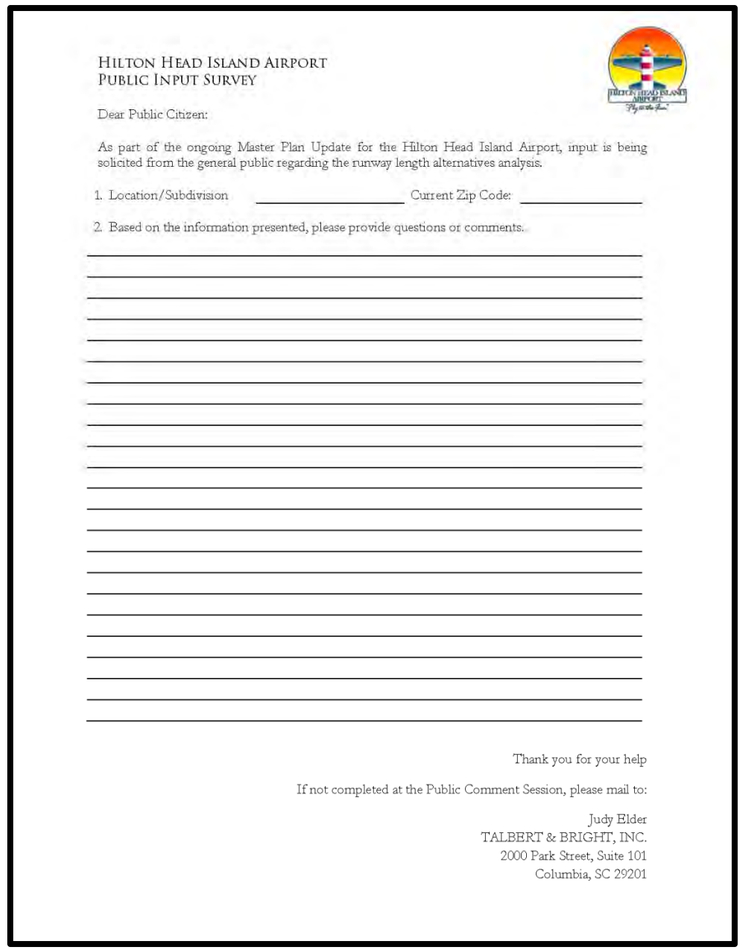
	Development Alternative				
		2			
	1	Phase I Only	Phases I and II	Phase II Only	3
Survey	3	4	34	24	0

B.4.3 Response to Questions

As part of the master planning process, Talbert & Bright, Inc. has received questions and comments from the public as a result of the public comment meetings over the past several months. TBI is in the process of answering these questions, which will be posted on the Beaufort County web site. Copies of questions and comments will be appended to the Final Master Plan Report.

During the past several months, TBI has received questions from specific individuals and elected officials of the Town of Hilton Head Island and Beaufort County. TBI has been directed by Beaufort County to respond to these questions. As of today's date, the study is approximately 70 percent complete and is expected to be finished within the next four months. TBI is currently at the alternatives analysis phase of the 20-year Master Plan, and the development costs, financial considerations, and Airport Layout Plan drawing set, as well as other items, remain to be completed. Because the study is not complete at this time, responses to the questions are subject to the following conditions:

1. The answers given today are subject to change as additional analysis is performed and the study is completed
2. Some questions cannot be answered as the pertinent portions of the study have not been completed
3. Some information requested is outside of the scope of the study
4. Some questions need clarification



HILTON HEAD ISLAND AIRPORT
PUBLIC INPUT SURVEY

Dear Public Citizen:

As part of the ongoing Master Plan Update for the Hilton Head Island Airport, input is being solicited from the general public regarding the runway length alternatives analysis.

1. Location/Subdivision _____ Current Zip Code: _____

2. Based on the information presented, please provide questions or comments.

Thank you for your help

If not completed at the Public Comment Session, please mail to:

Judy Elder
TALBERT & BRIGHT, INC.
2000 Park Street, Suite 101
Columbia, SC 29201

The answers to the questions received from the May 24 - 25, 2010, public meeting are provided below.

What is the next step to making alternative 2 work?

The next steps for Alternative 2 is to complete the Master Plan and receive approval from the Town of Hilton Head Island and Beaufort County, then submit the Airport Layout Plan to the FAA for "conditional approval." After that, the environmental and design process for Alternative 2 should be added to the Airport's capital improvement program (CIP), through which projects are funded by the FAA.

How does the FAA view a 2 phase development by the following:

- *Procedures, environmental studies, cost thresholds, approval potential (plus/minus), land acquisition scheduling, EMAS relocation at north end for phase 2.*

There is a series of steps required after the approval of the Master Plan for the project to move forward. The first step is that the project needs to be put on the Airport's capital improvement program, which is submitted to the FAA by December 31 of each year. This program outlines the projects the Airport would like to conduct over the next five years. Upon FAA funding approval, the steps required for the runway extension include the preparation of an environmental assessment, determination of the properties impacted, and performance of appraisals and review appraisals in order to offer the affected property owners fair market value for the properties, design of the project and then implementation. At the present time, the FAA will provide 95 percent of the project cost; the South Carolina Aeronautics Commission will provide 2.5 percent of the project cost (with the exception of land acquisition). The schedule of the project will be dependent on how the project is presented in the Airport's capital improvement program.

Does the OFA require no vertical structures? (ie: buildings)

The definition of the obstacle free area (OFA) is an area on the ground centered on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. The FAA has agreed to waive the current encroachments of the OFA; however, any new construction would be required to meet the requirements of the OFA.

What is the goal of the expansion? (to accommodate more gulfstream aircraft or size of commercial aircraft)

The goal of the expansion is to accommodate the family of aircraft, as well as commercial service aircraft, currently using the facility and for the next 20 years.

What would the revised overlay district be?

This would be a question for the Town of Hilton Head Island.

What about the increased noise that will result from increased private jet traffic?

Noise contours were developed for each development alternative and provided in the May 19, 2010, presentation, which is available for review on the Beaufort County web site and will be included in the Final Master Plan Report.

What economic benefit (or benefit at all) to the community of HHI will an expanded airport bring?

This question is outside of the scope of the Master Plan Study.

Is the airport generating enough revenue to support its existence?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Pros and cons of the runway remaining at 4300 feet?

Current airport users within the family of aircraft representing 100 percent of the fleet operating at 60 percent useful load may be required to operate with restrictions.

Financial impact upon Beaufort County tax payers?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Has no runway extension, but bringing the airport configuration in compliance with FAA guidelines been considered?

Bringing the Airport into compliance is part of the Airport Master Plan, and any expansion plans would be determined by the Airport Sponsor.

Has the FAA guaranteed its participation in both phases?

The FAA has stated that if there is a consensus between Beaufort County and the Town of Hilton Head Island regarding the future of the Airport that allows for continued growth and expansion, they would participate in the development if funds are available.

What exactly was the consultant charged to study in detail?

The scope of work for the preparation of the Master Plan is available for review on the County's web site and is in compliance with FAA Advisory Circular 150/5070-6B – Airport Mater Plans (July 29, 2005).

How many private (non commercial, non pilot) citizens involved? What is the make- up of committees?

Before the Master Plan process began, a decision was made by the Town of Hilton Head Island and Beaufort County that the Council members would serve as the Master Plan Advisory Committee (MPAC). TBI has presented to both Councils at four public meetings as part of the process to date.

What larger/noisier airplanes would 5000/5400 runways accommodate?

TBI recommends a runway length of 5,400 feet for the Hilton Head Island Airport. This length was determined using the Airport's existing family of aircraft operating at 60 percent useful load and the procedures provided in FAA's Advisory Circular 150/5325-4B.

Is the devaluation of property being considered?

Based on the preliminary design of Alternative 2, it is estimated that five properties would be impacted by the recommended runway extension. Under federal programs, the acquisition of property and provisions for relocation must follow the *Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970*, as outlined in FAA AC 150/5100-17 *Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects*.

Financial factor been considered?

TBI is in the process of the financial portion of the Master Plan, and the information will be included in the Final Master Plan Report.

Has a survey of passengers been done, with full public disclosure, to determine the tourism impact of the airport with regard to passengers who are residents, passengers who are visiting family or friends, and passengers who are arriving for vacation/convention purposes?

A passenger survey was conducted at the Hilton Head Island Airport between the dates of July 22 - 26, 2009. The surveys were taken for eight-hour periods over a five-day time frame by representatives of TBI at the commercial service terminal and the general aviation terminal. The results of the surveys taken are as follows:

Commercial Service Terminal	General Aviation Terminal
• Total Residents: 54 (16%)	• Personal: 19 (22%)
• Total Visitors: 292 (84%)	• Business: 36 (41%)
	• Golf/Beach Vacation: 25 (28%)
	• Military: 2 (2%)
	• Other: 6 (7%)

The surveys were taken to determine the type of traveler using the Airport and reasons for their visit and the type of aircraft landing at the Airport. Copies of the blank survey forms used are attached. All the results of the survey will be included in the Master Plan Report.

Although a technical presentation was made with regard to what technically could be done for runway length, is it not reasonable to provide the benefits of the alternatives such that local decisions can be made on the alternatives? This is required by the county residents to make the decision to justify further use of local tax dollars, although it appears that the FAA funds projects without a complete cost/benefits analysis. What is the cost of the recommended alternative 2, such that the local share can be determined?

Typically, qualifying projects are paid for in the following manner: FAA 95 percent, State of South Carolina 2.5 percent, and Beaufort County 2.5 percent. Requirements for a cost benefit analysis are determined by the FAA in accordance with the FAA Airport Benefit-Cost Analysis Guidance (December 15, 1999) and submitted during the federal grant application process.

Since nothing definitive has been presented, what is the impact on the community of the recommended alternative 2?

This question is outside of the scope of the Master Plan Study.

Why can't the runway be lengthened all at once instead of piecemeal?

The runway can be lengthened all at once, but that is a decision to be made by the FAA and the Airport Sponsor.

More information detailing potential economic impact, both in the air and environs and not directly related to the airport operations.

This question is outside of the scope of the Master Plan Study.

While safety is the #1 concern, what changes will be likely to surrounding property - Highways and roads, commercial buildings with airport connections - fuel storage, parking, etc.?

Changes expected based on the runway extension will be shown on the Airport Layout Plan and will include such things as the acquisition of five parcels of property along Beach City Road and the relocation of Beach City Road from an area in the vicinity of Fort Howell to its intersection with Fish Haul and Dillon Roads. Development on airport property will also be shown on the ALP and includes, but is not limited to, the expansion of the aircraft parking apron on the general aviation side of the airport, as well as the construction of new hangars to accommodate aircraft. The Master Plan will recommend that the commercial service terminal undergo renovation and that the public parking area for the commercial side of the Airport will be improved.

B.5 PRESENTATIONS TO BEAUFORT COUNTY AND HILTON HEAD ISLAND TOWN COUNCILS

Status updates and presentations were given to Beaufort County and Hilton Head Island Town Councils on the following dates:

- Hilton Head Island Town Council, November 17, 2009, regarding the scope of work, master plan process, results of the August 27-28, 2009, public meeting, and existing conditions inventory (presentation materials outlined in Exhibit B.1)
- Beaufort County Council, November 23, 2009, regarding the scope of work, master plan process, results of the August 27-28, 2009, public meeting, and existing conditions inventory (presentation materials outlined in Exhibit B.1)
- Joint session of Councils, March 9, 2010, regarding the aircraft activity forecasts and runway length analysis (presentation materials outlined in Exhibit B.2)
- Joint session of Councils, May 19, 2010, regarding the runway length development alternatives (presentation materials outlined in Exhibit B.3)
- Joint session of Councils, July 12, 2010, regarding the runway length development alternatives (responses to consolidated list of questions from Councils outlined in Exhibits B.4 and B.5)


PUBLIC MEETING NOTICE
Joint Session of Councils
Beaufort County & Town of Hilton Head Island

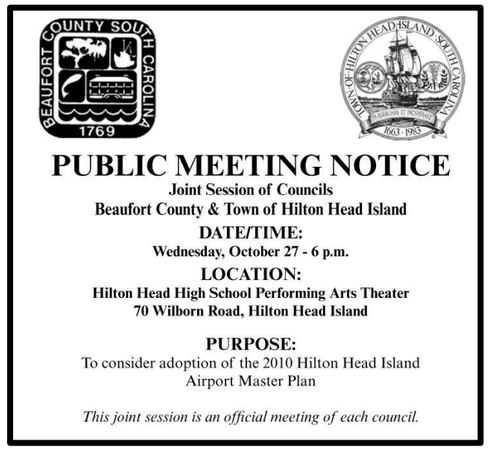
DATE/TIME: Monday, July 12 — 4 p.m.

LOCATION: Hilton Head High School Performing Arts Theater
70 Wilborn Road, Hilton Head Island

PURPOSE: To receive and review public comments and consider information from consultants so that elected officials may make decisions regarding the future of the Hilton Head Island Airport.

This joint session is an official meeting of each council.

- Joint session of Councils, October 27, 2010, regarding the summary of the results of the Master Plan Update (presentation materials outlined in Exhibit B.6)


PUBLIC MEETING NOTICE
Joint Session of Councils
Beaufort County & Town of Hilton Head Island

DATE/TIME:
Wednesday, October 27 - 6 p.m.

LOCATION:
Hilton Head High School Performing Arts Theater
70 Wilborn Road, Hilton Head Island

PURPOSE:
To consider adoption of the 2010 Hilton Head Island Airport Master Plan

This joint session is an official meeting of each council.

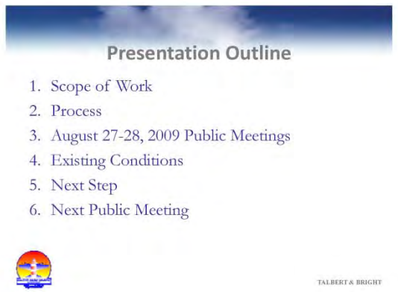
B.6 MEETINGS WITH AND PRESENTATIONS TO FAA AND SCAC

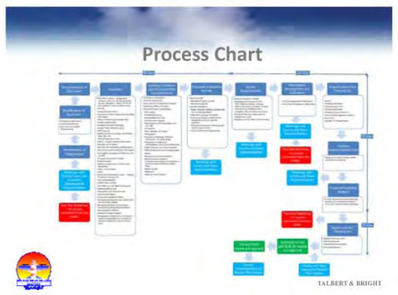
Status updates, meetings, and presentations were given to the FAA and SCAC on the following dates:

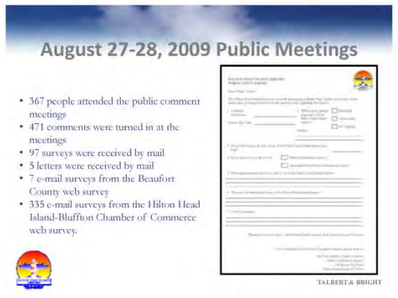
- FAA and SCAC, October 28, 2009, regarding results of the August 27-28, 2009, public meeting, existing conditions inventory, and aircraft activity forecasts
- FAA (with Beaufort County Council Chairman, Beaufort County Administrator, Hilton Head Island Airport Manager, and Mayor of the Town of Hilton Head Island), January 26, 2010, regarding the results of the runway length analysis. A letter of concurrence was received from the FAA on February 9, 2010[1]
- FAA, May 5, 2010, regarding the runway length development alternatives
- FAA, June 24, 2010, regarding the runway development alternatives and consolidated list of questions from Councils.

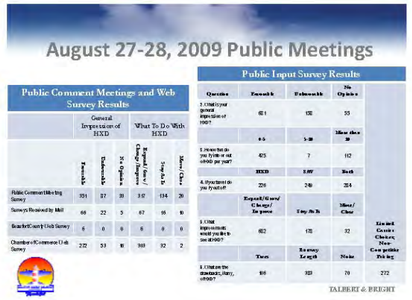
[1]Scott L. Seritt, Manager, Federal Aviation Administration Atlanta Airports District Office, Runway Length Determination, Hilton Head Island Airport (HXD), letter, addressed to Gary Kubic, Beaufort County Administrator, February 9, 2010.

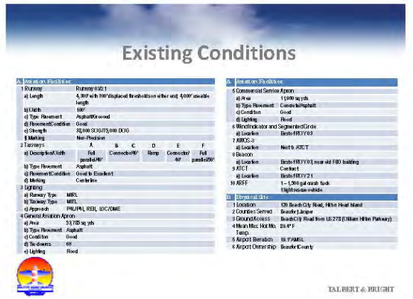
Exhibit B.1 **Master Plan Status Update – November 17, 2009 and November 23, 2009**

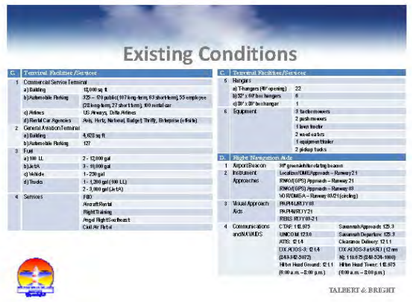


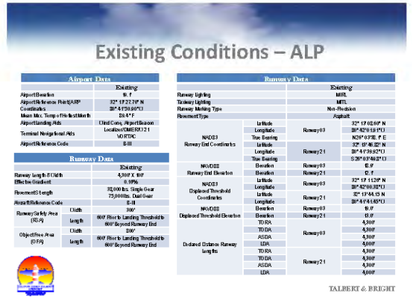












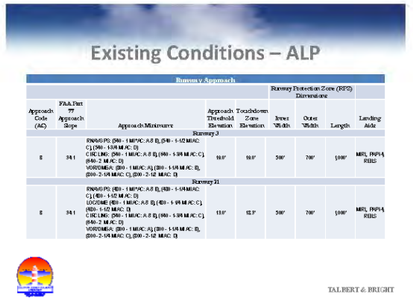


Exhibit B.2 Master Plan Status Update – March 9, 2010

Next Step

Determine critical design aircraft and corresponding facility needs based on forecasts

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Next Public Meetings

January 2010
To present aviation forecasts and critical design aircraft determination to Beaufort County and Town of Hilton Head Island

February 2010
To present development alternatives

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Hilton Head Island Airport Master Plan Update

Presentation to the Joint Meeting of
Beaufort County Council and
Hilton Head Island Town Council
March 9, 2010

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Topics of Discussion

- Aircraft Activity Forecasts
- Runway Length Analysis

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Aircraft Activity Forecasts

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Forecast Parameters

- Existing airport activity levels
- Forecast of based aircraft
- Forecast of aircraft operations
- Forecast of aircraft mix

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Forecast Data Sources

- FAA Contract Air Traffic Control Tower Records
- FBO (Signature Flight Support) Records
- FAA Airport Master Records – Form 5010
- FAA Instrument Flight Rules (IFR) Data, 2000-2008
- FAA Terminal Area Forecasts (TAF)
- South Carolina Airports System Plan (SCASP), 2008

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Current Airport Activity

Year	Total Based Aircraft	Commercial Service		Total Annual Operations
		Total Annual Enplanements	Total Operations	
2009	81	75,073	9,353	38,237

SOURCE: GRC & Associates, Inc., "FAA's Airport Master Record Forms (5010-1 and 5010-2), 2009," <http://assuagcrl.com/>, accessed September 2, 2009.

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Aviation Forecasts

Year	Commercial Service Enplanements			Based Aircraft		
	Master Plan Update	FAA TAF	SCASP	Master Plan Update	FAA TAF	SCASP
2009	75,073	70,121	75,073	81	88	87

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Runway Length Analysis Parameters

- Critical Design Aircraft Performance Requirements
- Runway Elevation and Gradient
- Mean Maximum Temperature for the Hottest Month
- FAA, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005

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Advisory Circular

U.S. Department of Transportation
Federal Aviation Administration

Subject: RUNWAY LENGTH REQUIREMENTS FOR AIRPORT DESIGN | **Date:** 7/1/2005 | **AC No:** 150/5325-4B
Initiated by: AAC-100 | **Change:**

1. **PURPOSE.** This Advisory Circular (AC) provides guidelines for airport designers and planners to determine recommended runway lengths for new runways or extensions to existing runways.

2. **CANCELLATION.** This AC cancels AC 150/5325-4A.

3. **APPLICATION.** The standards and guidelines contained in this AC are recommended by the Federal Aviation Administration, mainly for use in the design of civil airports. The guidelines, the airplane performance data curves and tables, and the referenced airplane manufacturer manuals *are not to be used as a substitute for flight planning calculations* accepted by airplane operating rules. For airport projects receiving Federal funding, the use of this AC is mandatory.

http://www.faa.gov/regulations_policies/advisory_circulars/

David L. Bennett
Director, Office of Airport Safety and Standards

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Master Plan Update Operations Forecast

Year	Commercial Service Operations	General Aviation/ Military Operations	Total
2009	9,353	28,237	37,590

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Annual Operations Forecast Comparison

Year	Master Plan Update	FAA TAF	SCASP
2007	46,001	45,826	46,001
2008	38,125	38,125	38,125
2009	37,277	39,550	39,760
2010	37,425	40,250	37,273
2011	38,052	40,780	37,997
2012	41,078	41,158	38,821
2013	42,139	41,617	39,247
2014	43,026	42,089	39,921
2015	43,899	42,298	40,286
2016	44,648	43,259	40,978
2017	45,336	44,007	41,540
2018	46,324	44,677	42,119
2019	47,067	45,238	42,667
2020	48,564	46,017	43,215
2021	49,403	46,732	43,783
2022	50,242	47,448	44,311
2023	51,202	48,161	44,850
2024	52,122	48,893	45,466
2025	53,075	49,618	45,954
2026	54,052	50,394	46,562
2027	55,029	51,138	47,268
2028	56,008	51,939	47,968
2029	56,991	52,778	–

Forecasts must be within 10% of FAA TAF over the 20 year forecast period – Master Plan Update forecasts are within 7.9% of FAA TAF, which is considered acceptable by FAA

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Definition of Critical Design Airplanes

The critical design aircraft is the largest airplane or family of aircraft conducting at least 500 annual operations (combination of 250 takeoffs and landings) per year at the Airport. The weight, wingspan, and performance characteristics of these aircraft, in conjunction with site-specific conditions, determine an airport's geometry in terms of runway/taxiway configurations, lengths, and separations.

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How Runway Length is Determined

According to AC 150/5325-4B Paragraph 102.b.(2) – "Except for regional jets, when the maximum takeoff weight (MTOW) of the list of critical design airplanes is 60,000 pounds or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights."

Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005, page 3.

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Master Plan Update
Annual Operations by Aircraft Category

Year	Itinerant			Local		Total
	Commercial	General Aviation	Military	General Aviation	Military	
2009	9,353	24,838	635	3,062	549	38,237
2014	11,441	26,985	696	3,353	601	43,076
2019	12,532	29,884	771	3,714	866	47,587
2029	15,069	35,682	920	4,435	795	56,901

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Runway Length Analysis

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Methodology for Determining Runway Length

Airplane Weight Category Maximum Certificated Takeoff Weight (MTOW)			Design Approach	Location of Design Guidelines
12,500 pounds (5,670 kg) or less	Approach Speeds less than 30 knots		Family grouping of small airplanes	Chapter 2, Paragraph 2(3)
	Approach Speeds of at least 30 knots but less than 50 knots		Family grouping of small airplanes	Chapter 2, Paragraph 2(4)
	Approach Speeds of 50 knots or more	With Less than 10 Passengers	Family grouping of small airplanes	Chapter 2, Paragraph 2(5) Figure 2-1
		With 10 or more Passengers	Family grouping of small airplanes	Chapter 2, Paragraph 2(5) Figure 2-2
Over 12,500 pounds (5,670 kg) but less than 60,000 pounds (27,200 kg)			Fan By grouping of large airplanes	Chapter 3, Figures 3-1 or 3-2 1 and Tables 3-1 or 3-2
60,000 pounds (27,200 kg) or more or Regional Jets 2			Individual large airplane	Chapter 4, Airplane Manufacturer Websites (Appendix 1)

Notes:
1 When the design airplane's Airport Planning Manual (APM) shows a longer runway length than what is shown in Figure 3-2, use the airplane manufacturer's APM. However, users of an APM are to adhere to the design guidelines found in Chapter 4.
2 All regional jets regardless of their MTOW are assigned to the 60,000 pounds (27,200 kg) or more weight category.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005, Table 1-1, Airplane Weight Categorization for Runway Length Requirements, page 3.

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Airplanes that Make Up 75% of the Fleet (Table 3-1 of AC)

Manufacturer	Model	Manufacturer	Model
Aerospatiale	Se-601 Corvette	Dassault	Falcon 50
Dee	125-700	Dassault	Falcon 20
Beech Jet	400 A	Dassault	Falcon 50/50 EX
Beech Jet	Premier I	Dassault	Falcon 900/900 B
Beech Jet	2000 Starship	Aircraft Industries (IAI)	Jet Commander 1121
Bombardier	Challenger 300	IAI	Westwind 1123/1124
Cessna	500 Citation/500 Citation I	Learjet	20 Series
Cessna	Citation VI/VII	Learjet	31/31A/31A ER
Cessna	525A Citation II (CJ2)	Learjet	35/35A/36/36A
Cessna	650 Citation Bravo	Learjet	40/45
Cessna	550 Citation II	Mitsubishi	Mu-300 Diamond
Cessna	551 Citation II/Special	Raytheon	390 Premier
Cessna	552 Citation	Raytheon Hawker	400/400 XP
Cessna	560 Citation Encore	Raytheon Hawker	600
Cessna	560/560 XL Citation Excel	Sabreliner	40/60
Cessna	560 Citation V Ultra	Sabreliner	75 A
Cessna	650 Citation VII	Sabreliner	80
Cessna	680 Citation Sovereign	Sabreliner	T-39

Note: Airplanes that operate at MTOW.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005, Table 3-1, Airplanes that Make Up 75 Percent of the Fleet, page 14.
FAA Flight Plan Database (2000-2008) furnished by the GC Aeronautical Commission.

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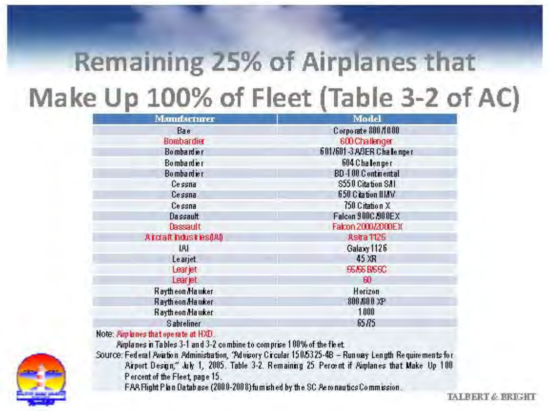
Remaining 25% of Airplanes that Make Up 100% of Fleet (Table 3-2 of AC)
Manufacturer | Model
Bae | Corporate 800/1000
Bombardier | 600 Challenger
Bombardier | 601/601-3A/3ER Challenger
Bombardier | 604 Challenger
Bombardier | BD-100 Continental
Cessna | S550 Citation S/II
Cessna | 650 Citation III/IV
Cessna | 750 Citation X
Dassault | Falcon 900C/900EX
Dassault | Falcon 2000/2000EX
Aircraft Industries (IAI) | Astra 1125
IAI | Galaxy 1126
Learjet | 45 XR
Learjet | 55/55B/55C
Learjet | 60
Raytheon/Hawker | Horizon
Raytheon/Hawker | 800/800 XP
Raytheon/Hawker | 1000
Sabreliner | 65/75
Note: Airplanes that operate at HXD.
Airplanes in Tables 3-1 and 3-2 combine to comprise 100% of the fleet.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Table 3-2. Remaining 25 Percent if Airplanes that Make Up 100 Percent of the Fleet, page 15.
FAA Flight Plan Database (2000-2008) furnished by the SC Aeronautics Commission.
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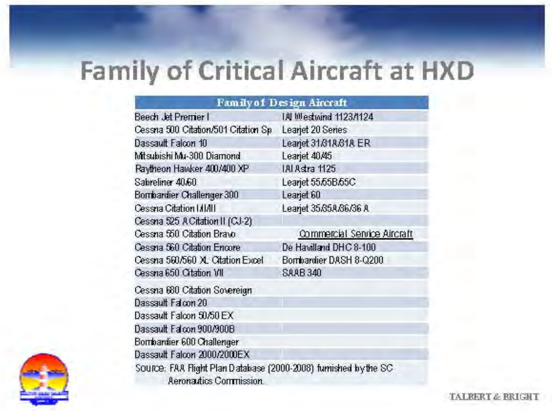
Family of Critical Aircraft at HXD
Family of Design Aircraft
Beech Jet Premier I | IAI Westwind 1123/1124
Cessna 500 Citation/501 Citation Sp | Learjet 20 Series
Dassault Falcon 10 | Learjet 31/31A/31A ER
Mitsubishi Mu-300 Diamond | Learjet 40/45
Raytheon Hawker 400/400 XP | IAI Astra 1125
Sabreliner 40/60 | Learjet 55/55B/55C
Bombardier Challenger 300 | Learjet 60
Cessna Citation I/II/III | Learjet 35/35A/36/36 A
Cessna 525 A Citation II (CJ-2)
Cessna 550 Citation Bravo | Commercial Service Aircraft
Cessna 560 Citation Encore | De Havilland DHC 8-100
Cessna 560/560 XL Citation Excel | Bombardier DASH 8-Q200
Cessna 650 Citation VII | SAAB 340
Cessna 680 Citation Sovereign
Dassault Falcon 20
Dassault Falcon 50/50 EX
Dassault Falcon 900/900B
Bombardier 600 Challenger
Dassault Falcon 2000/2000EX
Source: FAA Flight Plan Database (2000-2008) furnished by the SC Aeronautics Commission.
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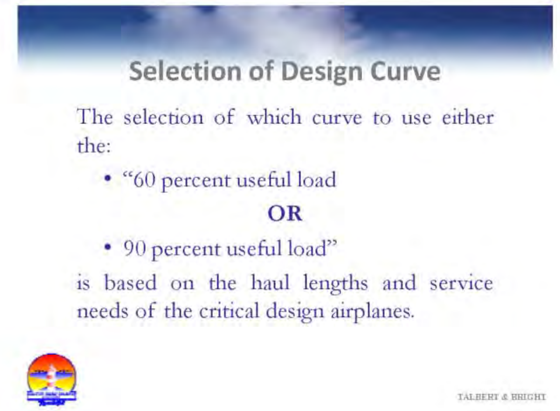
Selection of Design Curve
The selection of which curve to use either the:
• "60 percent useful load
OR
• 90 percent useful load"
is based on the haul lengths and service needs of the critical design airplanes.
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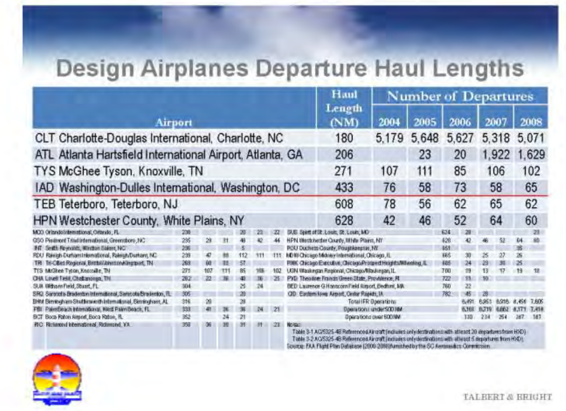
Design Airplanes Departure Haul Lengths
Airport | Haul Length (NM) | Number of Departures 2004 | 2005 | 2006 | 2007 | 2008
CLT Charlotte-Douglas International, Charlotte, NC | 180 | 5,179 | 5,648 | 5,627 | 5,318 | 5,071
ATL Atlanta Hartsfield International Airport, Atlanta, GA | 206 | | 23 | 20 | 1,922 | 1,629
TYS McGhee Tyson, Knoxville, TN | 271 | 107 | 111 | 85 | 106 | 102
IAD Washington-Dulles International, Washington, DC | 433 | 76 | 58 | 73 | 58 | 65
TEB Teterboro, Teterboro, NJ | 608 | 78 | 56 | 62 | 65 | 62
HPN Westchester County, White Plains, NY | 628 | 42 | 46 | 52 | 64 | 60
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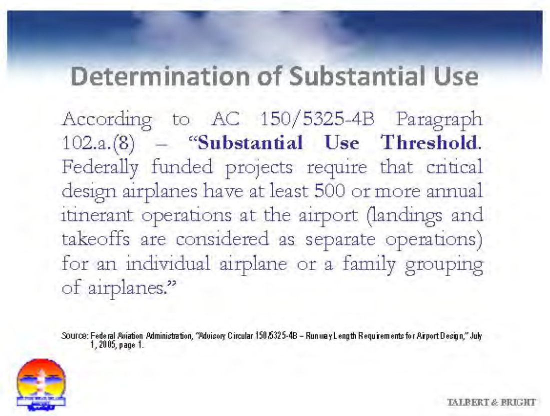
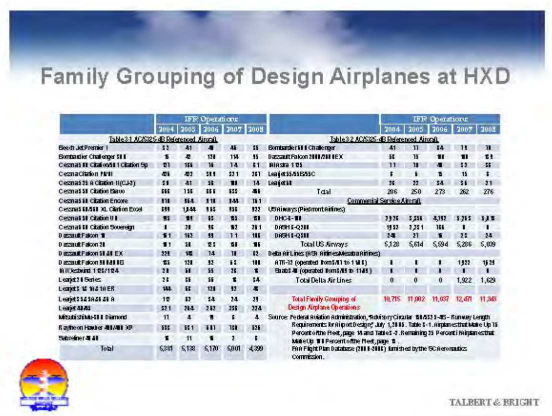

Determination of Substantial Use
According to AC 150/5325-4B Paragraph 102.a.(8) – "Substantial Use Threshold. Federally funded projects require that critical design airplanes have at least 500 or more annual itinerant operations at the airport (landings and takeoffs are considered as separate operations) for an individual airplane or a family grouping of airplanes."
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005, page 1.
TALBERT & BRIGHT


Family Grouping of Design Airplanes at HXD
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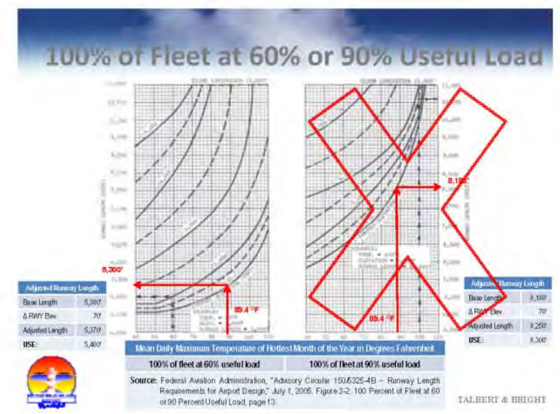
100% of Fleet at 60% or 90% Useful Load
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Runway Length Requirement Based on Aircraft Airport Planning Manual Design Curves
Airport Elevation | 19.0'
Mean Maximum Temperature | 89.4°F
Runway 03 Elevation | 19.83'
Runway 21 Elevation | 13.07'
Δ Runway Centerline Elevation¹ | 7.0' x 10' = 70'
Adjusted Runway Length
Family of Aircraft at 100% fleet @ 60% useful load (existing) | 5,400'
De Havilland DHC 8-100 (existing) | 3,500'
Bombardier DASH 8-Q200 (existing) | 3,600'
Bombardier DASH 8-Q300 (existing) | 4,500'
Bombardier DASH 8-Q400 (potential future) | 5,200'
SAAB 340 (existing) | 4,800'
Canadair CRJ/200 (potential future) | 5,600'
Canadair CRJ/700 (potential future) | 5,500'
Note:
¹For airplanes over 12,500 pounds maximum certified takeoff weight, the recommended runway length for takeoff derived from the curves of Figures 3-1 and 3-2 or from the APMs must be increased by 10 feet per foot of difference in centerline elevations between the high and low points of the runway centerline elevations.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Figure 3-1. 75 Percent of Fleet at 60 or 90 Percent Useful Load, page 12; Figure 3-2. 100 Percent of Fleet at 60 or 90 Percent Useful Load, page 13; and Section 509. Maximum Difference of Runway Centerline Elevation, page 23.
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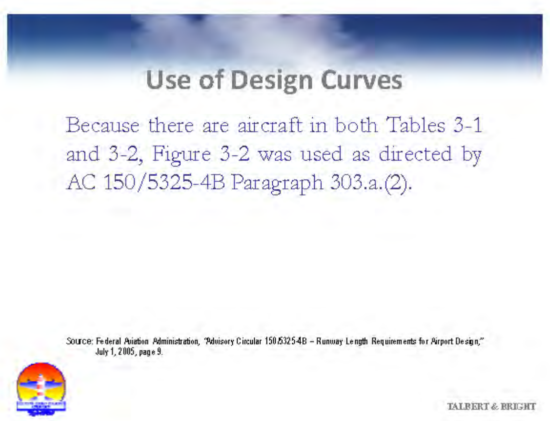
Use of Design Curves
Because there are aircraft in both Tables 3-1 and 3-2, Figure 3-2 was used as directed by AC 150/5325-4B Paragraph 303.a.(2).
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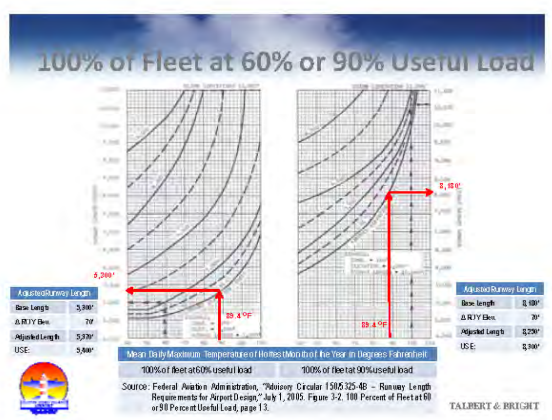
100% of Fleet at 60% or 90% Useful Load
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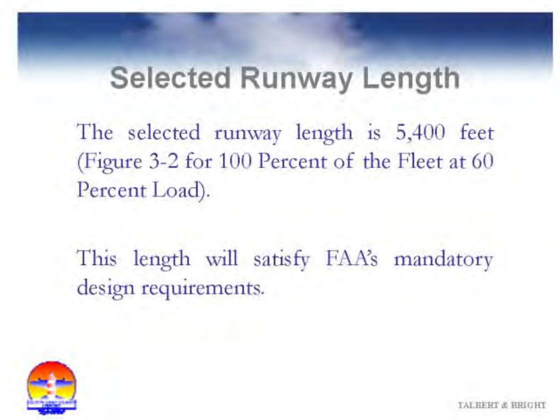
Selected Runway Length
The selected runway length is 5,400 feet (Figure 3-2 for 100 Percent of the Fleet at 60 Percent Load).
This length will satisfy FAA's mandatory design requirements.
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FAA Concurrence
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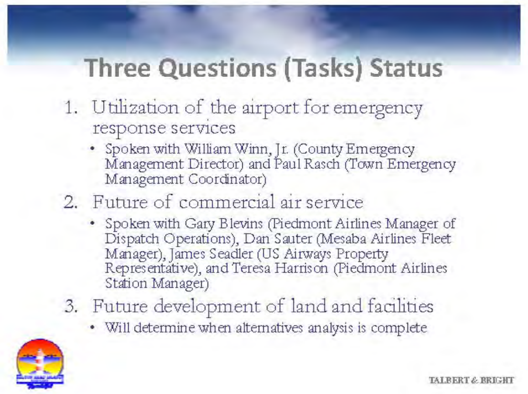
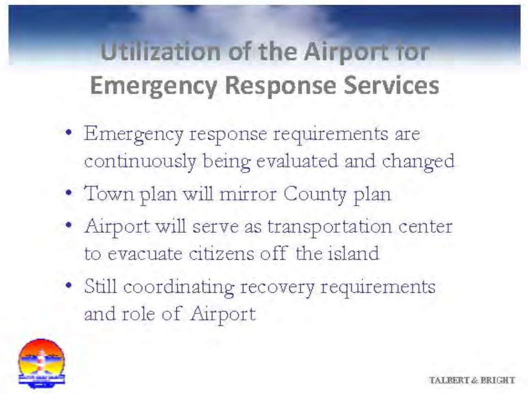




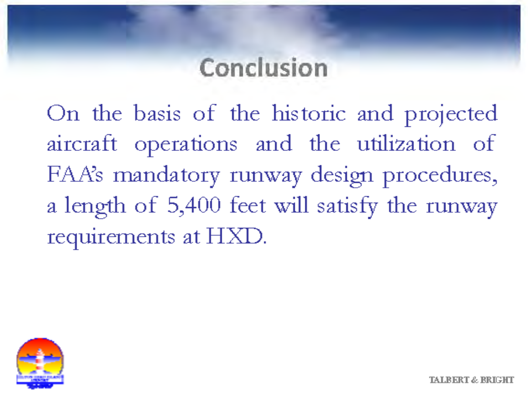
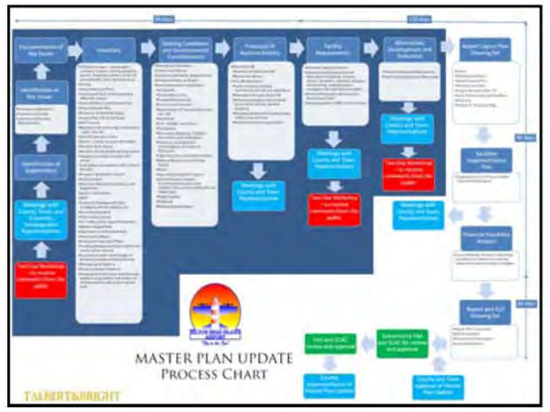
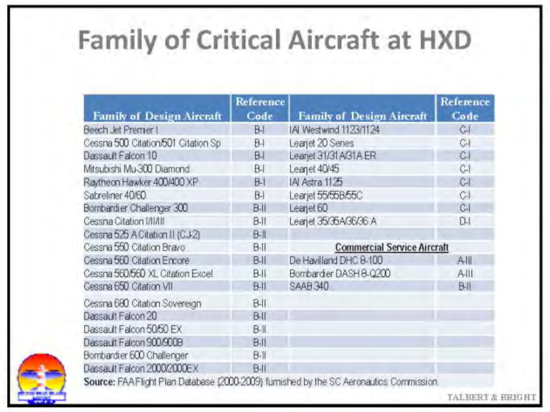
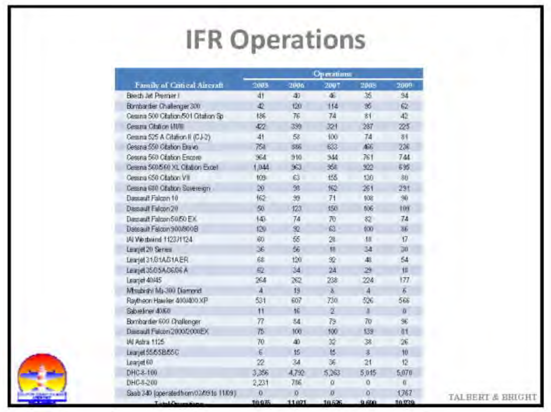
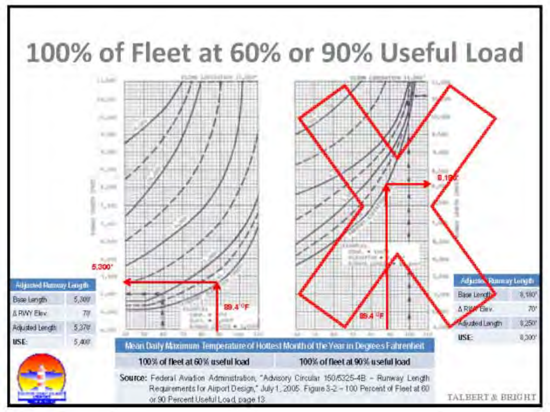


Exhibit B.3 Master Plan Status Update – May 19, 2010









Selected Runway Length

The selected runway length is 5,400 feet (Figure 3-2 for 100 Percent of the Fleet at 60 Percent Load).

This length will satisfy FAA's mandatory design requirements.

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Runway Alternatives Analysis

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Existing 4,300' Runway (Configuration in Compliance)

- Extend Runway 03 RSA –
  - Purchase of property and construct RSA
    or
  - Installation of EMAS
- Removal of displaced thresholds on both ends of runway
- Relocation of Taxiway "A" from 200' to 300' from runway centerline
- Limited improvement to runway performance capability

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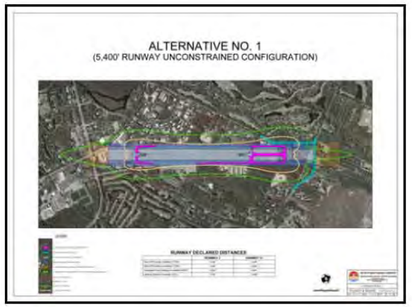

Definition of Terms

- **Runway Safety Area (RSA)** – the surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway
- **Runway Protection Zone (RPZ)** – trapezoidal in shape and centered about the extended runway centerline
- **Obstacle Free Area (OFA)** – a two-dimensional ground area surrounding runways, taxiways, and taxilanes, which are clear of objects except for whose location is fixes by function
- **Engineered Material Arresting Systems (EMAS)** – a bed of lightweight, crushable concrete built at the end of a runway
- **Decibel A** – weighted filter (dBA) is decibel rating commonly used for noise measurement that takes into consideration the human ear's sensitivity to certain frequencies.
- **Yearly Day-Night Average Sound Levels (LDN)** – a day-night (sound) level that recognizes the added impact of nighttime noise. It is a 24 hour average noise level based on A-weighting with 10 dBA added between the hours of 10:00 p.m. to 7:00 a.m. LDN is expressed visually via contour lines in 5 LDN increments
- **65 LDN** – FAA's lower limit for defining significant noise impact on people

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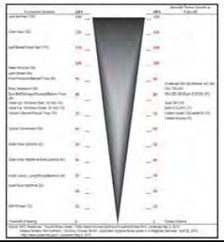
Common Sound Levels



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Alternative No. 1 (5,400' Runway Unconstrained Configuration)

- Relocation of Beach City Road, Fish Haul Road, and Dillon Road
  - Purchase of 21 parcels or portions of parcels
- Relocation of St. James Baptist Church
- Additional tree clearing for approaches

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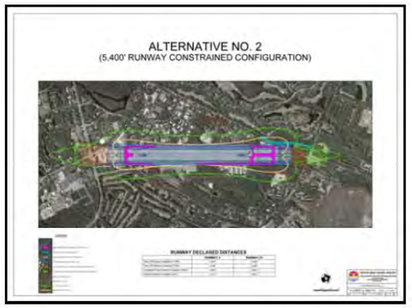
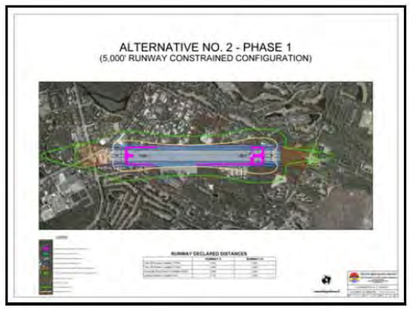




Alternative No. 2 (5,400' Runway Constrained Configuration)

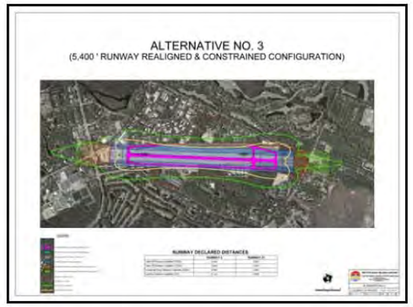
Phase I – 5,000' Runway

- Construction of EMAS' on both ends of the new runway
- Landing thresholds will be located to match the current tree clearing project
- Operational weight restrictions on certain aircraft

Phase II – 5,400' Runway

- Relocation of Beach City Road
  - Purchase of 5 parcels or portions of parcels

TALBERT & BRIGHT



Alternative No. 3 (5,400' Runway Realigned and Constrained Configuration)

- Construction of new runway and taxiway system
- Construction of EMAS' on both ends of the new runway
- Relocation of Air Traffic Control Tower (ATCT)
- Relocation of Aircraft Rescue and Fire Fighting (ARFF) building currently under construction
- Purchase of property including Exec Air
- Additional tree clearing in approaches

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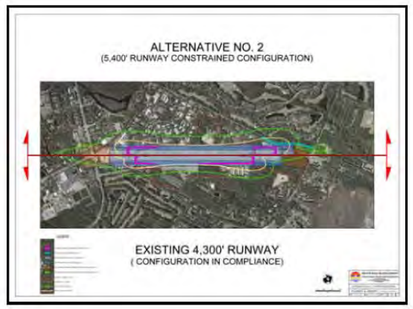

Recommended Runway Alternative

For the purposes of the 20-year Master Plan the recommended runway alternative is Alternative 2.

This alternative meets the short-term and future aviation demand for HXD and occurs predominantly on airport property.

TALBERT & BRIGHT

Recommended Runway Alternative Alternative No. 2 (5,400' Runway Constrained Configuration)

Phase I – 5,000' Runway

- Construction of EMAS' on both ends of the new runway
- Landing thresholds will be located to match the current tree clearing project
- Operational weight restrictions on certain aircraft

Phase II – 5,400' Runway

- Relocation of Beach City Road
  - Purchase of 5 parcels or portions of parcels

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Three Questions

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Three Questions (Tasks)

1. Utilization of the airport for emergency response services
   Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.

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Utilization of the Airport for Emergency Response Services (as of May 19, 2010)

- Current airport facilities are sufficient for emergency evacuation and recovery as demonstrated by the Vigilant Guard exercise in 2008
- Recommended improvements:
  - Outline specific role of the airport facilities for both evacuation and recovery in the County and Town's Disaster Plans

TALBERT & BRIGHT

Three Questions (Tasks)

1. Utilization of the airport for emergency response services
   Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.
2. Future of commercial air service
   Verify that existing airport facilities are adequate for viable commercial service to the Atlanta and Charlotte hubs and
   (A) identify any possible risks to viability, along with the earliest time the risk to service might occur, and
   (B) recommend improvements and alternatives.

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Future of Commercial Air Service (as of May 19, 2010)

- Existing commercial service:
  - Viable but restricted
  - Restrictions are runway length, obstructions (trees)
  - Piedmont Airlines
    - Current – De Havilland DHC 8-100/Bombardier Dash 8 (Q200)
  - Mesaba Airlines
    - Current – Saab 340
  - Earliest risk could occur in 2011 if the Saab 340 is phased out by Mesaba Airlines
- Airlines serve communities based on demand and profitability
- Improvements
  - Property acquisition
  - Remove trees
  - Lengthen runway
  - Associated airfield improvements (e.g., taxiway)
  - Road relocation

TALBERT & BRIGHT

Three Questions (Tasks)

1. Utilization of the airport for emergency response services
   Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.
2. Future of commercial air service
   Verify that existing airport facilities are adequate for viable commercial service to the Atlanta and Charlotte hubs and
   (A) identify any possible risks to viability, along with the earliest time the risk to service might occur, and
   (B) recommend improvements and alternatives.
3. Future development of land and facilities
   (A) Determine what limitations current airport property size and configuration place on airport operations and safety.
   (B) Determine the impacts of those limitations on people and surrounding property, if the current airport property is to be used to its full potential.

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Exhibit B.4 Master Plan Status Update – July 12, 2010

Future Development of Land and Facilities
(as of May 19, 2010)

- The current size and configuration causes weight restrictions to be placed on aircraft
- Portions airfield geometry are non-standard
- Additional property needed for future development
- Impacts:
  - Planes cannot fly fully loaded with cargo and passengers
  - Additional aircraft operations required to fly an equal number of people
  - Limits the amount of development potential for support facilities on airport (e.g., hangars)

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Relocation of Hilton Head Island Airport (HXD)

- FAA has stated that they will not participate in the relocation of HXD
- No air transportation would be available for emergency evacuation and recovery if an airport is not located on Hilton Head Island
- Relocation of HXD would be a 10-20 year process
- Estimate of cost for a relocation of an airport comparable to HXD would exceed several hundred million dollars

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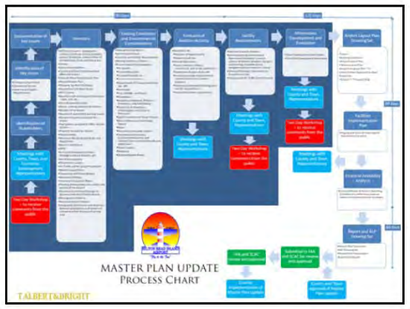
Where Do We Go From Here

TALBERT & BRIGHT



Next Steps

- Public Meeting at Hilton Head Island Library, 11 Beach City Road
  - May 24, 2010 from 1:00 p.m. to 7:00 p.m.
  - May 25, 2010 from 9:00 a.m. to 3:00 p.m.
- Development costs and phasing of 20-year program
- Preparation of ALP drawing set and Master Plan Report

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Hilton Head Island Airport Master Plan Update

Presentation to the Joint Meeting of
Beaufort County Council and
Hilton Head Island Town Council
July 12, 2010

TALBERT & BRIGHT

Review of May 19, 2010 Presentation

TALBERT & BRIGHT

Determination of Runway Length

For the planning purposes of the Master Plan update, the FAA procedures for determining the recommended runway length for the airplanes operating at HXD that will require the longest runway length were used. In accordance with the "Procedure and Rationale for Determining Recommended Runway Lengths" on page 2 of FAA Advisory Circular 150/5325-4B," Step #2" requires *"Identify the airplanes that will require the longest runway lengths at maximum certificated takeoff weight (MTOW). This will be used to determine the method for establishing the recommended runway length. Except for regional jets, when the MTOW of listed airplanes is 60,000 pounds (27,200 kg) or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights."* Following the steps in FAA Advisory Circular 150/5325-4B, Figure 3-2 was then used to determine a recommended runway length of 8,400 feet with the family of aircraft operating at 60 percent useful load.

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Determination of Runway Length

- The length of runway required for the family of aircraft is based on maximum takeoff weight, in accordance with FAA Advisory Circular 150/5325-4B
- This runway length will accommodate private and commercial aircraft utilizing HXD now and for the term of the Master Plan

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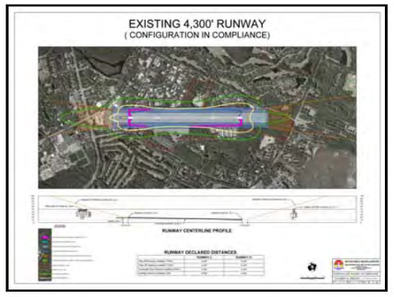

Existing 4,300' Runway (Configuration in Compliance)

- Extend Runway 03 RSA –
  - Purchase of property and construct RSA
    or
  - Installation of EMAS
- Removal of displaced thresholds on both ends of runway
- Relocation of Taxiway "A" from 200' to 300' from runway centerline
- Limited improvement to runway performance capability

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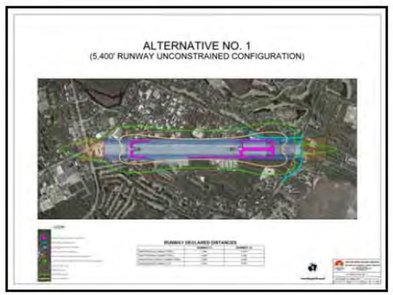


Alternative No. 1 (5,400' Runway Unconstrained Configuration)

- Relocation of Beach City Road, Fish Haul Road, and Dillon Road
  - Purchase of 21 parcels or portions of parcels
- Relocation of St. James Baptist Church
- Additional tree clearing for approaches

TALBERT & BRIGHT

Alternative No. 2 (5,400' Runway Constrained Configuration)

Phase I – 5,000' Runway

- Construction of EMAS' on both ends of the new runway
- Landing thresholds will be located to match the current tree clearing project
- Operational weight restrictions on certain aircraft

Phase II – 5,400' Runway

- Relocation of Beach City Road
  - Purchase of 5 parcels or portions of parcels

TALBERT & BRIGHT

Alternative No. 3 (5,400' Runway Realigned and Constrained Configuration)

- Construction of new runway and taxiway system
- Construction of EMAS' on both ends of the new runway
- Relocation of Air Traffic Control Tower (ATCT)
- Relocation of Aircraft Rescue and Fire Fighting (ARFF) building currently under construction
- Purchase of property including Exec Air
- Additional tree clearing in approaches

TALBERT & BRIGHT

Recommended Runway Alternative

For the purposes of the 20-year Master Plan the recommended runway alternative is Alternative 2

This alternative meets the short-term and future aviation demand at HXD for the term of the master planning period and occurs predominantly on airport property

TALBERT & BRIGHT

Exhibit B.5 Responses to Consolidated List of Questions – June 30, 2010

This document was prepared as a response to questions received from Beaufort County as a Consolidated Question List (received June 7, 2010), as well as two additional questions (received June 16, 2010). The consolidated list contained nine pages, 60 questions, three figures, and two tables.

As Talbert & Bright, Inc. was instructed, this document is being transmitted to Gary Kubic (County Administrator) and Paul Andres (Airport Director) on June 30, 2010, via e-mail for their distribution to the appropriate parties prior to the joint meeting of Councils to be held at 4:00 p.m. on July 12, 2010, at the Hilton Head Island High School. A hard copy of this document and an electronic diskette of the comment forms received from the public during the past 12 months are being transmitted overnight for delivery on July 1, 2010, to Gary Kubic (County Administrator) and Paul Andres (Airport Director).

As part of the Master Planning process, TBI has received 1,356 comment forms containing 109 questions from the public as a result of the public comment meetings over the past 12 months. TBI is in the process of consolidating, categorizing, and answering these questions. When completed, the answers to the questions will be transmitted to Gary Kubic (County Administrator) and Paul Andres (Airport Director) no later than July 6, 2010, and included as an appendix of the Final Master Plan Report.

Contained in this document are answers to the questions received from Beaufort County as a Consolidated Question List (received June 7, 2010), as well as two additional questions (received June 16, 2010); however, because the study is not complete responses to the questions are subject to the following conditions:

1. The answers given today are subject to change as additional analysis is performed and the study is completed
2. Some questions cannot be answered as the pertinent portions of the study have not been completed
3. Some information requested is outside of the scope of the study
4. Some questions need clarification

As of today's date, the study is approximately 75 percent complete and is expected to be finished within the next four months. TBI is currently at the alternatives analysis phase of the 20-year Master Plan, and the development costs, financial considerations, and Airport Layout Plan drawing set, as well as other items, remain to be completed.

The answers to the questions referenced above are provided below.

A – Near-Term Tree-Trimming-Cutting Issues

1. *Since the trimming-cutting is to commence in the near future, are there any changes that should be considered that would be cost effective for reconfiguring the runway?*

The Master Plan update assumes that the tree-clearing project will be completed. All alternatives proposed in the Master Plan update are developed based on this assumption.

B - Commercial Service Issues

1. *Once the presently planned tree trimming-cutting operations are accomplished, what are the runway length requirements for short haul service to/from Charlotte for: DHC 8-100, DASH 8 Q-200, DASH 8-Q300, DASH 8-Q400, and to/from Atlanta for: SAAB 340?*

The runway length required for each of these aircraft to Charlotte and Atlanta depends on the preferred useful load for each aircraft. Once the tree-clearing project is completed, 4,300 feet of runway length will be available for use. Since 4,300 feet of runway length at HXD may require some of these aircraft to operate at restricted loads, this will require each airline to determine the maximum weight each aircraft can accommodate for these flights. For the purposes of this Master Plan, TBI utilized maximum takeoff weight for determining runway lengths for specific aircraft in accordance with FAA Advisory Circular 150/5325-4B, as listed below:

Aircraft	Maximum Takeoff Weight Length
De Havilland DHC 8-100	3,500'
Bombardier DASH 8-Q200	3,600'
Bombardier DASH 8-Q300	4,500'
Bombardier DASH 8-Q400	5,200'
SAAB 340	4,800'

2. *What aircraft are expected to be available for short range Commercial Service in the next 10-15 years and which would be weight limited by summer temperatures and either a 5,001 or 5,400 foot Runway?*

Based on information provided by Delta Airlines, it is anticipated that the Canadair CRJ 200 and/or 700 are expected to be available for short-range commercial service at HXD in the next 10 to 15 years. Based on information provided by US Airways, it is anticipated that the Bombardier Q400 is expected to be available for short-range commercial service at HXD in the next 10 to 15 years. Based on current information provided by aircraft manufacturers, these aircraft will be weight limited by summer temperatures at a 5,000-foot runway. For the 5,400-foot runway, the Canadair CRJ 200 and 700 would be weight limited by summer temperatures.

Aircraft	Maximum Takeoff Weight Length
Bombardier DASH 8-Q400	5,200'
Canadair CRJ/200	5,600'
Canadair CRJ/700	5,500'

3. *Will we request positions from Delta and US Air on the impact on their operations of a 5,001 vs. 5,400 foot Runway and, if so, when?*

A letter has been sent by e-mail to the airlines, and their response, if provided, will be included in the study.

C - Private Aircraft Issues

1. *Which aircraft are weight restricted at 5,001 Feet and 700 Nautical Miles (100% of the Haul Lengths which includes Chicago {685 NM/60 Flights} & New York {625 NM & 140 Flights}) during 1 -July and 2 -April for the following aircraft groups?*
   - *75% of the Fleet (Table 3-1 of AC)*
   - *25% of the Fleet Remaining (Table 3-2 of AC)*
   - *'09 IFR Operations not included in the 75% & 25% of the Fleet above (if any)*
   - *Business Jets in Production and Development not in the above Fleet & IFR above, but excluding:*
     Gulfstream G450, G500. G550 & G650
     Bombardier CL605, CL850, G5000 & GEX
     Dessault F7X, F90DX & F90LX
     Embraer L1000

For the planning purposes of the Master Plan update, the FAA procedures for determining the recommended runway length for the airplanes operating at HXD that will require the longest runway length were used. In accordance with the "Procedure and Rationale for Determining Recommended Runway Lengths" on page 2 of FAA Advisory Circular 150/5325-4B," Step #2 requires "*Identify the airplanes that will require the longest runway lengths at maximum certificated takeoff weight (MTOW). This will be used to determine the method for establishing the recommended runway length. Except for regional jets, when the MTOW of listed airplanes is 60,000 pounds (27,200 kg) or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights.*" Following the steps in FAA Advisory Circular 150/5325-4B, Figure 3-2 was then used to determine a recommended runway length of 5,400 feet with the family of aircraft operating at 60 percent useful load.

The following aircraft (from Tables 3-1 and 3-2 of FAA Advisory Circular 150/5325-4B and 2009 IFR data) are weight restricted at 5,000 feet using maximum takeoff weight.

Aircraft	Maximum Takeoff Weight Length
Aero L-39 Albatross	6,000'
Aircraft Industries (IAI) Jet Commander 1121	5,400'
Bae 125-700	5,577'
Bae Corporate 800/1000	6,300'
Bombardier 600 Challenger	5,840'
Bombardier 601/601-3A/3ER Challenger	6,200'
Bombardier 604 Challenger	5,702'
Bombardier Challenger 600	6,305'
Bombardier Learjet 35	6,300'
Bombardier Learjet 55	5,450'
Bombardier Learjet 60	5,450'
Cessna 650 Citation III/IV	5,170'
Cessna 650 Citation VII	5,170'
Cessna 750 Citation X	5,140'
Cessna Citation 1	5,140'
Cessna Citation I/II/III	5,630'
Dassault Falcon 20	5,200'
Dassault Falcon 2000	5,872'
Dassault Falcon 2000/2000EX	5,585'
Dassault Falcon 900	5,194'
Dassault Falcon 900/900B	5,194'
Dassault Falcon 900C/900EX	5,216'
Embraer ERJ-135	5,413'
Gulfstream G-150	5,250'
Gulfstream G-II	5,500'
Gulfstream G-IV	5,700'
Gulfstream G-V	5,934'
Hawker Siddeley HS25	6,900'
Hawker Siddeley HS25B	6,900'
IAI Galaxy 1126	5,500'
IAI Westwind 1123/1124	5,400'
Learjet 35/35A/36/36A	6,300'
Learjet 45 XR	5,059'
Learjet 55/55B/55C	5,450'
Learjet 60	5,450'
Mitsubishi Mu-300 Diamond	5,050'
Raytheon Hawker 600	5,200'
Raytheon/Hawker 800/800 XP	5,200'
Sabreliner 65/75	5,500'

2. *From the list of weight limited aircraft identified in Question 1 above, what was the number of operations in '09 for each aircraft by month, highlighting which operations by month would be potentially weigh restricted (5,001 & 700 NM)?*

Of the aircraft listed in answer to C.1, the following IFR operations were recorded at HXD in 2009.

Aircraft	Month												Total
	J	F	M	A	M	J	J	A	S	O	N	D	
Aero L-39 Albatross	1	0	3	0	1	0	0	0	0	0	0	0	5
Bombardier Challenger 600	0	0	6	0	6	14	26	18	12	10	2	2	96
Bombardier Learjet 35	0	0	2	2	2	4	2	0	2	2	0	2	18
Bombardier Learjet 55	0	0	0	2	0	4	0	0	0	4	0	0	10
Bombardier Learjet 60	2	0	0	2	4	0	0	0	0	4	0	0	12
Cessna Citation 1	4	0	0	6	0	2	8	0	2	3	1	0	26
Dassault Falcon 20	6	2	2	30	4	10	8	14	12	10	2	9	109
Dassault Falcon 2000	6	6	10	17	8	4	2	2	12	4	8	2	81
Dassault Falcon 900	6	4	2	6	6	8	18	4	12	4	14	2	86
Embraer ERJ-135	0	0	0	0	0	0	0	2	0	0	0	0	2
Gulfstream G-150	0	0	2	0	2	0	0	0	0	0	0	0	4
Gulfstream G-II	0	0	0	0	0	0	0	0	2	0	0	0	2
Gulfstream G-IV	2	2	2	6	11	2	0	0	4	2	0	3	34
Gulfstream G-V	0	0	0	2	2	0	0	0	2	0	0	0	6
Hawker Siddeley HS25	0	0	0	0	0	4	3	0	0	0	0	0	7
Hawker Siddeley HS25B	3	5	9	6	20	9	4	13	6	8	0	3	86
IAI Westwind 1124	0	0	3	0	2	0	6	4	0	1	1	0	17

3. *From the list of potentially weight restricted operations identified in Question 2 above, and review of the destinations, which actual operations would probably have still been restricted at 5,001 feet?*

Based on FAA Advisory Circular 150/5325-4B, the length of the runway required for the family of aircraft is based on maximum takeoff weight.

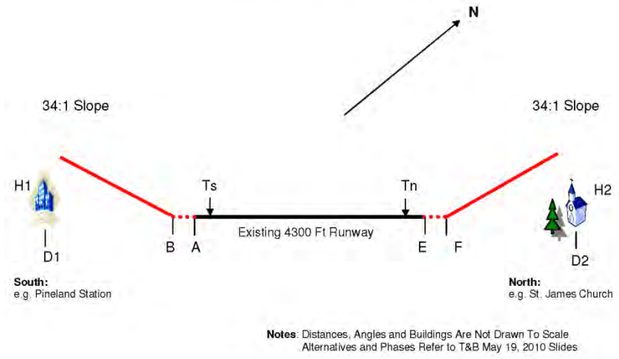
4. *From the list of actual operations identified on Question 3 above, what are the pros and cons (including Cost and Noise) of extending the Runway from 5,001 to 5,400 feet?*

	5,000 Feet	5,400 Feet
Cost		20% more than 5,000-foot runway
Noise	Four additional properties impacted by 65 DNL	Six additional properties impacted by 65 DNL
Aircraft Affected	39 weight restricted, based on Tables 3-1 and 3-2 of FAA Advisory Circular 150/5325-4B and 2009 IFR data	23 weight restricted, based on Tables 3-1 and 3-2 of FAA Advisory Circular 150/5325-4B and 2009 IFR data

D - <u>Runway Length, Plan Description and Glide Slope Issues</u>
***General Comments for Questions 1-3**: We have studied the T&B handout slides and material on the web and find that they do not convey enough detail to clearly define the size of airport additions recommended at each end, the location of key runway sections, the distances to key buildings, or answer the vertical issue questions that have been previously asked. In addition, we have spoken with residents who went to the public comment sessions and find contradictions in their understanding of the verbal information they are returning with. It is clear from this, that more written detail of the plans, dimensions and clearance data is needed. Questions 1-3 and the accompanying Figures 1-3 are designed to accomplish this, and present a precise picture of the dimensions and plans being recommended. In addition, Tables 1 and 2 are designed to summarize this information and show how it changes over the various phases. Please make any changes in the Figures and Tables needed to more clearly and specifically show your answers.*

1. *Figure 1 represents the present 4300 ft runway at the airport, assuming that all the currently planned tree trimming-cutting work is completed and the 34:1 glide slopes are implemented at both ends.*
   a. *Is length AE 4300 Ft? If not, specify its length and why different.*

Figure 1: Present Situation - After Tree Work
Questions on Vertical Clearances



Yes.

   b. *Indicate the length of unpaved areas at each end, and the length from the end of each to the end of airport property.*

The length of the unpaved areas at each end of the runway is:

- Runway 03 End 897 feet
- Runway 21 End 1,000 feet

The length of the unpaved areas at each end of the runway to the airport property is:

- Runway 03 End 897 feet

- Runway 21 End 1,716 feet

c. In determining where the runway starts for the purpose of calculating glide slope clearances, what are the additional lengths added (AB and EF) at each end (200 ft?)

The glide slope starts 200 feet from the landing threshold, as shown on TBI Figure 2 of 4.

d. Tn and Ts represent displaced thresholds at the North and South ends, respectively. Please indicate their length in from ends A and E, if used.

Once the trees have been cleared, the displaced thresholds will be removed.

e. Indicate how these displaced thresholds come into play in calculating landing and takeoff lengths in each direction, and glide slope distances and locations at each end.

There will be no displaced thresholds once the trees are removed from the 4,300-foot runway. After the trees are removed, 4,300 feet will be available for landing and takeoff in each direction. The glide slope distance from each runway end will be 200 feet.

f. Indicate the glide slopes on the diagram, including their starting location.

Refer to TBI Figure 2 of 4.

g. What are the critical vertical obstacles at each end of the runway? What are their distances D1 from end A and D2 from end E? What are their heights H1 and H2? How much clearance do they have below the glide slope at each end? Will the St. James steeple or Pineland Station pose an intrusion problem?

Pineland Station is 1,757 feet from the Runway 03 end and is 31 feet high. Once the trees are cut and the displaced thresholds removed, the clearance above Pineland Station will be 20.7 feet; therefore, there will be no intrusion problem at Pineland Station. The St. James Baptist Church is 1,956 feet from the Runway 21 end and is 39.1 feet high. Once the trees are cut and the displaced thresholds removed, the clearance from the glide slope will be 12.5 feet above St. James Baptist Church. There will be no intrusion problems at St. James Baptist Church.

h. Will any additional trees, beyond those currently planned (or ongoing maintenance trimming) need to be trimmed-cut to support the answers above?

After both approaches are properly cleared, maintenance trimming of the approaches will be required.

i. Describe any FAA waivers or deviations from generally accepted rules required in the present case.

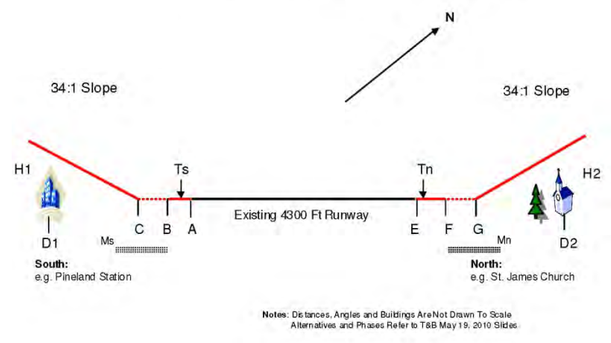
The only modification to design standards shown on the current Airport Layout Plan (prepared by Wilbur Smith Associates, dated June 2000) is the separation between Runway 03/21 and Taxiway 'A.' The Master Plan Update recommends bringing the Runway 03/21/Taxiway 'A' separation into compliance with FAA design standards.

j. Please indicate other descriptive dimensions. (e.g. for runway areas currently not shown in the Figures, such as buffers, blast pads, etc.)

Refer to TBI Figure 2 of 4 and Table A – Key Dimensions Table on page B-28.

2. Figure 2 represents Alternative 2, Phase I (5000 Ft)1. AE represents the existing 4300 Ft runway described in Question 1:
a. What is the number of feet of runway AB and EF to be added at each end?

Figure 2: 5000 Foot Plan - Alternative 2, Phase I
Questions on Vertical Clearances
Resulting From Plans Shown in MP Readout May 19, 2010



Phase 1 of Alternative 2 will require the following:

- Runway 03 End 297 feet
- Runway 21 End 403 feet

b. If the length BF is not 5000 Ft, specify its length and why different.

Phase 1 of Alternative 2 is 5,000 feet.

1 The * symbol in various questions means: "assuming that all the currently planned (as of 6/1/10) tree trimming-cutting work is completed."

c. Indicate the lengths of EMAS (B-Ms) at the South and (F-Mn) at the North end.

The length of the EMAS at each end of the runway is:

- Runway 03 End 450 feet
- Runway 21 End 450 feet

The length of the EMAS (450 feet) is an estimate and will be determined by the EMAS manufacturer.

d. Indicate the length of unpaved areas (from outer end of EMAS) at each end to the end of the airport property.

The distance from the end of the proposed EMAS to the airport property line is:

- Runway 03 End 150 feet
- Runway 21 End 863 feet

e. In determining where the runway starts for the purpose of calculating glide slope clearances, what are the additional lengths added (BC and FG) at each end (200 ft?)

The glide slope starts 200 feet from the landing threshold, as shown on TBI Figure 4 of 4.

f. Tn and Ts represent displaced thresholds at the North and South ends, respectively. Please indicate their length in from ends B and F, if used.

The displaced thresholds for Phase 1 of Alternative 2 are:

- Runway 03 End 297 feet
- Runway 21 End 403 feet

g. Indicate how these displaced thresholds come into play in calculating landing and takeoff lengths in each direction, and glide slope distances and locations at each end.

Takeoff lengths for Phase I of Alternative 2 are:

- Runway 03 End 5,000 feet
- Runway 21 End 5,000 feet

Landing lengths for Phase I of Alternative 2 are:

- Runway 03 End 4,703 feet
- Runway 21 End 4,597 feet

The glide slope starts 200 feet from the landing threshold, as shown on TBI Figure 4 of 4.

h. Indicate the glide slopes on the diagram, including their starting location.

Refer to TBI Figure 4 of 4.

i. What are the critical vertical obstacles at each end of the runway? What are their distances D1 from end B and D2 from end F? What are their heights H1 and H2? How much clearance do they have below the glide slope at each end? Will the St. James steeple or Pineland Station pose an intrusion problem?

Pineland Station is 1,757 feet from the Runway 03 end and is 31 feet high. Once the trees are cut and the displaced thresholds removed, the clearance above Pineland Station will be 20.7 feet; therefore, there will be no intrusion problem at Pineland Station. The St. James Baptist Church is 1,956 feet from the Runway 21 end and is 39.1 feet high. Once the trees are cut and the displaced thresholds removed, the clearance from the glide slope will be 12.5 feet above St. James Baptist Church. There will be no intrusion problems at St. James Baptist Church.

j. Will any additional trees, beyond those presently planned (or beyond ongoing maintenance trimming) need to be trimmed-cut to support the answers for Alternative 2, Phase I above?*

After both approaches are properly cleared, maintenance trimming of the approaches will be required.

k. What is the impact of Alternative 2 on trees, as well as the protected wetlands and buffers in the recently approved Town LMO?

No additional tree removal is anticipated at this time, and wetlands impacts in the current Runway 21 end runway safety area (RSA) will be permitted in accordance with USACE regulations at the time the runway extension is designed. No impacts are anticipated at this time to the 75-foot buffer identified in the LMO.

l. Describe any FAA waivers or deviations from generally accepted rules required in this plan.

The only modification to design standards shown on the current Airport Layout Plan (prepared by Wilbur Smith Associates, dated June 2000) is the separation between Runway 03/21 and Taxiway 'A.' The Master Plan Update recommends bringing the Runway 03/21/Taxiway 'A' separation into compliance with FAA design standards.

m. Please indicate on Figure 2 where the EMAS is to be applied. Show dimensions and locations.

A 450-foot by 100-foot EMAS will be constructed at the Runway 03 end and Runway 21 end (refer to TBI Figure 4 of 4). The length of the EMAS (450 feet) is an estimate and will be determined by the EMAS manufacturer.

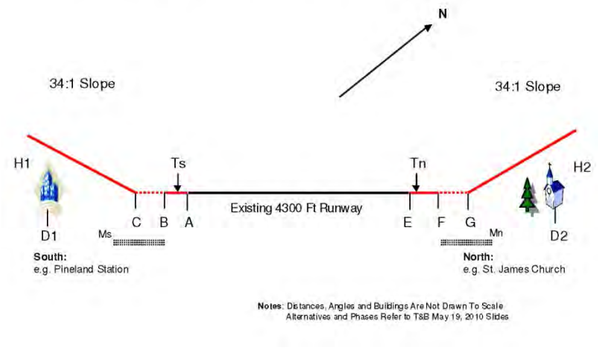
n. Please indicate other descriptive dimensions. (e.g. for runway areas currently not shown in the Figures, such as buffers, blast pads, etc.)

Refer to TBI Figure 4 of 4 and Table A – Key Dimensions Table on page B-28.

3. Please answer the same questions 2 a-n for the 5400 Ft Alternative 2, Phase II plan shown in Figure 3. (Note: All lengths are measured with respect to the original 4300 Ft length AE in Figure 1.)*

a. What is the number of feet of runway AB and EF to be added at each end?

Figure 3: 5000 Foot Plan - Alternative 2, Phase II
Questions on Vertical Clearances
Resulting From Plans Shown in MP Readout May 19, 2010



Phase 2 of Alternative 2 will require the following:

- Runway 03 End 297 feet
- Runway 21 End 803 feet

b. If the length BF is not 5400 Ft, specify its length and why different.

Phase 2 of Alternative 2 is 5,400 feet.

c. Indicate the lengths of EMAS (B-Ms) at the South and (F-Mn) at the North end.

The length of the EMAS at each end of the runway is:

- Runway 03 End 450 feet
- Runway 21 End 450 feet

The length of the EMAS (450 feet) is an estimate and will be determined by the EMAS manufacturer.

d. Indicate the length of unpaved areas (from outer end of EMAS) at each end to the end of the airport property.

The length of the unpaved areas from the end of the EMAS at each end of the runway is:

- Runway 03 End 150 feet
- Runway 21 End 463 feet

e. In determining where the runway starts for the purpose of calculating glide slope clearances, what are the additional lengths added (BC and FG) at each end (200 ft?)

The glide slope starts 200 feet from the landing threshold, as shown on TBI Figure 3 of 4.

f. Tn and Ts represent displaced thresholds at the North and South ends, respectively. Please indicate their length in from ends B and F, if used.

The displaced thresholds for Phase 2 of Alternative 2 are:

- Runway 03 End 297 feet
- Runway 21 End 803 feet

g. Indicate how these displaced thresholds come into play in calculating landing and takeoff lengths in each direction, and glide slope distances and locations at each end.

Takeoff lengths for Phase 2 of Alternative 2 are:

- Runway 03 End 5,400 feet
- Runway 21 End 5,400 feet

Landing lengths for Phase 2 of Alternative 2 are:

- Runway 03 End 5,103 feet
- Runway 21 End 4,597 feet

The glide slope starts 200 feet from the landing threshold, as shown on TBI Figure 3 of 4.

h. Indicate the glide slopes on the diagram, including their starting location.

Refer to TBI Figure 3 of 4.

i. What are the critical vertical obstacles at each end of the runway? What are their distances D1 from end B and D2 from end F? What are their heights H1 and H2? How much clearance do they have below the glide slope at each end? Will the St. James steeple or Pineland Station pose an intrusion problem?

Pineland Station is 1,757 feet from the Runway 03 end and is 31 feet high. Once the trees are cut and the displaced thresholds removed, the clearance above Pineland Station will be 20.7 feet; therefore, there will be no intrusion problem at pineland Station. The St. James Baptist Church is 1,956 feet from the Runway 21 end and is 39.1 feet high. Once the trees are cut and the displaced thresholds removed, the clearance from the glide slope will be 12.5 feet above St. James Baptist Church. There will be no intrusion problems at St. James Baptist Church.

j. Will any additional trees, beyond those presently planned (or beyond ongoing maintenance trimming) need to be trimmed-cut to support the answers for Alternative 2, Phase I above?*

After both approaches are properly cleared, maintenance trimming of the approaches will be required.

k. What is the impact of Alternative 2 on trees, as well as the protected wetlands and buffers in the recently approved Town LMO?

No additional tree removal is anticipated at this time, and wetlands impacts in the current Runway 21 end RSA will be permitted in accordance with USACE regulations at the time the runway extension is designed. The 75-foot buffer identified in the LMO along Beach City Road may be impacted by the proposed relocation of Beach City Road. Final design will determine the amount of impact, if any. If there are impacts, final design will incorporate areas to maintain a 75-foot buffer as required by the LMO.

l. Describe any FAA waivers or deviations from generally accepted rules required in this plan.

The only modification to design standards shown on the current Airport Layout Plan (prepared by Wilbur Smith Associates, dated June 2000) is the separation between Runway 03/21 and Taxiway 'A.' The Master Plan Update recommends bringing the Runway 03/21/Taxiway 'A' separation into compliance with FAA design standards.

m. Please indicate on Figure 2 where the EMAS is to be applied. Show dimensions and locations.

A 450-foot by 100-foot EMAS will be constructed at the Runway 03 end and Runway 21 end (refer to TBI Figure 3 of 4). The length of the EMAS (450 feet) is an estimate and will be determined by the EMAS manufacturer.

n. Please indicate other descriptive dimensions. (e.g. for runway areas currently not shown in the Figures, such as buffers, blast pads, etc.)

Refer to TBI Figure 3 of 4 and Table A – Key Dimensions Table on page B-28.

4. If displaced thresholds are used, what is to prevent aircraft from using the full runway length? By way of background, our experience with the use of published voluntary noise abatement routes, and airport operator/tower monitoring and feedback to improve compliance, is poor. What would make compliance in the use of displaced thresholds any better?

The displaced thresholds are in place for landing of aircraft. The approaches are cleared at 34:1 to these displaced thresholds for aircraft landing in either direction (refer to TBI Figure 3 of 4). Pilots not using these thresholds for landing may not have a 34:1 approach clearance. Visual approach aids will be installed to provide visual glide path guidance to pilots relative to the displaced thresholds.

5. If FAA waivers or deviations from standard glide slope procedures are used, what mechanisms are required to cause planes to use them and avoid hazards such as the Church steeple and Pineland Station? For example, during the day, how will planes be alerted as to where the glide slope starts, and how will this be enforced? At night, after the control tower is closed, how will this notification and enforcement occur?

HXD currently has visual approach aids. These visual approach aids will be incorporated as part of the runway extension project to provide glide path guidance for landing to pilots day or night. Special departure procedures will be developed as part of the runway extension project by the FAA Flight Procedures personnel, if required, to provide proper clearance over any critical objects. These special departure procedures will be published by the FAA and made available to pilots through standard aviation information distribution media.

6. Since Wilbur Smith (not T&B) performed a related study, and since Wilbur Smith is known to have made errors in previous calculations pertaining to glide slopes, how can we be certain that T&B has not relied on flawed data and that Alternative 2 will not pose a problem in that regard?

The decision was made by Beaufort County that TBI would be provided existing data developed by Wilbur Smith Associates and others. Up to this point in recommending Alternative 2, TBI has not relied on any data supplied by Wilbur Smith Associates (WSA); however, as directed by Beaufort County, TBI will be relying on information provided by the Airport developed by WSA regarding the tree and approach clearing. Unless TBI checks and verifies all data supplied, TBI cannot guarantee that this data is correct.

7. Mention of a Vertical Precision Approach has started to appear in airport discussions. What would be the impact on the glide slope, vertical clearances, and tree trimming-cutting if this were to occur?

From a planning standpoint, if the approaches are cleared to a 34:1 surface, additional tree trimming/cutting is not typically required for implementation of a precision approach.

8. Regarding Alternatives 2-I and 2-II, what are the advantages and disadvantages of a phased approach? Is there a strong argument to be made in favor of implementing Alternative 2 in one phase rather than two?

Two Phases for Runway Extension to 5,400 Feet

PROS:

- Does not require immediate land acquisition and road relocation for final phase to go to 5,400 feet.
- Provides ability to go to 5,000-foot runway length on currently owned airport property.
- Requires smaller FAA funding grant and local match.

CONS:

- Requires multiple impacts to airport operations each time phased construction is undertaken.
- Overall final cost is greater due to engineering costs required with each phase and, similarly, with construction costs required for each phase.
- Current airport users within family of aircraft representing 100 percent of the fleet operating at 60 percent useful load could still be required to operate at useful loads of less than 60 percent.

One Phase for Runway Extension to 5,400 Feet

PROS:

- Lower overall final cost for engineering and construction.
- Minimizes impacts to airport operations during construction.

- Current airport users within family of aircraft representing 100 percent of the fleet should be able to operate at 60 percent useful load year-round.

CONS:

- Requires additional land acquisition and road relocation to occur on or before runway extension construction begins.
- Requires larger FAA funding grant and local match.

E – Noise Related Issues

1. *What is the projected Noise impact on the St James Baptist Church of extending the runway from 4300 to 5000 feet in Alternative 2-I?*

The St. James Baptist Church will be located within the 60 DNL noise contour based on the current operations at HXD.

2. *Which buildings off airport property will be impacted by each phase of Alternative 2 and to what extent?*

The properties within the 65 DNL noise contour are commercial, aviation-related, or undeveloped land, which are considered compatible land uses in accordance with FAA requirements. The following property parcels would be impacted by Phase 1 (5,000 feet) of Alternative 2 and Phase 2 (5,400 feet) of Alternative 2 (refer to TBI Figures 3 of 4, and Figure 4 of 4).

Alternative 2 (TBI Figure 3 of 4) and Alternative 2 Phase 1 (TBI Figure 4 of 4)

Parcel #	Property Owner	Acreage	Use
ALTERNATIVE 2, PHASE 1			
R510 008 000 221A 0000	MSC Hilton Head LLC	2.34	warehouses
Billing Address:	9801 Independence Point Parkway		
	Matthews, NC 28105		
Location:	17 Dillon Road		
R510 004 000 0304 0000	CNL Income Palmetto LLC	479.5	recreation
Billing Address:	12750 High Bluff Drive, 4th Floor		
	San Diego, CA 92130		
Location:	19 Oglethorpe Lane		
R510 004 000 0300 0000	Hilton Head Island Land Trust Inc	4.12	reserved vacant
Billing Address:	P.O. Box 21058		
	Hilton Head Island, SC 29925		
Location:	Fort Howell Parcel		
R510 004 000 0328 0000	Hilton Head Island Land Trust Inc	1.42	access easement
Billing Address:	P.O. Box 21058		
	Hilton Head Island, SC 29925		
Location:	Beach City Road (Fort Howell)		
ALTERNATIVE 2, PHASE 2			
R510 005 000 0304 0000	Hilton Head Island Small Business Center	6.8	warehouse
Billing Address:	P.O. Box 8		
	Hilton Head Island, SC 29938		
Location:	159 Dillon Road		
R510 005 000 0278 0000	Palmetto Hall Plantation Home Owner's Association	10.16	recreation
Billing Address:	11 Palmetto Parkway Suite 204C		
	Hilton Head Island, SC 29928		
Location:	54 Tucker Ridge Court		

3. *What is the projected Noise impact on the St James Baptist Church of extending the runway from 5,001 to 5,400 feet on departures and arrivals for both northbound and southbound operations, and can a highway-type noise barrier be cost effectively employed at the North End, upon completion of the tree-trimming-cutting, to reduce Noise at the Church?*

The St. James Baptist Church will be located within the 60 DNL noise contour based on the current operations at HXD. From a planning standpoint, TBI would expect that noise barriers could be designed to reduce noise at specific locations around the Airport.

4. *Noting that the residential areas near the Airport are at the North End, can the South End of the Runway be reconfigured to employ an extended "Displaced Threshold" (with South End noise barrier) to minimize Noise at the North End.*

TBI has located the proposed end of Runway 03 as far south as possible to reduce the potential impact to the north end of the Airport.

5. *Are there any advantages to performing a noise study prior to the implementation of the tree trimming-cutting plan and/or the installation of noise barriers?*

Per FAA guidelines, the Airport has already performed a Part 150 Noise Compatibility Study (ESA Airports and Wilbur Smith Associates, "Hilton Head Island Airport FAR Part 150 Noise and Land Use Compatibility Study, Noise Exposure Maps and Noise Compatibility Program," prepared for Beaufort County and Hilton Head Island Airport, January 2008) and an Environmental Assessment for the Tree Clearing project (Wilbur Smith Associates in association with Ward Edwards, "Final Environmental Assessment for Removal of Tree Obstructions, Hilton Head Island Airport, Beaufort County, South Carolina," prepared for Beaufort County, South Carolina, January 2010. Record of Decision and Finding of No Significant Impact issued by the FAA on March 4, 2010).

6. *Assuming we move ahead with the tree-cutting plan, what is stopping us from designing and building noise mitigation barriers as soon as the tree-cutting is complete?*

Noise mitigation barriers could be designed and constructed before, during, and after tree cutting is complete. A decision would have to be made by FAA regarding FAA's funding participation in any noise mitigation barrier project.

7. *Would a noise study be required during the design phase of a noise mitigation barrier project?*

Per FAA guidelines, the Airport has already performed a Part 150 Noise Compatibility Study and an Environmental Assessment for the Tree Clearing project, as well as noise contour runs for the Master Plan Update. Further noise studies would not be required for the design and construction of a noise mitigation barrier; however, additional noise studies could be performed to determine noise levels before and after implementation of a noise barrier system.

F - Other Issues

1. *We have heard that several residents were told by T&B that they had conducted a passenger survey at the airport. Was there such a survey? Who conducted it? What were the results? What was the time period covered and what was the methodology?*

A passenger survey was conducted at the Hilton Head Island Airport between the dates of July 22-26, 2009. The surveys were taken for eight-hour periods over a five-day time frame by representatives of TBI at the commercial service terminal and the general aviation terminal. The results of the surveys taken are as follows:

Commercial Service Terminal	General Aviation Terminal
• Total Residents: 54 (16%)	• Personal: 19 (22%)
• Total Visitors: 292 (84%)	• Business: 36 (41%)
	• Golf/Beach Vacation: 25 (28%)
	• Military: 2 (2%)
	• Other: 6 (7%)

The surveys were taken to determine the type of traveler using the Airport and reasons for their visit and the type of aircraft landing at the Airport. Copies of the blank survey forms used are attached. All the results of the survey will be included in the Master Plan report.

2. *A detailed plan that would block the sound emitted by aircraft while on the ground and during takeoff. Such a plan should employ the latest technology to insure that any runway extension will not result in noise levels greater than we are now experiencing. Ideally, any new sound barriers will actually reduce noise from the current levels. We need to be assured this can be accomplished.*

Per FAA guidelines, the Airport has already performed a Part 150 Noise Compatibility Study and an Environmental Assessment for the Tree Clearing project, as well as noise contour runs for the Master Plan Update. Further noise studies would not be required for the design and construction of a noise mitigation barrier; however, additional noise studies could be performed to determine noise levels before and after implementation of a noise barrier system.

3. *Will the FAA examination of any request include a detailed financial cost/benefit analysis of a runway extension? We are proceeding on the assumption that the extension is worth the cost; not only to construct but also for the County to maintain. Given the sometimes confused state of the airport's finances, I suggest it might be prudent to be certain this extension makes financial sense. I suspect it does, but I am not aware of any firm data to support this investment.*

Requirements for a cost benefit analysis are determined by the FAA in accordance with the FAA Airport Benefit-Cost Analysis Guidance (December 15, 1999) and submitted during the federal grant application process.

HILTON HEAD ISLAND AIRPORT
PASSENGER SURVEY

Dear Air Traveler:

Please help us determine the need for future improvements at the Hilton Head Island Airport by answering the following questions:

1. Flight Number _____
2. Visitor to Hilton Head Area? _____
   Resident of Hilton Head Area? _____
3. What is/was your primary trip purpose? (Check one)
   a. Beach/Vacation _____ b. Business _____
   c. Golf/Vacation _____ d. Personal _____
   e. Military _____ f. Other _____
4. How did you get to the Hilton Head Island Airport for today's flight?
   a. Personal/Company Car _____ b. Rental Car _____
   c. Limousine Service _____ d. Taxi _____
   e. Courtesy Van _____ f. Other _____
5. Please give the city, town, county, or state from which you traveled to the Airport for today's flight
   _____
6. If you checked baggage, how many pieces did you check? _____
7. Did your checked baggage include a golf bag? Yes _____ No _____
8. If you came to the Hilton Head Island Airport in a personal or company car, did you park it in the public parking lot? Yes _____ No _____

The following questions are for visitors to the Hilton Head Area

9. How much money would you estimate that you spent in the Hilton Head Area on the following?

	TOTAL		DAILY	NO. OF PEOPLE
a. Hotel/Condominium/House	_____	or	_____	_____
b. Food/Beverages	_____	or	_____	_____
c. Recreation (golf, night clubs, etc.)	_____	or	_____	_____
d. Transportation	_____	or	_____	_____
Was vehicle a rental car?			Yes _____	No _____
e. Gifts/Souvenirs	_____	or	_____	_____
f. Other (please specify)	_____	or	_____	_____

10. How long was your stay in the area? Number of days _____

Please list any suggestions that you might have for improving airport facilities and/or passenger services on the back of this form.

Thank you for your help – Hilton Head Island Airport, Paul Andrea, Airport Director

HILTON HEAD ISLAND AIRPORT
GENERAL AVIATION SURVEY

Dear Pilot/Air Traveler:

Please help us determine the need for future improvements at the Hilton Head Island Airport by answering the following questions:

1. Date _____ 2. Time _____
   Weather _____

3. Type of Aircraft? _____

4. Transient or Local? _____

5. Home Base (Local) _____
   Home Location (Transient) _____

6. How often do you land at Hilton Head Island Airport per year? _____

7. How often do you land IFR at Hilton Head Island Airport per year? _____

8. Local destination (if transient)? _____

9. Number of aircraft occupants? _____

10. Do you utilize other area airports? _____
    How often? _____

11. What is/was your primary trip purpose? (Check one)
    a. Beach/Vacation _____ b. Business _____
    c. Golf/Vacation _____ d. Personal _____
    e. Military _____ f. Other _____

The following questions are for visitors to the Hilton Head Area

12. How much money would you estimate that you spent in the Hilton Head Area on the following?

	TOTAL		DAILY	NO. OF PEOPLE
a. Hotel/Condominium/House	_____	or	_____	_____
b. Food/Beverages	_____	or	_____	_____
c. Recreation (golf, night clubs, etc.)	_____	or	_____	_____
d. Transportation	_____	or	_____	_____
Was vehicle a rental car?			Yes _____	No _____
e. Gifts/Souvenirs	_____	or	_____	_____
f. Other (please specify)	_____	or	_____	_____

Please list any suggestions that you might have for improving airport facilities and/or passenger services on the back of this form.

Thank you for your help – Hilton Head Island Airport, Paul Andres, Airport Director

Table A
Key Runway Dimensions

	Existing Runway	Existing Runway In Compliance	Alternative No. 2	Alternative No. 2 Phase-1
Runway Dimensions				
Length	4,300'	4,300'	5,400'	5,000'
Width	100'	100'	100'	100'
Displaced Threshold				
Runway 03 End	300'	0'	297'	297'
Runway 21 End	300'	0'	803'	403'
EMAS (450' x 100')				
Runway 03 End	No	Yes	Yes	Yes
Runway 21 End	No	No	Yes	Yes
Runway Safety Area (RSA)				
Length	6,300' (Required) 6,197' (Actual)	5,900'	6,600'	6,200'
Width	400'	400'	400'	400'
Obstacle Free Area (OFA)				
Length	6,300' (Required) 6,197' (Actual)	5,900'	6,600'	6,200'
Width	800'	800'	800'	800'
Approach Runway Protection Zone (RPZ)				
Runway 03 End				
Length	1,700'	1,700'	1,700'	1,700'
Inner Width	500'	500'	500'	500'
Outer Width	1,010'	1,010'	1,010'	1,010'
Runway 21 End				
Length	1,700'	1,700'	1,700'	1,700'
Inner Width	500'	500'	500'	500'
Outer Width	1,010'	1,010'	1,010'	1,010'
Departure Runway Protection Zone (DRPZ)				
Runway 03 End				
Length	1,700'	1,700'	1,700'	1,700'
Inner Width	500'	500'	500'	500'
Outer Width	1,010'	1,010'	1,010'	1,010'
Runway 21 End				
Length	1,700'	1,700'	1,700'	1,700'
Inner Width	500'	500'	500'	500'
Outer Width	1,010'	1,010'	1,010'	1,010'
Runway Approach Surface 34:1				
Runway 03 End				
Length	10,000'	10,000'	10,000'	10,000'
Inner Width	500'	500'	500'	500'
Outer Width	3,500'	3,500'	3,500'	3,500'
Runway 21 End				
Length	10,000'	10,000'	10,000'	10,000'
Inner Width	500'	500'	500'	500'
Outer Width	3,500'	3,500'	3,500'	3,500'

Table A
Key Runway Dimensions

	Existing Runway	Existing Runway In Compliance	Alternative No. 2	Alternative No. 2 Phase-1
Departure Obstacle Clearance Surface (OCS) 40:1				
Runway 03 End				
Length	12,152' (2 NM)	12,152' (2 NM)	12,152' (2 NM)	12,152' (2 NM)
Inner Width	500'	500'	500'	500'
Outer Width	7,012'	7,012'	7,012'	7,012'
Runway 21 End				
Length	12,152' (2 NM)	12,152' (2 NM)	12,152' (2 NM)	12,152' (2 NM)
Inner Width	500'	500'	500'	500'
Outer Width	7,012'	7,012'	7,012'	7,012'
Runway Declared Distances				
Takeoff Runway Available (TORA)				
Runway 03 End	4,300'	4,300'	5,400'	5,000'
Runway 21 End	4,300'	4,300'	5,400'	5,000'
Takeoff Distance Available (TODA)				
Runway 03 End	4,300'	4,300'	5,400'	5,000'
Runway 21 End	4,300'	4,300'	5,400'	5,000'
Accelerate Stop Distance Available (ASDA)				
Runway 03 End	4,300'	4,300'	5,400'	5,000'
Runway 21 End	4,197'	4,300'	5,400'	5,000'
Landing Distance Available (LDA)				
Runway 03 End	4,000'	4,300'	5,103'	4,703'
Runway 21 End	3,897'	4,300'	4,597'	4,597'

Table 1 – Summary of Dimensions in Various Phases

	South End (Runway 03)						Runway Length	North End (Runway 21)					
	Length Unpaved to Edge of Airport Property (1)	EMAS Length	Runway Extension	Displaced Threshold	Length of Runway Available for Takeoff to North	Length of Runway Available for Landing from South		Length Unpaved to Edge of Airport Property (1)	EMAS Length	Runway Extension	Displaced Threshold	Length of Runway Available for Takeoff to South	Length of Runway Available for Landing from North
Phase 0 – 0 Current Runway	897'	0'	0'	300'	4,300'	4,000'	4,300'	1,716'	0'	0'	300'	4,300'	3,897'
Phase 0 – I Current Runway after Trees Cut (with EMAS)	447'	450'	0'	0'	4,300'	4,300'	4,300'	1,716'	0'	0'	0'	4,300'	4,300'
Phase 0 – I Current Runway after Trees Cut	897'	0'	0'	0'	4,300'	4,300'	4,300'	1,716'	0'	0'	0'	4,300'	4,197'

Table 1 – Summary of Dimensions in Various Phases

	South End (Runway 03)						Runway Length	North End (Runway 21)					
	Length Unpaved to Edge of Airport Property (1)	EMAS Length	Runway Extension	Displaced Threshold	Length of Runway Available for Takeoff to North	Length of Runway Available for Landing from South		Length Unpaved to Edge of Airport Property (1)	EMAS Length	Runway Extension	Displaced Threshold	Length of Runway Available for Takeoff to South	Length of Runway Available for Landing from North
Phase 2 – I Proposed Expansion	150'	450'	297'	297'	5,000'	4,703"	5,000'	863'	450'	403'	403'	5,000'	4,597'
Phase 2 – II Proposed Expansion	150'	450'	297'	297'	5,400'	5,103'	5,400'	463'	450'	803'	803'	5,400'	4,597'

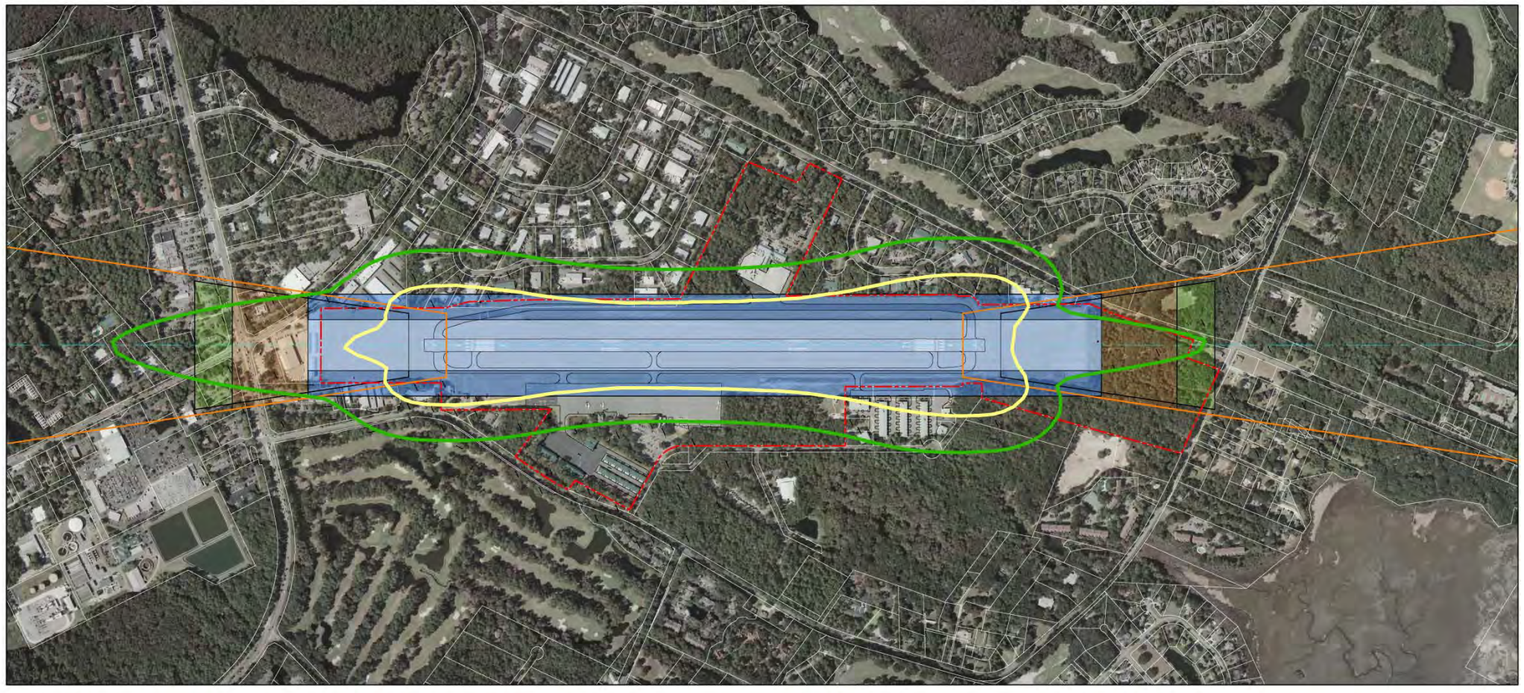
Note: Please identify any additional paved surfaces and their locations and sizes, e.g., buffers, blast pads, etc.
(1) Measured from outer end of EMAS

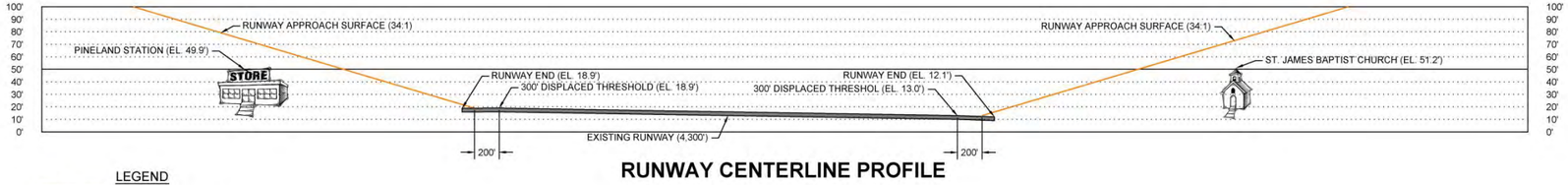
Table 2 – Summary of Vertical Clearances in Various Phases

	South End			North End		
	Distance D1 to Critical Obstacle	Height H1 of Critical Obstacle	Clearance from Glide Slope	Distance D2 to Critical Obstacle	Height H2 of Critical Obstacle	Clearance from Glide Slope
Phase 0 – 0 Current Runway*	2,057'	30.9'	23.7'	2,256'	38.2'	22.3'
Phase 0 – I Current Runway after Trees Cut**	1,757'	31.0'	20.7'	1,956'	39.1'	12.5'
Phase 2 – I Proposed Expansion*	1,757'	31.0'	20.7'	1,956'	39.1'	12.5'
Phase 2 – II Proposed Expansion*	1,757'	31.0'	20.7'	1,956'	39.1'	12.5'

Notes:
* - From end of displaced threshold
** - From end of runway
Runway 03 End threshold elevation = 18.9'
Runway 03 End displaced threshold elevation = 19.0'
Runway 21 End threshold elevation = 13.0'
Runway 21 End displaced threshold elevation = 13.0'
H1 – Pineland Station top elevation = 49.9'
H2 – St. James Baptist Church steeple elevation = 51.2'

EXISTING 4,300' RUNWAY
(CURRENT CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

- CURRENT RUNWAY SAFETY AREA (RSA)
- CURRENT OBJECT FREE AREA (OFA)
- CURRENT APPROACH RUNWAY PROTECTION ZONE (RPZ)
- CURRENT DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	4,300'	4,300'
Take Off Distance Available (TODA)	4,300'	4,300'
Accelerate Stop Distance Available (ASDA)	4,300'	4,197'
Landing Distance Available (LDA)	4,000'	3,897'

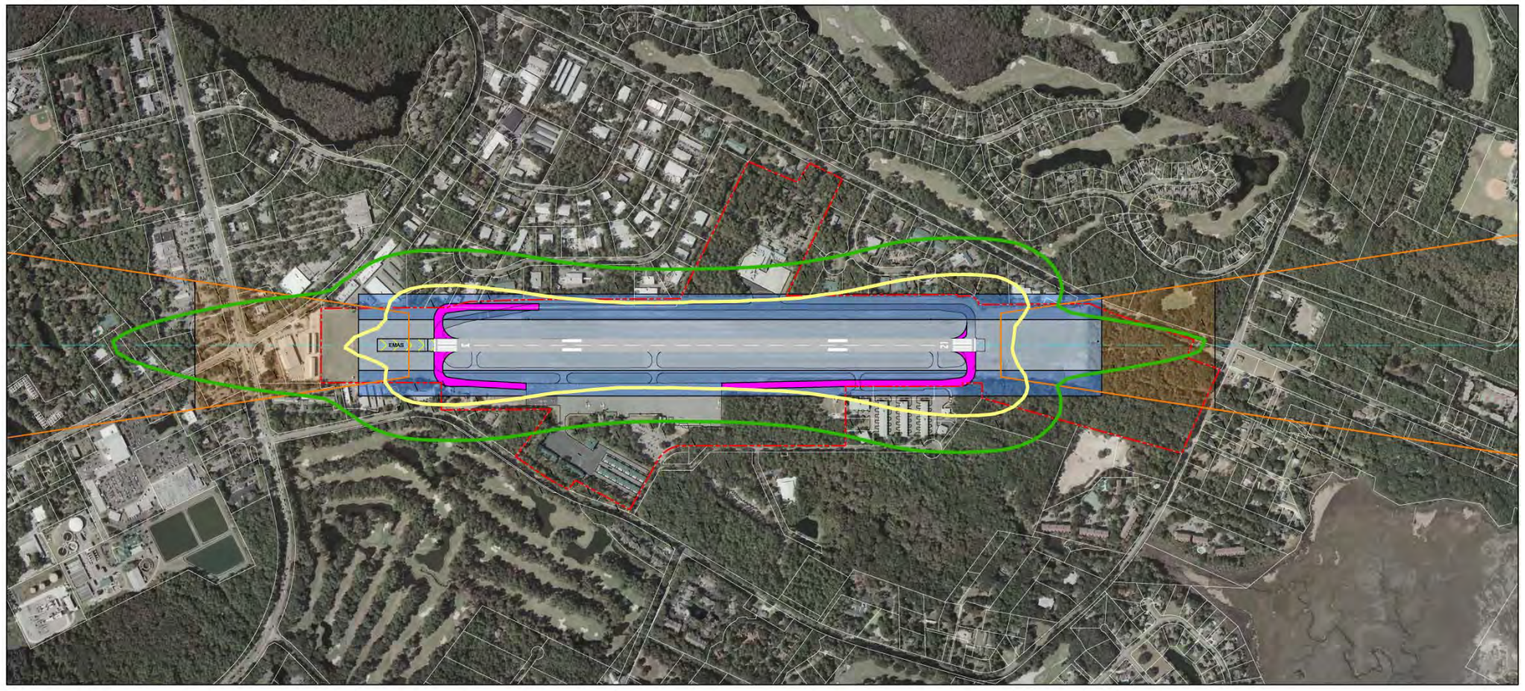
HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-9704
(843) 689-5400

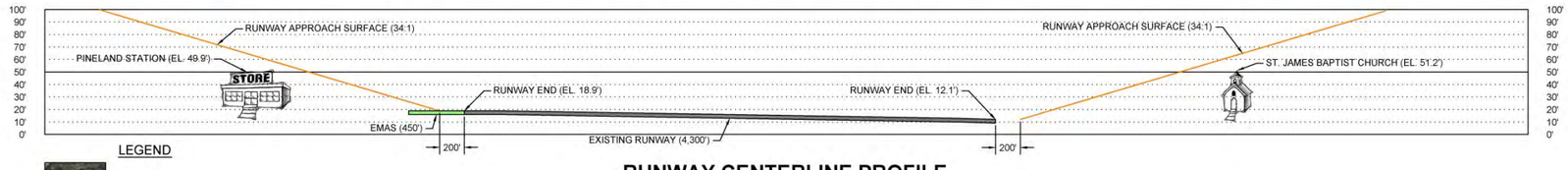
EXISTING 4,300' RUNWAY

TALBERT & BRIGHT Columbia, South Carolina

DATE: April 22, 2010 | SCALE: 1 inch = 300 Feet | SHEET: 1 OF 4

EXISTING 4,300' RUNWAY
(CONFIGURATION IN COMPLIANCE)





RUNWAY CENTERLINE PROFILE

LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	4,300'	4,300'
Take Off Distance Available (TODA)	4,300'	4,300'
Accelerate Stop Distance Available (ASDA)	4,300'	4,300'
Landing Distance Available (LDA)	4,300'	4,300'

0 300 600 900
FEET

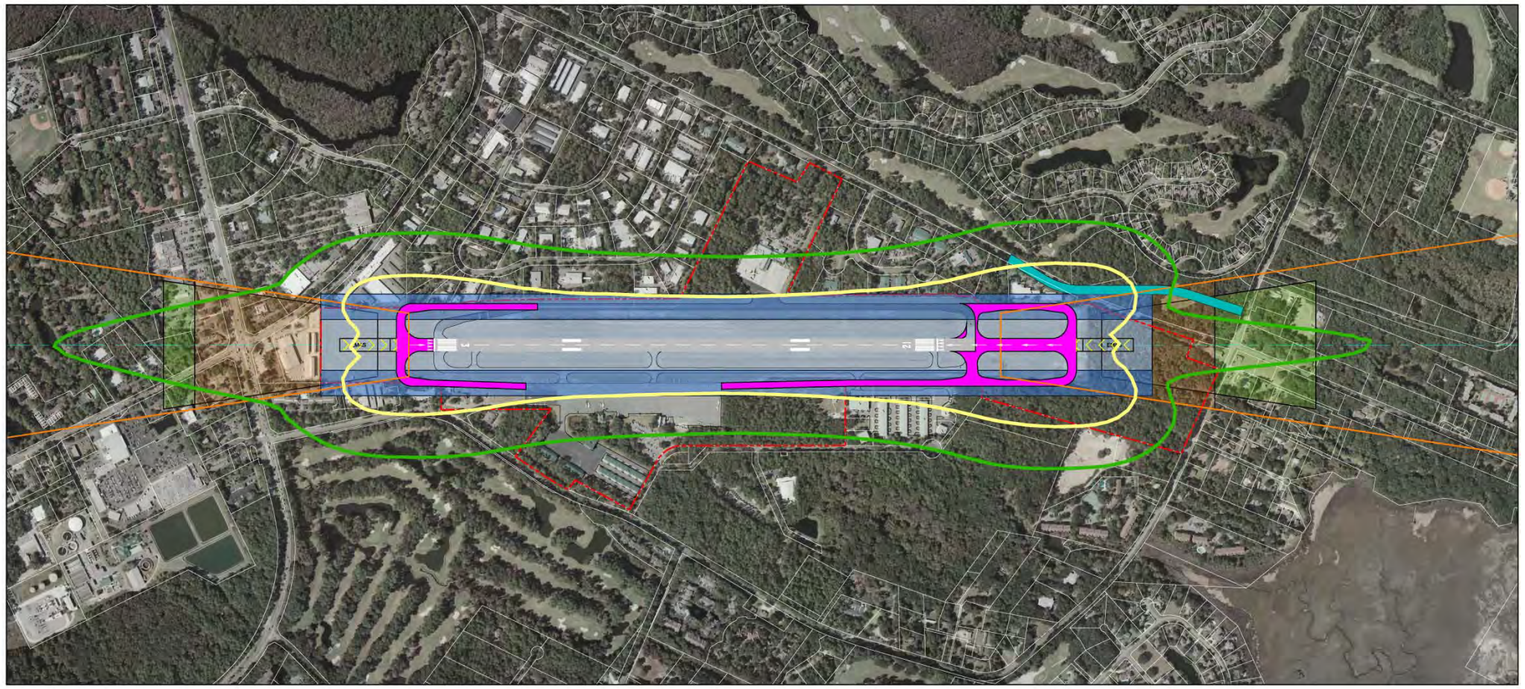
HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
180 Beach City Road
Hilton Head Island, SC 29926-8704
(843) 689-5400

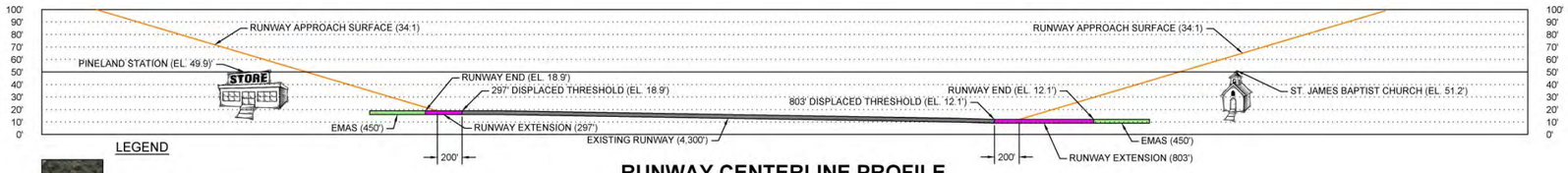
EXISTING 4,300' RUNWAY IN COMPLIANCE

TALBERT & BRIGHT Columbia, South Carolina

DATE: April 22, 2010 | SCALE: 1 inch = 300 Feet | SHEET: 2 OF 4

ALTERNATIVE NO. 2
(5,400' RUNWAY CONSTRAINED CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,400'	5,400'
Take Off Distance Available (TODA)	5,400'	5,400'
Accelerate Stop Distance Available (ASDA)	5,400'	5,400'
Landing Distance Available (LDA)	5,103'	4,597'

0 300 600 900
FEET

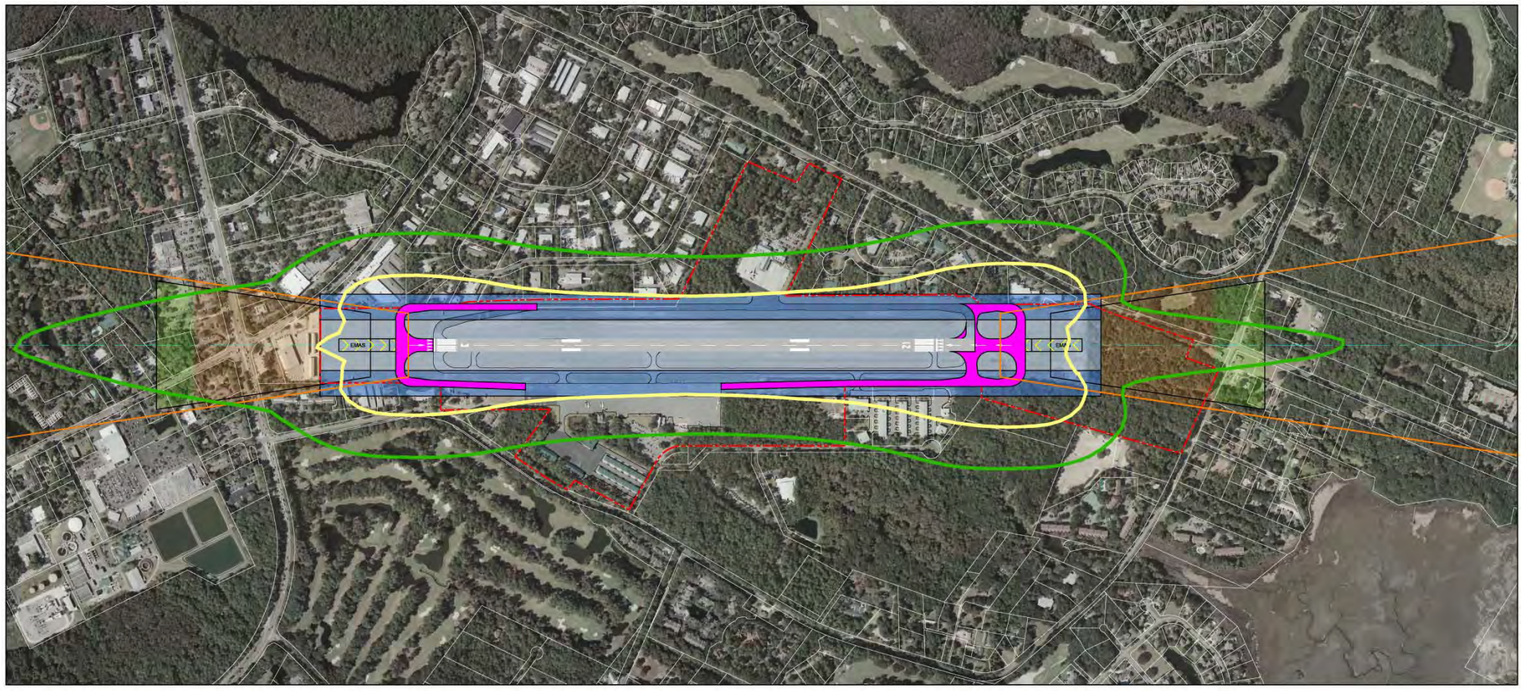
HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
150 Beach City Road
Hilton Head Island, SC 29926-9704
(843) 689-5400

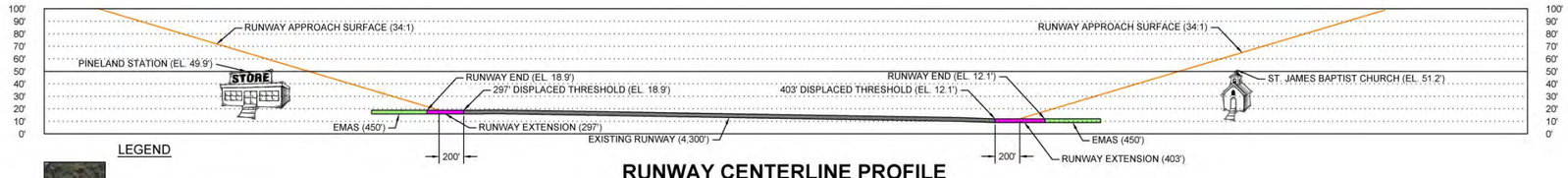
ALTERNATIVE NO. 2

TALBERT & BRIGHT Columbia, South Carolina

DATE: April 22, 2010 | SCALE: 1 Inch = 300 Feet | SHEET: 3 OF 4

ALTERNATIVE NO. 2 - PHASE 1
(5,000' RUNWAY CONSTRAINED CONFIGURATION)





RUNWAY CENTERLINE PROFILE

LEGEND

- PROPOSED AIRFIELD PAVEMENT CONSTRUCTION
- PROPOSED ROAD CONSTRUCTION
- PROPOSED RUNWAY SAFETY AREA (RSA)
- PROPOSED OBJECT FREE AREA (OFA)
- PROPOSED APPROACH RUNWAY PROTECTION ZONE (RPZ)
- PROPOSED DEPARTURE RUNWAY PROTECTION ZONE (DRPZ)
- AIRPORT PROPERTY LINE
- PROPERTY LOT LINE
- 60 DNL NOISE CONTOUR
- 65 DNL NOISE CONTOUR

RUNWAY DECLARED DISTANCES

	RUNWAY 3	RUNWAY 21
Take Off Runway Available (TORA)	5,000'	5,000'
Take Off Distance Available (TODA)	5,000'	5,000'
Accelerate Stop Distance Available (ASDA)	5,000'	5,000'
Landing Distance Available (LDA)	4,703'	4,597'

HILTON HEAD ISLAND AIRPORT
HILTON HEAD ISLAND, SOUTH CAROLINA
120 Beach City Road
Hilton Head Island, SC 29926-9704
(843) 689-5400

ALTERNATIVE NO. 2 -PHASE 1

TALBERT & BRIGHT Columbia, South Carolina

DATE: April 22, 2010 SCALE: 1 inch = 300 Feet SHEET: 4 OF 4

Exhibit B.6 Responses to Master Plan Update Draft Final Report Questions Received October 13 and 19, 2010

This document was prepared as a response to the 125 questions received from Beaufort County and Town of Hilton Head Island Councils and Beaufort County Airports Board as a result of their review of the Master Plan Update Draft Final Report issued on October 13, 2010, and the six questions from the March 15-16, 2010, and May 24-25, 2010, public comment meetings that were not answered as the financial analysis had not been completed, for a total of 131 questions. Comments were received from Beaufort County and Town of Hilton Head Island Councils and Beaufort County Airports Board on October 14 and 19, 2010.

As Talbert & Bright, Inc. (TBI) was instructed, this document is being transmitted to Gary Kubic (County Administrator) and Paul Andres (Airport Director) on October 25, 2010, via e-mail for their distribution to the appropriate parties prior to the joint meeting of councils to be held at 6:00 p.m. on October 27, 2010, at the Hilton Head Island High School.

The answers to the questions referenced above are provided below.

B.6.1 Questions Not Answered from March 15-16, 2010, Public Comment Meeting

The responses to the unanswered questions received from the March 15-16, 2010, public meeting are provided below.

Why throw good money after bad – is the airport at current levels of profitable?

As shown on Table B.6.1-1, the Airport generated an operating deficit each year, which increased by 17.4 percent from FY 2007 to FY 2010. As a result of the increase in operating revenues in budget FY 2011 and a decrease in operating expenses, the Airport is projected to generate an operating net income of approximately $172,000 in budget FY 2011.

Are we charging appropriate fee's for planes landing, taking off, or staying?

Commercial service airlines pay landing fees, but general aviation aircraft are not subject to landing fees. However, general aviation aircraft fees charged by Signature Flight Support are outlined in Table B.6.1-2 (page B-35). Beaufort County receives 3 percent of all revenue produced by Signature Flight Support.

Table B.6.1-1
Historical Revenues and Expenses
Hilton Head Island Airport

Description	Actual FY 2007	Actual FY 2008	Actual FY 2009	Actual FY 2010	2007-2010 Average Annual Growth	Budget FY 2011	2010-2011 Average Annual Growth
Operating Revenue							
Hangar Leases	$0	$30,000	$111,631	$122,721	NA	$128,500	4.7%
FBO Ground Lease	0	0	34,331	40,681	NA	44,892	10.4%
FBO Concessions	0	22,005	38,722	7,816	NA	18,500	136.7%
FBO Fuel Commission	0	96,985	86,141	90,699	NA	100,800	11.1%
Concession Sales	38,300	0	0	0	-100.0%	0	NA
Firefighting Fees	292,661	267,911	333,731	297,755	0.6%	346,650	16.4%
Landing Fees	162,981	196,266	164,011	151,128	-2.5%	161,370	6.8%
Parking/Taxi Fees	21,123	45,245	32,505	43,419	27.1%	55,000	26.7%
Rentals	755,064	827,399	670,526	616,093	-6.6%	721,098	17.0%
Other Charges	44,519	22,657	2,360	37,212	-5.8%	39,064	5.0%
Total Operating Revenue	$1,314,648	$1,508,468	$1,473,958	$1,407,524	2.3%	$1,615,874	14.8%
Operating Expenses							
Personnel Services	$813,400	$936,470	$964,510	$949,357	5.3%	$937,829	-1.2%
Purchased Services	480,063	579,634	519,099	478,361	-0.1%	458,775	-4.1%
Supplies	55,748	54,939	43,529	35,793	-13.7%	47,582	32.9%
Total Operating Expenses	$1,349,211	$1,571,043	$1,527,138	$1,463,511	2.7%	$1,444,186	-1.3%
Operating Income/(Deficit)	$(34,563)	$(62,575)	$(53,180)	$(55,987)	17.4%	$171,688	206.7%
Non-Operating Revenue (Expense)							
Interest Income	$144,917	$67,079	$29,052	$36,194	-37.0%	$35,000	-3.3%
Passenger Facility Charges	171,145	101,257	0	0	-100.0%	0	NA
TSA Reimbursement	47,934	143,211	124,881	133,223	40.6%	135,808	1.9%
Debt Service	(15,301)	(94,181)	(87,413)	(85,419)	77.4%	(83,325)	-2.5%
Non-Operating Revenue (Expense)	$348,695	$217,366	$66,520	$83,998	-37.8%	$87,483	4.1%
Net Remaining Revenue/(Deficit)	$314,132	$154,791	$13,340	$28,011	-55.3%	$259,171	825.2%

Source: Hilton Head Island Airport Records, September 2010.
Newton & Associates, Inc., October 2010.

What is the economic impact to Hilton Head if the runway is increased in length?

Table B.6.1-3 (page B-35) presents the estimated funding plan by project element for the short-term planning period. As depicted on B.6.1-3 (page B-35), it is estimated that approximately $24.4 million in AIP funding will be used to fund the proposed projects during the short-term planning period. This funding level will provide approximately 95 percent of the funding for the projects included in the short-term planning period. It is assumed that Beaufort County will receive entitlement grants in the amount of $1.0 million per year during the short-term planning period. In addition to these annual entitlements, Beaufort County will compete for discretionary grants during the short-term planning period.

However, the economic impact to Hilton Head Island as a result of the runway extension will not be reported as part of the Master Plan Update.

B.6.2 Questions Not Answered from May 24-25, 2010, Public Comment Meeting

The responses to the unanswered questions received from the May 24-25, 2010, public meeting are provided below.

Is the airport generating enough revenue to support its existence?

As shown on Table B.6.1-1, the Airport generated an operating deficit each year, which increased by 17.4 percent from FY 2007 to FY 2010. As a result of the increase in operating revenues in budget FY 2011 and a decrease in operating expenses, the Airport is projected to generate an operating net income of approximately $172,000 in budget FY 2011.

Financial impact upon Beaufort County tax payers?

Table B.6.1-3 (page B-35) presents the estimated funding plan by project element for the short-term planning period. As depicted on B.6.1-3 (page B-35), it is estimated that approximately $24.4 million in AIP funding will be used to fund the proposed projects during the short-term planning period. This funding level will provide approximately 95 percent of the funding for the projects included in the short-term planning period. It is assumed that Beaufort County will receive entitlement grants in the amount of $1.0 million per year during the short-term planning period. In addition to these annual entitlements, Beaufort County will compete for discretionary grants during the short-term planning period. In addition, the local share in B.6.1-3 (page B-35) is estimated to be 2.5 percent of the project costs.

However, the economic impact to Hilton Head Island as a result of the runway extension will not be reported as part of the Master Plan Update.

Financial factor been considered?

Yes.

Table B.6.1-2
Signature Flight Support – Rates and Charges
Hilton Head Island Airport

Aircraft Type	Fuel	Handling	Ramp	Hangar	Ramp – Month	Hangar – Month
Super Heavy Jet (Global Express, Gulfstream V, 500, 550)	500 gal	$940	$250	$550	$2,700	$4,500
Heavy Jet (Challenger, Citation X, Sovereign 680, Gulfstream I, II, III, IV, 200, Embraer Legacy, Embraer 135, Falcon 50, 900, 2000, Hawker 4000 [Horizon])	400 gal	$590	$180	$370	$2,000	$3,500
Medium Jet (Astra, Citation Jet III, VI, VII, Excel, Falcon 20, 200, G-100, 150, Hawkers 800-1000 Series, Lear 45, 55, 60, Sabreliner, Westwind)	300 gal	$440	$100	$250	$1,000	$2,000
Light Jet (Beechjet/Diamond/Hawker 400, Citation I, II, Citation 550/560, Ultra, Encore, CJ 1, 2, & 3 (Ce-525), Falcon 10, 100, Lear 20, 30 Series & LR-40, Premier I, II)	175 gal	$300	$70	$200	$750	$1,600
Very Light Jet (Adam 700, Citation Mustang, CE-510, Eclipse 500, Embraer Phenom 100)	70 gal	$190	$50	$170	$450	$1,400
Heavy Turboprop (Atra, King Air 1900, DeHavilland, Embraer Brasilia)	120 gal	$310	$100	$250	$1,000	$2,000
Medium Turboprop (Cheyenne 3, 4, King Air 200, 300, 350, Merlin, Piaggio Avanti, Pilatus)	120 gal	$270	$80	$190	$450	$1,400
Light Turboprop (Cheyenne 1, 2, Conquest, King Air 90, 100, Meridian, Mu-2 (Marquise, Solitaire), Turbo Commander 690)	70 gal	$190	$60	$150	$300	$1,000
Single-Engine Turboprop (Eads Socata TBM 700, 800, C-208 Caravan, Converted Piston A/C, Pa-46-500tp Meridian)	50 gal	$90	$50	$115	$250	$750
Heavy Twin (Cessna 400 Series, Duke, Navajo, Twin Commander)	50 gal	$160	$50	$115	$250	$750
Light Twin (Aerostar, Aztec, Baron, Dutchess, Cessna 300 Series, Seneca)	40 gal	$70	$30	$105	$116	$600
Single-Engine	10 gal	$30	$12	$65	$101	$400
Helicopter-Light						
Helicopter-Medium						
Helicopter-Heavy						

Note:
The fuel is the minimum amount required to waive the handling fee.
Source: Signature Flight Support (Michael Bennett, General Manager), "Ramp and Handling Fees, Effective May 17, 2010," e-mail message, October 14, 2010.

Table B.6.1-3
Short-Term Projects Funding Plan
Hilton Head Island Airport

	Fiscal Year	Project Cost	FAA			State	Local
			Entitlement	Discretionary	Total		
Airfield Projects							
Land Acquisition for Airfield Deficiency Correction	2013	$3,600,000	$1,000,000	$2,420,000	$3,420,000	$90,000	$90,000
Airfield Deficiency Correction	2013	$1,750,000	$500,000	$1,162,500	$1,662,500	$43,750	$43,750
Runway Extension Cost-Benefit Analysis/Environmental Documentation	2011	$500,000	$0	$475,000	$475,000	$12,500	$12,500
Land Acquisition for Runway Extension and Road Relocation	2012	$5,500,000	$0	$5,225,000	$5,225,000	$137,500	$137,500
700' Runway Extension Design and Construction	2013	$3,540,000	$1,000,000	$2,363,000	$3,363,000	$88,500	$88,500
400' Runway Extension Design and Construction	2015	$2,925,000	$1,000,000	$1,778,750	$2,778,750	$73,125	$73,125
Relocation of Beach City Road Design and Construction	2014	$750,000	$0	$712,500	$712,500	$18,750	$18,750
Runway 03 34:1 Obstruction Removal (trees)	2011	$1,500,000	$0	$1,425,000	$1,425,000	$37,500	$37,500
Transitional Surface Obstruction Removal (trees)	2012	$2,000,000	$0	$1,900,000	$1,900,000	$50,000	$50,000
Subtotal Airfield Projects		$22,065,000	$3,500,000	$17,461,750	$20,961,750	$551,625	$551,625
Commercial Service Passenger Terminal Area							
Commercial Service Terminal Expansion	2011	$1,900,000	$1,805,000	$0	$1,805,000	$47,500	$47,500
Subtotal Commercial Service Passenger Terminal Area		$1,900,000	$1,805,000	$0	$1,805,000	$47,500	$47,500
Total Short-Term Projects		$23,965,000	$5,305,000	$17,461,750	$22,766,750	$599,125	$599,125
Percent of Total					95.0%	2.5%	2.5%

Source: Talbert & Bright, Inc., October 2010.
Newton & Associates, Inc., October 2010.

B.6.3 Stewart Rodman's (Beaufort County Council) Questions (Received October 14, 2010)

At 5,000 feet which current or future commuter aircraft, if any, are weight restricted to ATL and CLT during July and August and, if restricted, by how many seats in each month?

Based on information provided by Delta Airlines, it is anticipated that the Canadair RJ 200 and/or 700 are expected to be available for short-range commercial service at HXD in the next 10 to 15 years. Based on information provided by US Airways, it is anticipated that the Bombardier Q400 is expected to be available for short-range commercial service at HXD in the next 10 to 15 years. Based on current information provided by aircraft manufacturers, these aircraft will be weight limited by summer temperatures at a 5,000-foot runway (Table B.6.3-1, page B-36). For the 5,400-foot runway

the Canadair RJ 200 and 700 would be weight limited by summer temperatures.

Table B.6.3-1
Commercial Service Aircraft
Hilton Head Island Airport

Aircraft	Maximum Takeoff Weight Length
Bombardier DASH 8-Q400	5,200'
Canadair CRJ/200	5,600'
Canadair CRJ/700	5,500'

At 5,000 feet which current or future general aviation aircraft, if any, are weight restricted for 700 Nautical Miles during July and April and, if restricted, by how many nautical miles in each month?

For the planning purposes of the Master Plan update, the FAA procedures for determining the recommended runway length for the airplanes operating at HXD that will require the longest runway length were used. In accordance with the "Procedure and Rationale for Determining Recommended Runway Lengths" on page 2 of FAA Advisory Circular 150/5325-4B," Step #2" requires "*Identify the airplanes that will require the longest runway lengths at maximum certificated takeoff weight (MTOW). This will be used to determine the method for establishing the recommended runway length. Except for regional jets, when the MTOW of listed airplanes is 60,000 pounds (27,200 kg) or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights."* Following the steps in FAA Advisory Circular 150/5325-4B, Figure 3-2 was then used to determine a recommended runway length of 5,400 feet with the family of aircraft operating at 60 percent useful load.

Table B.6.3-2 outlines the aircraft (from Tables 3-1 and 3-2 of FAA Advisory Circular 150/5325-4B and 2009 IFR data) that are weight restricted at 5,000 feet using maximum takeoff weight.

What comprises the property acquisition ($8.8 million) in the 5,000-foot scenario in the Master Plan?

The property acquisition for that alternative comprises the $8.8 million and includes the following properties outlined in Table B.6.3-3 (page B-37).

Table B.6.3-2
General Aviation Aircraft
Hilton Head Island Airport

Aircraft	Maximum Takeoff Weight Length
Aero L-39 Albatross	6,000'
Aircraft Industries (IAI) Jet Commander 1121	5,400'
Bae 125-700	5,577'
Bae Corporate 800/1000	6,300'
Bombardier 600 Challenger	5,840'
Bombardier 601/601-3A/3ER Challenger	6,200'
Bombardier 604 Challenger	5,702'
Bombardier Challenger 600	6,305'
Bombardier Learjet 35	6,300'
Bombardier Learjet 55	5,450'
Bombardier Learjet 60	5,450'
Cessna 650 Citation III/IV	5,170'
Cessna 650 Citation VII	5,170'
Cessna 750 Citation X	5,140'
Cessna Citation 1	5,140'
Cessna Citation I/II/III	5,630'
Dassault Falcon 20	5,200'
Dassault Falcon 2000	5,872'
Dassault Falcon 2000/2000EX	5,585'
Dassault Falcon 900	5,194'
Dassault Falcon 900/900B	5,194'
Dassault Falcon 900C/900EX	5,216'
Embraer ERJ-135	5,413'
Gulfstream G-150	5,250'
Gulfstream G-II	5,500'
Gulfstream G-IV	5,700'
Gulfstream G-V	5,934'
Hawker Siddeley HS25	6,900'
Hawker Siddeley HS25B	6,900'
IAI Galaxy 1126	5,500'
IAI Westwind 1123/1124	5,400'
Learjet 35/35A/36/36A	6,300'
Learjet 45 XR	5,059'
Learjet 55/55B/55C	5,450'
Learjet 60	5,450'
Mitsubishi Mu-300 Diamond	5,050'
Raytheon Hawker 600	5,200'
Raytheon/Hawker 800/800 XP	5,200'
Sabreliner 65/75	5,500'

If the 5,400-foot option is eliminated, what is the cost (including compliance) to expand the runway to 5,000 feet?

The cost to extend the runway to 5,000 feet including the Runway Extension Cost-Benefit Analysis and Environmental Documentation is outlined in Table B.6.3-4.

Table B.6.3-4
Alternative No. 2 – Phase 1
(5,000-Foot Runway Constrained Configuration)
Preliminary Estimate of Probable Construction Costs
Hilton Head Island Airport

	Local	State	Federal	Total
Deficiency Correction and Related Property Acquisition	$223,750	$43,750	$5,082,500	$5,350,000
Property Acquisition	$257,500	$0	$4,892,500	$5,150,000
Runway Extension Cost-Benefit Analysis/ Environmental Documentation	$12,500	$12,500	$475,000	$500,000
Construction	$38,500	$38,500	$1,463,000	$1,540,000
EMAS Construction	$50,000	$50,000	$1,900,000	$2,000,000
TOTAL	$582,250	$144,750	$13,813,000	$14,540,000

Source: Talbert & Bright, Inc., September 2010.

If the number of aircraft restricted at 5,000 feet is minimal can the 5,400 foot Scenario be eliminated from the Master Plan?

It is the recommendation of the consultant that the Hilton Head Island Airport needs 5,400 feet to adequately serve the current and future aircraft fleet. The FAA has concurred with this recommendation on two occasions (February 9, 2010, and October 4, 2010).

Table B.6.3-3
Property Acquisition for the 5,000-Foot Alternative
Hilton Head Island Airport

Parcel #	Property Owner	Parcel #	Property Owner
Deficiency Correction		5,000-Foot Extension	
R510 008 000 0183 0000	AJA LLC John Antunes Distinctive	R510 004 000 0359 0000	Brooklyn Bridge Ltd Co
Billing Address:	P.O. Box 23109	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29925		Hilton Head Island, SC 29928
Location:	16 Hunter Road - has avigation easement	Location:	160 Beach City Road - has avigation easement
R510 008 000 0184 0000	Gochnauer LLC	R510 004 000 0344 0000	Brooklyn Bridge Ltd Co
Billing Address:	6 Pender Lane	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29928		Hilton Head Island, SC 29928
Location:	14 Hunter Road - has avigation easement	Location:	154 Beach City Road - has avigation easement
R510 008 000 184A 0000	Z Investments LLC	R510 004 000 0344 0001	Hilton Head Deep Well Project Inc
Billing Address:	20 Sea Olive Road	Billing Address:	P.O. Box 5543
	Hilton Head Island, SC 29928		Hilton Head Island, SC 29938
Location:	12 Hunter Road - has avigation easement	Location:	154 Beach City Road - Unit 1
R510 008 000 0221 0000	Island Storage and Development	R510 004 000 0344 0002	Beach First National Bank
Billing Address:	591 Wilmer Avenue	Billing Address:	3751 Grissom Parkway
	Cincinnati, OH 45226		Myrtle Beach, SC 29577
Location:	Airport Office Park (Dillon Road) - has avigation easement	Location:	154 Beach City Road - Unit 2
R510 008 000 0221 0001	Timothy M Reed	R510 004 000 0344 0003	Tebrake Group LLC
Billing Address:	29 Blue Heron Point	Billing Address:	73 Skull Creek Drive #212B
	Hilton Head Island, SC 29926		Hilton Head Island, SC 29926
Location:	Airport Office Park (Dillon Road) - Unit A	Location:	154 Beach City Road - Unit 3
R510 008 000 0221 0002	Validation Technologies Inc	R510 004 000 0344 0004	Leon Teodoro Jr
Billing Address:	5 Baynard Park Road	Billing Address:	P.O. Box 23232
	Hilton Head Island, SC 29928		Hilton Head Island, SC 29925
Location:	Airport Office Park (Dillon Road) - Unit B	Location:	154 Beach City Road - Unit 4
R510 008 000 0221 0003	Dennis B and Carol E Rogers Jtros	R510 004 000 0344 0005	Nancy Osborne
Billing Address:	134 Via Castilla	Billing Address:	137 Cordillo Parkway #5401
	Jupiter, FL 33458		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit C	Location:	154 Beach City Road - Unit 5
R510 008 000 0221 0004	Dennis B and Carol E Rogers Jtros	R510 004 000 0344 0006	Nancy Osborne
Billing Address:	134 Via Castilla	Billing Address:	137 Cordillo Parkway #5401
	Jupiter, FL 33458		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit D	Location:	154 Beach City Road - Unit 6
R510 008 000 0221 0005	Scacchi Enterprises LLC	R510 004 000 0344 0007	Brooklyn Bridge Ltd Co
Billing Address:	16 Kings Court	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29926		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit E	Location:	154 Beach City Road - Unit 7
R510 008 000 0221 0006	Esquivel Enterprises LLC	R510 004 000 0344 0008	Garamound LLC
Billing Address:	4 Fox Meadow Drive	Billing Address:	154 Beach City Road Unit H
	Bluffton, SC 29910		Hilton Head Island, SC 29926

Table B.6.3-3
Property Acquisition for the 5,000-Foot Alternative
Hilton Head Island Airport

Parcel #	Property Owner	Parcel #	Property Owner
Deficiency Correction		5,000-Foot Extension	
Location:	Airport Office Park (Dillon Road) - Unit F	Location:	154 Beach City Road - Unit 8
R510 008 000 0221 0007	Fantasy Tan Air Brush Tanning System	R510 004 000 0344 0009	Brooklyn Bridge Ltd Co
Billing Address:	P.O. Box 5370	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29938		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit G	Location:	154 Beach City Road - Unit 9
R510 008 000 0221 0008	Susan K and Rickey E Hicks Jtros	R510 004 000 0344 0010	Brooklyn Bridge Ltd Co
Billing Address:	304 Mariners Cove	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29926		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit H	Location:	154 Beach City Road - Unit 10
R510 008 000 0221 0009	Susan K and Rickey E Hicks Jtros	R510 004 000 0344 0011	Brooklyn Bridge Ltd Co
Billing Address:	304 Mariners Cove	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29926		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit I	Location:	154 Beach City Road - Unit 11
R510 008 000 0221 0010	Barbara Baroni Trustee	R510 004 000 0344 0012	Brooklyn Bridge Ltd Co
Billing Address:	5 Turrett Shell	Billing Address:	17 Plumbridge Lane
	Hilton Head Island, SC 29926		Hilton Head Island, SC 29928
Location:	Airport Office Park (Dillon Road) - Unit J	Location:	154 Beach City Road - Unit 12
		R510 004 000 0344 0013	Brooklyn Bridge Ltd Co
		Billing Address:	17 Plumbridge Lane
			Hilton Head Island, SC 29928
		Location:	154 Beach City Road - Unit 13
		R510 004 000 0344 0014	Brooklyn Bridge Ltd Co
		Billing Address:	17 Plumbridge Lane
			Hilton Head Island, SC 29928
		Location:	154 Beach City Road - Unit 14
		R510 004 000 0343 0000	Francis Marie Hartis Trustee
		Billing Address:	148 Beach City Road
			Hilton Head Island, SC 29928
		Location:	148 Beach City Road - has avigation easement

B.6.4 Rick Caporale's (Beaufort County Council) Questions (Received October 14 and 19, 2010)

1. *Page 7 of the July 3 Talbert & Bright response to questions received from Beaufort County as a Consolidated Question List, Item D. 1. i., notes the T&B recommendation to bring the Runway 03-21/Taxiway 'A' separation into compliance with FAA design standards.*

What is the underlying reason for our current non-compliance? If we were not contemplating the extension of the runway to accommodate larger aircraft, would this project still be required?

Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

If the runway is not extended beyond its current 4,300', will the modification to the current separation be required? Can the existing Runway 03-21/Taxiway A separation remain as it is in this circumstance?

Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

If the runway is extended to 4,600', will the modification to the current separation be required? Why?

Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

If the runway is extended to 5,400', will the modification to the current separation be required? Why?

Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

2. *Page 8 of the Talbert & Bright response to questions received from Beaufort County as a consolidated Question List, Item D. 2. c., lists the length of the EMAS surfaces on both ends of the runway as 450'. You also make the statement that the length of the EMAS ..."is an estimate and will be determined by the EMAS manufacturer."...*

Since the FAA recommended length of EMAS surfaces is 600' (although the FAA does acknowledge that lengths can be shorter depending on circumstances), what are the ramifications if the manufacturer determines the EMAS needs to be longer?

The EMAS will always be shorter than the RSA limit and will never be longer than 600 feet for HXD. The 600-foot length is established by the FAA requirements for the runway safety area (RSA) and not the length of the EMAS. An RSA length, the distance from the end of the runway to the limit of the RSA, of 600 feet is allowable at HXD provided an EMAS is installed. If no EMAS is installed, the RSA length required would be 1,000 feet.

If on the South end (Runway 03), since space is absolutely limited by airport boundaries, would additional feet of EMAS length be subtracted from (and therefore limit) runway length on the south end, OR, would the additional Feet of EMAS length be added to the runway length on the North End (Runway 21)?

The length of the EMAS is established in accordance with FAA *Advisory Circular 150/5220-22A – Engineered Materials Arresting Systems (EMAS)*. In no case will the EMAS exceed the RSA limit of 600 feet. The length of 450 feet was only an approximated length based on Figure A2-7 of FAA *Advisory Circular 150/5220-22A – Engineered Materials Arresting Systems (EMAS)* for a Gulfstream GW III. The design of the EMAS arresting bed would be adjusted in order to keep its length within the RSA.

Is it conceivable that IF the EMAS length were determined by the manufacturer to be 600' on both ends of the runway, that the 150' additional from the South and the 150' from the North would then dictate that the North End runway be lengthened the 150' from the South with the end result that the North end would increase its total paved space by an additional 300' (150' runway and 150' EMAS)?

No, this will never be the case. The EMAS will always be shorter than the RSA limit, and the distance on the south end from the property line to the end of Runway 3 can never be more than a total of 600 feet.

<u>Runway Length Requirements (Pages 26-30)</u>
Chapter 4 of AC 150/5325-4B defines the runway length calculations for regional jets. There has been much discussion about the viability of the Bombardier Q 400 and the CRJ 200 as the aircraft that could provide future commercial service at the HXD. What would be the runway length requirements for these aircraft under the same assumptions (i.e., with temperature, % useful load, runway wind coverage, elevation above sea level, etc.) used in Section 4.2 of the master Plan Report?

On the basis of the historic and projected aircraft operations and the utilization of FAA's mandatory runway design procedures, a length of 5,400 feet was determined to satisfy the runway requirements at HXD.

As part of the determination for the runway length, the airport planning manuals for each of the commercial service aircraft that historically,

currently, and may provide service to HXD were analyzed and the runway length requirement presented at the March 9, 2010, joint session of Councils. Table B.6.4-1 (also provided in the Master Plan Update Draft Final Report, page 29) outlines the runway length requirement based on maximum takeoff weight and the same facility parameters (elevation, temperature, etc.) used to determine the recommended runway length for the family of aircraft currently using HXD.

Table B.6.4-1
Runway Length Requirement
Based on Aircraft Airport Planning Manual Design Curves
Hilton Head Island Airport

Airport Elevation	19.0'
Mean Maximum Temperature	89.4°F
Runway 03 Elevation	19.83'
Runway 21 Elevation	13.07'
Δ Runway Centerline Elevation[1]	7.0' x 10' = 70'
	Adjusted Runway Length
Family of Aircraft at 100% Fleet at 60% Useful Load (existing)	5,400'
DeHavilland DHC 8-100 (existing)	3,500'
Bombardier DASH 8-Q200 (existing)	3,600'
Bombardier DASH 8-Q300 (existing)	4,500'
Bombardier DASH 8-Q400 (potential future)	5,200'
SAAB 340 (existing)	4,800'
Canadair CRJ/200 (potential future)	5,600'
Canadair CRJ/700 (potential future)	5,500'

Note:
[1]For airplanes over 12,500 pounds maximum certified takeoff weight, the recommended runway length for takeoff derived from the curves of Figures 3-1 and 3-2 or from the APMs must be increased by 10 feet per foot of difference in centerline elevations between the high and low points of the runway centerline elevations.
Source: Federal Aviation Administration, "Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design," July 1, 2005. Figure 3-1. 75 Percent of Fleet at 60 or 90 Percent Useful Load, page 12; Figure 3-2. 100 Percent of Fleet at 60 or 90 Percent Useful Load, page 13; and Section 509. Maximum Difference of Runway Centerline Elevation, page 23.

Forecast of Aviation Activity
How was the 2.41% annual growth rate of commercial operations determined? That is, there has been a decrease in enplanements and operations over the past 10 years and if common forecasting techniques such as moving averages or least squares analyses were used the annual growth rate would actually be negative.

The growth rate for commercial operations was derived from historical FAA operations data and HXD operations records, and demographic, airline, and economic trends. A trend forecast based on the previous 10 years of data was used to project future commercial operations. This was carried through the 20-year planning period. There appears to be a typographical error in the percentage listed. The annual growth rate should be 2.43 percent not 2.41 percent as shown.

The forecast approaches identified (page 17) refer to the use of many factors (such as demographic projections, airline industry trends, economic characteristics). How were these factors used to make the projections shown in the various tables (3.3.2-1, 3.5.1-1)?
Was the 2.41% growth rate used to make all of the projections in this section? If so, please justify the validity of this approach. If not, what are the growth rates reflected in each of the various tables?

Demographic, airline, and economic trends were reviewed when preparing the forecasts of commercial operations; however, historical operations data was deemed the most accurate source for determining future operations. The 2.43 percent growth rate was applied to the commercial operations only and represents the average annual growth rate over the planning period. This growth rate takes into consideration the recent spikes and dips in commercial operations at HXD and continues the general trend line of commercial operations over the previous 10 years.

Land Acquisition in Palmetto Hall Plantation
The map on page 86 shows property acquisitions needed to implement the Master Plan recommendations. Table F-6 shows approximately 10 acres that would need to be acquired in Palmetto Hall Plantation (the map shows 10.4 acres, the table lists 10.16 acres). The value of this land is evaluated at $5,000 in Table F-6. What is the basis for this evaluation? Have the costs of litigation been included in the estimates? Would the costs associated with litigation be funded from local sources?

Land values for the property acquisitions were based on the 2009 real property valuation performed by Beaufort County and available through research on the County web site (http://sc-beaufort-county.governmax.com/svc/). The portion of the Palmetto Hall property required for the relocation of Beach City Road is the undeveloped area between Beach City Road and the Tucker Ridge Court residential development. The property is designated and valued as recreational/open space. The cost for potential litigation was taken into consideration in the preliminary cost estimate and included as part of the total acquisition estimate for all properties and would be paid in part by funding from the FAA. It should be noted that FAA pays fair market value for property based on an appraisal and review appraisal.

Demand Capacity Analyses
The demand capacity analyses presented on page 24 reveal that HXD is a very underutilized airport according to FAA guidelines (the FAA recommends that improvements are needed when the Annual Service Volumes reach 60%. According to the Master Plan Report the HXD operations are not expected to exceed 25% within 20 years even with the inflated activity projections.). What is the justification to expand HXD when low levels of utilization will continue to prevail?

The justification for expansion of the Hilton Head Airport is based on specific types of aircraft and not overall airfield capacity. The addition of a second runway would be an example of a capacity enhancement. The proposed runway extension is determined using the FAA *Advisory Circular 150/5325-4B – Runway Length Requirements for Airport Design*: in accordance with the "Procedure and Rationale for Determining Recommended Runway Lengths" on page 2 of FAA Advisory Circular 150/5325-4B," Step #2" requires "*Identify the airplanes that will require the longest runway lengths at maximum certificated takeoff weight (MTOW). This will be used to determine the method for establishing the recommended runway length. Except for regional jets, when the MTOW of listed airplanes is 60,000 pounds (27,200 kg) or less, the recommended runway length is determined according to a family grouping of airplanes having similar performance characteristics and operating weights.*" Following the steps in FAA Advisory Circular 150/5325-4B, Figure 3-2 was then used to determine a recommended runway length of 5,400 feet with the family of aircraft operating at 60 percent useful load.

Load Factor (pages D3 through D6 of the Appendix)
On what basis was the Load Factor determined? On page D-6 of the Appendix it says, "The airlines contend that the runway length and obstructions reduce the number of passengers who can be accommodated on their aircraft and thereby reduce their load factor". That is interpreted to mean that although the capacity of the aircraft of 38-39 passengers is reduced to what they are capable of carrying given the restrictions (145,231 seats shown on the chart on page D3 of the appendix). However, the report doesn't show that number. What is the number of passengers that "that can be accommodated"? In other words what is the capability with the restrictions as opposed to capacity with the restrictions?

This is not a planning question since the airlines have specific standards and procedures to determine operational load factors at each airport.

As an example, 28-29 passengers "can be accommodated" on each flight. It is on that basis the load factor should be measured. On an annual basis it would account for 100,000 enplanements rather than 145,231. Using the number of "HXD Enplanements in 2008" of 79,624 (shown on page D-3 of the Appendix) that equates to a 79.6% load factor rather than a 54.8% load factor when using "145,231 seats" as the basis.
It indicates that the runway length is neither the sole nor even the main reason for fewer passengers but rather a lack of

demand. The reason that Delta stops winter service is a lack of demand not the runway length.
Please explain why the report does not show the number of passengers who, "can be accommodated" that would show the capability of the aircraft with the restrictions?

This is not a planning question since the airlines have specific standards and procedures to determine operational load factors at each airport.

Passenger Facility Charges
The consultant recommends that PFCs, which are a surcharge on commercial airline tickets, be used to implement capital requirements of the Master Plan (page 93). What affect will this have on the price competiveness of the HHI Airport in comparison with ticket prices for flights out of Hilton Head Savannah International Airport? What affect will the PFCs have on maintaining commercial airline service to HHI?

Charleston International Airport, South Carolina and Savannah-Hilton Head International Airport, Georgia, both have a PFC in place. Initiating a PFC at HXD will not have a material effect on maintaining commercial service at the Airport. The effect will be that implementing a PFC will create a revenue stream that will assist in allowing the Airport to implement some of the projects outlined in the Master Plan Update.

General Aviation Survey
What did the analyses of the General Aviation Survey (page B-28) show? This survey should reveal many insights about the economic impacts of the Hilton Head Airport (i.e., purpose of travel, expenditures on HHI, etc.). Why were the results of these surveys not presented within the Master Plan Report?

The general aviation surveys were used to determine the type of aircraft and frequency of general aviation operations at HXD. This information was used to assist in the determination for future airport facility improvements/additions. Copies of the surveys received will be included in electronic format in the Final Master Plan Update Report.

1. Can you supply a thorough cost-benefit analysis for each of the potential alternatives for runway expansion? – Please include
Substantiated monetary benefits are shown for expansion alternatives.
Complete cost for the expansion alternatives Including. Important costs such as:
Reduced property values on homes and real estate properties in close proximity to the expanded runway options
Reduced tax revenues to the Town and County from the reduces property values
Costs incurred to negotiate and complete the multiple avigation agreements needed with communities impacted by expansion alternatives.

A cost-benefit analysis is not included as part of the Master Plan scope of work. This analysis is typically performed when a major project (project exceeding $5 million) is identified to outline costs for the design and construction phases of the project.

2. Can you supply analysis of the role of turboprop aircraft in future commercial aviation? Please address a fact that airlines are moving away from regional jet options and toward turboprop options for hub-spoke operations.

This task is not included as part of the Master Plan scope of work.

3. Can you comment on the recent acquisition of Mesaba by Pinnacle and the possible impact on the use of Q400 turboprop aircraft? Is it true that they have many in service and ordered for future use?

This question should be answered by Pinnacle Airlines.

4. Can you clearly define whether any of the runway extension options can/will address runway lengths needed by regional jet aircraft.

Based on runway length requirements provided by Bombardier with aircraft operating at maximum takeoff weight and a mean maximum temperature of 89.4°F, the CRJ-200 will need 5,600 feet of takeoff length and the CRJ-700 will need 5,500 feet of takeoff length. Based on this information, it is anticipated that the CRJ-200 and CRJ-700 should be able to operate on a 5,400-foot runway length at a reduced load factor as determined by the airlines.

5. Please comment on the probability of your forecast passenger enplanements; can you supply an analysis on enplanement estimates over a range of probabilities?

The standard deviation for the forecast of annual enplanements is 15,019 with a probability of 94.6 percent of 124,056 annual enplanements occurring in 2029. The range for this probability analysis is based on the maximum and minimum enplanement from 1998 to 2008 (61,419 to 103,028).

6. What is your source for the data concerning the reliance of the Town and County tourist industry on Airport commercial and general aviation operations?

Sources that were reviewed include:

- Surveys performed by the Savannah-Hilton Head Island International Airport
- Hilton Head Island Chamber of Commerce
- Lowcountry Regional Council of Government
- Beaufort County Comprehensive Plan
- Town of Hilton Head Island Comprehensive Plan

7. Can you include the environmental impact to communities from increased noise due to each expansion option? Also what likely impact will the ongoing Noise Study or the commitment to noise mitigation have on your cost estimates for each alternative?

The 65 DNL noise contour encompasses the following acreage:

- 4,300-foot runway – 126.5 acres
- 4,600-foot runway – 127.8 acres (1.3-acre increase)
- 5,000-foot runway – 130.8 acres (4.3-acre increase)
- 5,400-foot runway – 135.3 acres (8.8-acre increase)

The Master Plan Update assumes that all trees will be cleared to 34:1. There currently is no commitment to noise mitigation in the cost estimates for each alternative as the 65 DNL noise contour does not impact incompatible land use in accordance with FAA Part 150 requirements. This will be evaluated in detail when the runway extension project is identified for design and construction and the environmental documentation is performed.

B.6.5 Joe Zimmerman's (Beaufort County Airports Board) Questions (Received October 19, 2010)

1. *Table 3.5.1-1, Commercial Service Operations Forecast on page 20 shows operations increasing from 7,208 in 2009 to 15,069, an increase of 109.1%. The historical/forecast column on Table 3.3.2-1, Enplanements Forecast Comparison on page 18, however, shows enplanements increasing from 75,073 in 2009 to 124,056 in 2029, an increase of 65%. Put another way, if we take 50% of the commercial operations in 2009 and 2029 (to account only for the departures), and divide those into the enplanements for the same years, we have an average enplanements per operation of 21 in 2009 and 16.5 in 2029. The two forecasts show, then, that we will have more flights but fewer passengers per flight. Does this resemble something the airlines would find acceptable?*

The commercial operations and annual enplanements forecasts were developed independently using historical data. It is true that there exists a relationship between these two airport activity forecasts; however, an enplanements per commercial operations analysis is not included as part of the forecasts due to changes in commercial aircraft capacities. An example of

this scenario would be the introduction of a "feeder" service airline flying smaller aircraft between hub and non-hub airports.

2. *Table 3.5.1-1, Commercial Service Operations Forecast on page 20 lists 7,208 commercial service operations in 2009. Table 3.5.3-1, Annual Operations By Type, lists 9,353 commercial operations. What is the cause for this difference?*

Table 3.5.3-1 includes commercial operations from air carrier and air taxi operations. The commercial service operations forecast in Table 3.5.1-1 include only air carrier operations. The air taxi and air carrier operations were summed so that they could be compared to the FAA Terminal Area Forecasts, which list annual operations in this format.

3. *Page 31 has a section discussing the Runway Obstacle Free Area (ROFA). The verbiage below Table 4.2.8-1 states that the FAA has stated it would provide a waiver for the existing ROFA. It goes on to say that …"any new construction would require ROFA compliance and would require purchase of property."… Would you please explain this in more detail. Is it referring to any new construction and what triggers the "purchase of property?"*

FAA *Advisory Circular 150/5300-13 – Airport Design* (as amended), paragraph 307 – Object Free Area (page 23) states:

> The runway OFA clearing standard requires clearing the OFA of aboveground objects protruding above the runway safety area edge elevation.

4. *Page 34 discusses various storage requirements. Relative to Table 4.3.1.4-1, and Table 4.3.1.5-1, they indicate that approximately 4.5 acres of new apron for based and transient aircraft will be required by 2029. Have the projected cost estimates for this new apron space presented later in the document taken into account the increased drainage requirements all of this new concrete will require? If so, what will it cost?*

No, these costs were not included in the draft report, but a preliminary opinion of these costs will be estimated and provided in the final Master Plan Update Report.

5. *Table 4.3.2.3-1, Commercial Service Terminal Automobile Parking Space Requirements, indicates that parking spaces will grow from 325 to 590 by 2029. Will the additional spaces be able to be placed on currently existing airport property? Will there be any impact from them on the church which lies close to the current parking lot?*

Yes. Based on the Town's buffer requirements, there is no anticipated impact to the church.

6. *Page 39 begins the Runway Extension Alternatives Analysis. In Section 5.1.2, Existing 4,300-Foot Runway (Configuration in Compliance), in relation to current deficiencies, you state: …"Regardless of what alternative is chosen to address the need of the critical aircraft currently using HXD, these deficiencies SHOULD be addressed."… If there were no changes to the runway length, would these compliance issues HAVE to be addressed; or, could the current waivers remain in place?*

Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

7. *Also in Section 5.1.2, Section 5.1.4, Section 5.1.4.1 and Section 5.1.4.2, reference is made to the EMAS being 600' wherever it is used. The overhead pictures on pages 41, 44, and 45, however, all show the EMAS installation at 450' Which is correct? Since the generally recommended length of EMAS installations is 600', wouldn't it be more conservative to produce the Plan with that length in mind? If 600' is the correct number, what implications does that have, given the airport's constricted available space, on runway length and positioning?*

The reference applies to the length of the runway safety area (RSA) being 600 feet. The length of the EMAS is 450 feet, which is an approximated length based on Figure A2-7 of FAA *Advisory Circular 150/5220-22A – Engineered Materials Arresting Systems (EMAS)* for a Gulfstream GW III. The design of the EMAS arresting bed would be adjusted in order to keep its length within the RSA.

8. *Sections 5.1.2, and Section 5.1.4 contain various cost estimates for different runway length alternatives. Within each separate alternative Table, there is a one-line item entitled "Construction." There is no detail breakdown in the Master Plan as to what makes up this number. In other words, how much is for concrete/asphalt, how much for drainage work, how much for lighting, etc. The document provides detailed projections for the future hangars and apron work but not for the runway length alternatives. Can you provide this data?*

Tables B.6.5-1 (page B-41), B.6.5-2 (page B-41), B.6.5-3 (page B-42), and B.6.5-4 (page B-42) provides the preliminary project cost estimate for each alternative without construction of the EMAS. This data will be included in the final report. It should be noted that these costs and the costs presented in the Master Plan Update Draft Final Report are preliminary estimates and not detailed engineering costs based on detailed design work. Detailed engineering costs will be provided when a specific project is identified for design and construction.

9. *On pages 8 & 9 – Grant History, on which of the grants which are listed have the federal "strings" expired? In other words, it has been 26 years since the first grant was issued. Does this grant still carry requirements/obligations which could trigger a "claw-back" of any of the funds issued pursuant to that grant?*

In accordance with FAA *Terms and Conditions of Accepting Airport Improvement Program Grants* (December 15, 2009); the terms, conditions, and assurances of the grant agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed 20 years from the date of acceptance of a grant offer of federal funds for the project. However, there shall be no limit on the duration of the assurances regarding exclusive rights and airport revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.

10. *Section 9.3.1 on page 88 begins the discussion of Potential Funding Sources. There is no mention of a General Aviation landing fee. What is your opinion of the potential revenue to be gained by implementing such a fee?*

Commercial service airlines pay landing fees, but general aviation aircraft are not subject to landing fees.However, general aviation aircraft fees charged by Signature Flight Support are outlined in Table B.6.1-2 (page B-35). Beaufort County receives 3 percent of all revenue produced by Signature Flight

Table B.6.5-1
Preliminary Project Cost Estimate*
Existing 4,300-Foot Runway (Configuration in Compliance)
Hilton Head Island Airport

Item No.	Spec No.	Description	Qty	Unit	Unit Price	Total
1	P-150	Mobilization	1	LS	$62,000	$62,000
2	Rep	Pavement Removal	25,700	SY	$2.60	$66,820
3	P-151	Clearing and Grubbing	5	AC	$2,000	$10,000
4	P-152	Excavation	25,000	CY	$5	$125,000
5	P-156	Erosion and Sediment Control	1	LS	$50,000	$50,000
6	P-209	Crushed Aggregate Base Course	7,400	CY	$13	$96,200
7	P-401	Bituminous Asphaltic Surface Course	6,000	TN	$85	$510,000
8	P-620	Pavement Markings	6,000	SF	$2	$12,000
9	D-701	15" RCP, Class IV	600	LF	$37.50	$22,500
10	D-701	24" RCP, Class IV	900	LF	$45	$40,500
11	D-701	36" RCP, Class IV	500	LF	$65	$32,500
12	D-751	Drop Inlet	12	EA	$4,000	$48,000
13	D-751	Storm Drainage Manhole	4	EA	$4,000	$16,000
14	D-751	Flared End Section	6	EA	$2,500	$15,000
15	L-108	Trenching, Cable, Counterpoise, Conduit	9,500	LF	$10	$95,000
16	L-125	Taxiway Lights	60	EA	$900	$54,000
17	L-125	Miscellaneous Electrical	1	LS	$34,000	$34,000
18	T-901	Seeding	20	AC	$1,000	$20,000
19	T-908	Mulching	20	AC	$1,000	$20,000
		10% Contingency				$127,000
		Construction Total				$1,456,520
		Topographic Survey, Design, Bidding, Construction Administration, Inspection, and Testing				$293,480
					Project Total	$1,750,000

*These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc., October 2010.

Table B.6.5-2
Preliminary Project Cost Estimate*
Alternative No. 2 – Phase 1a (4,600-Foot Runway Constrained Configuration)
Hilton Head Island Airport

Item No.	Spec No.	Description	Qty	Unit	Unit Price	Total
1	P-150	Mobilization	1	LS	$79,000.00	$79,000
2	Rep	Pavement Removal	26,000	SY	$2.50	$65,000
3	P-151	Clearing and Grubbing	5	AC	$2,000.00	$10,000
4	P-152	Excavation	30,000	CY	$5.00	$150,000
5	P-156	Erosion and Sediment Control	1	LS	$50,000.00	$50,000
6	P-209	Crushed Aggregate Base Course	10,200	CY	$13.00	$132,600
7	P-401	Bituminous Asphaltic Surface Course	8,200	TN	$85.00	$697,000
8	P401	Pavement Grooving	2,670	SY	$1.50	$4,005
9	P-620	Pavement Markings	6,800	SF	$2.00	$13,600
10	D-701	15" RCP, Class IV	725	LF	$37.00	$26,825
11	D-701	24" RCP, Class IV	950	LF	$45.00	$42,750
12	D-701	36" RCP, Class IV	500	LF	$65.00	$32,500
13	D-751	Drop Inlet	15	EA	$4,000.00	$60,000
14	D-751	Storm Drainage Manhole	4	EA	$4,000.00	$16,000
15	D-751	Flared End Section	6	EA	$2,500.00	$15,000
16	L-108	Trenching, Cable, Counterpoise, Conduit	10,500	LF	$10.00	$105,000
17	L-125	Taxiway Lights	70	EA	$900.00	$63,000
18	L-125	Runway Lights	6	EA	$1,000.00	$6,000
19	L-125	L-858 Airfield Guidance Sign	2	EA	$4,000.00	$8,000
20	L-125	Miscellaneous Electrical	1	LS	$40,000.00	$40,000
21	T-901	Seeding	23	AC	$1,000.00	$23,000
22	T-908	Mulching	23	AC	$1,000.00	$23,000
		10% Contingency				$158,000
		Construction Total				$1,820,280
		Topographic Survey, Design, Bidding, Construction Administration, Inspection, And Testing				$362,720
					Project Total	$2,183,000

*These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc., October 2010.

Table B.6.5-3
Preliminary Project Cost Estimate*
Alternative No. 2 – Phase 1 (5,000-Foot Runway Constrained Configuration)
Hilton Head Island Airport

Item No.	Spec No.	Description	Qty	Unit	Unit Price	Total
1	P-150	Mobilization	1	LS	$120,000.00	$120,000
2	Rep	Pavement Removal	26,000	SY	$2.50	$65,000
3	P-151	Clearing and Grubbing	9	AC	$2,000.00	$18,000
4	P-152	Excavation	45,000	CY	$5.00	$225,000
5	P-156	Erosion and Sediment Control	1	LS	$125,000.00	$125,000
6	P-209	Crushed Aggregate Base Course	15,450	CY	$13.00	$200,850
7	P-401	Bituminous Asphaltic Surface Course	12,400	TN	$85.00	$1,054,000
8	P-401	Pavement Grooving	6,230	SY	$1.50	$9,345
9	P-620	Pavement Markings	8,200	SF	$2.00	$16,400
10	D-701	15" RCP, Class IV	1,050	LF	$37.00	$38,850
11	D-701	24" RCP, Class IV	1,250	LF	$45.00	$56,250
12	D-701	36" RCP, Class IV	900	LF	$65.00	$58,500
13	D-751	Drop Inlet	24	EA	$4,000.00	$96,000
14	D-751	Storm Drainage Manhole	6	EA	$4,000.00	$24,000
15	D-751	Flared End Section	12	EA	$2,500.00	$30,000
16	L-108	Trenching, Cable, Counterpoise, Conduit	13,500	LF	$10.00	$135,000
17	L-125	Taxiway Lights	90	EA	$900.00	$81,000
18	L-125	Runway Lights	16	EA	$1,000.00	$16,000
19	L-125	L-858 Airfield Guidance Sign	4	EA	$4,000.00	$16,000
20	L-125	Miscellaneous Electrical	1	LS	$70,000.00	$70,000
21	T-901	Seeding	28	AC	$1,000.00	$28,000
22	T-908	Mulching	28	AC	$1,000.00	$28,000
		10% Contingency			$120,000.00	$239,000
		Construction Total				$2,750,195
		Topographic Survey, Design, Bidding, Construction Administration, Inspection, And Testing				$539,805
					Project Total	$3.290,000

*These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc., October 2010.

Table B.6.5-4
Preliminary Project Cost Estimate*
Alternative No. 2 (5,400-Foot Runway Constrained Configuration)
Hilton Head Island Airport

Item No.	Spec No.	Description	Qty	Unit	Unit Price	Total
1	P-150	Mobilization	1	LS	$153,000.00	$153,000
2	Rep	Pavement Removal	26,000	SY	$2.50	$65,000
3	P-151	Clearing and Grubbing	14	AC	$2,000.00	$28,000
4	P-152	Excavation	60,000	CY	$5.00	$300,000
5	P-156	Erosion and Sediment Control	1	LS	$160,000.00	$160,000
6	P-209	Crushed Aggregate Base Course	20,100	CY	$13.00	$261,300
7	P-401	Bituminous Asphaltic Surface Course	16,200	TN	$85.00	$1,377,000
8	P-402	Pavement Grooving	9,790	SY	$1.50	$14,685
9	P-620	Pavement Markings	9,500	SF	$2.00	$19,000
10	D-701	15" RCP, Class IV	1,250	LF	$37.00	$46,250
11	D-701	24" RCP, Class IV	1,500	LF	$45.00	$67,500
12	D-701	36" RCP, Class IV	1,100	LF	$65.00	$71,500
13	D-751	Drop Inlet	34	EA	$4,000.00	$136,000
14	D-751	Storm Drainage Manhole	8	EA	$4,000.00	$32,000
15	D-751	Flared End Section	16	EA	$2,500.00	$40,000
16	L-108	Trenching, Cable, Counterpoise, Conduit	16,000	LF	$10.00	$160,000
17	L-125	Taxiway Lights	110	EA	$900.00	$99,000
18	L-125	Runway Lights	22	EA	$1,000.00	$22,000
19	L-125	L-858 Airfield Guidance Sign	4	EA	$4,000.00	$16,000
20	L-125	Miscellaneous Electrical	1	LS	$85,000.00	$85,000
21	T-901	Seeding	33	AC	$1,000.00	$33,000
22	T-908	Mulching	33	AC	$1,000.00	$33,000
		10% Contingency				$307,000
		Construction Total				$3,526,235
		Topographic Survey, Design, Bidding, Construction Administration, Inspection, And Testing				$688,765
					Project Total	$4,215,000

*These are estimations only and are not to be relied on without further confirmation.
Source: Talbert & Bright, Inc., October 2010.

Support. It is the opinion of TBI that general aviation aircraft fees charged by Signature Flight Support are in line with industry standards.

11. *Section 9.3.10 discusses Passenger Facility Charges. If the decision is made to go forward with this type of funding, can it be done independently of the Master Plan noted projects, or must the PFC be tied to specific projects?*

A PFC can be done independently of a Master Plan; however, depending on the projects submitted in a PFC application, certain projects must be on the current ALP and have air space and environmental studies completed.

12. *On pages D.3. and D.4., there is a discussion of Airline Activity, Demand Profile and Load Factors. On page D.4. you make the statement: …"The decline in load factor at HXD is primarily attributable to the load restrictions placed on the commercial airlines operating at HXD as a result of the runway length and obstructions."… In Figure D.2.4-1, Airport Load Factor, the lighter colored bars show a significant increase in seats offered in the market in the years 2007 and 2008. Enplanements, the darker colored bars, remained virtually the same in both of those years. It would appear to the uninitiated that the airlines miscalculated demand by a large margin and put a lot more seats into the market than they could fill, regardless of restrictions. If it were simply the restrictions caused by runway length and trees, I suspect the load factors in 2007 and 2008 would have much more closely resembled those in the earlier years. It would appear that the airlines learned a lesson, and also reflected the economic situation, because in 2009, they cut back on the number of seats. Unfortunately, the economic downturn's effect on individuals caused a more precipitous decline in enplanements, and the load factor, while approximately the same as in 2008, didn't return to 2004 -2006 levels. My question is: is it also reasonable to attribute a meaningful portion of the decline in load factor to airline miscalculation of demand and the economy, as well as the aforementioned restrictions?*

Load factors decreased in 2007 and 2008 following a downward trend that began in 2005.

13. *On page D-4, in the paragraph below Table D.2.5-1, you comment that 70% of the theoretical local demand is being served elsewhere. Your basis for this comment is a calculation performed by taking the population of Beaufort County and multiplying it by 1.5 (the average enplanements for the United States population). You also define elsewhere that the ASA for HXD is Beaufort County. I would submit to you that the ASA is more reasonably the area of Beaufort County south of the Broad River. Airline passengers north of the Broad can only get to HXD by traveling down Route 170 to Route 278. Once they reach that intersection, they have a much easier trip to Savannah than to HXD. Coupled with the greater number of locations served out of Savannah, they have a much greater incentive to head that way. On the positive side, the demographics south of the Broad (age and discretionary dollars available to spend) would argue for a higher multiplier than the 1.5. Regardless, a demand number of 227,000 appears grossly overstated under any circumstances. Can you, using real world assumptions, develop a more reasonable estimate of demand?*

Using the per capita ratio as a basis for estimating demand at the Airport is consistent with industry standards.

14. *Can you please assess, on a realistic basis, the potential use of Regional Jets at HXD. This is a major point of contention. Can a CRJ 200 safely land from the North on Runway 21's, displaced threshold-limited 4,597'? If so, will the passenger load be limited? This is important because, I believe the majority of landings occur from the North. Also, if, as we read, 50 seat RJ's are being phased out, what is the most likely replacement and will it be able to land under the above-noted conditions?*

It is TBI's opinion that it is possible for Delta Airlines (Mesaba Airlines) to use regional jets at HXD with load restrictions, provided that the runway is extended to the recommended 5,400 feet. Landing the CRJ-200 and CRJ-700 aircraft on 4,597 feet is possible with load restrictions. With respect to the 50-seat CRJ, TBI has not received any information from the airlines regarding replacement of those aircraft.

B.6.6 Ken Heitzke's (Town of Hilton Head Island Council) Questions (Received October 19, 2010)

Commercial Service Questions

-On page D-6, T&B states the CONCLUSION that "Due to the constraints of runway length and obstructions at HXD (HH Airport), the existing airport facilities (4300 feet) are MARGINALLY ADEQUATE for viable service to the Charlotte and Atlanta hubs at this time",

1. Is it not correct that with the existing 4300 foot runway, AFTER the tree obstructions are resolved, will be even more viable service for the foreseeable future?

It is TBI's opinion that even after the tree removal the existing facilities are marginally adequate for the current level of commercial service and the foreseeable future.

2. If not, is it not correct that with an airport runway extension of 300 feet to 4600', even expanded service to other location should be available for the foreseeable future?

It is TBI's opinion that the runway at HXD needs to be 5,400 feet in length to provide viable commercial service.

-Since one of the key issues for the master plan was support of commercial aviation, and on page 87 there is a one line entry for "Commercial Service Terminal Expansion" costing $1.9, is there a description of this project and a backup detail for this project since this is a benefit that would have considerable support in the community?

The terminal renovation project began in August 2008, and the budget was $1.9 million. It is TBI's understanding that there is an existing scope of work that described the details of the project.

-Since the use of regional jets (CRJ) for commercial aviation at the Hilton Head Island Airport has been debated for years in our community, and it must be clearly defined to stop the future arguments, and the issue is now more complex since Mr. Fred Seritt was quoted this month in the Island Packet as saying regional jets need "6500 feet or longer" which is in direct conflict with the T&B study (Table 4.2.2.2-3) which states that a 5600 foot runway is needed for CRJ 200 and 5500 feet for a CRJ700,

1. Is the difference of opinion the load factor (available seats that can be filled) for the CRJ?

TBI's information was derived from the CRJ-200 and CRJ-700 Airport Planning Manuals provided by Bombardier.

2. If the CRJ load factor is only approximately 60% on the 70 seat CRJ 700, and although is this plane technically available to land using a 5,400 foot runway but will it be profitable for the airline to provide service to our hub cities of Atlanta and Charlotte, considering that on page d-4, it states that the national load levels increased to 79.3 in 2008?

This is not a planning question since the airlines have specific standards and procedures to determine operational load factors at each airport.

3. Considering that the landing distances due to the fixed obstructions (church at one end and office building on the other end) are only 4597 of available feet (see page B-24), would you provide a definitive statement to clear the air on this issue once and for all for commercial aviation?

Each airline has its own standard operating procedures; this question needs to be addressed to the airlines.

-Since it is a well known fact that on 7/1/10 Delta sold (www.pncl.com) its regional partner, Mesaba, who provide service to HH Island airport, to Pinnacle Airlines, please provide the T&B best guess of a replacement aircraft that will be used by Pinnacle for HH Airport service? Since Pinnacle also owns Cogan Air, anther regional airlines, does Pinnacle have Dash8, Model 400 aircraft in it existing fleet, and how many are already on order? Would it not be more proper to calculate the airport runway length based on this data, and not the CRJ200 and CRJ700 aircraft that Delta planned for use to replace the current Delta Saab 340 aircraft?

TBI is unable to answer this question; and any questions regarding use of particular aircraft needs to be addressed to the airlines.

-On page D-4, T&B states that the "decline in load factor at HXD is primarily attributable to the load restriction placed on commercial airlines operating at HXD as a result of the runway length and obstructions". Since this was a key question before the study began,
1. What supporting documentation can be provided to justify this conclusion since many people are aware that the lack of demand is the primary problem with load factors?

Please see quotation from interview with James Seadler of US Airways in section D.2.6 (page D-5) of the report:

> For planning purposes, the airlines operating at HXD use a load factor of 60 percent for determining aircraft fleet to meet the air service demand at HXD. This is a result of the operational constraints at HXD (obstructions and runway length). In general, the airlines use 75 percent as a load factor to *right size* the market with the appropriate aircraft specifically when there are no operational constraints.

Please also see letters from Gary Blevins of Piedmont Airlines (US Airways) and from Dan Sauter of Mesaba Airlines (Delta Airlines).

2. Which is the largest problem for seat restrictions, obstructions or runway length, for USAir? For Delta/Pinnacle?

Based on comments and letters received from representatives of US Airways and Delta Airlines, it is TBI's understanding that both runway length and obstructions are problems at HXD. Please see quotation from interview with James Seadler of US Airways in section D.2.6 (page D-5) of the report:

> For planning purposes, the airlines operating at HXD use a load factor of 60 percent for determining aircraft fleet to meet the air service demand at HXD. This is a result of the operational constraints at HXD (obstructions and runway length). In general, the airlines use 75 percent as a load factor to *right size* the market with the appropriate aircraft specifically when there are no operational constraints.

Please also see letters from Gary Blevins of Piedmont Airlines (US Airways) and from Dan Sauter of Mesaba Airlines (Delta Airlines).

-Since on Page D-4, T&B states that the "for service at HXD is negatively affected by the marketing efforts and level of air service at the Savannah/Hilton Head International Airport", is this a clear statement that the PRIMARY problem with the empty seats at Hilton Head Airport is NOT runway length but the competition from our other airport as result of lower pricing, direct connections, and location of growth areas such as Bluffton?

TBI does not have any data that supports the thesis that runway length is not a problem and that competition from the Savannah-Hilton Head International Airport is the primary problem. Because of the runway length and obstructions that have existed, the type of aircraft and number of seats available have been limited in comparison to SAV. It is difficult to accurately determine what passengers would have done if more seats and less expensive had been available to purchase from Hilton Head when compared to Savannah's available flights and seats.

-On page D-5, since the population of 151,334 used for ASA (Airport Service Area) calculations includes all of Beaufort County including HHI, Beaufort, and Bluffton, is it not more realistic to calculate this based on the population of just Hilton Head Island since other locations of the county will use our airport, the Savannah/Hilton Head Airport since it has the benefits of lower pricing, direct connections, and is a close in terms of driving distances.

Passengers choose their flights and the airport to fly from based on cost, connections, schedule, convenience, participation in airline affinity programs, and good or bad experiences with various airports. It is very likely that potential passengers would travel to the Hilton Head Island Airport from well beyond the Beaufort County line if the flights available met their needs. For this reason, using the 151,334 ASA population is a conservative number on which to base our calculations.

-In order to provide a full understanding of the costs and benefits of the master plan with respect to commercial aviation and general aviation, what is the percentage of probable costs in Table 8.1.1 on Page 97 that are for the benefit of:
1. Commercial aviation?

Twenty eight (28) percent of the probable costs are for commercial aviation projects; 35 percent is shared between commercial service and general aviation for the runway extension.

2. General aviation?

Thirty seven (37) percent of the probable costs are for general aviation projects; 35 percent is shared between commercial service and general aviation for the runway extension.

-Since NO discussion or and NO presentation were PREVIOUSLY MADE in any T&B updates on the Master Plan regarding the newly disclosed plans for the over $18 million FOR HANGARS, APRON EXPANSION AND PARKING LOT EXPANSION OF THE GENERAL AVIATION FACILITIES, and this is clearly outside the locally defined objectives of supporting commercial aviation, would these project not be considered EARMARKS buried under the umbrella of expansion for commercial aviation? Since these projects have a severe negative impact on Port Royal plantation due to the loss of over 30 acres of trees (see page 83, and page 86), is there a separate cost/benefits analysis to support the funding of these projects?

No. No.

Other Questions:
-Since runway extension construction costs appear to be low, and since and the tables in Section F show most of the other costs breakdowns except for the 4600 foot, 5000 foot, and 5400 foot construction costs, what is in the detail construction costs, including drainage, signage, lighting, tree cutting, legal fees, etc., for:
a. the 4600 alternative?

Table B.6.5-2 (page B-41) provides the preliminary project cost estimate without construction of the EMAS. It should be noted, that these costs and the costs presented in the Master Plan Update Draft Final Report are preliminary estimates and not detailed engineering costs based on detailed design work. Detailed engineering costs will be provided when a specific project is identified for design and construction. An additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

b. the 5000 foot alternative?

Table B.6.5-3 (page B-42) provides the preliminary project cost estimate without construction of the EMAS. It should be noted, that these costs and the costs presented in the Master Plan Update Draft Final Report are preliminary estimates and not detailed engineering

costs based on detailed design work. Detailed engineering costs will be provided when a specific project is identified for design and construction. An additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

c. the 5400 foot alternative?

Table B.6.5-4 (page B-42) provides the preliminary project cost estimate without construction of the EMAS'. It should be noted that these costs and the costs presented in the Master Plan Update Draft Final Report are preliminary estimates and not detailed engineering costs based on detailed design work. Detailed engineering costs will be provided when a specific project is identified for design and construction. An additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

-What are the benefits of each of the above alternatives achieved based on:
a. 4300 foot runway with trees cut

Page 39 of the Master Plan Update Draft Final Report states:

> This alternative leaves HXD in its current configuration, avoiding projects that would result in land disturbances and/or construction impacts extending beyond the control of the existing airport boundary. The property, acquired to bring the taxiways to standard separation, is needed to comply with FAA clearance requirements.
>
> Projects that resolve FAA safety matters are implemented to the extent that modifications of FAA airport planning and design standards are avoided. Under this alternative, safety deficiencies based on current FAA standards would be corrected. Overall, this alternative results in increasing the available runway landing length to 4,300 feet of usable runway. However, regaining the total landing length of the existing runway does not address the needs of the critical aircraft currently using HXD.

b. 4600 feet?

Page 46 of the Master Plan Update Draft Final Report states:

> Alternative No. 2 – Phase 1a (4,600-foot runway constrained configuration) does not fully address the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26), and therefore was not considered a viable development alternative.

c. 5000 feet?

Page 42 of the Master Plan Update Draft Final Report states:

> Although Alternative No. 2 – Phase 1 (5,000-foot runway constrained configuration) does not fully address the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26), it could be considered as an interim step to achieving a total extension length of 5,400 feet.

d. 5400 feet?

Page 42 of the Master Plan Update Draft Final Report states:

> Alternative No. 2 (5,400-foot runway constrained configuration) addresses the needs of the critical aircraft currently using HXD, as outlined in Section 4.2.2 Runway Length requirements (page 26).

-If the decision is to not extend runway, or extend 300 feet, are all expenses listed in the "Compliance" Table 5.1.2-1 still required or waivers possible? Is the separation of runway and taxiway only a consideration based on the addition of larger jets, and landing speeds, to be accommodated with the longer runway?

No. Runway to taxiway separation standards are predicated on the airport reference code (ARC) and the existing/future visibility minimums expected. The higher the ARC and the lower the visibility minimums, the greater the runway to taxiway separation distances. For Hilton Head Island Airport, with an ARC of C-II and runways with instrument approach minimums as low as ¾-mile visibility, FAA *Advisory Circular 150-5300-13 – Airport Design* (as amended) includes a separation standard of 300 feet between the runway and taxiway. The Hilton Head Island Airport currently meets this standard for Taxiway 'F'. However, Taxiway 'A' does not meet this standard since it is only 200 feet from the runway centerline. FAA policy requires that all deviations from standards be corrected prior to undertaking any other airfield development projects.

-Why is the EMAS cost not included in Table 9.3.4-1 as an Airfield Project?

The EMAS is included in the runway extension project.

-In table 9.2-1 total costs for runway extensions are listed as
1. 700' runway extension (extension from 4300' to 5000') design and construction" $5.27 million, and
2. 400' runway extension (extension from 5000' to 5400') design and construction: $3.337 million
Since these costs do not tie back to "construction" numbers provided in tables 5.1.4.1-1 and tables 5.1.4-1, what is included in these numbers to account for the difference in construction costs?

These numbers have been reviewed and reconciled in the final report.

The "Construction" costs in Table 9.2-1 are $5,270,000 for a 700 ft. extension and $3,337,000 for a 400 ft. extension. Why are these amounts different from Table 5.1.4.1-1 (5,000 ft) and Table 5.1.4-1 for a 5400 ft. runway? Do these costs include runway and taxiway (GA and Commercial) construction, drainage, signage, markings, lighting, and tree cutting?

These numbers have been reviewed and reconciled in the final report.

Why is not the "Avigation Easement for Runway 21-RPZ" (Runway Protection Zone) costing $1.145 in Table 8.1-1 not included in phase 1 with all the runway expansion projects? Should not this be essential to do in phase 1 with the runway expansion and not later with parking lot expansion and general aviation projects?

Beaufort County has been actively trying to obtain avigation easements around the Airport. While the FAA prefers the Sponsor to own the RPZ in fee simple acquisition, it will accept avigation easements (FAA *Advisory Circular 150-5300-13 – Airport Design* [as amended]). It is not mandatory that Beaufort County have avigation easements for the Runway 21 RPZ prior to the extension of the runway, which is why the acquisition of avigation easements is slated to be performed in later years.

Environmental Questions:
-Although the master plan has been clearly developed to keep the "runway expansion" within the airport property footprint, does page 86 clearly show 40.37 acres of property acquisitions to EXPAND THE AIRPORT FOOTPRINT?

Yes, the Master Plan Update does expand the airport footprint to accommodate the obstacle free areas for the runway extension and relocation of Taxiway 'A' and 'F' (as required by FAA *Advisory Circular 150-5300-13 – Airport Design* [as amended]), as well as the relocation of Beach City Road, and the purchase of property to expand the general aviation side of the airport.

Since an environmental study (page 87: cost estimate $500,000) will be needed for the master plan projects, and if the master plan is trimmed down to what projects the community can support, is it not a fact that the environmental study could be less

costly, have less opposition, and cut a considerable time off the project?

The $500 thousand estimate is for the environmental and benefit-cost analysis studies for the runway extension project only and does not include the other "Master Plan Projects," as outlined in the Master Plan Update. This estimate of $500 thousand is consistent with the cost of this type of project for a runway extension at Hilton Head Island Airport to a length of 5,000 or 5,400 feet.

-Since the loss of trees will have a direct affect on the noise levels to the surrounding residents and businesses, and may exceed 10,000 to 15,000, what is a rough estimate of the trees lost for these airport expansion projects that do not have a direct impact on the runway length for:
a. trees lost with the replacement of the GA parking apron?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

b. trees lost with the expansion of the GA parking apron?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

c. trees lost to expand the commercial parking lot?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

d. trees lost to provide more General Aviation hangars?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

e. trees lost from projects not mentioned above, and excluding trees obstruction projects.

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

-What is the estimated cost of tree mitigation for the trees lost ON AIRPORT PROPERTY for:
a. trees lost with the RELOCATION of the GA parking apron?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

b. trees lost to provide more General Aviation hangars? (page 81)

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

c. trees lost to expand the commercial parking lot? (page 82)

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

d. trees lost to expand the General Aviation parking (page 83)

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

e. trees lost from projects not mentioned above, and excluding trees obstruction projects?

The number of trees to be lost has not been quantified; however, an additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

-Although it appears that over 40 acres of property OUTSIDE THE AIRPORT PROPERTY (see page 86) is being targeted for land acquisition, what is the actual acreage for;
a. airport runway expansion by alternative, compliance, 4600, 5000, and 5400 feet?

The estimated land acquisition acreage for the compliance alternative is 10.72 acres, and for the runway extension and relocation of Beach City Road, 16.37 acres will be required for a total of 27.09 acres.

b. other projects included in the proposal by project?

The estimated land acquisition acreage for the other projects is 29.0 acres.

-Since in the previous the Environment Study for trees for the north end stated that according to FAA guidelines, trees are not a factor in an environmental impact analysis, and thus mitigation may or may not be paid for by the FAA for the projects listed above?
1. Is not mitigation expense an expense of the county and not the FAA?

Depending on the type of mitigation (such as wetlands, etc.), the FAA does participate at a 95 percent ratio. Mitigation requirements for each specific project would be determined during the environmental documentation phase of the project.

2. How will mitigation be done what is the best guess that the new DNL lines for the expansion that is the basis for requiring the buyer of the property to acknowledge noise and safety issues related to the purchase of properties surrounding the airport?

The basis for requiring the buyer of the property to acknowledge noise and safety issues related to the purchase of properties surrounding the Airport is not considered the responsibility of the Airport but is the responsibility of the Town of Hilton Head Island and the requirements outlined in the Town's Airport Overlay District.

3. Is the FAA timing such that a community approves the master plan first, and does the environmental impact later?

The Sponsor would approve the Master Plan Update, and the environmental documentation is performed on a project-by-project basis.

General Questions:
-Although anyone who is attempting to review the proposal find themselves buried in the mountain of paper, would it be possible to do a 1-3 page executive summary of the proposal?

Yes, an executive summary will be included in the final approved report.

-Would T&B provide an advance copy of slides to be presented on October 27th, to be included with responses to council questions due on October 25th, since it is assumed that this format would summarize the findings in the proposal?

A copy of the slide presentation will be posted on the County's web site after the October 27, 2010, joint council meeting. Advanced copies of the presentation slides will not be available.

-For the next draft update of the Master Plan, would T&B provide the next update of the report using standard 8X11 page format such that the general public can review the proposal?

There will be no more draft updates; the October 27, 2010, presentation to the joint session of councils will be the final meeting.

-Would T&B revise the draft Master Plan format the address the 3 local general questions as stated in the Scope of Work before getting into the details of the FAA mandated Airport Layout Plan?

The three questions are answered in the Master Plan Update in Appendix D.

B.6.7 Steve Baer's (Beaufort County Council) Questions (Received October 19, 2010)

A - Present Airport Configuration

1 - We understand that the current airport is 92 acres in size. Section 2.2.1, page 5 indicates 175.05 acres. Which is correct, and what causes this significant difference?

The airport property is 175.05 acres based on the recorded property plat provided by the County (Plat Book 00106, Page 0142).

B - Forecasts and Demand Profile

1 -The 9/15/10 HH Airport report shows 66,151 Enplanements in 2009. (The MP on page 91 shows 66,893) However, the MP actually uses 75,073 in its forecast on page 18. There is a brief discussion of this difference on page 91, but no data is provided. It appears that the 66,151 is the correct commercial number and should be used for the commercial forecast. Please show how the 8922 (13%) additional enplanements were derived and why they should be included in the commercial forecast base.

The forecasts were developed before final 2009 enplanement numbers were available. The 75,073 annual enplanements shown in 2009 represent the first year of the forecasts.

2 - If the extra commercial numbers described in Question 1 above are based on charter-private use, explain the logic for the migration of customers to the commercial side, and their use (to inflate) the commercial base forecast. This appears to be an invalid assumption.

The forecasts were developed before final 2009 enplanement numbers were available. The 75,073 annual enplanements shown in 2009 represent the first year of the forecasts.

3 - The 2004-2009 Enplanement annual growth rate (AGR) according to the airport's data is about 1% per year. The MP seems to use a much higher number, 2.54% to reach 124,000 by 2029, as claimed. The actual forecast track is not specifically described. Which of the columns in Table 3.3.2-1 or trajectories in Figure 3.3.2-1 was actually used as the MP commercial forecast?

The growth rate for annual enplanements does not include 2009 end of year enplanement data as it was not available when the forecasts were developed. The 2.54 percent annual growth rate was carried through the 20-year planning period and can been seen as the dark blue line on Figure 3.3.2-1 (page 19 of the Master Plan Update Draft Final Report).

4 - The net result of the issues raised in Q1 - Q3 is that the MP starts with an elevated commercial passenger base and uses an elevated AGR. That will lead to a large over-forecast of commercial passengers, as we have seen in previous master plans. How does the MP justify this? (Ref. Page 18)

The forecasts represent a projection from a specific point in time. These forecast numbers utilize all available data when they are produced. A "living" forecast would have the benefit of being continuously updated to reflect the latest changes in airport activity levels.

5 - Sections D.2.5 and D.2.7 suggest that 70% of local demand is being served elsewhere and mentions some 'leakage' to Savannah. The addition of a low cost airline at Savannah or Charleston would make this leakage worse. One of the main reasons for the leakage is that customers prefer the number of direct routes available from Savannah. This is a natural consequence of Savannah drawing from a much larger serving area than HXD, and hence being able to aggregate enough business to get over the economic break point for a new route. (61% of Savannah customers are not from HH.) An effort to reproduce some of these direct routes from HXD would not only run into runway length problems caused by added weight for the higher fuel loads, but would first be constrained by the splintering of ultimate destinations for the O&D passengers at HXD, causing many - all of such direct routes to be uneconomic. Since some are using this MP report to promote expansion for the sake of customer recapture from Savannah, what are the number of passengers per year from HXD to each of the top 10 ultimate destination airports from HXD?

Estimating the number of passengers for the top ten markets was not part of the scope for the Master Plan Update.

6 - What are typical numbers of passengers each way per year used by airlines to economically justify a direct route to another city?

The number of passengers to profitably serve a new market requires an air service study question, which was not part of the scope for the Master Plan Update.

C - EMAS

1 - The T/B plans are highly dependent on the performance of the proposed EMAS. For example, if the EMAS required were to be 600' instead of the 450' claimed, the runway length options would be severely constrained. How confident is T/B in the viability of the 450' EMAS?

The EMAS will always be shorter than the RSA limit and will never be longer than 600 feet for HXD. The 600-foot length is established by the FAA requirements for the runway safety area (RSA) and not the length of the EMAS. An RSA length, the distance from the end of the runway to the limit of the RSA, of 600 feet is allowable at HXD provided an EMAS is installed. If no EMAS is installed the RSA length required would be 1,000 feet.

2 - What steps will be taken and when to verify these EMAS length assumptions?

The length of the EMAS is established in accordance with FAA *Advisory Circular 150/5220-22A – Engineered Materials Arresting Systems (EMAS)*. In no case will the EMAS exceed the RSA limit of 600 feet. The length of 450 feet was only an approximated length based on Figure A2-7 of FAA *Advisory Circular 150/5220-22A – Engineered Materials Arresting Systems (EMAS)* for a Gulfstream GW III. The design of the EMAS arresting bed would be adjusted in order to keep its length within the RSA.

3 - Page 39 says that a 600' EMAS is added in the compliance configuration. The diagram on page 41 shows 450'. Which is correct?

The EMAS will always be shorter than the RSA limit and will never be longer than 600 feet for HXD. The 600-foot length is established by the FAA requirements for the runway safety area (RSA) and not the length of the EMAS. An RSA length, the distance from the end of the runway to the limit of the RSA, of 600 feet is allowable at HXD provided an EMAS is installed. If no EMAS is installed the RSA length required would be 1,000 feet.

4 - Page 42 says that a 600' EMAS is added at each end in the constrained 5400' configuration. The diagram on page 44 shows 450'. Which is correct?

The EMAS will always be shorter than the RSA limit and will never be longer than 600 feet for HXD. The 600-foot length is established by the FAA requirements for the runway safety area (RSA) and not the length of the EMAS. An RSA length, the distance from the end of the runway to the limit of the RSA, of 600 feet is allowable at HXD provided an EMAS is installed. If no EMAS is installed the RSA length required would be 1,000 feet.

5 - If the EMAS requirement were indeed to be 600', or some other number, show the runway lengths actually available for that EMAS length in the various options, and what would have to be done to achieve them.

The EMAS will always be shorter than the RSA limit and can never be more than a total of 600 feet.

D - Costs
1 - Is the $19.107 M cost of the constrained 5400' alternative - Table 5.1.4-1 (page 42) in addition to the compliance costs in table 5.1.2-1 on the same page, or the total including the compliance quantities?

Total including the compliance quantities.

2 - Same questions for 4600' alternative.

Total including the compliance quantities.

3 - Same questions for 5000' alternative.

Total including the compliance quantities.

4 - What are the incremental costs: 4300' today to 4300' complaint; 4300' complaint to 4600'; 4600' to 5000'; 5000' to 5400'?

The incremental costs are as outlined in Table B.6.7-1.

Table B.6.7-1
Incremental Costs
Hilton Head Island Airport

Preliminary Costs	Runway Length 4,300 Feet	4,600 Feet	5,000 Feet	5,400 Feet
Land Acquisition	$3,600,000	$3,600,000	$8,750,000	$9,100,000
Avigation Easements	$1,145,000	$1,145,000	$1,145,000	$1,145,000
Construction	$1,750,000	$2,183,000	$3,290,000	$4,215,000
EMAS	$2,000,000	$2,000,000	$2,000,000	$4,000,000
Beach City Road Relocation	$0	$0	$0	$750,000
Total	$8,495,000	$8,928,000	$15,185,000	$19,210,000
Costs between 4,300' and 5,400'	$0	$433,000	$6,690,000	$10,715,000
Incremental Costs		$433,000	$6,257,000	$4,025,000

5 - Do the costs provided in Section 5.1 and other economic analyses in the document include such items as: Storm water mitigation, environmental mitigation and expected legal costs for easements and land acquisition?

An additional 20 percent will be added to the construction cost estimate for tree cutting/mitigation, stormwater/environmental mitigation, legal fees, etc., in the final report.

6 - It is difficult to correlate the costs on Table 8.1-1, page 87 with those in section 5.1. For example, Table 8.1-1 does not call out the EMAS of Section 5.1, yet shows other more discretionary expenses. A more descriptive and detailed Table 8.1-1 is needed that can be directly correlated with the various tables in Section 5.1, while also showing the phases and less critical items, such as new hangars.

All tables will be reviewed and updated in the final report to have consistent format and information.

7 - In Section 9.3 it is interesting to see that there are several funding sources mentioned as having the potential to help with plan's funding, including the $12.7 million of general aviation (GA) intermediate and long term improvements. These include County bonds, passenger facility fees, rental car fees etc. Since some of these enhancements benefit general aviation, it is curious that taxpayers and commercial passengers were sources specifically enumerated to pay additional costs, but GA via landing or additional fees were not. This is a noticeable and significant gap, especially considering that $12.7 of the improvements benefit GA uniquely. Why were GA landing and other new fees not included?

Commercial service airlines pay landing fees, but general aviation aircraft are not subject to landing fees. However, general aviation aircraft fees charged by Signature Flight Support are outlined in Table B.6.1-2 (page B-35). Beaufort County receives 3 percent of all revenue produced by Signature Flight Support. It is the opinion of TBI that general aviation aircraft fees charged by Signature Flight Support are consistent with industry standards.

8 - Section 9.5.2 dealing with operating expense seems to use a historic trend analysis as the basis for expense projections. However, according to the plan, the airport and its buildings will grow significantly in size, with much more area, facilities and complexity. Hence, we need to see expense projections that specifically include all the airports new facilities (i.e. - a bottoms up operations cost analysis) and not just projections based on old historic trends. Otherwise we may find that we have many facilities but lack the operations funds to maintain them. We appear to already be experiencing this today with our hangar and terminal maintenance.

The size of the Airport and buildings will not increase over the short-term planning period as suggested in the question. New facilities will be constructed in the intermediate- and long-term planning periods. O&M costs were only described in the short-term; therefore, intermediate- and long-term O&M expenses (or additional revenues) for those facilities are not accounted for in the financial section.

E - Environment, Noise and Zoning
1 - Section 6.1, page 48 states that no air quality analysis is required for HXD. Yet we hear reports from North-end residents of particulate or liquid dropping on them from planes. How do you reconcile those two statements?

TBI is not aware of particulate or liquid dropping from planes. As stated on page 48 of the Master Plan Update Draft Final Report:

> Determination of the need for an air quality analysis at an airport is based on the ultimate forecast level of aircraft operations. FAA Order 1050.1E Change 1 *Environmental Impacts: Policies and Procedures* (March 20, 2006), Appendix A, Section 2.4b states that for *detailed guidance on air quality procedures see FAA's report "Air Quality for Civilian Airports and Air Force Bases."* The report states that "*if the level of annual enplanements exceeds 1,300,000, the level of general aviation and air taxi activity exceeds 180,000 operations per year or a combination thereof, a NAAQS assessment should be considered.*" Forecasts for HXD indicate a total of approximately 56,901 annual operations by 2029 (Table 3.5.2-2, page 22), which is well below the minimum operations threshold requiring an air quality analysis.

This determination will be reassessed by the FAA when the runway extension project is identified for design and construction and the environmental documentation is performed.

2 - How do you envision that the airport overlay district will have to changed from the present state under the 4 options: 4300' compliant, 4600', 5000', 5400'? Note that Section 6.13.2, Page 64 indicates that the 65 DNL area will grow from 126.8 acres calculated existing to 171.9 acres forecast due to increased runway usage and heavier planes in the new MP.

The 65 DNL noise contour encompasses the following acreage:

- 4,300-foot runway – 126.5 acres
- 4,600-foot runway – 127.8 acres (1.3-acre increase)
- 5,000-foot runway – 130.8 acres (4.3-acre increase)
- 5,400-foot runway – 135.3 acres (8.8-acre increase)

The existing and future noise contours outlined in the Master Plan Update are within the existing airport overlay district contours. TBI does not recommend changing the existing airport overlay district until the runway extension project is identified for design and construction and the environmental documentation is performed.

3 - It has long been felt by many residents that the FAA noise models include data that represents a 'best case effort' by engine and airplane manufacturers, aircraft operators, airport operators, pilots, and other aviation industry members to produce studies putting them in the best light to promulgate their sales and plans. (This is analogous to the early Federal gas mileage models which grossly over-stated expected automobile gas mileage.) There seem to be no studies of actual (vs. theoretic) noise performance to determine if modeled values are actually obtained in the real world. To provide a baseline on actual noise, a set of North-end noise measurements were paid for by the

Town of HHI and Beaufort County under an expansion of the T/B MP contract, and taken on approximately September 11-13, 2010. Given the fact that approval of this MP will extend the number of flights, weight of aircraft, and intrusion into communities, the evaluation of any real and current noise data (as opposed to just the theoretic models in this report) is important. Why is the new September 2010 noise data not included or referenced in the current document? (Note: This data was also requested via a Freedom of Information Act letter to Beaufort County on October 5, 2010.)

The Master Plan Update includes output from the FAA Integrated Noise Model (INM) in the form of day/night sound level (DNL) noise contours. INM is the FAA-preferred computer model that evaluates aircraft noise impacts in the vicinity of airports and is based on the algorithm and framework using the SAE AIR 1845 standard. DNL is the average noise level over a 24-hour period with proper day-night weighting as adopted by the USEPA. The FAA has refined the INM with input from a broad range of users (i.e., government agencies, air carriers, consultants, and airframe manufactures). Comparisons of modeled and measured noise levels at a broad range of airports have shown very good agreement between the modeled noise levels and the measured noise levels. The FAA does not permit users of the INM to substitute measured data for the standard data that are in the INM.

An independent noise study, separate from the Master Plan Update, was authorized by Beaufort County and the Town of Hilton Head Island to be performed in two phases to determine if any differences occur between noise of single events (arrivals, departures, and run-ups) expressed as sound exposure level (SEL) before and after completion of the Runway 21 tree removal/trimming project. The field measurements of aircraft operation sound levels for the first phase of this study performed during September 11-14, 2010, will be compared to the field measurements taken in the same locations under similar conditions after the Runway 21 tree removal/trimming project is complete.

The tree removal project and the associated independent noise study are separate ongoing projects and not included as part the Master Plan Update. The measurements from the SEL cannot be used to "adjust" the DNL contours for a Master Plan or a Part 150 Noise Compatibility Study in accordance with FAA requirements.

The Freedom of Information Act letter to Beaufort County on October 5, 2010, was responded to on October 25, 2010, via email to Paul Andres (Airport Director).

F - Lighting and Guidance

1 - To what extent will lights and other navigation devices have to be placed on or near the St. James Church Steeple and Pineland Station buildings (in all options) in order to alert planes of their location and height? Note the new reduced vertical clearances from the Glide Slopes to the Church Steeple (reduced from 22.3' to 12.5') and Pineland Station (reduced from 23.7' to 20.7') recommended by this MP.

None, because they do not penetrate the 34:1 approach surface.

2 - Describe the approach lighting system (mentioned in Section 4.2.7, page 31) planned for the Runway 21 approach. What building changes, and land control are required?

The likely approach lighting system planned for Runway 21 is the omni-directional approach lighting system (ODALs) and will not require any building or land control changes. The length of the system is 1,500 feet long and can be installed within the existing airport property.

3 - What are factors preventing the creation of an ILS and/or vertical precision approach (VP)? Are there adequate distances and clearances to permit this to happen with any of the MP options?

For an ILS precision approach, a glide slope antenna must be installed to provide vertical guidance to complement the existing localizer approach. Glide slope installations meeting FAA standards require adequate ground areas free of taxiways, taxiing aircraft, and other features that could cause undesirable reflection of the glide slope antenna signals. At a minimum, this would require relocation of the parallel taxiway on the Runway 21 end. Adequate land is not currently available on airport property to accommodate this.

For a GPS approach with vertical guidance, it is anticipated that the proposed tree removal/trimming project will provide the required clear approach surface.

4 - Describe any changes required to achieve the ILS/VP requirements. What additional trees or buildings would have to be removed? What existing and additional land must be controlled, and how?

For the ILS glide slope option, additional land must be purchased and buildings/trees must be removed from the glide slope ground plane area, at a minimum, on the west side of Taxiway 'F' on the Runway 21 end; Taxiway 'F' will need to be relocated on the Runway 21 end; the proposed tree removal/trimming project must be completed; and an approach lighting system is recommended by the FAA. The runway pavement markings would also need to be upgraded to "precision" markings.

For a GPS approach with vertical guidance, it is anticipated that the proposed tree removal/trimming project will provide the required clear approach surface for a vertically guided GPS approach. An approach lighting system is required for instrument approach minimums of less than ¾-mile visibility. The runway pavement markings would also need to be upgraded to "precision" markings.

5 - We have heard that commercial planes may use the full runway landing length for landing rather than the displaced thresholds. Is this true and permitted? What are the safety implications?

This statement is not true, and commercial service aircraft are required to land on displaced thresholds as required of all aircraft.

G - Maps and Diagrams

1 - The color coding on Exhibit A - Property Map, page 86 is not complete or accurate. For example: avigation easements B39-B50 have no color shading on the drawing; future developments B31-B33 and B36 - B37 have colors not defined on the legend. This may only be a partial list of examples.

Issue resolved.

H - Load Factors and Aircraft

1 - Section D.2.9 and earlier parts of section D reference Delta service to Atlanta. When did Delta service start at HXD Airport?

Delta Connection (Atlantic Southeast Airlines [ASA]) began March 17, 2007, and ended on November 30, 2008.

Delta Connection (Mesaba Airlines) began March 2, 2009, and suspended on November 2, 2009.

Delta Connection (Mesaba Airlines) resumed March 4, 2010, and will suspend on November 1, 2010.

2 - If Delta service were to be discontinued at HXD (e.g. due to lack of a suitable aircraft or lack of runway length sufficient for a CRJ), would not some of those passengers utilize the other carrier (assuming it had aircraft better suited to our runway length, and we did the compliance tree work to improve their carrying capability), and hence improve the business case for that carrier? This is analogous to trimming the weaker branches of a tree to let the stronger branch thrive.

This question needs to be addressed by the airlines.

3 - Section D.2.6 indicates that the airlines presently use a 60% load factor at HXD rather than the 75% standard due to obstructions and runway length. Then Section D.2.7 states that removal of the tree obstacles would allow the airlines to improve their load factors on existing aircraft. Considering that any change at HXD presents costs, benefits and pain, the analysis of potential load factor improvements is an extremely important input to local government's rigorous analysis of plan options. However, despite a related question appearing in our statement

of work, and several repeats of this question thereafter, the T/B MP report provides no related data to support our decisions, based on the capabilities of commercial aircraft for service on the actual existing routes to CLT and ATL. These are the key commercial markets in our decision making process, yet the MP is silent on the actual aircraft requirements to serve them.
Using the following table representing the actual condition in the options in this MP, what is the expected load factor capability (seats usable/seats total) for the following planes at HH at (30 C) 86 F in commercial service to Atlanta and Charlotte? (Assume that trees cut/trimmed and the 34:1 GS and other factors are in place per the compliance plan; important - consider the landing and takeoff lengths, including displaced thresholds, and vertical obstacles such as trees and buildings in the plans in the MP document.)
Table 1 - Expected Load Factor Capability (seats usable/seats total) for Commercial Service to Charlotte and Atlanta.
Notes: T = 30C (86F); Uses landing and takeoff lengths, including displaced thresholds, and vertical obstacles in the plans in the MP document; Assume Q400 = 70 seat version

Table B.6.7-2
Expected Load Factor Capability (seats usable/seats total) for Commercial Service to Charlotte and Atlanta (Based on Maximum Takeoff Weight) Hilton Head Island Airport

	Runway Length			
Plane Type	4,300' Compliant	4,600'	5,000'	5,400'
Dash 8-200	Yes	Yes	Yes	Yes
Dash 8-300	No	Yes	Yes	Yes
Q400	No	No	No	Yes
SAAB 340	No	No	Yes	Yes
CRJ-200	No	No	No	No
CRJ-700	No	No	No	No

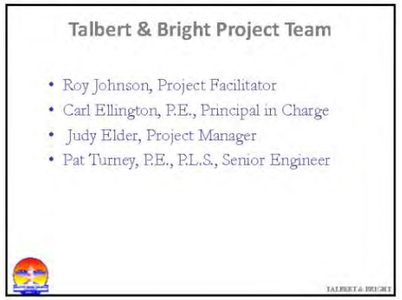
4 - Some expansion advocates have stated the viability of the CRJ - 200 and CRJ - 700 at 5000' or 5400' in our HXD environment that would exist per this MP (including the vertical obstacles and displaced thresholds). What commercial airports in the US have these or any Regional Jets operating with either 5000' or 5400' takeoff length and 4597' landing length (Parameters from the 5400' compliant plan)? What type planes are used for these lengths?

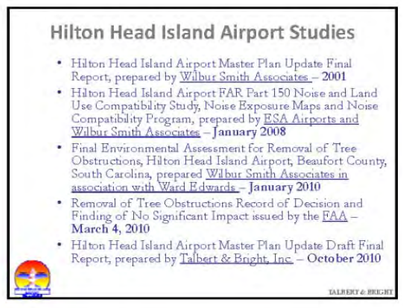
Table B.6.7-3 lists the commercial service airports that have runways of less than 5,000 feet that receive commercial regional jet operations.

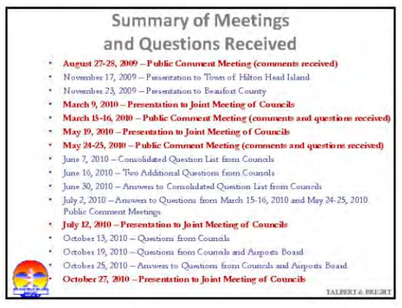
Table B.6.7-3
Commercial Service Airports with Runway Lengths Less Than 5,400 Feet Hilton Head Island Airport

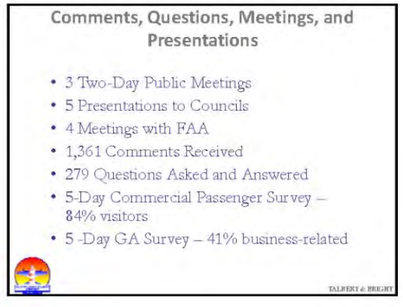
Airport/Runway		Length		Aircraft
		Takeoff	Landing	
EYW	Key West International, Key West, FL – 09/27	4,801'	4801'	CRJ-200/700/900, Boeing 737-700, ATR-72-210, ATR-42-320, ERJ 170/175
DCA	Ronald Reagan Washington National, Washington, DC			ERJ, CRJ-200
	15/33	5,204'	5,204"	
	04/22	4,911'	4,911'	
MDW	Chicago Midway International, Chicago, IL			ERJ-145/175, CRJ-200/700/900, Q-400, Boeing 737-300/500/700
	04L	5,507'	4,749'	
	22R	5,507'	4,629'	
	13L	5,141'	4,389'	
	31R	5,141'	5,141'	
ISP	Long Island Mac Arthur, New York, NY			Boeing 737-300/500/700, CRJ-200, Dash 8-100/300
	10/28	5,034'	5,034'	
	15L/33R	3,175'	3,175'	
	15R/33L	5,186'	5,186'	
BOS	General Edward Lawrence Logan International, Boston, MA – 14/32	5,000'	5,000'	ERJ-135/140/145
RUT	Rutland - Southern Vermont Regional Airport, Rutland, VT			ATR-42-320, Embraer 190
	01/19	5,000'	5,000'	
	13/31	3,170'	3,170'	
This is a partial list for illustration and does not include all airports.				

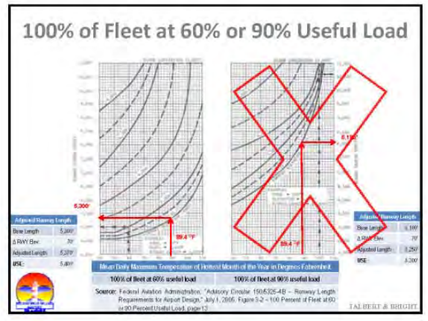
Exhibit B.7 Master Plan Update Summary – October 27, 2010

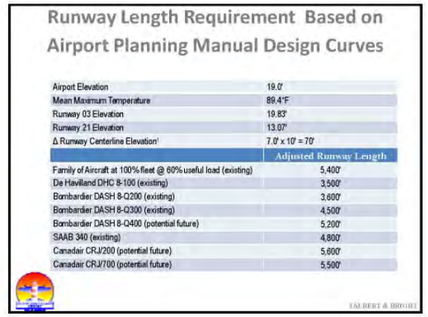


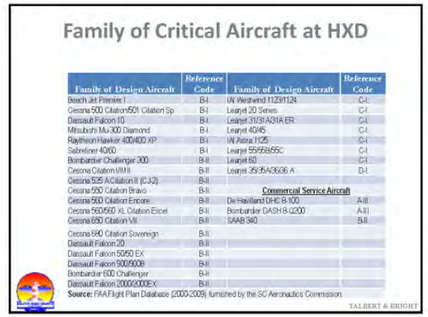












FAA

TALBERT & BRIGHT

Development Alternatives Analysis

- 4,300-Foot Runway (Configuration in Compliance)
- 5,400-Foot Runway Unconstrained Configuration
- 5,400-Foot Runway Constrained Configuration
  - 5,000-Foot Constrained Configuration Phase 1
  - 4,600-Foot Constrained Configuration Phase 1a
- 5,400-Foot Runway Realigned and Constrained Configuration

TALBERT & BRIGHT

Alternative No. 1
(5,400' Runway Unconstrained Configuration)

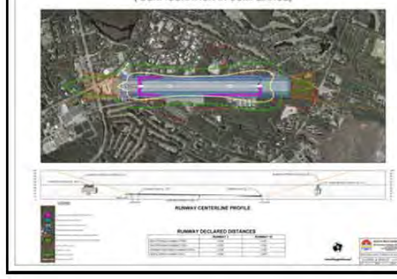
- Relocation of Beach City Road, Fish Haul Road, and Dillon Road
  - Purchase of 21 parcels or portions of parcels
- Relocation of St. James Baptist Church
- Additional tree clearing for approaches

TALBERT & BRIGHT

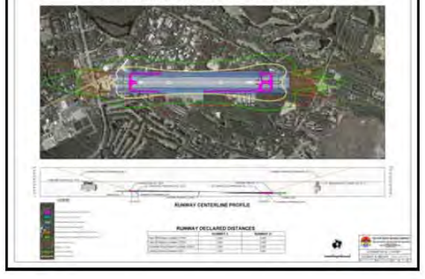
ALTERNATIVE NO. 2
(5,400' RUNWAY CONSTRAINED CONFIGURATION)

EXISTING 4,300' RUNWAY
(CURRENT CONFIGURATION)

EXISTING 4,300' RUNWAY
(CONFIGURATION IN COMPLIANCE)



ALTERNATIVE NO. 2 - PHASE 1
(5,000' RUNWAY CONSTRAINED CONFIGURATION)



Alternative No. 2
(5,400' Runway Constrained Configuration)

Phase I – 5,000' Runway

- Construction of an EMAS on Runway 03
- Landing thresholds will be located to match the current tree clearing project
- Operational weight restrictions on certain aircraft

Phase II – 5,400' Runway

- Construction of an EMAS on Runway 21
- Relocation of Beach City Road
  - Purchase of 5 parcels or portions of parcels

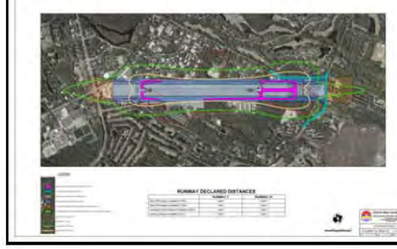
TALBERT & BRIGHT

Existing 4,300' Runway
(Configuration in Compliance)

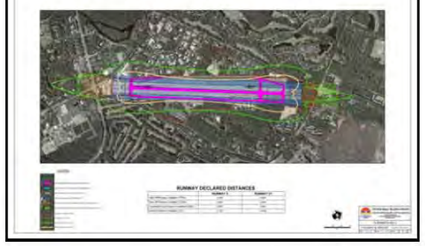
- Extend Runway 03 RSA –
  - Purchase of property and construct RSA
    or
  - Installation of EMAS
- Removal of displaced thresholds on both ends of runway
- Relocation of Taxiway "A" from 200' to 300' from runway centerline
- Limited improvement to runway performance capability

TALBERT & BRIGHT

ALTERNATIVE NO. 1
(5,400' RUNWAY UNCONSTRAINED CONFIGURATION)



ALTERNATIVE NO. 3
(5,400 ' RUNWAY REALIGNED & CONSTRAINED CONFIGURATION)



Alternative No. 3
(5,400' Runway Realigned and Constrained Configuration)

- Construction of new runway and taxiway system
- Construction of EMAS' on both ends of the new runway
- Relocation of Air Traffic Control Tower (ATCT)
- Relocation of Aircraft Rescue and Fire Fighting (ARFF) building currently under construction
- Purchase of property including Exec Air
- Additional tree clearing in approaches

TALBERT & BRIGHT

Alternative Runway Lengths
Preliminary Project Cost Estimate Summary

Preliminary Costs	Runway Length			
	4,300 Feet	4,600 Feet	5,000 Feet	5,400 Feet
Land Acquisition	$3,680,000	$3,680,000	$8,750,000	$9,100,000
Avigation Easements	$1,145,000	$1,145,000	$1,145,000	$1,145,000
Construction (includes design)	$1,750,000	$2,183,000	$3,290,000	$4,215,000
EMAS	$2,000,000	$2,000,000	$2,000,000	$4,000,000
Beach City Road Relocation	$0	$0	$0	$750,000
BOA/EA	$0	$600,000	$600,000	$600,000
Environmental Mitigation/Litigation (estimated)	$291,000	$394,000	$650,000	$705,000
Total	$8,786,000	$9,792,000	$16,235,000	$20,415,000
4,300' vs. Extension Options		$1,006,000	$7,449,000	$11,629,000
Incremental Costs		$1,006,000	$6,443,000	$4,180,000

Potential funding sources:
- FAA 95%
- SCAC 2.5%
- Local 2.5%

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Other Projects

	Estimated Project Cost
Airfield Projects	
Runway 03 34:1 Obstruction Removal (trees)	$1,500,000
Transitional Surface Obstruction Removal (trees)	$2,000,000
Commercial Service Passenger Terminal Area	
Commercial Service Terminal Expansion	$9,900,000
Other Short-Term Projects	$5,400,000
Future Projects	
Commercial Service Parking Lot Expansion (120 spaces)	$922,100
General Aviation Apron Expansion (18,500 sq yd)	$1,680,000
10-Unit T-Hangar	$1,350,000
Conventional Hangar (2)	$2,830,000
Land Acquisition General Aviation Side	$9,335,000
10-Unit T-Hangar (2)	$2,660,000
Conventional Hangar (2)	$2,450,000
General Aviation Apron Expansion (17,800 sq yd)	$1,620,000
Commercial Service Parking Lot Expansion (150 spaces)	$720,000
Future Projects	$17,287,100

TALBERT & BRIGHT

Three Questions

1. Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.

TALBERT & BRIGHT

Question 1

The current airport facilities are sufficient for emergency evacuation and recovery. However, there are some recommendations for improvements and they are as follows:

- Install an emergency backup generator to supply power for the commercial service terminal building.
- Identify and reserve space on the commercial aircraft parking apron for helicopter operations during an emergency response.
- Coordinate the Airport's role in emergency evacuation with the proposed merger of the Town and County Emergency Operations Plan.

TALBERT & BRIGHT

Airport Layout Plan Drawing Set

- Cover Sheet
- Airport Layout Drawing
- Runway 03 Airport Airspace Profile and Inner Approach Surface Drawing
- Runway 21 Airport Airspace Profile and Inner Approach Surface Drawing
- Commercial Service Terminal Area Plan Drawing
- General Aviation Terminal Area Plan Drawing
- Airspace Drawing
- Land Use Plan Drawing
- Airport Property Map (Exhibit A)

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Airport Layout Plan

TALBERT & BRIGHT

Three Questions

1. Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.
2. Verify that existing airport facilities are adequate for viable commercial service to the Atlanta and Charlotte hubs and
   (A) identify any possible risks to viability, along with the earliest time the risk to service might occur, and
   (B) recommend improvements and alternatives.

TALBERT & BRIGHT

Question 2

Due to the constraints of runway length and obstructions at HXD, the existing airport facilities are marginally adequate for viable service to the Charlotte and Atlanta hubs at this time:

RISK TO VIABILITY:

- Airlines that operate, require significant operational restrictions on their load factors under current conditions.
- Delta Airlines may cease turboprop service to HXD as early as 2012.
- Some versions of US Airways fleet (Dash 8) will eventually be removed from service, possibly resulting in reduction of flights from its Charlotte hub.
- Failure to make improvements to the airfield could result in loss of service from Delta Airlines as early as 2012.

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Environmental Overview

Environmental Analysis Category	
Air Quality	Questions below threshold analysis requirements
Coastal Resources	
Coastal Zone Management Program	Compliance required
Coastal Barriers	No impact
Compatible Land Use	Analysis required
Construction Impacts	Analysis required
Department of Transportation Act: Section 4(f)	Analysis required
Farmlands	No impact
Fish, Wildlife, and Plants	
Essential Fish Habitat	Analysis required
Endangered and Threatened Species of Flora and Fauna	Analysis required
Migratory Birds	Analysis required
Floodplains	Analysis required
Hazardous Materials, Pollution Prevention, and Solid Waste	
Hazardous Waste Materials	Analysis required
Solid Waste Impact	Analysis required
Historic, Architectural, Archeological, and Cultural Resources	Analysis required
Light Emissions and Visual Impacts	
Light Emissions	Analysis required
Visual Impacts	Analysis required
Natural Resources and Energy Supply	Analysis required
Noise	Analysis required
Secondary (Induced) Impacts	Analysis required
Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks	
Socioeconomic Impacts	Analysis required
Environmental Justice	Analysis required
Children's Environmental Health and Safety Risks	Analysis required
Water Quality	Analysis required
Wetlands	Analysis required
Wild and Scenic Rivers	Analysis required

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Three Questions

TALBERT & BRIGHT

Question 2

RECOMMENDATION:

In order to maintain viable service to the Atlanta and Charlotte hubs, as well as other airlines that may desire to serve the Hilton Head Island market, it is recommended that:

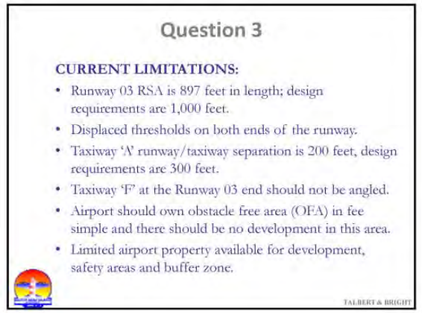
- The runway be extended to 5,400 feet, as outlined in Alternative 2.
- An EMAS be installed on each runway end.
- The obstructions to the runway approaches be removed as mandated by the FAA to achieve a clear 34:1 approach surface.
- Relocate Taxiway 'A' serving the general aviation side of the Airport to a separation of 300 feet from the runway centerline.
- Acquire property to relocate Beach City Road to achieve the required runway and taxiway safety/obstacle free areas for the 5,400-foot runway and relocated taxiway.

TALBERT & BRIGHT

Three Questions

1. Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.
2. Verify that existing airport facilities are adequate for viable commercial service to the Atlanta and Charlotte hubs and
   (A) identify any possible risks to viability, along with the earliest time the risk to service might occur, and
   (B) recommend improvements and alternatives.
3.
   (A) Determine what limitations current airport property size and configuration place on airport operations and safety.
   (B) Determine the impacts of those limitations on people and surrounding property, if the current airport property is to be used to its full potential.

TALBERT & BRIGHT


Question 3
CURRENT LIMITATIONS:
• Runway 03 RSA is 897 feet in length; design requirements are 1,000 feet.
• Displaced thresholds on both ends of the runway.
• Taxiway 'A' runway/taxiway separation is 200 feet, design requirements are 300 feet.
• Taxiway 'F' at the Runway 03 end should not be angled.
• Airport should own obstacle free area (OFA) in fee simple and there should be no development in this area.
• Limited airport property available for development, safety areas and buffer zone.
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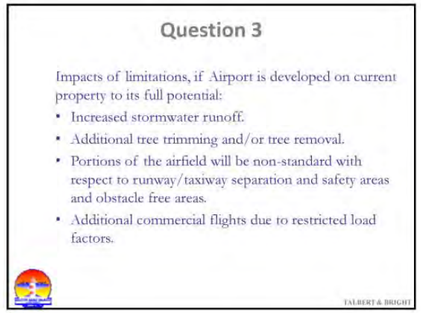
Question 3
Impacts of limitations, if Airport is developed on current property to its full potential:
• Increased stormwater runoff.
• Additional tree trimming and/or tree removal.
• Portions of the airfield will be non-standard with respect to runway/taxiway separation and safety areas and obstacle free areas.
• Additional commercial flights due to restricted load factors.
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Piedmont Airlines
TALBERT & BRIGHT


NetJets
TALBERT & BRIGHT


FAA
TALBERT & BRIGHT


Airports Board
TALBERT & BRIGHT


Airports Board
TALBERT & BRIGHT


Mesaba Airlines
MESABA AIRLINES
TALBERT & BRIGHT

Exhibit B.8 Concurrence Correspondence and Resolutions

U.S. Department of Transportation
Federal Aviation Administration

Federal Aviation Administration
Atlanta Airports District Office

1701 Columbia Avenue
Campus Building, Suite 2-260
College Park, Georgia 30337

February 9, 2010

Mr. Gary Kubic
Beaufort County Administrator
Post Office Drawer 1228
Beaufort, South Carolina 29901

Re: Runway Length Determination
Hilton Head Island Airport (HXD)

Dear Mr. Kubic:

I have completed a review of the Runway Length Evaluation of the Airport Master Plan Update that was submitted to this office on January 26, 2010. I find that the methodology conforms to FAA Advisory Circular: 150/5325-4B Runway Length Requirements for Airport Design. FAA supports the conclusion for a proposed runway length of 5,400 feet at HXD.

Sincerely,

Scott L. Seritt
Manager

cc: Judy Elder, TBI
Bill Pearson, Pearson Engineering
Files

County Council of Beaufort County
Hilton Head Island Airport – www.hiltonheadairport.com
Beaufort County Airport – www.beaufortcoairport.com
120 Beach City Road - Post Office Box 23739
Hilton Head Island, South Carolina 29925-3739
Phone: (843) 255-2950 - Fax: (843) 689-5411

TO: Wm. Weston J. Newton, Chairman, Beaufort County Council

FROM: Peter Buchanan, Chairman, Beaufort County Airports Board

SUBJ: Hilton Head Island Airport Master Plan Update

DATE: June 10, 2010

BACKGROUND. On May 19, 2010, Talbert & Bright made a presentation to a joint meeting of the Beaufort County Council and the Hilton Head Island Town Council regarding the Hilton Head Island Airport Master Plan Update. This presentation focused on an analysis of runway alternatives to meet existing and future airport needs. This analysis included an evaluation of the existing runway configuration as well as three alternative runway expansion scenarios. The Airports Board concurs that Alternative No. 2, which involves a phased expansion of the runway to 5,400 feet, is the best and most logical approach to meet the needs of the airport while minimizing the impact to surrounding neighborhoods.

RECOMMENDATION. The Beaufort County Airports Board recommends that Beaufort County Council approve and solicit approval from the Hilton Head Island Town Council to use Alternative No. 2, a phased expansion of the runway to 5,400 feet, as the basis to complete the Hilton Head Island Airport Master Plan Update.

cc: Gary Kubic
Rob McFee
Paul Andres
Sue Rainey

R-2010-14

A Joint Resolution of the Beaufort County Council and the Town Council for the Town of Hilton Head Island, Endorsing Alternative 2 of the 2010 Hilton Head Island Airport Master Plan Update

WHEREAS, the Beaufort County Council and the Town Council for the Town of Hilton Head Island previously agreed in the spring of 2009 to jointly participate in the update of the Master Plan for the Hilton Head Island Airport; and

WHEREAS, a team consisting of County and Town representatives selected the consulting firm of Talbert & Bright (Consultants) to undertake the Master Plan update in the summer of 2009; and

WHEREAS, at a presentation on March 19, 2010, to both County Council and Town Council, the Consultants presented their recommendations on selection of a Critical Aircraft, and identified a class of private planes requiring a runway of 5,400 feet; and

WHEREAS, at a presentation on May 19, 2010, again to both the County Council and the Town Council, the Consultants presented their Alternatives Analysis and, based on a variety of factors, recommended Alternative 2; and

WHEREAS, the Consultants have represented that Alternative 2 provides for a runway of 5,400 feet in a "constrained configuration" that does not physically impact on, nor require the removal or relocation of, the St. James Baptist Church, nor of any private homes, and might be accomplished in two phases, the first phase requiring no land acquisition or relocation of roads by building a 5,000 foot runway on existing airport property; and

WHEREAS, the Consultants are seeking endorsement of Alternative 2 in order to proceed with the next phases of the Master Plan process, pursuant to FAA Advisory Circular 150/5070-6B, Airport Master Plans; and

WHEREAS, the next phases of the Master Plan include more detailed analyses of operational, environmental, and financial impacts, an airport layout plan, and a financial feasibility analysis, all of which will refine the plan and confirm or refute the assumptions regarding feasibility.

NOW, THEREFORE, BE IT JOINTLY RESOLVED by the Beaufort County Council and the Town Council for the Town of Hilton Head Island that both governmental bodies do hereby endorse Alternative 2, as presented by the Consultants on May 19, 2010 as part of the Master Plan process, with the understanding that this alternative, in both of its potential phases, does not physically impact on, nor require the removal or relocation of, the St. James Baptist Church, nor any private homes; and urge the Consultants to move forward with the next steps in the Master Plan process and further, that the sub-options discussed in the July 12, 2010 Joint Meeting be incorporated in the next steps of the planning process.

A Joint Resolution of the Beaufort County Council and the Town Council for the Town of Hilton Head Island – page two of two

PASSED AND APPROVED BY THE COUNTY COUNCIL OF BEAUFORT COUNTY AND THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND THIS 12th DAY OF JULY, 2010.

Beaufort County,
South Carolina

By: _____
Wm. Weston J. Newton, Chairman

Attest:

_____
Suzanne M. Rainey, Clerk to Council

Town of Hilton Head Island,
South Carolina

By: _____
Thomas D. Peeples, Mayor

Attest:

_____
Betsy R. Mosteller, CMC, Town Clerk

2

U.S. Department of Transportation
Federal Aviation Administration

Federal Aviation Administration
Atlanta Airports District Office

1701 Columbia Avenue
Campus Building, Suite 2-260
College Park, Georgia 30337

October 4, 2010

Mr. Gary Kubic
Beaufort County Administrator
Post Office Drawer 1228
Beaufort, South Carolina 29901

Dear Mr. Kubic:

I have received a number of news reports and emails from various parties speculating what the Federal Aviation Administration (FAA) will do when the master plan is completed at the Hilton Head Island Airport. This letter is meant to clearly outline our position on the alternatives currently being discussed.

After a detailed runway length evaluation was completed by Beaufort County's consultant, the FAA concurred that the appropriate ultimate runway length should be 5,400 feet. FAA strongly encourages extending the runway to that length. FAA has also previously stated that, "If Hilton Head opts for a length less than 5,400 feet, FAA's support will not diminish." This is true to a point, let me define that point. That point is 5,000 feet. A runway length of less than 5,000 feet would result in rapidly diminishing support from the FAA. An interim runway length of 5,000 feet would accommodate many of the family of aircraft identified in the Airport's master plan and is consistent with the benchmark length as identified in the *South Carolina Airports System Plan 2008*. Additionally, it is FAA's opinion that the benefits of a runway extension of less than 5,000 feet would not justify the cost.

Due to the tenuous local political climate and the high cost of runway extensions, I encourage you to extend the runway to 5,400 feet, as you may not have another opportunity in the future. If not 5,400 feet, then I encourage a length of at least 5,000 feet so as to make the benefit truly worth the cost. Please contact me if you need any additional information.

Sincerely,

Scott L. Seritt
Manager

cc: Paul Werts, Director SC Aeronautics
Files

October 14, 2010

Judith Elder-Lincke
Talbert & Bright
2000 Park Street, Suite 101
Columbia, SC 29201

Dear Ms Elder-Lincke

As you know, Piedmont Aviation's aircraft fleet is comprised of all turboprop aircraft, the deHavilland (Bombardier) Dash 8-100 and Q-300. We operate our company out of Salisbury Maryland where the main runway was recently extended from 5400' to 6400' at an elevation of 52'. Many of the airports we serve have runways of those lengths or greater.

Hilton Head Island is an important market for us that we want to continue to serve. The limitation on passengers and baggage reduces our ability to fully serve the market and results in a lesser level of service. We currently fly our aircraft between Hilton Head and Charlotte, and must limit the D8-100 to 31 passengers and the Q-300 cannot be utilized due to extreme obstruction clearance requirements. This impacts our company as well as your airport and community.

As I understand your Master plan Study for Hilton Head Island Airport, you have looked at the existing 4300' runway and extensions of that runway to 4600', 5000', and 5400'. It would be our recommendation that the runway be extended to 5400'. The 5400' runway at the sea level altitude, with adequate obstruction clearance, would permit us to operate our aircraft with full passenger and baggage loads to our Charlotte hub. Additional locations such as Washington, DC could also be served with few limitations.

Please contact me should you have any questions about our recommendation.

Best regards,

Gary Blevins
Manager of Flight Operations
Piedmont Airlines

Piedmont Airlines, Inc.
5443 Airport terminal Road
Salisbury, MD 21804-1700
410-742-2996

MESABA AIRLINES

October 20, 2010

Judith Elder-Lincke
TALBERT & BRIGHT
2000 Park Street, Suite 101
Columbia, SC 29201

Dear Ms. Elder-Lincke:

,
Hilton Head Island is an important route and market for Delta Airlines. The current runway length of 4,300 feet places a limitation on passengers and baggage and reduces our ability to fully serve the Hilton Head market.

As I understand from the Master Plan Study for Hilton Head Island Airport, you have looked at the existing 4,300-foot runway and several extension options. It would be our hope that the runway be extended to 5,400 feet. The 5,400-foot runway would greatly reduce takeoff and landing weight restrictions for the Saab 340. This enhancement would allow us to carry more passengers and bags on a regular basis.

It is also my understanding the airport has also commenced a tree clearing project as well which will provide a 34:1 clearance plane. These changes will significantly improve our operations at this airport, however to guarantee no obstacle limitations for takeoff a 42:1 slope is required. Any help the local authorities can provide in relationship to the trees would be greatly appreciated as well.

Please let me know if you need any other information in regards to this plan.

Best regards,

.
Dan Sauter
Saab SF-340 Fleet Manager
Mesaba Airlines
612-306-3662
Dan.Sauter@mesaba.com

cc: Joe Restifo

1000 Blue Gentian Road, Suite 200, Eagan, MN 55121 651-367-5000

4111 Bridgeway Avenue, Columbus, OH 43219

NETJETS

Paul Andres
Beaufort County Director of Airports
120 Beach City Road
Hilton Head Island SC 29926

October 25, 2010

Dear Mr. Andres,

Net Jets is a fractional aviation company that currently serves the Hilton Head Market. It is our goal to provide our customers safe, world class private air transportation to top destinations such as Hilton Head Island.

At present Hilton Head Airport's current runway configuration limits our fleet's full potential and restricts our ability serve your community. Net Jets strongly recommends and supports the proposed runway lengthening to 5400 ft. If approved and constructed Net Jets would be able to service your area with additional aircraft and increase the capabilities of the aircraft that are currently using the airport.

Respectfully,

Todd Baumgartner
SVP, Aviation Infrastructure & Services
NetJets, Inc.

Office: (614) 239-4855
Mobile: (614) 406-1522

NetJets Inc. is a Berkshire Hathaway company

To: Beaufort Council Chairman, Ch. Weston Newton
From: Beaufort Airports Board, Ch. Peter Buchanan
Date: 25 October 2010
Reference: Beaufort County Airports Board Meeting 21 Oct. 2010

Ch. Newton;

The referenced Airport Board meeting had a long discussion regarding the Hilton Head Master Plan. The board consensus was that strong consideration be given to construct the runway to 5400 feet. The reason for this is to remove the costs associated with starting and stopping runway construction at intermediate lengths. This cost, per a telecom with Talbert and Bright, is estimated to be $200,000. Additionally this would:

1. Eliminate additional runway closures,
2. Runway navigation aids could be updated immediately improving runway safety,
3. Delay the construction of an Engineered Material Arrestment System (EMAS).
4. Delay land acquisition for airport safety areas.

EMAS construction and the purchase of land for runway safety areas will still be required to allow full use of a 5400 foot runway as called for in the Master Plan and authorized by the local town and county authorities

The authorization for this letter was a motion made and seconded by the board. The vote was, 8 for and 1 opposed.

Respectfully,

Peter Buchanan, Ch Beaufort County Airports Board

A JOINT RESOLUTION OF THE BEAUFORT COUNTY COUNCIL AND THE TOWN COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA ADOPTING THE 2010 HILTON HEAD ISLAND AIRPORT MASTER PLAN UPDATE AND DIRECTING STAFF TO BEGIN TO IMPLEMENT THE PLAN

WHEREAS, the Beaufort County Council and the Town Council for the Town of Hilton Head Island agreed in 2009 to jointly participate in the update of the Hilton Head Island Airport Master Plan; and

WHEREAS, a team consisting of County and Town representatives selected the consulting firm of Talbert & Bright (Consultants) to undertake the Master Plan update in the summer of 2009; and

WHEREAS, at a presentation on March 19, 2010, to both County Council and Town Council, the Consultants presented their recommendations on selection of a Critical Aircraft, and identified a family of aircraft requiring a runway of 5,400 feet; and

WHEREAS, at a presentation on May 19, 2010, again to both the County Council and the Town Council, the Consultants presented their Alternatives Analysis and, based on a variety of factors, recommended Alternative 2; and

WHEREAS, Alternative 2 provides for a runway of 5,400 feet in a "constrained configuration" that does not physically impact on, or require the removal or relocation of, the St. James Baptist Church, nor of any private homes, and might be accomplished in two phases, the first phase requiring minimal land acquisition and no relocation of roads by building a 5,000 foot runway on existing airport property; and,

WHEREAS, at a presentation on July 12, 2010 to both the County Council and the Town Council, the Consultants presented additional information regarding Alternative 2; and

WHEREAS, the County Council and Town Council passed a joint resolution on July 12, 2010 to endorse Alternative 2 with the understanding that the consultants would consider three different options for runway length alternatives [4600', 5000' and 5400']; and

WHEREAS, the consultant has completed the 2010 Hilton Head Airport Master Plan Update in accordance with the appropriate FAA Advisory Circulars and consistent with the guidance previously provided by both Town Council and County Council and has delivered the final draft for consideration and adoption; and

WHEREAS, following review of the master plan update the County Council and the Town Council wish to adopt the master plan update, including the recommendation to pursue Alternative 2 in two phases, and to direct their respective staffs to take the following actions upon adoption: 1) Process the necessary amendments to all respective

ordinances or resolutions that may be in conflict with this Plan; 2) Forward the adopted Plan and a signed copy of this Resolution to the Federal Aviation Administration; and 3) Begin to implement the recommendations that constitute Alternative Two/Phase One.

NOW, THEREFORE, BE IT JOINTLY RESOLVED BY THE BEAUFORT COUNTY COUNCIL AND THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND THAT BOTH GOVERNMENTAL BODIES DO HEREBY ADOPT THE 2010 HILTON HEAD ISLAND AIRPORT MASTER PLAN UPDATE, INCLUDING THE RECOMMENDATION TO PURSUE ALTERNATIVE 2 IN TWO PHASES, AND DIRECT STAFFS TO TAKE THE FOLLOWING ACTIONS: 1) PROCESS THE NECESSARY AMENDMENTS TO ALL RESPECTIVE ORDINANCES OR RESOLUTIONS THAT MAY BE IN CONFLICT WITH THIS PLAN; 2) FORWARD THE ADOPTED PLAN AND A SIGNED COPY OF THIS RESOLUTION TO THE FEDERAL AVIATION ADMINISTRATION; AND 3) BEGIN TO IMPLEMENT THE RECOMMENDATIONS THAT CONSTITUTE ALTERNATIVE TWO/PHASE ONE.

PASSED AND APPROVED BY THE COUNTY COUNCIL OF BEAUFORT COUNTY AND THE TOWN COUNCIL OF THE TOWN OF HILTON HEAD ISLAND THIS 27TH DAY OF OCTOBER, 2010

Beaufort County,
South Carolina

By: Wm. W E T A
Wm. Weston J. Newton, Chairman

Attest:

Suzanne M. Rainey, Clerk to Council
Clerk

Town of Hilton Head Island,
South Carolina

By: Thomas D Peeples
Thomas D. Peeples, Mayor

Attest:

Betsy R. Mosteller
Betsy R. Mosteller, CMC, Town

Resolution
R-2010-21

A RESOLUTION

A RESOLUTION OF BEAUFORT COUNTY COUNCIL TO PROVIDE FOR A RUNWAY LENGTH OF 5,000 LINEAR FEET AT THE HILTON HEAD ISLAND AIRPORT

WHEREAS, in July 1975, County Council voted to approve a runway length of 4,300 feet for the runway at the Hilton Head Island Airport; and

WHEREAS, in October 2004, County Council voted to reaffirm its 1975 motion to restrict the Hilton Head Island Airport runway to 4,300 feet; and

WHEREAS, Beaufort County agreed in 2009 to participate with the Town Council for the Town of Hilton Head Island in the update of the Hilton Head Island Airport Master Plan; and

WHEREAS, a team consisting of County and Town representatives selected the consulting firm of Talbert & Bright (Consultants) to undertake the Master Plan update in the summer of 2009; and

WHEREAS, at a presentation on March 19, 2010, to both County Council and Town Council, the Consultants presented their recommendations on selection of a Critical Aircraft, and identified a family of aircraft requiring a runway of 5,400 feet; and

WHEREAS, at a presentation on May 19, 2010, again to both the County Council and the Town Council, the Consultants presented their Alternatives Analysis and, based on a variety of factors, recommended Alternative 2; and

WHEREAS, Alternative 2 provides for a runway of 5,400 feet in a "constrained configuration" that does not physically impact on, or require the removal or relocation of, the St. James Baptist Church, nor of any private homes, and might be accomplished in two phases, the first phase requiring minimal land acquisition and no relocation of roads by building a 5,000 foot runway on existing airport property; and

WHEREAS, following review of the 2010 Hilton Head Island Airport Master Plan Update, the Town Council joined the County Council in adopting the Plan via a joint resolution on October 27, 2010; and

WHEREAS, County Council recognizes that the Town of Hilton Head Island Land Management Ordinance #2007-27, which imposed a runway limitation of 4,300 feet, creates an obstacle to moving forward with the Master Plan and implementing its recommendations; and

WHEREAS, the Town Council for the Town of Hilton Head Island, South Carolina desires to direct the Town Manager to amend LMO Section 16-4-1307 to lengthen the current runway restriction of 4,300 feet so as to allow for a runway length of up to 5,000 linear feet.

Resolution
R-2010-21

NOW, THEREFORE, in consideration of a joint resolution with the Town of Hilton Head, the County hereby resolves that the Hilton Head Island Airport runway be extended to a total length of 5,000 linear feet in compliance with the adopted Master Plan and directs staff to begin to implement the recommendations that constitute alternative two/phase one.

Adopted this 27th day of October, 2010.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: _____
Wm. Weston J. Newton, Chairman

ATTEST:

_____
Suzanne M. Rainey, Clerk to Council

Page 2 of 2

2010-24

A RESOLUTION OF THE TOWN COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA DIRECTING THE TOWN MANAGER TO BEGIN THE PROCESS OF AMENDING LMO SECTION 16-4-1307 TO PROVIDE FOR A RUNWAY LENGTH OF 5,000 LINEAR FEET

WHEREAS, the Town Council for the Town of Hilton Head Island agreed in 2009 to participate with Beaufort County Council in the update of the Hilton Head Island Airport Master Plan; and

WHEREAS, a team consisting of County and Town representatives selected the consulting firm of Talbert & Bright (Consultants) to undertake the Master Plan update in the summer of 2009; and

WHEREAS, at a presentation on March 19, 2010, to both County Council and Town Council, the Consultants presented their recommendations on selection of a Critical Aircraft, and identified a family of aircraft requiring a runway of 5,400 feet; and

WHEREAS, at a presentation on May 19, 2010, again to both the County Council and the Town Council, the Consultants presented their Alternatives Analysis and, based on a variety of factors, recommended Alternative 2; and

WHEREAS, Alternative 2 provides for a runway of 5,400 feet in a "constrained configuration" that does not physically impact on, or require the removal or relocation of, the St. James Baptist Church, nor of any private homes, and might be accomplished in two phases, the first phase requiring minimal land acquisition and no relocation of roads by building a 5,000 foot runway on existing airport property; and,

WHEREAS, following review of the 2010 Hilton Head Island Airport Master Plan Update, the Town Council joined the County Council in adopting the Plan via a joint resolution on October 27, 2010; and

WHEREAS, the members of Town Council recognize that Ordinance 2007-27, which imposed a runway limitation of 4,300 feet, creates an obstacle to moving forward with the Master Plan and implementing its recommendations; and

WHEREAS, Town Council members desire to direct the Town Manager to process an amendment to the LMO that will amend the current runway restriction of 4,300 feet so as to allow for a runway length of up to 5,000 linear feet.

NOW, THEREFORE, BE IT RESOLVED BY THE TOWN COUNCIL FOR THE TOWN OF HILTON HEAD ISLAND, SOUTH CAROLINA THAT THE TOWN MANAGER IS HEREBY DIRECTED TO PROCESS AN AMENDMENT TO LMO SECTION 16-4-1307 TO ALLOW FOR A RUNWAY LENGTH OF UP TO 5,000 LINEAR FEET.

Page two - Resolution to process an amendment to LMO Section 16-4-1307

PASSED AND APPROVED BY THE TOWN COUNCIL THIS 27 DAY OF OCTOBER, 2010

Thomas D. Peeples

Thomas D. Peeples, Mayor

ATTEST:

Betsy R. Mosteller

Betsy R. Mosteller, Town Clerk

Approved as to Form: _____

Gregory M. Alford, Town Attorney

Introduced by Council Member: DREW LAUGHLIN

Resolution
R-2010-22

A RESOLUTION

WHEREAS, in a joint session on October 27, 2010, of County Council and Town Council both governmental bodies resolved that the Hilton Head Island Airport runway be extended to a total length of 5,000 linear feet in compliance with the adopted Master Plan and directed staff to begin to implement the recommendations that constitute alternative two/phase one.

NOW, THEREFORE, BE IT RESOLVED, that County Council will not proceed with any land acquisition or future further master planning efforts at the Hilton Head Island Airport without the formal consultation of Town Council.

Adopted this 27th day of October, 2010.

COUNTY COUNCIL OF BEAUFORT COUNTY

By: Wm. Weston J. Newton

Wm. Weston J. Newton, Chairman

ATTEST:

Suzanne M. Rainey

Suzanne M. Rainey, Clerk to Council

The instrument flight rules (IFR) data presented below was provided by the FAA to the SCAC for use in the South Carolina Airports System Plan. This information is updated annually.

C.1 IFR OPERATIONS AT HXD IN 2009

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2009

Total IFR Ops: 23,876

Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	60	AC50	0			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	13	AC6L	0			AC80	0	E110	0
AA5	23	GA8	0	P32	2	AEST	44			AC90	25	E120	0
AA5A	2	GC1	2	P32A	2	BE18	2			AC95	4	E2	0
AA5B	2	GLAS	7	P32G	0	BE50	3			AN12	0	E2C	0
AC11	61	HUSK	6	P32R	136	BE55	124			AN24	0	F27	0
AC12	1	HXB	26	P32T	5	BE56	0			AT42	0	F406	0
AC14	2	HXP	0	PA2	0	BE58	692			AT43	0	F50	0
AC23	0	LA25	0	PA22	0	BE60	13			AT72	0	HXC	3
B36	1	LA4	7	PA24	62	BE65	2			ATR4	0	JS31	0
BE19	0	LANC	0	PA28	270	BE76	23			B10	0	JS32	0
BE23	13	LC40	8	PA2T	0	BE95	4			B190	2	MU2	6
BE24	13	LC42	0	PA32	1,109	BE99	0			B200	0	P180	72
BE33	145	LEG2	0	PA46	66	C303	2			B300	0	P3	0
BE35	202	LGEZ	0	PARO	0	C310	96			B350	211	P46	0
BE36	593	LNC2	0	R20	0	C320	4			B36T	2	P46T	73
BL17	9	LNC4	11	R90R	0	C335	5			B90	0	PAY1	22
BL8	2	LNCE	0	RANG	2	C337	32			B9L	0	PAY2	77
C10T	0	M020	0	RV10	4	C340	49			BE3L	0	PAY3	11
C150	19	M20	11	RV6	3	C401	3			BE10	31	PAY4	0
C152	24	M20A	2	RV7	8	C402	2			BE20	597	PAYE	4
C172	586	M20C	1	RV8	2	C404	0			BE30	66	PC12	314
C177	12	M20F	0	SR20	209	C414	204			BE9	0	PC6T	0
C180	10	M20J	13	SR22	1,131	C421	191			BE90	8	RC70	0
C182	460	M20K	0	SRT2	0	CE25	0			BE9L	514	SC7	0
C185	0	M20M	0	STIN	1	DA42	16			BE9T	32	SF34	1,767
C195	0	M20P	128	SYMP	0	DEF1	0			BL9	0	SH33	0
C205	0	M20R	3	T18	0	GA7	0			C130	0	SH36	0
C206	78	M20T	55	T206	0	P34	0			C2	0	SW3	8
C207	0	M22	0	T34	1	P44	0			C208	480	SW4	0
C210	183	M5	0	T34P	0	P68	2			C212	0	T34P	0
C72R	9	M7	0	TB10	0	PA23	8			C425	52	T34T	0
C77R	20	MO20	96	TB20	0	PA27	35			C441	24	T6	0
C82	0	MO21	1	TOBA	0	PA30	90			CA12	0	TB20	0
C82R	10	MO2C	0	TRIN	10	PA31	201			CN35	0	TBM7	18
C82T	3	MO2P	0	VELO	26	PA34	198			CV58	0	TEX2	0
CH2T	0	NAV	0	VFR	0	PA39	12			CVLT	0		
COL3	21	NAV1	0	Z43	0	PA43	0			D328	0		
COL4	97	P210	2			PA44	59			DH8A	5,070		
COUR	0	P28	16			PA58	0			DH8B	0		
DA40	99	P28A	269			PA60	1			DH8C	4		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2009

Total IFR Ops: 23,876

Single-Engine Piston						Multi-Engine Piston				Turboprop			
E400	0	P28B	26			PASE	9			DHC6	0		
F33A	0	P28P	0			T303	0			DO28	0		
Total Single Engine					6,512	Total Multi-Engine			2,126	Total Turboprops			9,497
% of Total Ops					27.3%	% of Total Ops			8.9%	% of Total Ops			39.8%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2009

Total IFR Ops: 23,876

Jet Aircraft						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	1
A124	0	CH35	0	GLF2	2	AS33	0
A225	0	CL30	62	GLF3	0	B06	0
A306	0	CL60	96	GLF4	34	CH53	0
A310	0	CL6T	0	GLF5	6	H47	0
A318	0	CRG2	0	GLX	0	H60	1
A319	0	CRJ	0	H25	0	HELO	9
A320	0	CRJ1	0	H25A	7	HU65	0
A321	0	CRJ2	0	H25B	86	S76	0
AGEN	0	CRJ7	0	H25C	0	S92	1
AS65	0	CRJ9	0	HAR	0	UH60	0
ASTR	26	CRL2	0	HS25	0	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	0		
B722	0	DC91	0	L39	5		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	2		
B733	0	DC95	0	LJ25	28		
B734	0	DC9Q	0	LJ31	54		
B735	0	DV20	51	LJ35	18		
B737	0	E135	2	LJ40	74		
B738	0	E145	0	LJ45	103		
B73Q	0	E170	0	LJ55	10		
B741	0	E175	0	LJ60	12		
B742	0	E45X	0	LR25	0		
B743	0	E6	0	LR35	0		
B744	0	EA50	107	LR40	0		
B747	0	EA6	0	LR45	0		
B752	1	F15	0	LR60	0		
B753	0	F16	0	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	566	F2TH	81	MD83	0		
C17	0	F900	86	MD87	0		
C21	0	FA10	90	MD88	0		
C25A	81	FA18	0	MU30	6		
C25B	238	FA20	109	PR1	0		
C40	0	FA2O	0	PRM1	94		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2009							
Total IFR Ops:	23,876						
Jet Aircraft						Helicopters	
C500	26	FA50	74	R722	0		
C501	16	FA90	0	SB20	0		
C510	14	G150	4	SBR1	0		
C525	225	G159	0	SBR2	0		
C526	0	G2	0	T1	0		
C550	236	G200	0	T2	0		
C551	2	G4	0	T2P	0		
C560	744	G400	0	T24C	0		
C56X	695	G5	0	T37	0		
C650	80	GALX	7	T38	0		
C680	291	GL4	0	WW24	17		
C722	0	GL5T	0	XL2	11		
C750	0	GLAX	0				
				Total Jets	4,579	Total Helos	12
				% of Total Ops	19.2%	% of Total Ops	0.5%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2008															
Total IFR Ops:	24,377														
Single-Engine Piston						Multi-Engine Piston				Turboprop					
C195	0	M20P	99	SYMP	0	DEF1	0			BL9	0	SH33	2		
C205	0	M20R	5	T18	0	GA7	0			C130	0	SH36	0		
C206	114	M20T	43	T206	0	P34	0			C2	0	SW3	3		
C207	3	M22	0	T34	0	P44	0			C208	535	SW4	4		
C210	267	M5	0	T34P	0	P68	0			C212	2	T34P	0		
C72R	5	M7	0	TB10	0	PA23	20			C425	95	T34T	0		
C77R	10	MO20	54	TB20	0	PA27	27			C441	16	T6	0		
C82	0	MO21	2	TOBA	6	PA30	73			CA12	0	TB20	0		
C82R	20	MO2C	0	TRIN	14	PA31	252			CN35	0	TBM7	36		
C82T	0	MO2P	0	VELO	40	PA34	224			CV58	0	TEX2	0		
CH2T	1	NAV	0	VFR	0	PA39	0			CVLT	0				
COL3	19	NAV1	0	Z43	0	PA43	0			D328	0				
COL4	104	P210	2			PA44	32			DH8A	5,015				
COUR	2	P28	8			PA58	0			DH8B	0				
DA40	64	P28A	161			PA60	1			DH8C	24				
E400	0	P28B	29			PASE	6			DHC6	0				
F33A	0	P28P	0			T303	0			DO28	24				
				Total Single Engine	6,725			Total Multi-Engine	2,279				Total Turboprops		10,107
				% of Total Ops	27.6%			% of Total Ops	9.3%				% of Total Ops		41.5%

C.2 IFR OPERATIONS AT HXD IN 2008

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2008															
Total IFR Ops:	24,377														
Single-Engine Piston						Multi-Engine Piston				Turboprop					
A28A	0	F8L	0	P28R	71	AC50	7			AC43	0	DO32	0		
AA1	1	FDCT	0	P28T	10	AC6L	0			AC80	0	E110	5		
AA5	37	GA8	2	P32	1	AEST	76			AC90	31	E120	4		
AA5A	1	GC1	0	P32A	0	BE18	0			AC95	16	E2	0		
AA5B	4	GLAS	6	P32G	0	BE50	1			AN12	0	E2C	0		
AC11	35	HUSK	1	P32R	146	BE55	178			AN24	0	F27	0		
AC12	2	HXB	1	P32T	1	BE56	0			AT42	0	F406	0		
AC14	0	HXP	0	PA2	0	BE58	610			AT43	0	F50	0		
AC23	0	LA25	0	PA22	3	BE60	9			AT72	1,629	HXC	5		
B36	1	LA4	0	PA24	37	BE65	0			ATR4	0	JS31	2		
BE19	0	LANC	0	PA28	200	BE76	26			B10	0	JS32	0		
BE23	20	LC40	2	PA2T	0	BE95	11			B190	15	MU2	14		
BE24	2	LC42	0	PA32	1,244	BE99	2			B200	0	P180	118		
BE33	105	LEG2	2	PA46	45	C303	4			B300	2	P3	0		
BE35	184	LGEZ	0	PARO	7	C310	98			B350	261	P46	0		
BE36	471	LNC2	4	R20	0	C320	2			B36T	1	P46T	50		
BL17	7	LNC4	11	R90R	0	C335	6			B90	0	PAY1	44		
BL8	1	LNCE	0	RANG	2	C337	16			B9L	0	PAY2	77		
C10T	2	M020	4	RV10	1	C340	57			BE3L	0	PAY3	53		
C150	17	M20	9	RV6	9	C401	3			BE10	91	PAY4	6		
C152	15	M20A	0	RV7	7	C402	7			BE20	729	PAYE	5		
C172	755	M20C	1	RV8	12	C404	0			BE30	116	PC12	357		
C177	29	M20F	2	SR20	147	C414	329			BE9	0	PC6T	0		
C180	2	M20J	11	SR22	1,490	C421	198			BE90	20	RC70	1		
C182	470	M20K	1	SRT2	0	CE25	0			BE9L	640	SC7	0		
C185	2	M20M	0	STIN	0	DA42	4			BE9T	57	SF34	2		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2008							
Total IFR Ops:	24,377						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	2	A109	4
A124	0	CH35	0	GLF2	0	AS33	0
A225	0	CL30	95	GLF3	0	B06	0
A306	0	CL60	70	GLF4	39	CH53	0
A310	0	CL6T	0	GLF5	8	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	1	HELO	12
A320	0	CRJ1	0	H25A	0	HU65	0
A321	0	CRJ2	0	H25B	93	S76	4
AGEN	0	CRJ7	0	H25C	2	S92	1
AS65	0	CRJ9	0	HAR	0	UH60	0
ASTR	38	CRL2	0	HS25	1	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	0		
B722	0	DC91	0	L39	4		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	0		
B733	0	DC95	0	LJ25	27		
B734	0	DC9Q	0	LJ31	48		
B735	0	DV20	13	LJ35	29		
B737	0	E135	0	LJ40	67		
B738	0	E145	0	LJ45	157		
B73Q	0	E170	0	LJ55	8		
B741	0	E175	0	LJ60	17		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2008							
Total IFR Ops:	24,377						
Jet						Helicopters	
B742	0	E45X	0	LR25	7		
B743	0	E6	0	LR35	0		
B744	0	EA50	153	LR40	0		
B747	0	EA6	0	LR45	0		
B752	0	F15	0	LR60	4		
B753	0	F16	0	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	526	F2TH	139	MD83	0		
C17	0	F900	100	MD87	0		
C21	0	FA10	108	MD88	0		
C25A	74	FA18	0	MU30	4		
C25B	235	FA20	106	PR1	0		
C40	0	FA2O	0	PRM1	35		
C500	37	FA50	82	R722	0		
C501	44	FA90	0	SB20	0		
C510	12	G150	0	SBR1	8		
C525	287	G159	0	SBR2	0		
C526	2	G2	1	T1	0		
C550	466	G200	1	T2	0		
C551	0	G4	0	T2P	0		
C560	761	G400	0	T24C	0		
C56X	922	G5	0	T37	0		
C650	130	GALX	0	T38	0		
C680	261	GL4	0	WW24	18		
C722	0	GL5T	0	XL2	3		
C750	0	GLAX	0				
				Total Jets	5,245	Total Helios	21
				% of Total Ops	21.5%	% of Total Ops	0.0%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2007															
Total IFR Ops:	25,391														
Single-Engine Piston						Multi-Engine Piston				Turboprop					
BE33	97	LEG2	2	PA46	78	C303	0			B300	0	P3	1		
BE35	178	LGEZ	0	PARO	3	C310	174			B350	262	P46	1		
BE36	523	LNC2	2	R20	0	C320	0			B36T	1	P46T	90		
BL17	9	LNC4	9	R90R	0	C335	8			B90	0	PAY1	29		
BL8	0	LNCE	0	RANG	0	C337	5			B9L	1	PAY2	125		
C10T	0	M020	0	RV10	2	C340	94			BE3L	0	PAY3	91		
C150	8	M20	1	RV6	3	C401	1			BE10	131	PAY4	16		
C152	0	M20A	0	RV7	5	C402	8			BE20	952	PAYE	6		
C172	223	M20C	2	RV8	0	C404	0			BE30	185	PC12	402		
C177	22	M20F	0	SR20	167	C414	250			BE9	1	PC6T	0		
C180	5	M20J	3	SR22	1,273	C421	222			BE90	6	RC70	5		
C182	451	M20K	0	SRT2	0	CE25	0			BE9L	860	SC7	0		
C185	3	M20M	0	STIN	0	DA42	4			BE9T	100	SF34	0		
C195	0	M20P	106	SYMP	0	DEF1	0			BL9	0	SH33	0		
C205	0	M20R	0	T18	2	GA7	0			C130	0	SH36	0		
C206	187	M20T	67	T206	0	P34	0			C2	0	SW3	0		
C207	0	M22	0	T34	0	P44	0			C208	539	SW4	4		
C210	220	M5	0	T34P	0	P68	1			C212	0	T34P	0		
C72R	4	M7	2	TB10	1	PA23	16			C425	115	T34T	0		
C77R	11	MO20	10	TB20	0	PA27	37			C441	57	T6	0		
C82	0	MO21	1	TOBA	4	PA30	57			CA12	0	TB20	0		
C82R	12	MO2C	0	TRIN	16	PA31	289			CN35	0	TBM7	38		
C82T	1	MO2P	0	VELO	82	PA34	258			CV58	0	TEX2	0		
CH2T	4	NAV	0	VFR	0	PA39	0			CVLT	0				
COL3	23	NAV1	0	Z43	0	PA43	0			D328	0				
COL4	43	P210	11			PA44	17			DH8A	5,263				
COUR	0	P28	2			PA58	0			DH8B	0				
DA40	30	P28A	120			PA60	1			DH8C	23				
E400	0	P28B	26			PASE	1			DHC6	0				
F33A	0	P28P	0			T303	0			DO28	0				
					Total Single Engine	5,578			Total Multi-Engine	2,632				Total Turboprops	11,530
					% of Total Ops	22.0%			% of Total Ops	10.4%				% of Total Ops	45.4%

C.3 IFR OPERATIONS AT HXD IN 2007

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2007												
Total IFR Ops:	25,391											
Single-Engine Piston						Multi-Engine Piston				Turboprop		
A28A	0	F8L	0	P28R	76	AC50	0			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	18	AC6L	2			AC80	0	E110	18
AA5	18	GA8	2	P32	3	AEST	101			AC90	52	E120	2
AA5A	3	GC1	0	P32A	0	BE18	5			AC95	16	E2	0
AA5B	0	GLAS	0	P32G	0	BE50	0			AN12	0	E2C	0
AC11	18	HUSK	0	P32R	124	BE55	176			AN24	0	F27	0
AC12	0	HXB	12	P32T	17	BE56	0			AT42	0	F406	0
AC14	1	HXP	0	PA2	0	BE58	838			AT43	0	F50	0
AC23	0	LA25	2	PA22	0	BE60	28			AT72	1,922	HXC	0
B36	0	LA4	1	PA24	38	BE65	4			ATR4	0	JS31	2
BE19	4	LANC	0	PA28	26	BE76	26			B10	0	JS32	0
BE23	6	LC40	2	PA2T	0	BE95	9			B190	4	MU2	28
BE24	4	LC42	0	PA32	1,149	BE99	0			B200	0	P180	182

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2007							
Total IFR Ops:	25,391						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	0
A124	0	CH35	0	GLF2	0	AS33	0
A225	0	CL30	114	GLF3	2	B06	0
A306	0	CL60	79	GLF4	34	CH53	0
A310	0	CL6T	0	GLF5	6	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	0	HELO	0
A320	0	CRJ1	0	H25A	10	HU65	0
A321	0	CRJ2	0	H25B	104	S76	2
AGEN	0	CRJ7	0	H25C	0	S92	0
AS65	0	CRJ9	0	HAR	0	UH60	0
ASTR	32	CRL2	0	HS25	3	V22	0
B230	0	DC10	0	J328	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2007							
Total IFR Ops:	25,391						
Jet						Helicopters	
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	0		
B722	0	DC91	0	L39	6		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	0		
B733	0	DC95	0	LJ25	18		
B734	0	DC9Q	0	LJ31	92		
B735	0	DV20	0	LJ35	24		
B737	0	E135	0	LJ40	65		
B738	0	E145	0	LJ45	163		
B73Q	0	E170	0	LJ55	15		
B741	0	E175	0	LJ60	36		
B742	0	E45X	0	LR25	0		
B743	0	E6	0	LR35	0		
B744	0	EA50	0	LR40	3		
B747	0	EA6	0	LR45	7		
B752	0	F15	0	LR60	0		
B753	0	F16	0	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	730	F2TH	100	MD83	0		
C17	0	F900	63	MD87	0		
C21	0	FA10	71	MD88	0		
C25A	100	FA18	0	MU30	8		
C25B	200	FA20	150	PR1	0		
C40	0	FA2O	0	PRM1	46		
C500	33	FA50	70	R722	0		
C501	41	FA90	0	SB20	0		
C510	9	G150	2	SBR1	2		
C525	321	G159	0	SBR2	0		
C526	6	G2	0	T1	0		
C550	633	G200	0	T2	0		
C551	0	G4	0	T2P	0		
C560	944	G400	0	T24C	0		
C56X	958	G5	0	T37	0		
C650	155	GALX	2	T38	0		
C680	162	GL4	0	WW24	28		
C722	0	GL5T	0	XL2	2		
C750	0	GLAX	0				
				Total Jets	5,649	Total Helios	2
				% of Total Ops	22.2%	% of Total Ops	0.0%

C.4 IFR OPERATIONS AT HXD IN 2006

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2006													
Total IFR Ops:	23,801												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	75	AC50	0			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	32	AC6L	0			AC80	0	E110	7
AA5	16	GA8	0	P32	3	AEST	117			AC90	74	E120	4
AA5A	1	GC1	0	P32A	1	BE18	7			AC95	21	E2	0
AA5B	1	GLAS	0	P32G	0	BE50	0			AN12	0	E2C	0
AC11	32	HUSK	1	P32R	82	BE55	141			AN24	0	F27	0
AC12	0	HXB	70	P32T	13	BE56	1			AT42	0	F406	0
AC14	0	HXP	0	PA2	0	BE58	818			AT43	0	F50	0
AC23	0	LA25	2	PA22	0	BE60	23			AT72	0	HXC	3
B36	0	LA4	0	PA24	47	BE65	2			ATR4	0	JS31	0
BE19	0	LANC	0	PA28	26	BE76	37			B10	0	JS32	0
BE23	5	LC40	5	PA2T	0	BE95	1			B190	11	MU2	45
BE24	19	LC42	0	PA32	1,315	BE99	0			B200	1	P180	152
BE33	113	LEG2	0	PA46	95	C303	8			B300	0	P3	3
BE35	177	LGEZ	0	PARO	1	C310	218			B350	247	P46	3
BE36	577	LNC2	2	R20	0	C320	3			B36T	2	P46T	171
BL17	11	LNC4	53	R90R	2	C335	0			B90	0	PAY1	26
BL8	0	LNCE	0	RANG	0	C337	20			B9L	2	PAY2	214
C10T	2	M020	0	RV10	0	C340	117			BE3L	0	PAY3	109
C150	5	M20	10	RV6	5	C401	1			BE10	130	PAY4	11
C152	5	M20A	0	RV7	0	C402	12			BE20	1,020	PAYE	3
C172	254	M20C	0	RV8	2	C404	0			BE30	141	PC12	318
C177	19	M20F	1	SR20	146	C414	246			BE9	2	PC6T	0
C180	0	M20J	3	SR22	916	C421	151			BE90	24	RC70	2
C182	344	M20K	3	SRT2	0	CE25	0			BE9L	625	SC7	4
C185	0	M20M	0	STIN	0	DA42	0			BE9T	65	SF34	0
C195	0	M20P	135	SYMP	4	DEF1	0			BL9	0	SH33	0
C205	0	M20R	1	T18	0	GA7	0			C130	1	SH36	3
C206	232	M20T	61	T206	0	P34	2			C2	0	SW3	4
C207	1	M22	0	T34	2	P44	0			C208	564	SW4	18
C210	332	M5	0	T34P	1	P68	2			C212	0	T34P	1
C72R	0	M7	2	TB10	1	PA23	37			C425	48	T34T	2
C77R	3	MO20	7	TB20	1	PA27	35			C441	37	T6	0
C82	0	MO21	0	TOBA	2	PA30	80			CA12	0	TB20	1
C82R	27	MO2C	0	TRIN	13	PA31	339			CN35	0	TBM7	52
C82T	1	MO2P	0	VELO	61	PA34	229			CV58	0	TEX2	0
CH2T	4	NAV	0	VFR	0	PA39	0			CVLT	0		
COL3	20	NAV1	0	Z43	0	PA43	0			D328	0		
COL4	16	P210	4			PA44	39			DH8A	4,792		
COUR	1	P28	0			PA58	0			DH8B	786		
DA40	38	P28A	114			PA60	2			DH8C	16		
E400	0	P28B	29			PASE	2			DHC6	0		
F33A	0	P28P	0			T303	0			DO28	0		
				Total Single Engine	5,605			Total Multi-Engine	2,690			Total Turboprops	9,765
				% of Total Ops	23.5%			% of Total Ops	11.3%			% of Total Ops	41.0%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2006							
Total IFR Ops:	23,801						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	2	A109	0
A124	0	CH35	0	GLF2	1	AS33	0
A225	0	CL30	120	GLF3	2	B06	0
A306	0	CL60	84	GLF4	56	CH53	0
A310	0	CL6T	0	GLF5	8	H47	0
A318	0	CRG2	0	GLX	0	H60	1
A319	0	CRJ	0	H25	0	HELO	1
A320	0	CRJ1	0	H25A	14	HU65	0
A321	0	CRJ2	0	H25B	98	S76	1
AGEN	0	CRJ7	0	H25C	0	S92	1
AS65	2	CRJ9	0	HAR	0	UH60	0
ASTR	40	CRL2	0	HS25	2	V22	0
B230	0	DC10	0	J328	2		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	0		
B722	0	DC91	0	L39	4		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	16		
B733	0	DC95	0	LJ25	40		
B734	0	DC9Q	0	LJ31	120		
B735	0	DV20	0	LJ35	34		
B737	0	E135	0	LJ40	61		
B738	0	E145	0	LJ45	198		
B73Q	0	E170	0	LJ55	15		
B741	0	E175	0	LJ60	33		
B742	0	E45X	0	LR25	0		
B743	0	E6	0	LR35	0		
B744	0	EA50	0	LR40	1		
B747	0	EA6	0	LR45	2		
B752	0	F15	1	LR60	1		
B753	0	F16	3	MD11	0		
B762	0	F18	0	MD80	0		
B763	1	F260	0	MD82	0		
BE40	607	F2TH	100	MD83	0		
C17	0	F900	92	MD87	0		
C21	0	FA10	99	MD88	0		
C25A	58	FA18	0	MU30	19		
C25B	69	FA20	123	PR1	0		
C40	0	FA2O	0	PRM1	40		
C500	20	FA50	74	R722	0		
C501	56	FA90	0	SB20	0		
C510	0	G150	0	SBR1	16		
C525	399	G159	0	SBR2	0		
C526	9	G2	0	T1	0		
C550	886	G200	0	T2	0		
C551	4	G4	0	T2P	0		
C560	910	G400	0	T24C	0		
C56X	963	G5	0	T37	1		
C650	63	GALX	2	T38	1		
C680	98	GL4	0	WW24	55		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2006							
Total IFR Ops:	23,801						
Jet						Helicopters	
C722	0	GL5T	0	XL2	0		
C750	12	GLAX	0				
				Total Jets	5,737	Total Helios	4
				% of Total Ops	24.1%	% of Total Ops	0.0%

C.5 IFR OPERATIONS AT HXD IN 2005

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2005													
Total IFR Ops:	22,581												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	100	AC50	4			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	45	AC6L	0			AC80	0	E110	12
AA5	17	GA8	0	P32	12	AEST	112			AC90	80	E120	0
AA5A	0	GC1	0	P32A	21	BE18	3			AC95	20	E2	0
AA5B	0	GLAS	2	P32G	0	BE50	1			AN12	0	E2C	0
AC11	34	HUSK	2	P32R	167	BE55	212			AN24	0	F27	0
AC12	0	HXB	4	P32T	9	BE56	0			AT42	0	F406	0
AC14	0	HXP	0	PA2	0	BE58	746			AT43	0	F50	0
AC23	0	LA25	2	PA22	0	BE60	38			AT72	0	HXC	5
B36	3	LA4	0	PA24	47	BE65	4			ATR4	0	JS31	1
BE19	1	LANC	0	PA28	68	BE76	29			B10	0	JS32	0
BE23	3	LC40	1	PA2T	0	BE95	6			B190	7	MU2	185
BE24	20	LC42	2	PA32	889	BE99	0			B200	1	P180	219
BE33	93	LEG2	2	PA46	141	C303	9			B300	4	P3	0
BE35	182	LGEZ	0	PARO	3	C310	198			B350	230	P46	0
BE36	683	LNC2	0	R20	0	C320	0			B36T	0	P46T	129
BL17	12	LNC4	1	R90R	0	C335	18			B90	0	PAY1	28
BL8	0	LNCE	0	RANG	2	C337	16			B9L	1	PAY2	282
C10T	1	M020	0	RV10	0	C340	81			BE3L	0	PAY3	63
C150	0	M20	14	RV6	0	C401	1			BE10	116	PAY4	11
C152	0	M20A	0	RV7	2	C402	16			BE20	907	PAYE	1
C172	188	M20C	1	RV8	0	C404	0			BE30	216	PC12	197
C177	20	M20F	0	SR20	43	C414	237			BE9	0	PC6T	0
C180	2	M20J	6	SR22	367	C421	175			BE90	37	RC70	0
C182	379	M20K	3	SRT2	0	CE25	0			BE9L	664	SC7	0
C185	1	M20M	0	STIN	0	DA42	0			BE9T	69	SF34	2
C195	0	M20P	163	SYMP	0	DEF1	0			BL9	0	SH33	0
C205	0	M20R	2	T18	0	GA7	1			C130	0	SH36	0
C206	118	M20T	71	T206	0	P34	0			C2	0	SW3	0
C207	2	M22	0	T34	2	P44	0			C208	527	SW4	15
C210	169	M5	0	T34P	0	P68	0			C212	0	T34P	0
C72R	6	M7	5	TB10	2	PA23	22			C425	33	T34T	0
C77R	7	MO20	12	TB20	0	PA27	56			C441	24	T6	0
C82	0	MO21	0	TOBA	0	PA30	53			CA12	0	TB20	0
C82R	42	MO2C	0	TRIN	26	PA31	321			CN35	0	TBM7	141
C82T	1	MO2P	0	VELO	0	PA34	300			CV58	0	TEX2	0
CH2T	0	NAV	0	VFR	0	PA39	0			CVLT	0		
COL3	18	NAV1	0	Z43	0	PA43	0			D328	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2005												
Total IFR Ops:	22,581											
Single-Engine Piston						Multi-Engine Piston				Turboprop			
COL4	1	P210	1			PA44	27			DH8A	3,356		
COUR	1	P28	3			PA58	0			DH8B	2,231		
DA40	21	P28A	135			PA60	0			DH8C	27		
E400	0	P28B	16			PASE	0			DHC6	0		
F33A	0	P28P	0			T303	0			DO28	0		
			Total Single Engine	4,419			Total Multi-Engine	2,686			Total Turboprops	9,841
			% of Total Ops	19.6%			% of Total Ops	11.9%			% of Total Ops	43.6%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2005							
Total IFR Ops:	22,581						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	2
A124	0	CH35	0	GLF2	0	AS33	0
A225	0	CL30	42	GLF3	0	B06	0
A306	0	CL60	77	GLF4	64	CH53	0
A310	0	CL6T	0	GLF5	12	H47	0
A318	0	CRG2	0	GLX	0	H60	2
A319	0	CRJ	0	H25	3	HELO	0
A320	0	CRJ1	0	H25A	12	HU65	0
A321	0	CRJ2	0	H25B	100	S76	1
AGEN	0	CRJ7	0	H25C	0	S92	0
AS65	0	CRJ9	0	HAR	0	UH60	0
ASTR	70	CRL2	0	HS25	4	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	0		
B722	0	DC91	0	L39	3		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	0		
B733	0	DC95	0	LJ25	36		
B734	0	DC9Q	0	LJ31	68		
B735	0	DV20	0	LJ35	62		
B737	0	E135	0	LJ40	18		
B738	0	E145	0	LJ45	243		
B73Q	0	E170	0	LJ55	6		
B741	0	E175	0	LJ60	22		
B742	0	E45X	0	LR25	0		
B743	0	E6	0	LR35	0		
B744	0	EA50	0	LR40	0		
B747	0	EA6	1	LR45	3		
B752	0	F15	1	LR60	0		
B753	0	F16	0	MD11	0		
B762	0	F18	3	MD80	0		
B763	0	F260	0	MD82	0		
BE40	531	F2TH	75	MD83	0		
C17	1	F900	120	MD87	0		
C21	0	FA10	162	MD88	0		
C25A	41	FA18	0	MU30	4		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2005							
Total IFR Ops:	22,581						
Jet						Helicopters	
C25B	8	FA20	50	PR1	0		
C40	0	FA2O	0	PRM1	41		
C500	37	FA50	143	R722	0		
C501	149	FA90	0	SB20	0		
C510	0	G150	0	SBR1	11		
C525	422	G159	0	SBR2	0		
C526	1	G2	0	T1	1		
C550	758	G200	0	T2	0		
C551	3	G4	0	T2P	0		
C560	964	G400	0	T24C	0		
C56X	1,044	G5	0	T37	0		
C650	109	GALX	0	T38	1		
C680	20	GL4	0	WW24	60		
C722	0	GL5T	0	XL2	0		
C750	24	GLAX	0				
				Total Jets	5,630	Total Helios	5
				% of Total Ops	24.9%	% of Total Ops	0.0%

C.6 IFR OPERATIONS AT HXD IN 2004

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2004													
Total IFR Ops:	22,559												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	100	AC50	4			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	72	AC6L	0			AC80	2	E110	0
AA5	23	GA8	0	P32	9	AEST	119			AC90	70	E120	0
AA5A	4	GC1	0	P32A	10	BE18	0			AC95	12	E2	0
AA5B	2	GLAS	0	P32G	0	BE50	9			AN12	0	E2C	0
AC11	52	HUSK	0	P32R	162	BE55	203			AN24	0	F27	0
AC12	1	HXB	4	P32T	5	BE56	0			AT42	0	F406	0
AC14	0	HXP	0	PA2	0	BE58	668			AT43	0	F50	0
AC23	0	LA25	1	PA22	0	BE60	28			AT72	0	HXC	6
B36	4	LA4	0	PA24	55	BE65	4			ATR4	0	JS31	2
BE19	2	LANC	0	PA28	53	BE76	24			B10	0	JS32	4
BE23	5	LC40	11	PA2T	0	BE95	11			B190	4	MU2	94
BE24	25	LC42	1	PA32	843	BE99	0			B200	0	P180	275
BE33	140	LEG2	0	PA46	144	C303	18			B300	1	P3	1
BE35	232	LGEZ	0	PARO	1	C310	175			B350	248	P46	1
BE36	638	LNC2	5	R20	0	C320	0			B36T	0	P46T	108
BL17	3	LNC4	4	R90R	0	C335	0			B90	0	PAY1	39
BL8	0	LNCE	0	RANG	1	C337	22			B9L	0	PAY2	274
C10T	0	M020	0	RV10	0	C340	119			BE3L	0	PAY3	36
C150	2	M20	8	RV6	2	C401	1			BE10	140	PAY4	27
C152	0	M20A	0	RV7	0	C402	14			BE20	938	PAYE	3
C172	248	M20C	3	RV8	0	C404	2			BE30	171	PC12	190
C177	11	M20F	1	SR20	43	C414	206			BE9	0	PC6T	0
C180	2	M20J	2	SR22	241	C421	180			BE90	90	RC70	4
C182	391	M20K	3	SRT2	0	CE25	0			BE9L	973	SC7	0

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2004													
Total IFR Ops:	22,559												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
C185	4	M20M	0	STIN	0	DA42	0			BE9T	64	SF34	0
C195	0	M20P	148	SYMP	0	DEF1	0			BL9	0	SH33	0
C205	0	M20R	6	T18	0	GA7	0			C130	0	SH36	0
C206	87	M20T	111	T206	0	P34	0			C2	0	SW3	7
C207	0	M22	0	T34	11	P44	0			C208	551	SW4	18
C210	246	M5	0	T34P	1	P68	0			C212	0	T34P	1
C72R	4	M7	1	TB10	2	PA23	54			C425	22	T34T	2
C77R	7	MO20	15	TB20	5	PA27	37			C441	11	T6	0
C82	4	MO21	0	TOBA	1	PA30	82			CA12	0	TB20	5
C82R	21	MO2C	0	TRIN	48	PA31	290			CN35	0	TBM7	78
C82T	0	MO2P	0	VELO	0	PA34	247			CV58	0	TEX2	0
CH2T	2	NAV	0	VFR	0	PA39	0			CVLT	0		
COL3	15	NAV1	0	Z43	0	PA43	0			D328	0		
COL4	0	P210	1			PA44	30			DH8A	2,928		
COUR	0	P28	9			PA58	0			DH8B	1,952		
DA40	13	P28A	115			PA60	8			DH8C	248		
E400	0	P28B	18			PASE	1			DHC6	0		
F33A	1	P28P	0			T303	0			DO28	0		
Total Single Engine					4,465	Total Multi-Engine			2,556	Total Turboprops			9,600
% of Total Ops					19.8%	% of Total Ops			11.3%	% of Total Ops			42.6%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2004							
Total IFR Ops:	22,559						
Jet						Helicopters	
A10	1	CARJ	0	GLEX	4	A109	2
A124	0	CH35	0	GLF2	9	AS33	0
A225	0	CL30	15	GLF3	5	B06	1
A306	0	CL60	41	GLF4	65	CH53	0
A310	0	CL6T	0	GLF5	3	H47	1
A318	0	CRG2	0	GLX	0	H60	1
A319	0	CRJ	0	H25	2	HELO	0
A320	0	CRJ1	0	H25A	15	HU65	0
A321	0	CRJ2	0	H25B	160	S76	0
AGEN	0	CRJ7	0	H25C	0	S92	2
AS65	2	CRJ9	0	HAR	0	UH60	0
ASTR	71	CRL2	0	HS25	3	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	6		
B722	0	DC91	0	L39	4		
B72Q	0	DC93	0	LGE2	0		
B732	1	DC94	0	LJ24	2		
B733	0	DC95	0	LJ25	26		
B734	0	DC9Q	0	LJ31	144		
B735	0	DV20	0	LJ35	111		
B737	0	E135	1	LJ40	20		
B738	0	E145	0	LJ45	296		
B73Q	0	E170	0	LJ55	8		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2004									
Total IFR Ops:	22,559								
Jet								Helicopters	
B741	0	E175	0	LJ60	28				
B742	0	E45X	0	LR25	0				
B743	0	E6	0	LR35	1				
B744	0	EA50	0	LR40	1				
B747	0	EA6	0	LR45	4				
B752	0	F15	1	LR60	0				
B753	0	F16	3	MD11	0				
B762	0	F18	3	MD80	0				
B763	1	F260	0	MD82	0				
BE40	533	F2TH	58	MD83	0				
C17	0	F900	134	MD87	0				
C21	0	FA10	161	MD88	0				
C25A	30	FA18	0	MU30	17				
C25B	0	FA20	101	PR1	0				
C40	0	FA2O	0	PRM1	32				
C500	41	FA50	229	R722	0				
C501	86	FA90	1	SB20	0				
C510	0	G150	0	SBR1	18				
C525	426	G159	0	SBR2	0				
C526	6	G2	0	T1	0				
C550	868	G200	0	T2	0				
C551	6	G4	1	T2P	0				
C560	970	G400	0	T24C	0				
C56X	899	G5	1	T37	0				
C650	195	GALX	2	T38	0				
C680	0	GL4	0	WW24	20				
C722	0	GL5T	0	XL2	0				
C750	39	GLAX	0						
Total Jets					5,931	Total Helios		7	
% of Total Ops					26.3%	% of Total Ops		0.0%	

C.7 IFR OPERATIONS AT HXD IN 2003

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2003													
Total IFR Ops:	22,289												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	77	AC50	0			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	39	AC6L	0			AC80	2	E110	0
AA5	30	GA8	0	P32	14	AEST	111			AC90	52	E120	0
AA5A	6	GC1	0	P32A	1	BE18	0			AC95	9	E2	0
AA5B	4	GLAS	0	P32G	0	BE50	16			AN12	0	E2C	0
AC11	56	HUSK	0	P32R	117	BE55	205			AN24	0	F27	0
AC12	0	HXB	1	P32T	6	BE56	0			AT42	0	F406	0
AC14	1	HXP	0	PA2	0	BE58	665			AT43	0	F50	1
AC23	0	LA25	2	PA22	0	BE60	11			AT72	0	HXC	1
B36	3	LA4	0	PA24	35	BE65	0			ATR4	0	JS31	4
BE19	0	LANC	0	PA28	73	BE76	34			B10	0	JS32	0
BE23	7	LC40	5	PA2T	0	BE95	23			B190	0	MU2	44

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2003

Total IFR Ops: 22,289

Single-Engine Piston						Multi-Engine Piston				Turboprop			
BE24	16	LC42	0	PA32	919	BE99	0			B200	0	P180	236
BE33	150	LEG2	0	PA46	188	C303	9			B300	0	P3	2
BE35	206	LGEZ	0	PARO	0	C310	165			B350	220	P46	2
BE36	636	LNC2	5	R20	0	C320	2			B36T	0	P46T	92
BL17	5	LNC4	1	R90R	0	C335	0			B90	0	PAY1	15
BL8	0	LNCE	0	RANG	2	C337	16			B9L	2	PAY2	137
C10T	0	M020	0	RV10	0	C340	114			BE3L	0	PAY3	23
C150	6	M20	22	RV6	0	C401	1			BE10	155	PAY4	2
C152	3	M20A	0	RV7	0	C402	7			BE20	956	PAYE	4
C172	271	M20C	2	RV8	0	C404	2			BE30	172	PC12	188
C177	12	M20F	2	SR20	32	C414	267			BE9	11	PC6T	0
C180	5	M20J	10	SR22	150	C421	287			BE90	97	RC70	0
C182	421	M20K	4	SRT2	0	CE25	0			BE9L	1,102	SC7	0
C185	2	M20M	0	STIN	0	DA42	0			BE9T	72	SF34	0
C195	0	M20P	154	SYMP	0	DEF1	0			BL9	2	SH33	0
C205	0	M20R	2	T18	0	GA7	2			C130	0	SH36	0
C206	50	M20T	77	T206	0	P34	2			C2	0	SW3	20
C207	0	M22	0	T34	4	P44	0			C208	561	SW4	8
C210	268	M5	0	T34P	5	P68	0			C212	1	T34P	5
C72R	2	M7	9	TB10	0	PA23	46			C425	15	T34T	4
C77R	9	MO20	16	TB20	2	PA27	45			C441	33	T6	0
C82	4	MO21	1	TOBA	0	PA30	81			CA12	0	TB20	2
C82R	12	MO2C	0	TRIN	8	PA31	398			CN35	0	TBM7	95
C82T	0	MO2P	0	VELO	2	PA34	293			CV58	0	TEX2	3
CH2T	2	NAV	0	VFR	0	PA39	0			CVLT	0		
COL3	3	NAV1	0	Z43	0	PA43	0			D328	0		
COL4	0	P210	7			PA44	25			DH8A	2,689		
COUR	0	P28	7			PA58	0			DH8B	2,429		
DA40	6	P28A	138			PA60	2			DH8C	258		
E400	0	P28B	22			PASE	1			DHC6	0		
F33A	2	P28P	0			T303	0			DO28	0		
Total Single Engine					4,359	Total Multi-Engine			2,830	Total Turboprops			9,726
% of Total Ops					19.6%	% of Total Ops			12.7%	% of Total Ops			43.6%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2003

Total IFR Ops: 22,289

Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	0
A124	0	CH35	0	GLF2	2	AS33	0
A225	0	CL30	0	GLF3	6	B06	0
A306	0	CL60	34	GLF4	64	CH53	0
A310	0	CL6T	0	GLF5	0	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	2	HELO	0
A320	0	CRJ1	0	H25A	11	HU65	0
A321	0	CRJ2	0	H25B	161	S76	1
AGEN	0	CRJ7	0	H25C	0	S92	0
AS65	0	CRJ9	0	HAR	1	UH60	0
ASTR	72	CRL2	0	HS25	3	V22	0
B230	0	DC10	0	J328	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2003

Total IFR Ops: 22,289

Jet						Helicopters	
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	2		
B722	0	DC91	0	L39	2		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	14		
B733	0	DC95	0	LJ25	63		
B734	0	DC9Q	0	LJ31	175		
B735	0	DV20	0	LJ35	98		
B737	0	E135	0	LJ40	0		
B738	0	E145	0	LJ45	198		
B73Q	0	E170	0	LJ55	12		
B741	0	E175	0	LJ60	11		
B742	1	E45X	0	LR25	5		
B743	0	E6	0	LR35	5		
B744	0	EA50	0	LR40	0		
B747	0	EA6	0	LR45	1		
B752	0	F15	2	LR60	0		
B753	0	F16	5	MD11	0		
B762	0	F18	2	MD80	0		
B763	0	F260	0	MD82	0		
BE40	421	F2TH	69	MD83	0		
C17	0	F900	108	MD87	0		
C21	0	FA10	140	MD88	0		
C25A	13	FA18	0	MU30	33		
C25B	0	FA20	81	PR1	0		
C40	0	FA2O	0	PRM1	16		
C500	21	FA50	214	R722	0		
C501	64	FA90	1	SB20	0		
C510	0	G150	0	SBR1	17		
C525	376	G159	0	SBR2	3		
C526	22	G2	0	T1	0		
C550	749	G200	0	T2	1		
C551	4	G4	0	T2P	0		
C560	933	G400	0	T24C	0		
C56X	857	G5	0	T37	3		
C650	199	GALX	0	T38	0		
C680	0	GL4	0	WW24	25		
C722	0	GL5T	0	XL2	0		
C750	51	GLAX	0				
Total Jets					**5,373**	**Total Helios**	**1**
% of Total Ops					**24.1%**	**% of Total Ops**	**0.0%**

C.8 IFR OPERATIONS AT HXD IN 2002

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2002

Total IFR Ops: 22,922

Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	137	AC50	8			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	31	AC6L	0			AC80	0	E110	5
AA5	13	GA8	0	P32	16	AEST	75			AC90	57	E120	0
AA5A	5	GC1	0	P32A	2	BE18	0			AC95	4	E2	0
AA5B	2	GLAS	0	P32G	0	BE50	9			AN12	0	E2C	0
AC11	76	HUSK	0	P32R	81	BE55	227			AN24	0	F27	0
AC12	3	HXB	0	P32T	3	BE56	0			AT42	0	F406	0
AC14	5	HXP	0	PA2	0	BE58	729			AT43	0	F50	0
AC23	0	LA25	1	PA22	0	BE60	26			AT72	0	HXC	3
B36	2	LA4	3	PA24	38	BE65	4			ATR4	0	JS31	0
BE19	3	LANC	0	PA28	85	BE76	45			B10	1	JS32	12
BE23	12	LC40	0	PA2T	0	BE95	8			B190	1	MU2	64
BE24	26	LC42	0	PA32	500	BE99	0			B200	0	P180	149
BE33	225	LEG2	0	PA46	150	C303	0			B300	0	P3	0
BE35	200	LGEZ	1	PARO	12	C310	177			B350	274	P46	1
BE36	672	LNC2	3	R20	0	C320	4			B36T	0	P46T	50
BL17	5	LNC4	0	R90R	0	C335	0			B90	1	PAY1	23
BL8	0	LNCE	0	RANG	2	C337	11			B9L	0	PAY2	139
C10T	0	M020	0	RV10	0	C340	98			BE3L	0	PAY3	12
C150	1	M20	18	RV6	0	C401	2			BE10	178	PAY4	6
C152	4	M20A	0	RV7	0	C402	10			BE20	1,033	PAYE	7
C172	278	M20C	0	RV8	1	C404	0			BE30	176	PC12	90
C177	33	M20F	2	SR20	29	C414	387			BE9	3	PC6T	0
C180	6	M20J	15	SR22	65	C421	347			BE90	50	RC70	4
C182	375	M20K	7	SRT2	0	CE25	0			BE9L	925	SC7	0
C185	4	M20M	0	STIN	0	DA42	0			BE9T	65	SF34	0
C195	0	M20P	113	SYMP	0	DEF1	0			BL9	0	SH33	2
C205	0	M20R	2	T18	0	GA7	0			C130	0	SH36	2
C206	25	M20T	51	T206	0	P34	1			C2	0	SW3	34
C207	1	M22	0	T34	1	P44	0			C208	557	SW4	6
C210	309	M5	2	T34P	0	P68	1			C212	0	T34P	0
C72R	3	M7	24	TB10	3	PA23	40			C425	38	T34T	2
C77R	5	MO20	29	TB20	8	PA27	49			C441	29	T6	0
C82	1	MO21	1	TOBA	4	PA30	127			CA12	0	TB20	8
C82R	22	MO2C	0	TRIN	20	PA31	397			CN35	0	TBM7	65
C82T	0	MO2P	0	VELO	0	PA34	271			CV58	0	TEX2	0
CH2T	1	NAV	0	VFR	0	PA39	1			CVLT	0		
COL3	0	NAV1	0	Z43	0	PA43	0			D328	0		
COL4	0	P210	8			PA44	48			DH8A	2,245		
COUR	6	P28	5			PA58	0			DH8B	4,135		
DA40	0	P28A	101			PA60	9			DH8C	36		
E400	0	P28B	20			PASE	0			DHC6	0		
F33A	0	P28P	0			T303	0			DO28	0		
Total Single Engine					3,917	Total Multi-Engine			3,111	Total Turboprops			10,492
% of Total Ops					17.1%	% of Total Ops			13.6%	% of Total Ops			45.8%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2002

Total IFR Ops: 22,922

Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	3
A124	0	CH35	0	GLF2	4	AS33	0
A225	0	CL30	0	GLF3	2	B06	0
A306	0	CL60	53	GLF4	41	CH53	0
A310	0	CL6T	0	GLF5	2	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	0	HELO	0
A320	0	CRJ1	0	H25A	30	HU65	0
A321	0	CRJ2	0	H25B	175	S76	0
AGEN	0	CRJ7	0	H25C	2	S92	0
AS65	2	CRJ9	0	HAR	0	UH60	0
ASTR	74	CRL2	0	HS25	7	V22	0
B230	0	DC10	0	J328	2		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	2		
B722	0	DC91	0	L39	5		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	21		
B733	0	DC95	0	LJ25	57		
B734	0	DC9Q	0	LJ31	208		
B735	0	DV20	0	LJ35	119		
B737	0	E135	0	LJ40	0		
B738	0	E145	0	LJ45	245		
B73Q	0	E170	0	LJ55	13		
B741	0	E175	0	LJ60	19		
B742	0	E45X	0	LR25	2		
B743	0	E6	0	LR35	1		
B744	0	EA50	0	LR40	0		
B747	0	EA6	0	LR45	13		
B752	0	F15	0	LR60	1		
B753	0	F16	1	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	517	F2TH	67	MD83	0		
C17	0	F900	112	MD87	0		
C21	0	FA10	147	MD88	0		
C25A	11	FA18	0	MU30	23		
C25B	0	FA20	107	PR1	0		
C40	0	FA2O	0	PRM1	15		
C500	34	FA50	167	R722	0		
C501	94	FA90	0	SB20	0		
C510	0	G150	0	SBR1	15		
C525	350	G159	0	SBR2	2		
C526	20	G2	0	T1	0		
C550	817	G200	0	T2	0		
C551	8	G4	0	T2P	0		
C560	870	G400	0	T24C	0		
C56X	603	G5	0	T37	2		
C650	232	GALX	2	T38	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2002							
Total IFR Ops:	22,922						
Jet						Helicopters	
C680	0	GL4	0	WW24	45		
C722	0	GL5T	0	XL2	0		
C750	38	GLAX	0				
				Total Jets	5,399	Total Helios	3
				% of Total Ops	23.6%	% of Total Ops	0.0%

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2001													
Total IFR Ops:	22,223												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
CH2T	0	NAV	0	VFR	0	PA39	0			CVLT	0		
COL3	0	NAV1	0	Z43	0	PA43	0			D328	2		
COL4	0	P210	7			PA44	53			DH8A	4,659		
COUR	2	P28	22			PA58	0			DH8B	1,835		
DA40	0	P28A	35			PA60	8			DH8C	1		
E400	0	P28B	10			PASE	5			DHC6	0		
F33A	2	P28P	0			T303	0			DO28	0		
				Total Single Engine	3,483			Total Multi-Engine	3,567			Total Turboprops	10,397
				% of Total Ops	15.7%			% of Total Ops	16.1%			% of Total Ops	46.8%

C.9 IFR OPERATIONS AT HXD IN 2001

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2001													
Total IFR Ops:	22,223												
Single-Engine Piston						Multi-Engine Piston				Turboprop			
A28A	0	F8L	0	P28R	99	AC50	5			AC43	0	DO32	0
AA1	0	FDCT	0	P28T	16	AC6L	0			AC80	0	E110	0
AA5	21	GA8	0	P32	12	AEST	95			AC90	36	E120	0
AA5A	6	GC1	0	P32A	0	BE18	0			AC95	8	E2	0
AA5B	11	GLAS	0	P32G	0	BE50	15			AN12	0	E2C	0
AC11	72	HUSK	1	P32R	71	BE55	198			AN24	0	F27	0
AC12	8	HXB	0	P32T	1	BE56	0			AT42	0	F406	0
AC14	6	HXP	0	PA2	0	BE58	734			AT43	0	F50	0
AC23	0	LA25	0	PA22	0	BE60	13			AT72	0	HXC	0
B36	0	LA4	0	PA24	48	BE65	1			ATR4	0	JS31	16
BE19	0	LANC	0	PA28	134	BE76	30			B10	0	JS32	18
BE23	5	LC40	0	PA2T	0	BE95	10			B190	0	MU2	314
BE24	32	LC42	0	PA32	391	BE99	0			B200	0	P180	51
BE33	158	LEG2	0	PA46	144	C303	9			B300	0	P3	0
BE35	155	LGEZ	0	PARO	30	C310	191			B350	261	P46	2
BE36	702	LNC2	0	R20	0	C320	7			B36T	0	P46T	15
BL17	10	LNC4	4	R90R	0	C335	1			B90	0	PAY1	18
BL8	0	LNCE	0	RANG	1	C337	27			B9L	0	PAY2	120
C10T	0	M020	2	RV10	0	C340	118			BE3L	0	PAY3	14
C150	4	M20	32	RV6	0	C401	6			BE10	236	PAY4	6
C152	6	M20A	0	RV7	0	C402	2			BE20	1,046	PAYE	37
C172	248	M20C	4	RV8	0	C404	0			BE30	169	PC12	89
C177	17	M20F	3	SR20	19	C414	444			BE9	6	PC6T	0
C180	3	M20J	11	SR22	21	C421	349			BE90	154	RC70	0
C182	342	M20K	5	SRT2	0	CE25	0			BE9L	881	SC7	0
C185	8	M20M	2	STIN	0	DA42	0			BE9T	65	SF34	0
C195	0	M20P	69	SYMP	0	DEF1	0			BL9	0	SH33	0
C205	2	M20R	11	T18	0	GA7	0			C130	0	SH36	0
C206	21	M20T	41	T206	0	P34	6			C2	0	SW3	64
C207	0	M22	0	T34	3	P44	0			C208	181	SW4	6
C210	297	M5	0	T34P	0	P68	1			C212	0	T34P	0
C72R	4	M7	12	TB10	0	PA23	25			C425	16	T34T	1
C77R	2	MO20	36	TB20	4	PA27	46			C441	46	T6	0
C82	2	MO21	1	TOBA	0	PA30	121			CA12	0	TB20	4
C82R	23	MO2C	0	TRIN	12	PA31	645			CN35	0	TBM7	20
C82T	0	MO2P	0	VELO	0	PA34	402			CV58	0	TEX2	0

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2001							
Total IFR Ops:	22,223						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	0
A124	0	CH35	0	GLF2	9	AS33	0
A225	0	CL30	0	GLF3	17	B06	0
A306	0	CL60	25	GLF4	37	CH53	0
A310	0	CL6T	0	GLF5	6	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	3	HELO	0
A320	0	CRJ1	0	H25A	4	HU65	0
A321	0	CRJ2	0	H25B	160	S76	0
AGEN	0	CRJ7	0	H25C	0	S92	0
AS65	1	CRJ9	0	HAR	0	UH60	0
ASTR	61	CRL2	0	HS25	15	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	2		
B722	0	DC91	0	L39	3		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	19		
B733	0	DC95	0	LJ25	103		
B734	0	DC9Q	0	LJ31	198		
B735	0	DV20	0	LJ35	123		
B737	0	E135	0	LJ40	0		
B738	0	E145	0	LJ45	150		
B73Q	0	E170	0	LJ55	12		
B741	0	E175	0	LJ60	19		
B742	0	E45X	0	LR25	4		
B743	0	E6	0	LR35	7		
B744	0	EA50	0	LR40	0		
B747	0	EA6	0	LR45	3		
B752	0	F15	0	LR60	0		
B753	0	F16	0	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	532	F2TH	15	MD83	0		
C17	0	F900	86	MD87	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2001							
Total IFR Ops:	22,223						
Jet						Helicopters	
C21	0	FA10	204	MD88	0		
C25A	0	FA18	0	MU30	48		
C25B	0	FA20	105	PR1	0		
C40	1	FA2O	0	PRM1	2		
C500	74	FA50	79	R722	0		
C501	70	FA90	0	SB20	0		
C510	0	G150	0	SBR1	24		
C525	261	G159	2	SBR2	0		
C526	6	G2	0	T1	0		
C550	835	G200	0	T2	0		
C551	14	G4	0	T2P	0		
C560	771	G400	0	T24C	0		
C56X	362	G5	1	T37	0		
C650	190	GALX	0	T38	0		
C680	0	GL4	0	WW24	92		
C722	0	GL5T	0	XL2	0		
C750	21	GLAX	0				
				Total Jets	**4,776**	**Total Helios**	**0**
				% of Total Ops	**21.5%**	**% of Total Ops**	**0.0%**

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2000															
Total IFR Ops:	23,969														
Single-Engine Piston						Multi-Engine Piston				Turboprop					
C180	1	M20J	19	SR22	0	C421	484			BE90	204	RC70	0		
C182	294	M20K	16	SRT2	0	CE25	0			BE9L	947	SC7	0		
C185	6	M20M	3	STIN	0	DA42	0			BE9T	65	SF34	0		
C195	0	M20P	97	SYMP	0	DEF1	0			BL9	0	SH33	0		
C205	0	M20R	6	T18	0	GA7	2			C130	0	SH36	0		
C206	19	M20T	18	T206	0	P34	2			C2	0	SW3	74		
C207	0	M22	0	T34	5	P44	0			C208	8	SW4	7		
C210	290	M5	0	T34P	0	P68	0			C212	0	T34P	0		
C72R	5	M7	32	TB10	0	PA23	90			C425	37	T34T	0		
C77R	6	MO20	59	TB20	5	PA27	58			C441	86	T6	0		
C82	2	MO21	3	TOBA	0	PA30	158			CA12	0	TB20	5		
C82R	17	MO2C	0	TRIN	6	PA31	817			CN35	0	TBM7	12		
C82T	0	MO2P	0	VELO	0	PA34	336			CV58	0	TEX2	0		
CH2T	0	NAV	0	VFR	0	PA39	1			CVLT	0				
COL3	0	NAV1	0	Z43	0	PA43	0			D328	2				
COL4	0	P210	23			PA44	29			DH8A	4024				
COUR	2	P28	14			PA58	0			DH8B	3505				
DA40	0	P28A	30			PA60	14			DH8C	0				
E400	2	P28B	3			PASE	7			DHC6	1				
F33A	1	P28P	0			T303	0			DO28	0				
				Total Single Engine	3,561			Total Multi-Engine	4,164					Total Turboprops	11,205
				% of Total Ops	14.9%			% of Total Ops	17.4%					% of Total Ops	46.7%

C.10 IFR OPERATIONS AT HXD IN 2000

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2000															
Total IFR Ops:	23,969														
Single-Engine Piston						Multi-Engine Piston				Turboprop					
A28A	0	F8L	0	P28R	40	AC50	20			AC43	0	DO32	0		
AA1	0	FDCT	0	P28T	34	AC6L	0			AC80	2	E110	0		
AA5	22	GA8	0	P32	12	AEST	76			AC90	54	E120	0		
AA5A	7	GC1	0	P32A	2	BE18	2			AC95	0	E2	0		
AA5B	16	GLAS	0	P32G	0	BE50	8			AN12	0	E2C	0		
AC11	35	HUSK	0	P32R	75	BE55	262			AN24	0	F27	0		
AC12	9	HXB	2	P32T	4	BE56	0			AT42	0	F406	0		
AC14	4	HXP	0	PA2	0	BE58	790			AT43	0	F50	0		
AC23	0	LA25	2	PA22	0	BE60	29			AT72	0	HXC	0		
B36	4	LA4	0	PA24	49	BE65	10			ATR4	0	JS31	11		
BE19	0	LANC	0	PA28	133	BE76	30			B10	1	JS32	2		
BE23	10	LC40	0	PA2T	0	BE95	3			B190	19	MU2	237		
BE24	31	LC42	0	PA32	458	BE99	0			B200	0	P180	0		
BE33	148	LEG2	0	PA46	172	C303	88			B300	1	P3	2		
BE35	181	LGEZ	0	PARO	29	C310	179			B350	138	P46	2		
BE36	775	LNC2	0	R20	0	C320	7			B36T	0	P46T	6		
BL17	13	LNC4	4	R90R	0	C335	0			B90	0	PAY1	21		
BL8	0	LNCE	0	RANG	2	C337	16			B9L	3	PAY2	112		
C10T	0	M020	4	RV10	0	C340	164			BE3L	0	PAY3	7		
C150	1	M20	29	RV6	1	C401	4			BE10	299	PAY4	4		
C152	1	M20A	0	RV7	0	C402	39			BE20	1079	PAYE	22		
C172	221	M20C	13	RV8	0	C404	106			BE30	108	PC12	97		
C177	27	M20F	1	SR20	6	C414	333			BE9	1	PC6T	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2000							
Total IFR Ops:	23,969						
Jet						Helicopters	
A10	0	CARJ	0	GLEX	0	A109	0
A124	0	CH35	0	GLF2	12	AS33	0
A225	0	CL30	0	GLF3	10	B06	0
A306	0	CL60	67	GLF4	20	CH53	0
A310	0	CL6T	0	GLF5	7	H47	0
A318	0	CRG2	0	GLX	0	H60	0
A319	0	CRJ	0	H25	17	HELO	0
A320	0	CRJ1	0	H25A	17	HU65	0
A321	0	CRJ2	0	H25B	236	S76	0
AGEN	0	CRJ7	0	H25C	2	S92	0
AS65	0	CRJ9	0	HAR	0	UH60	0
ASTR	39	CRL2	0	HS25	18	V22	0
B230	0	DC10	0	J328	0		
B703	0	DC86	0	JET	0		
B712	0	DC87	0	K35R	0		
B721	0	DC9	0	L29B	2		
B722	0	DC91	0	L39	4		
B72Q	0	DC93	0	LGE2	0		
B732	0	DC94	0	LJ24	28		
B733	0	DC95	0	LJ25	65		
B734	0	DC9Q	0	LJ31	252		
B735	0	DV20	1	LJ35	151		
B737	0	E135	0	LJ40	0		

HXD INSTRUMENT FLIGHT RULE OPERATIONS - YEAR 2000							
Total IFR Ops:	23,969						
Jet						Helicopters	
B738	0	E145	0	LJ45	49		
B73Q	0	E170	0	LJ55	23		
B741	0	E175	0	LJ60	32		
B742	0	E45X	0	LR25	5		
B743	0	E6	0	LR35	5		
B744	0	EA50	0	LR40	0		
B747	0	EA6	0	LR45	6		
B752	0	F15	0	LR60	2		
B753	0	F16	0	MD11	0		
B762	0	F18	0	MD80	0		
B763	0	F260	0	MD82	0		
BE40	516	F2TH	18	MD83	0		
C17	0	F900	95	MD87	0		
C21	0	FA10	144	MD88	0		
C25A	0	FA18	0	MU30	62		
C25B	0	FA20	106	PR1	0		
C40	0	FA2O	0	PRM1	0		
C500	103	FA50	97	R722	0		
C501	134	FA90	0	SB20	0		
C510	3	G150	0	SBR1	26		
C525	301	G159	6	SBR2	2		
C526	2	G2	3	T1	0		
C550	769	G200	0	T2	0		
C551	8	G4	1	T2P	0		
C560	1,030	G400	0	T24C	0		
C56X	61	G5	0	T37	0		
C650	322	GALX	1	T38	0		
C680	0	GL4	0	WW24	117		
C722	0	GL5T	0	XL2	0		
C750	42	GLAX	0				
				Total Jets	5,039	Total Helios	0
				% of Total Ops	21.0%	% of Total Ops	0.0%

C.11 SINGLE-ENGINE PISTON AIRCRAFT

Single-Engine Piston Aircraft Recorded in SC		
Abbreviation	Manufacturer	Model
A28A	Cessna	172RG Skyhawk
AA1	Grumman	AA1 Yankee
AA5	Grumman	AA5 Tiger
AA5A	Grumman	AA5A Cheetah
AA5B	Grumman	AA5B Tiger
AC11	Rockwell	AC-11 Commander
AC12	Rockwell	AC-12 Commander
AC14	Rockwell	114 Commander
AC23	Beechcraft	23

Single-Engine Piston Aircraft Recorded in SC		
Abbreviation	Manufacturer	Model
B36	Beechcraft	36 Bonanza
BE19	Beechcraft	B36TC Bonanza
BE23	Piper	PA-28R Cherokee Arrow
BE24	Beechcraft	F33 Bonanza
BE33	Beechcraft	A36 Bonanza
BE35	Piper	PA-46 Malibu Mirage
BE36	Piper	PA-26 Dakota
BL17	Piper	PA-28 Archer
BL8	Velocity	XLRG
C10T	Cessna	210T Centurion
C150	Cessna	150
C152	Cessna	152
C172	Cessna	172 Skyhawk
C177	Cessna	177 Cardinal

Single-Engine Piston Aircraft Recorded in SC		
Abbreviation	Manufacturer	Model
C180	Cessna	180 Skywagon
C182	Cessna	182 Skylane
C185	Cessna	185 Skywagon
C195	Cessna	195
C205	Cessna	205 Super Skywagon
C206	Cessna	206 Stationair
C207	Cessna	207 Skywagon
C210	Cessna	210 Centurion
C72R	Cessna	172R Skyhawk
C77R	Cessna	177 Cardinal
C82	Cessna	182 Skylane
C82R	Cessna	182R Skylane
C82T	Cessna	182T Skylane
CH2T	Zenair	CH2T

Single-Engine Piston Aircraft Recorded in SC		
Abbreviation	**Manufacturer**	**Model**
COL3	Cirrus	SR22
COL4	Cessna	172S Skyhawk
COUR	Helio	H-295 Courier
DA40	Diamond	DA40 Katana
E400	Extra	E400
F33A	Beechcraft	F33A Bonanza
F8L	Aviamilano	F-8L Falco
FDCT	Flight Design	CTSW
GA8	Gippsland	GA8 Airvan
GC1	Globe	GC-1 Swift
GLAS	Glasair	III
HUSK	Aviat	A-1 Husky
HXB	Experimental Aircraft	Cruise IAS > 100 and < 201 Kt.
HXP	Zenith Aircraft	CH 601XL
LA25	Lake Aircraft	LA-250
LA4	Lake	LA-4 Buccaneer
LA25	Lake	LA-250 Renegade
LANC	Lancair	IV
LC42	Columbia	400
LEG2	Lancair	Legacy
LGEZ	Rutan	Long-EZ
LNC2	Lancair	200
LNC4	Lancair	4
LNCE	Lancair	Super ES
M020	Mooney	M20
M20	Mooney	M20
M20A	Mooney	M20A
M20C	Mooney	M20C
M20F	Mooney	M20F
M20J	Mooney	M20J
M20K	Mooney	M20K
M20M	Mooney	M20M Bravo
M20P	Mooney	M20P
M20R	Mooney	M20R Ovation
M20T	Mooney	M20T Acclaim
M22	Mooney	M22 Mustang
M5	Maule	M5
M7	Maule	M7
MO20	Mooney	M20F
MO21	Pegasus	503 Sport
MO2C	Mooney	M20C
MO2P	Mooney	M20P
NAV	Ryan	L-17 Navion
NAV1	Ryan	L-17 Navion
P210	Cessna	P210 Centurion
P28	Piper	PA-28 Cherokee
P28A	Piper	PA-28A Cherokee
P28B	Piper	PA-28B Dakota
P28P	Piper	PA-28B Dakota
P28R	Piper	PA-28R Cherokee Arrow
P28T	Piper	PA-28T
P32	Piper	PA-32A Cherokee Six
P32A	Piper	PA-32A Cherokee Six
P32R	Piper	PA-32R Lance
P32T	Piper	PA-32T Lance
P46T	Piper	PA-46T Malibu Meridian
PA2	Piper	PA-2 Super Cruiser
PA22	Piper	PA-22 Tri-Pacer
PA24	Piper	PA-24 Comanche
PA28	Piper	PA-28 Cherokee
PA2T	Piper	PA-2T Archer II
PA32	Piper	PA-32 Saratoga
PA46	Piper	PA-46 Malibu
PARO	Beechcraft	F33A Bonanza
R20	Taylorcraft	12
R90R	Ruschmeyer	R90R
RANG	Cessna	182P Skylane
RV10	Van's	RV-10
RV6	Van's	RV-6
RV7	Van's	RV-7
RV8	Van's	RV-8
SR20	Cirrus	SR20
SR22	Cirrus	SR22
SRT2	Cirrus	SR22
STIN	Stinson	Reliant
SYMP	Symphony	OMF
T18	Thorp	T-18 Tiger
T206	Cessna	Turbo 206
T34	Beechcraft	T-34 Mentor
T34P	Beechcraft	T-34 Mentor
TB10	Socata	TB10 Tobago
TB20	Socata	TB20 Trinidad
TOBA	Socata	TB10 Tobago
TRIN	Socata	TB20 Trinidad
VELO	Velocity	XL
VFR	Bellanca	17-30 Viking
Z43	Zlin	Z-43

Source: Talbert & Bright, Inc., "South Carolina Airports System Plan," 2008, prepared for the South Carolina Department of Commerce, Division of Aeronautics.

C.12 MULTI-ENGINE PISTON AIRCRAFT

Multi-Engine Piston Aircraft Recorded in SC		
Abbreviation	**Manufacturer**	**Model**
AC50	Piper	PA-30 Twin Comanche
AC6L	Beechcraft	58 Baron
AEST	Beechcraft	E55 Baron
BE18	Beechcraft	18
BE50	Piper	PA-31 Navajo
BE55	Beechcraft	E55 Baron
BE56	Beechcraft	56 Baron
BE58	Beechcraft	58 Baron
BE60	Beechcraft	58P Baron
BE65	Beechcraft	65 Queen Air
BE76	Beechcraft	76 Duchess
BE95	Beechcraft	95 Travel Air
BE99	Beechcraft	99 Airliner
C303	Cessna	303 Crusader
C310	Cessna	310
C320	Cessna	320 Skynight
C335	Cessna	335
C337	Cessna	337 Skymaster
C340	Cessna	340
C401	Cessna	401
C402	Cessna	402 Utililiner
C404	Cessna	404 Titan
C414	Cessna	414
C421	Cessna	421 Golden Eagle
CE25	Chernov	Che-25
DA42	Diamond	DA-42 Twin Star
DEF1	Britten-Norman	Defender
GA7	Grumman	GA-7 Cougar
P34	Piper	PA-34 Seneca
P44	Piper	PA-44 Seminole
P68	Partenavia	P68 Observer
PA23	Piper	PA-23 Apache/Aztec
PA27	Piper	PA-27 Aztec
PA30	Piper	PA-30 Twin Comanche
PA31	Piper	PA-31 Chieftain
PA34	Piper	PA-34 Seneca
PA39	Piper	PA-39 Twin Comanche
PA43	Piper	PA-43 Seminole
PA44	Piper	PA-44 Seminole
PA58	Piper	PA-60 Aerostar
PA60	Piper	PA-60 Aerostar
PASE	Piper	PA-34 Seneca
T303	Cessna	T303 Crusader

Source: Talbert & Bright, Inc., "South Carolina Airports System Plan," 2008, prepared for the South Carolina Department of Commerce, Division of Aeronautics.

C.13 TURBOPROP AIRCRAFT

Turboprop Aircraft Recorded in SC

Abbreviation	Manufacturer	Model
AC43	Rockwell	Turbo Commander
AC80	Rockwell	680 Turbo Commander
AC90	Beechcraft	B200 King Air
AC95	Rockwell	695 Jetprop Commander
AN12	Antonov	AN12
AN24	Antonov	AN24
AT42	Alenia	ATR-42
AT43	Alenia	ATR-42-300
AT72	Alenia	ATR-72
ATR4	Alenia	ATR-42
B10	Beechcraft	B200 King Air
B190	Beechcraft	1900
B200	Beechcraft	B200 King Air
B300	Beechcraft	B300 King Air
B350	Beechcraft	B350 King Air
B36T	Beechcraft	36 Turbine Bonanza
B90	Beechcraft	B90 King Air
B9L	Beechcraft	C90 King Air
BE3L	Beechcraft	B300 King Air
BE10	Mitsubishi	MU-2 Marquis
BE20	Beechcraft	B200 King Air
BE30	Beechcraft	B200 King Air
BE9	Beechcraft	B200 King Air
BE90	Beechcraft	B200 King Air
BE9L	Beechcraft	C90 King Air
BE9T	Beechcraft	B300 King Air
BL9	Beechcraft	B200 King Air
C130	Lockheed	C-130 Hercules
C2	Grumman	C-2 Greyhound
C208	Cessna	208 Caravan
C212	Casa	212 Aviocar
C425	Piper	PA-31 Navajo
C441	Cessna	441 Conquest
CA12	Comp Air	CA-12
CN35	Casa	CN-235
CV58	Convair	CV-580
CVLT	Convair	CV-580
D328	Dornier	DO-328
DH8A	De Havilland (Bombardier)	DH8A Dash 8
DH8B	De Havilland (Bombardier)	DH8A Dash 8
DH8C	De Havilland (Bombardier)	DH8A Dash 8
DHC6	De Havilland (Bombardier)	DHC-6 Twin Otter
DO28	Dornier	DO-228
DO32	Dornier	DO-328
E110	Embraer	EMB-110 Bandeirante
E120	Embraer	EMB-120 Brasilia
E2	Grumman	E-2 Hawkeye
E2C	Grumman	E-2C Hawkeye
F27	Fairchild	F-27 Friendship
F406	Reims	F-406
F50	Fokker	F50
HXC	Hall Wendell	WH-4 Harpoon
JS31	Bae	JS-31 Jetstream
JS32	Bae	JS-32 Jetstream
MU2	Mitsubishi	MU-2 Marquis
P180	Piaggio	P180 Avanti
P3	Lockheed	P-3 Orion
P46	Piper	PA-46 Malibu Mirage
P46T	Piper	PA-46 Malibu Mirage
PAY1	Piper	Cheyenne 1
PAY2	Piper	Cheyenne 2
PAY3	Piper	Cheyenne 3
PAY4	Piper	Cheyenne 400
PAYE	Bae	JS-31 Jetstream
PC12	Pilatus	PC-12
PC6T	Pilatus	PC-6T Porter
RC70	Beechcraft	E90 King Air
SC7	Shorts	SC-7 Skyvan
SF34	Saab	340
SH33	Shorts	330 Sherpa
SH36	Shorts	360
SW3	Fairchild	Metro III
SW4	Fairchild	Merlin
T34P	Beechcraft	T-34 Turbo Mentor
T34T	Beechcraft	T-34 Turbo Mentor
T6	Beechcraft	T-6 Texan II
TBM7	Socata	TBM-700
TEX2	Beechcraft	T-6 Texan II

Source: Talbert & Bright, Inc., "South Carolina Airports System Plan," 2008, prepared for the South Carolina Department of Commerce, Division of Aeronautics.

C.14 JET AIRCRAFT

Jet Aircraft Recorded in SC

Abbreviation	Manufacturer	Model
A10	Fairchild-Republic	A-10
A124	Antonov	AN-124 Ruslan
A225	Antonov	AN-225 Mriya
A306	Airbus	A300
A310	Airbus	A310
A318	Airbus	A318
A319	Airbus	A319
A320	Airbus	A320
A321	Airbus	A321
AGEN	unknown	unknown
AS65	Hawker Beechcraft	Beechjet 400A
ASTR	Astra	SPX
B230	Boeing	707-300
B703	Boeing	707-300
B712	Boeing	717-200
B721	Boeing	727-100
B722	Boeing	727-200
B72Q	Boeing	727-100(QF)
B732	Boeing	737-200
B733	Boeing	737-300
B734	Boeing	737-400
B735	Boeing	737-500
B737	Boeing	737-700
B738	Boeing	737-800
B73Q	Boeing	737-200
B741	Boeing	747-100
B742	Boeing	747-200
B743	Boeing	747-300
B744	Boeing	747-400
B747	Boeing	747-200
B752	Boeing	757-200
B753	Boeing	757-300
B762	Boeing	767-200
B763	Boeing	767-300
BE40	Hawker Beechcraft	Beechjet 400
C17	McDonnell Douglas (Boeing)	C-17
C21	Bombardier (Learjet)	35A
C25A	Cessna	CitationJet CJ2
C25B	Cessna	CitationJet CJ3
C40	Boeing	737-700
C500	Cessna	Citation 1
C501	Cessna	Citation 1-SP
C510	Cessna	Citation Mustang
C525	Cessna	CitationJet CJ1
C526	Cessna	CitationJet CJ1
C550	Cessna	Citation 2 Bravo
C551	Cessna	Citation 2-SP
C560	Cessna	Citation 5 Ultra
C56X	Cessna	Citation Excel
C650	Cessna	Citation 3/6/7
C680	Cessna	Citation Sovereign
C722	unknown	unknown
C750	Cessna	Citation X
CARJ	Bombardier (Canadair)	CRJ-200

Jet Aircraft Recorded in SC

Abbreviation	Manufacturer	Model
CH35	unknown	unknown
CL30	Bombardier (Canadair)	Challenger 300
CL60	Bombardier (Canadair)	Challenger 600
CL6T	unknown	unknown
CRG2	Bombardier (Canadair)	CRJ-200
CRJ	Bombardier (Canadair)	Regional Jet
CRJ1	Bombardier (Canadair)	CRJ-100
CRJ2	Bombardier (Canadair)	CRJ-200
CRJ7	Bombardier (Canadair)	CRJ-700
CRJ9	Bombardier (Canadair)	CRJ-900
CRL2	Bombardier (Canadair)	CRJ-200
DC10	Douglas	DC-10
DC86	Douglas	DC-8-60
DC87	Douglas	DC-8-70
DC9	Douglas	DC-9
DC91	Douglas	DC-10
DC93	Douglas	DC-9-30
DC94	Douglas	DC-9-40
DC95	Douglas	DC-9-50
DC9Q	Douglas	DC-9-30
DV20	unknown	unknown
E135	Embraer	ERJ-135
E145	Embraer	ERJ-145
E170	Embraer	ERJ-170
E175	Embraer	ERJ-175
E45X	Embraer	ERJ-145 XR
E6	Boeing	707-320
EA50	Eclipse	500
EA6	Grumman	EA-6B Prowler
F15	McDonnell Douglas (Boeing)	F-15 Eagle
F16	General Dynamics (Lockheed Martin)	F-16 Fighting Falcon
F18	McDonnell Douglas (Boeing)	F/A-18 Hornet
F260	Dassault	Falcon 2000
F2TH	Dassault	Falcon 2000
F900	Dassault	Falcon 900
FA10	Dassault	Falcon 10
FA18	McDonnell Douglas (Boeing)	F/A-18 Hornet
FA20	Dassault	Falcon 20
FA2O	Dassault	Falcon 20
FA50	Dassault	Falcon 50
FA90	Dassault	Falcon 900
G150	Gulfstream	G150
G159	Gulfstream	G150
G2	Gulfstream	G-II
G200	Gulfstream	G200
G4	Gulfstream	G-IV
G400	Gulfstream	G-IV

Jet Aircraft Recorded in SC

Abbreviation	Manufacturer	Model
G5	Gulfstream	G-V
GALX	Gulfstream	G200
GL4	Gulfstream	G-IV
GL5T	Bombardier	Global Express 5000
GLAX	Gulfstream	G200
GLEX	Bombardier	Global Express
GLF2	Gulfstream	G-II
GLF3	Gulfstream	G-III
GLF4	Gulfstream	G-IV
GLF5	Gulfstream	G-V
GLX	Bombardier	Global Express
H25	Hawker Siddeley	HS25
H25A	Hawker Siddeley	HS25A
H25B	Hawker Siddeley	HS25B
H25C	Hawker Siddeley	HS25C
HAR	McDonnell Douglas	AV-8B Harrier
HS25	Hawker Siddeley	HS25A
J328	Dornier	Do-328 Jet
JET	Generic Jet	Generic Jet
K35R	Boeing	KC-135R Stratotanker
L29B	Aero	L-29 Delfin
L39	Aero	L-39 Albatros
LGE2	Bombardier (Learjet)	24
LJ24	Bombardier (Learjet)	24
LJ25	Bombardier (Learjet)	25
LJ31	Bombardier (Learjet)	31
LJ35	Bombardier (Learjet)	35
LJ40	Bombardier (Learjet)	40
LJ45	Bombardier (Learjet)	45
LJ55	Bombardier (Learjet)	55
LJ60	Bombardier (Learjet)	60
LR25	Bombardier (Learjet)	25
LR35	Bombardier (Learjet)	35
LR40	Bombardier (Learjet)	40
LR45	Bombardier (Learjet)	45
LR60	Bombardier (Learjet)	60
MD11	McDonnell Douglas (Boeing)	MD-11
MD80	McDonnell Douglas (Boeing)	MD-80
MD82	McDonnell Douglas (Boeing)	MD-82
MD83	McDonnell Douglas (Boeing)	MD-83
MD87	McDonnell Douglas (Boeing)	MD-87
MD88	McDonnell Douglas (Boeing)	MD-88
MU30	Mitsubishi	MU-300 Diamond
PR1	Hawker Beechcraft	Premier I
PRM1	Hawker Beechcraft	Premier I
R722	Boeing	727-200 Super 27
SB20	North American	Saberliner
SBR1	North American	Saberliner 50

Jet Aircraft Recorded in SC

Abbreviation	Manufacturer	Model
SBR2	North American	Saberliner 75
T1	Hawker Beechcraft	Beechjet 400A
T2	North American	T-2 Buckeye
T2P	North American	T-2 Buckeye
T24C	unknown	unknown
T37	Cessna	T-37 Tweet
T38	Northrop	T-38 Talon
WW24	IAI	1124 Westwind
XL2	unknown	unknown

Source: Talbert & Bright, Inc., "South Carolina Airports System Plan," 2008, prepared for the South Carolina Department of Commerce, Division of Aeronautics.

C.15 HELICOPTERS

Helicopters Recorded in SC

Abbreviation	Manufacturer	Model
AS33	Eurocopter	AS-350 Astar
UH60	Sikorsky	UH-60 Blackhawk
H47	Boeing	CH-47 Chinook
H60	Sikorsky	UH-60 Blackhawk
V22	Bell/Boeing	V-22 Osprey
HU65	Eurocopter	HU-65 Dolphin
A109	Agusta	A-109
B06	Kawasaki	BK117
HELO	Generic	Generic

Source: Talbert & Bright, Inc., "South Carolina Airports System Plan," 2008, prepared for the South Carolina Department of Commerce, Division of Aeronautics.

As part of the preparation of the Airport Master Plan Update for the Hilton Head Island Airport, Beaufort County and the Town of Hilton Head Island asked that the following three issues be addressed:

- Utilization of the airport for emergency response services
- Future of commercial air service
- Future development of land and facilities

The subsections below respond to the aforementioned issues.

D.1 EMERGENCY OPERATIONS

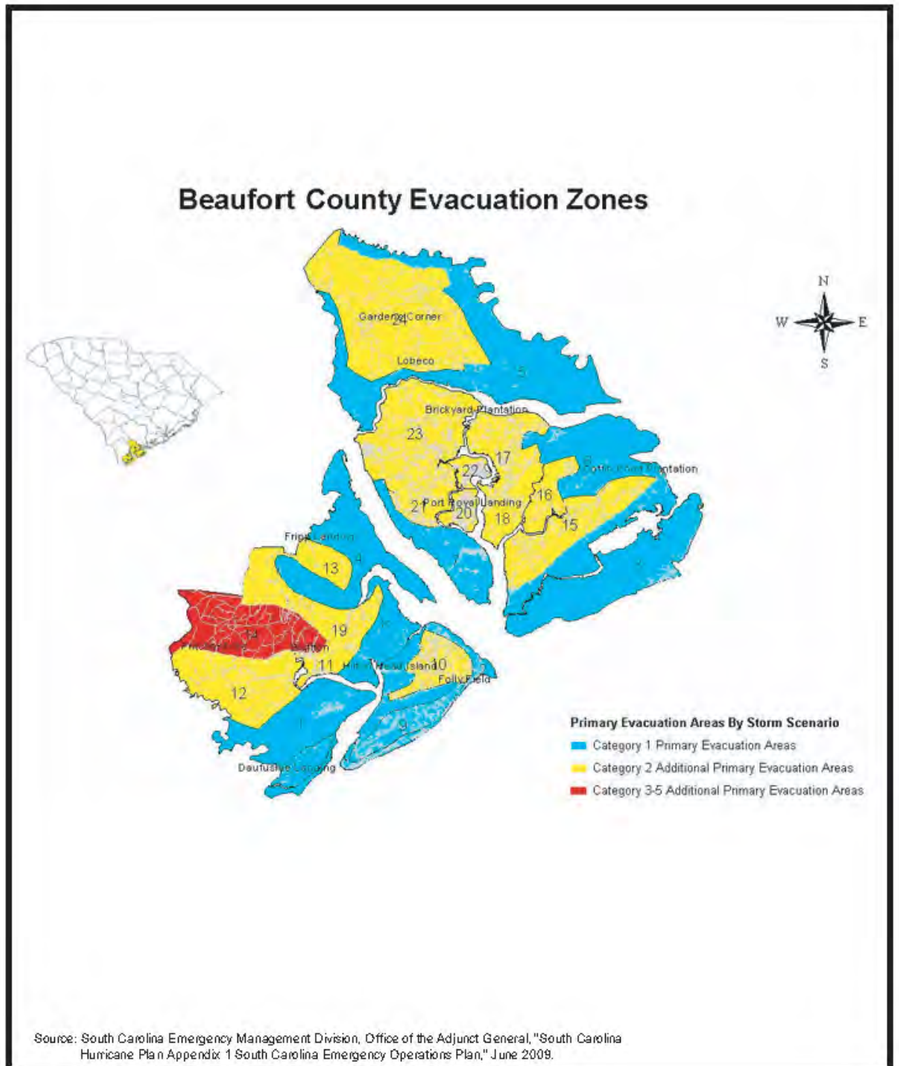
Verify that the current airport facilities are sufficient for emergency evacuation and recovery considering the Town's and County's Disaster Plans as a baseline and, if they are not sufficient, recommend improvements and alternatives.

D.1.1 South Carolina Hurricane Plan for Hilton Head Island

Beaufort County is part of the Southern Coastal Conglomerate in the South Carolina Hurricane Plan.[1] The South Carolina conglomerate system provides hurricane support through the implementation of traffic evacuation and management, shelters, and mass transit plans. Beaufort County has eight operational areas of which Hilton Head Island is Area 1304. Evacuation requirements on Hilton Head Island are illustrated in Figure D.1.1-1 and call for the evacuation of all residents and tourists for all storm categories. Review of the State's emergency management plans outlines no specific use for the Hilton Head Island Airport.

D.1.2 Role of Hilton Head Island Airport in the Beaufort County Emergency Management Plan[2]

Hilton Head Island Airport has been designated as the primary location for Beaufort County logistical personnel to assist in the reestablishment of Hilton Head Island after an emergency. Prior to an emergency (such as a hurricane evacuation), HXD will serve as the area from which to airlift patients from the hospital, as well as the transportation center to evacuate residents by bus. Smaller buses will transport residents on the Island to the Airport terminal, where they will be placed on larger buses and evacuated from the Island. Figure D.1.2-1 (page D-2) illustrates the evacuation routes in Beaufort County. After an emergency, the Airport and fire station will serve as the command station for the County in support of the Town of Hilton Head Island for search and rescue and logistics.



Source: South Carolina Emergency Management Division, Office of the Adjunct General, "South Carolina Hurricane Plan Appendix 1 South Carolina Emergency Operations Plan," June 2009.

Figure D.1.1-1
Hilton Head Island Airport
Beaufort County Evacuation Zones

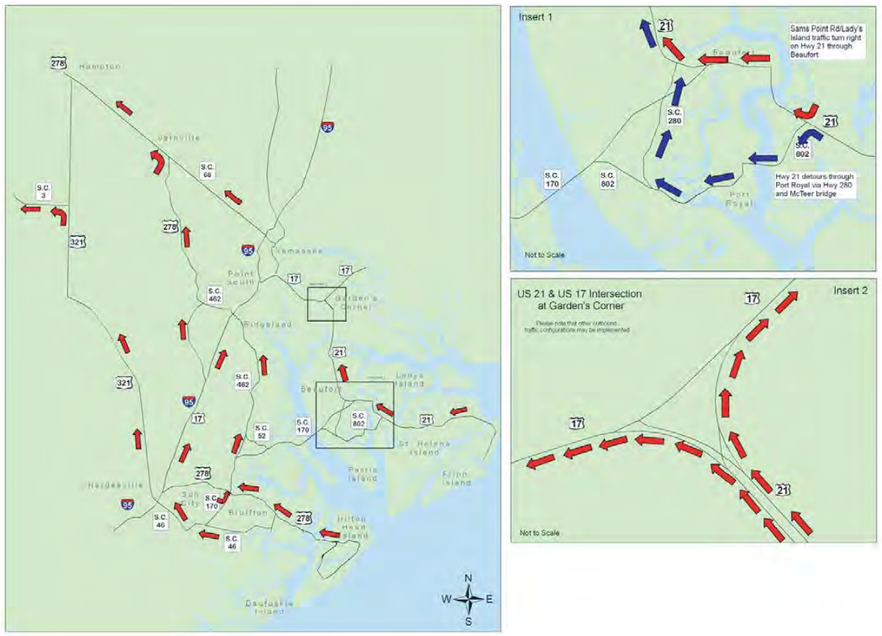
During disaster recovery the Hilton Head Island Airport is used as a recovery coordination center in the event the causeway to the Island is not usable. This means that emergency crews would come to the Island using air operations and establish a logistics center to support the Island operations at the Airport. Until the causeway or bridge is usable, the Airport would be the chief means of moving supplies and emergency personnel to the Island. During the Vigilant Guard exercise in 2008, this scenario was tested using helicopters and C-130 aircraft. The Air National Guard has certified that they can land at the Airport during times of emergency.[3]

D.1.3 Role of Hilton Head Island Airport in the Town of Hilton Head Island Emergency Management Plan[4]

The Town of Hilton Head Island is in the process of updating its Emergency Operations Plan (adopted 1999, updated 2008), which will include a change in the role that Hilton Head Island Airport will play during the time of an emergency. The Town is concerned that during a storm there is the potential for the causeways that connect the bridge from the mainland to the Island will be compromised. In the past, during storms at lunar high tide, the water laps up to the shoulders of the road on the causeways.

The Hilton Head Island Plan requires that public safety and debris removal personnel stay on the Island during a Category 1 to 3 storm event, primarily to assist in clearing the Airport for emergency air traffic. The Town no longer plans to use the Airport as a staging area but as a transfer location to remove residents from the Island. It is the intent of the Town of Hilton Head Island to merge its plan with Beaufort County's plan. Figure D.1.3-1 (page D-2) illustrates the evacuation routing areas on Hilton Head Island.

[1]South Carolina Emergency Management Division, Office of the Adjunct General, "South Carolina Hurricane Plan Appendix 1 South Carolina Emergency Operations Plan," June 2009. <http://www.scemd.org/Plans/index.html>, accessed January 7, 2010.
[2]Beaufort County Emergency Management Department (William Winn, Jr., Director), telephone interview, January 7, 2010.
[3]Beaufort County Emergency Management Department (William Winn, Jr., Director), "Role of the Hilton Head Island Airport in Disaster Planning," e-mail message, April 6, 2010.
[4]Hilton Head Island Emergency Management Department (Paul Rasch, Emergency Management Coordinator), telephone interview, January 7, 2010.



Source: Beaufort County Emergency Management Division, "Evacuation Routes for Beaufort County and Surrounding Area," June 1, 2009. <http://www.bcgov.net/Emerg_mgt/images/Evacmap2009.jpg>, accessed January 19, 2010.

Figure D.1.2-1
Hilton Head Island Airport

Evacuation Routes for Beaufort County

D.1.4 Conclusion

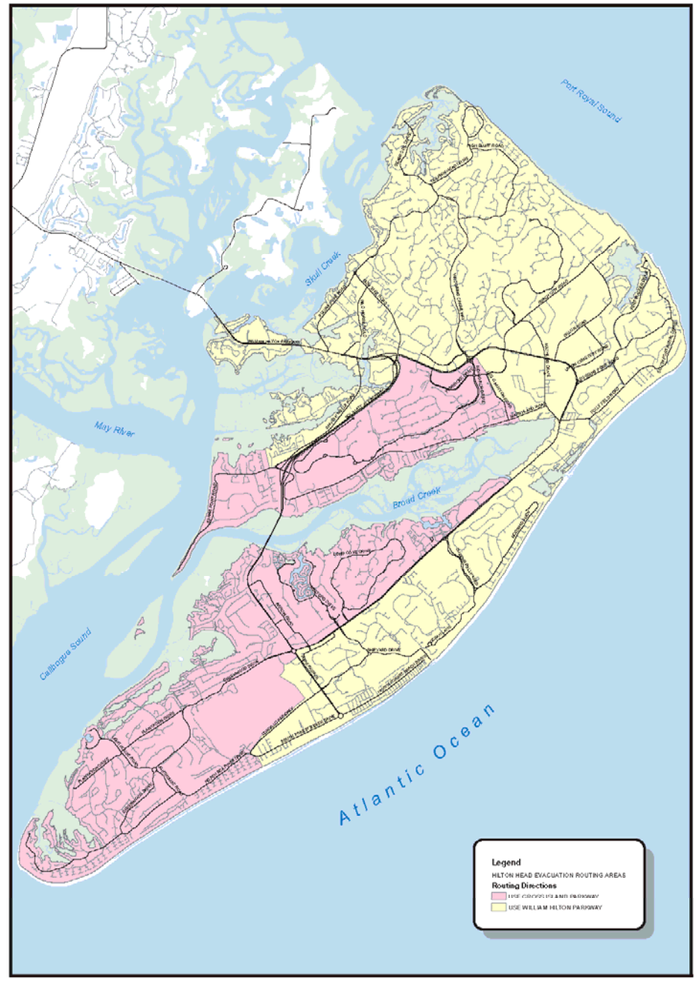
With the Hilton Head Island Airport identified as the logistics center and a transfer location during an emergency, it is imperative that the commercial terminal building, air traffic control tower, airfield lighting power supply, and fire station remain operational during an emergency. In order to do this, emergency backup generators are required to maintain power for these facilities. Currently, all of the above facilities have emergency backup generator power except the commercial terminal building.

Space will be required during an emergency response to accommodate helicopter traffic. It is anticipated that commercial fixed-wing aircraft would depart the Airport prior to an emergency, which would free up space on the commercial aircraft parking apron for emergency helicopter operations.

D.1.5 Recommendation for the Role of Hilton Head Island Airport

Critical facilities at the Hilton Head Island Airport that are listed above will need to remain operational throughout an emergency response, and portions of the Airport need to be reserved for specific uses during the response. Specific recommendations for the commercial terminal building and commercial aircraft parking apron are provided below.

A new emergency backup generator is required to supply power for the entire commercial terminal building during an emergency. It is recommended that the renovation project for the commercial terminal scheduled in the near future include an emergency backup generator.



Source: Town of Hilton Head Island , "Evacuation Routing Areas," October 2009, <http://www.hiltonheadislandsc.gov/publications/maps/HHIEvacMap.pdf>, accessed January 19, 2010.

Figure D.1.3-1
Hilton Head Island Airport

Hilton Head Island Evacuation Plan

Space needs to be reserved and designated on the commercial aircraft parking apron for helicopter operations during an emergency response.

After the proposed merger of the Town and County Emergency Operations Plan is complete, a review is recommended to determine if additional improvements are needed to address the facility use identified in the Plan.

D.2 COMMERCIAL SERVICE

Verify that existing airport facilities are adequate for viable commercial service to the Atlanta and Charlotte hubs and

(A) identify any possible risks to viability; along with the earliest time the risk to service might occur; and

(B) recommend improvements and alternatives.

D.2.1 Air Service Analysis Introduction[5]

As part of the Master Plan Update, certain questions regarding the operational characteristics at the Hilton Head Island Airport were analyzed. Specifically, the questions consisted of the following:

1. What controls the number of flights to HXD?
2. What percentage of passengers are origin or destination ticket buyers?
3. How many passengers start at HXD?
4. What is the market – are the airlines filling the aircraft or is the demand more than the aircraft being used?
5. What length runway would the airlines want if things were unconstrained at HXD?
6. What are the future aircraft that might service HXD?
7. If the runway were longer, would the number of flights to HXD increase?
8. If the runway length at HXD is adequate, what are the reasons the airlines do not fly fully loaded?

In order to respond to these questions several sources were researched. These sources were the air service demand at HXD, certain industry data to determine the number of origin and destination passengers at HXD, and the airline load factors over the last five calendar years serving HXD were analyzed. In addition, interviews were conducted with individuals from US Airways and Delta Airlines. Representatives from US Airways and its affiliate Piedmont Airlines included the following:

- US Airways' Property Representative
- HXD Station Manager, US Airways Express, Piedmont Airlines
- Piedmont Airlines Manager of Dispatch Operations
- US Airways Manager of Express Planning and Fleet Coordination

In addition, interviews were conducted with individuals from Delta Airlines and Mesaba Airlines. Representatives from Delta Airlines and Mesaba Airlines included the following:

- Delta Air Lines Property Representative
- Delta Air Lines Director of Fleet Planning
- Mesaba Airlines Director of Flight Operations

The following sections will respond to the questions above and summarize the results in the summary section.

D.2.2 Air Service Demand and the Air Service Area

The availability and frequency of scheduled commercial air transportation at an airport are largely dependent on the demand for air service to and from the geographic area served by the airport. The geographical area served by an airport is often referred to as the airport service area (ASA). For the purpose of this analysis, Beaufort County, South Carolina, is assumed to represent the vast majority of air service demand at HXD. Although some of HXD's air service demand may be generated from areas located outside the ASA, the primary demand for air service at HXD is generated by persons who work, reside, or visit within Beaufort County.

The demand for air service at an airport is based on a number of factors including the cost of air travel (air fares), state of the local and national economy, alternative or competing airports, level of non-stop service, and type of equipment (aircraft). However, the supply of aircraft and seat capacity in the national passenger air transportation system is both a finite and scarce commodity. Airlines place aircraft assets in particular markets with the objective to maximize profitability. Therefore, demand for air service does not necessarily result in the decision of the airlines to serve a given market at a guaranteed level.

D.2.3 Airline Service Patterns

Since the airline industry was deregulated in 1978, airlines have developed a *hub-and-spoke* system to maximize aircraft loads with revenue passengers. In a *hub-and-spoke* system, passengers from numerous cities throughout an airline's network are directed each day into a small number of *hub* airports, where they connect on flights to *spoke* airports in other cities, thereby creating economies of scale and allowing airlines to increase frequency and profitability and serve cities that would otherwise not receive airline service in a *point-to-point* system. Within this system of *hub-and-spoke* airports, the Hilton Head Island Airport is considered a *spoke* or O&D airport, where it is expected that 100 percent of passengers either begin or end their trips at the airport.

Piedmont Airlines (doing business as US Airways Express) provides a minimum of five daily non-stop departures to US Airways primary hub in Charlotte, North Carolina, with turboprop Bombardier Dash 8 aircraft. It should be noted that during the busy season, US Airways Express supplies approximately 11 daily departures on the same equipment that it currently provides at HXD. Mesaba Airlines (doing business as Delta Connection) provides from March through October seasonal service to HXD, with four daily departures to Delta's primary hub in Atlanta, Georgia, with Saab 340 turboprop aircraft.

D.2.4 Historical Airline Activity

An analysis of HXD's historical passenger activity is a useful guide in estimating historical demand for commercial passenger air transportation and in projecting future levels of passenger activity. Table D.2.4-1 (page D-4) depicts enplanement activity at HXD from calendar year 2004 through 2008. As shown on Table D.2.4-1, total passenger enplanements have grown at an average annual rate of 6.0 percent from 2004 through 2008.

Table D.2.4-1
Historical Load Factor
Hilton Head Island Airport

Calendar Year	HXD Enplanements[1]	HXD Seats[1]	HXD Load Factor	Industry Load Factor[2]
2004	63,167	95,431	66.2%	74.0%
2005	67,135	102,783	65.3%	75.9%
2006	62,022	103,075	60.2%	78.7%
2007	84,604	159,733	53.0%	79.8%
2008	79,624	145,231	54.8%	79.3%
Average Annual Growth Rate	6.0%	11.1%		

[1]Department of Transportation, T-100 database provided by Database Products, Inc.
[2]Federal Aviation Administration, Aerospace Forecast, FY 2009-2025, March 15, 2009.
Source: Database Products, Inc., "Airport data DOT T-100 database."
FAA Aerospace Forecast, "Industry Data FY 2009-2025," March 15, 2009.
Newton & Associates, Inc., January 2010.

[5]Newton & Associates, Inc., "Hilton Head Island Airport Air Service Analysis," January 19, 2010, prepared for Talbert & Bright, Inc.

A common measure of an airline's lift (supply) is the number of seats into and out of a market. The available supply of aircraft and seats into and out of HXD affect the level of annual enplanements at HXD. As depicted on Table D.2.4-1 (page D-3), the estimated number of departing seats increased by 11.1 percent from 2004 through 2008.

HXD's load factor is used to measure demand utilization of the available supply of seats. Load factor is calculated by dividing the number of revenue passenger enplanements by the number of available seats leaving the market. HXD's estimated load factor has declined from a high of 66.2 percent in 2004 to 54.8 percent in 2008. During the same time period, the load factor in the United States increased from 74.0 percent in 2004 to 79.3 percent in 2008. The decline in load factor at HXD is primarily attributable to the load restrictions placed on the commercial airlines operating at HXD as a result of the runway length and obstructions.

Figure D.2.4-1 depicts a graphical representation of HXD's load factor from calendar year 2004 through 2008 and the first two quarters for 2009.

D.2.5 Passenger Demand Profile

There are two primary types of commercial air transportation passengers using HXD: (1) origin passengers and (2) destination passengers. Origin passengers are those users who live and work in the ASA and use HXD for business or leisure. Demand for air service by origin (local) passengers can be estimated based on some combination of factors including population base and growth, employment levels and industry sector employment, and effective buying and discretionary income levels.

Destination passengers are those HXD users who visit the ASA from other locations throughout the United States and the world for leisure and business. Hilton Head Island's economy is based primarily on tourism and real estate industries. Located within the historic and scenic *Lowcountry* of South Carolina, Hilton Head Island offers year-round world renowned golf at 25 on-island golf courses, over 300 tennis courts, 12 miles of beaches, and water sports. In 2000, 2.5 million persons visited the Island, which generated an estimated $1.5 billion in tourism-related economic activity. The tourism industry accounts for an estimated 61 percent of local jobs.

The importance of tourism on the demand for air service at HXD is evidenced by data reported by certain commercial passenger airlines and compiled by the U.S. Department of Transportation. Based on an analysis of this data, it was estimated that approximately 25 percent of HXD's enplanements initiated their trips from the ASA (origin users), and the remaining 75 percent of HXD's enplanements were passengers leaving the ASA to return to their original points of origin (destination users). Table D.2.5-1 depicts the historical O&D passenger enplanements at HXD from calendar year 2004 through 2008.

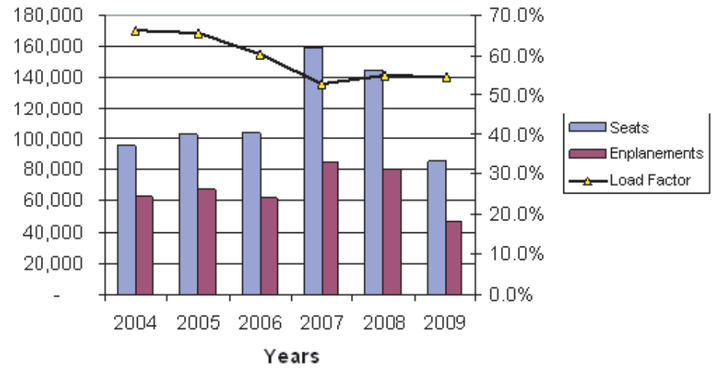
Table D.2.5-1
Historical Origin and Destination Enplanements
Hilton Head Island Airport

Calendar Year	HXD Total Enplanements[1]	Origin Enplanements[1]	Percent of Total	Destination Enplanements[1]	Percent of Total
2004	59,690	13,135	22.0%	46,555	78.0%
2005	64,235	14,995	23.3%	49,240	76.7%
2006	58,360	16,025	27.5%	42,335	72.5%
2007	77,865	21,425	27.5%	56,440	72.5%
2008	73,715	19,680	26.7%	54,035	73.3%
Average Annual Growth Rate	5.4%	10.6%		3.8%	

Note:
[1]Department of Transportation, T-100 database provided by Database Products, Inc.
Source: Database Products, Inc., "Airport data DOT T-100 database."
Newton & Associates, Inc., January 2010.

The total potential number of O&D enplanements at HXD can be estimated by examining the total number of O&D enplanements in the United States compared to the population of the United States. As shown in Table D.2.5-2 (page D-5), the average number of O&D enplanements in the United States per capita was 1.5 from 2004 through 2008. Based on the population of the ASA for HXD, the potential demand for O&D enplanements at HXD would be approximately 227,000 in calendar year 2008, based on the national average of 1.5 enplanements per capita. This suggests that approximately 70 percent of the local demand is being served elsewhere.

As previously mentioned, the demand for air service at an airport is based on a number of factors including the cost of air travel (air fares), state of the local and national economy, alternative or competing airports, level of non-stop service, and type of equipment (aircraft). As a result, the demand for air service at HXD is negatively affected by the marketing efforts and level of air service at the Savannah-Hilton Head International Airport (SAV), which causes leakage of a number of O&D passengers to SAV from the ASA.



Source: Newton & Associates, Inc. "Air Service Analysis," January 19, 2010, prepared for Talbert & Bright, Inc.

Figure D.2.4-1
Hilton Head Island Airport
Airport Load Factor

Table D.2.5-2
Potential Origin and Destination Enplanements
Hilton Head Island Airport

Calendar Year	U.S. Total O&D Enplanements[1]	US Population[2]	U.S. O&D Enplanements per Population	ASA Total Population[2]	[A] Potential HXD O&D Enplanements	[B] Actual HXD O&D Enplanements	[B]/[A] "Captured" Percent of Total
2004	426,150,430	293,191,500	1.45	134,910	202,516	59,690	29.5%
2005	450,952,890	295,895,900	1.52	139,333	209,155	64,235	30.7%
2006	459,132,640	298,754,800	1.54	143,614	215,582	58,360	27.1%
2007	464,085,160	301,621,200	1.54	147,316	221,139	77,865	35.2%
2008	442,437,870	304,579,200	1.45	151,331	227,166	73,715	32.4%
Average Annual Growth Rate	0.9%	1.0%			2.9%	5.4%	
Average			1.50				

Notes:
[1]Bureau of Transportation Statistics, OD1B Database, <www.transstats.bts.gov>.
[2]Woods and Poole Economics, "Complete Economic and Demographic Data Source."
Source: Bureau of Transportation Statistics, "D1B Database," <www.transstats.bts.gov>.
Woods and Poole Economics, "Complete Economic and Demographic Data Source."
Newton & Associates, Inc., January 2010.

D.2.6 Airport Constraints

The airline load factors are restricted by the runway length and obstructions caused by trees, which penetrate Part 77 surfaces at HXD. These restrictions inhibit the airlines' ability to serve the market in an efficient manner.

Representatives from US Airways and Delta Airlines were contacted in order to determined the effect that these existing restrictions have on their airlines. The following representatives were contacted:

- James Seadler – US Airways Property Representative
- Teresa Harrison – Piedmont Airlines Station Manager
- Gary Blevins – Piedmont Airlines Manager of Dispatch Operations
- Dan Sauter – Mesaba Airlines Fleet Manager

The following summarizes information received from telephone calls and emails from airline representatives:

- During peak season, when US Airways Express operates 11 flights per day, the capacity constraints cause airline customers to wait for a later flight.[6]
- If the capacity constraint issue were resolved, the airlines would initially increase the load factors on their existing aircraft and then increase the gauge (size) of the aircraft prior to adding additional flights. The next generation of Bombardier Dash 8 (Q400) would be a great fit for future operations at HXD.[7]
- Mesaba Airlines indicated that the Saab 340 would likely continue to operate on a seasonal basis between March and October. In the future, it anticipates that the Canadair Regional Jet (CRJ) 200 would replace the Saab 340 in this market.[8]
- The airlines indicated a runway length of 5,000 feet to 5,500 feet would be preferred, provided the obstruction issue is resolved.[9,10]
- The existing aircraft (some versions of Bombardier) serving the market will eventually be removed from service, which may cause problems in the future if the capacity constraints are not resolved.[11]
- For planning purposes, the airlines operating at HXD use a load factor of 60 percent for determining aircraft fleet to meet the air service demand at HXD. This is a result of the operational constraints at HXD (obstructions and runway length). In general, the airlines use 75 percent as a load factor to *right size* the market with the appropriate aircraft specifically when there are no operational constraints.[12]
- The obstructions caused from the trees are a significant impediment to commercial aircraft operations.[13,14]

D.2.7. Analysis Summary

Based on the analysis contained herein, the following summary can be made.

1. The number of flights at HXD is controlled by a number of factors including the local and destination demand for air service to the Hilton Head Island area. O&D passengers are affected by the level of air service at competing airports, particularly the Savannah-Hilton Head International Airport located in Savannah, Georgia, which causes a leakage of demand to that airport.
2. The airlines determine the number of flights at HXD based on the fleet requirements and load factor restrictions caused by the length of the runway and the obstructions caused by trees penetrating the Part 77 surfaces at HXD, thereby reducing the number of passengers they are able to place in their aircraft. This reduced load factor causes an increase in the number of flights at HXD to meet the demand for air service at HXD.
3. It is assumed that the passengers at HXD are O&D passengers. The number of passengers who begin their trip from HXD (origin passengers) was determined to be approximately 25 percent of the total enplanements at HXD between 2004 and 2008, ranging from a low of 13,135 enplanements in 2004 to a high of 21,425 in 2007. The remaining 75 percent of the enplanements are destination passengers who used HXD to visit the ASA during the same time period.

[6]Piedmont Airlines (Teresa Harrison, Station Manager), personal interview, November 25, 2009.
[7]US Airways (James Seadler, Property Representative), personal interview, November 20, 2009.
[8]Mesaba Airlines (Dan Sauter, Fleet Manager), personal interview, January 15, 2010.
[9]Piedmont Airlines (Gary Blevins, Manager of Dispatch Operations), personal interview, November 30, 2009.
[10]Mesaba Airlines (Dan Sauter, Fleet Manager), personal interview, January 15, 2010.
[11]Piedmont Airlines (Gary Blevins, Manager of Dispatch Operations), personal interview, November 30, 2009.
[12]US Airways (James Seadler, Property Representative), personal interview, November 25, 2009.
[13]Piedmont Airlines (Gary Blevins, Manager of Dispatch Operations), personal interview, November 30, 2009.
[14]Mesaba Airlines (Dan Sauter, Fleet Manager), personal interview, January 15, 2010.

4. The airlines contend that the runway length and obstructions at HXD require the airlines to artificially reduce the number of passengers who can be accommodated on their aircraft and thereby reduce their load factor. The load factor at HXD averaged 60 percent from 2004 through 2008, which is considerably lower than the industry load factor of 78 percent over the same time period.
5. The potential air service demand for the ASA was estimated based on an analysis of the total O&D enplanements per capita for the United States compared to the population of the ASA. The per capita O&D enplanements in the United States were determined to be 1.5 between 2004 and 2008. Based on this relationship, the number of enplanements at HXD in 2008 would surpass 225,000, which indicates that HXD only captured approximately 32 percent of the potential enplanements. It should be noted that this capture percentage is affected by the primary competing airport (SAV) in addition to the operational constraints at HXD.
6. The airlines indicated that a runway length of 5,000 feet to 5,500 feet would be preferred, provided the obstructions are removed.
7. If the obstruction constraints were removed at HXD, the airlines would first increase the load factors of the existing aircraft operating at HXD. The airlines indicated that the Bombardier Dash 8 Q400 or a CRJ 200 would be a perfect fit for HXD. However, Piedmont Airlines does not currently have any of the Bombardier Dash 8 Q400 aircraft in its fleet, but Mesaba has CRJ aircraft available that could be used in the Hilton Head Island market in the future.

D.2.8 Conclusion

Due to the constraints of runway length and obstructions at HXD, the existing airport facilities are marginally adequate for viable service to the Charlotte and Atlanta hubs at this time. US Airways (Piedmont Airlines) and Delta Airlines (Mesaba Airlines) currently operate aircraft from their Charlotte and Atlanta hubs that require significant operational restrictions on their load factors. It has been discussed that Delta Airlines will cease turboprop service to HXD, which could occur as early as 2012. If this occurs, the only aircraft identified in Delta's current fleet to resume service is the CRJ 200. The CRJ 200 is more demanding on runway length for takeoff and landing and cannot operate at the current runway length. Additionally, it is uncertain about what type of aircraft US Airways will continue to operate because some versions of the Dash 8 are scheduled to be removed from service. Failure to make airfield improvements, as outlined in the Master Plan Update, could result in the loss of service from Delta Airlines and direct flights to its Atlanta hub and reduction of service by US Airways from its Charlotte hub as early as 2012.

D.2.9 Recommendation

In order to maintain viable service to the Atlanta and Charlotte hubs, as well as other airlines that may desire to serve the Hilton Head Island market, it is recommended that the runway be extended to 5,400 feet, an EMAS be installed on each runway end, and obstructions to the runway approaches be removed as mandated by the FAA to achieve a clear 34:1 approach surface. Also recommended is the relocation of the parallel taxiway serving the general aviation side of the Airport to a separation of 300 feet from the runway centerline. Acquisition of property and relocation of Beach City Road are also recommended to achieve the required runway and taxiway safety/obstacle free areas for the 5,400-foot runway and relocated taxiway.

D.3 LAND AND FACILITY REQUIREMENTS

(A) Determine what limitations current airport property size and configuration place on airport operations and safety.

(B) Determine the impacts of those limitations on people and surrounding property, if the current airport property is to be used to its full potential.

D.3.1 Airport Property Limitations

Current limitations at HXD, based on FAA design requirements include (as shown on the Airport Layout Plan on page 79 of the Master Plan Update Report):

- Runway 03 RSA is 897 feet in length; design requirements are 1,000 feet
- Displaced thresholds on both ends of the runway
- Taxiway 'A' runway/taxiway separation is 200 feet; design requirements are 300 feet
- Taxiway 'F' at the Runway 03 end should not be angled
- Airport should own the obstacle free area (OFA) in fee simple, and there should be no development in this area
- Limited airport property available for additional hangars, apron, parking, airfield development, safety areas, and buffer zones

D.3.2 Impact of Airport Property Limitations

For the purposes of this question, the "current Airport property" is deemed to consist of the existing airport property and any additional property acquisition required to bring the Airport into compliance with FAA design standards.

- Restricted airline load factors will continue to require less than full flights with the current runway length and obstructions, resulting in the continued potential for passenger "bumping" to later flights.
- More flights per day will likely be required due to load restrictions with the current runway length and obstructions in order to meet the passenger demand.
- As shown on the Airport Layout Plan on page 79 of the Master Plan Update Report, the "current Airport property" limits the proposed runway extension to 5,000 feet.
- The integrated noise contours would change on the north and south ends of the Airport when the proposed runway extension to 5,000 feet is complete as shown in the Master Plan Report.
- With a runway extension to a length of 5,000 feet, the future of Delta Airlines service to its Atlanta hub remains in question, resulting in potentially longer travel times for passengers using Delta Airlines.
- Potential for increased vehicular traffic on U.S. Highway 278 for airline passenger traffic leakage to Savannah-Hilton Head Island Airport.
- Less potential for increased property tax revenue due to lack of available area for additional T-hangar and conventional hangar development.
- Minimal buffer areas available around perimeter of airport property.
- Storm drainage
- Tree removal

E.1 EXISTING OPERATIONS REPORT

INM 7.0 SCENARIO RUN INPUT REPORT 10-May-10 17:11

STUDY: C:\PROGRAM FILES\INM7.0\HXD MAY 2010\HXD MP 1\
Created : 14-Oct-09 08:54
Units : English
Airport : HXD
Description :
Your description

SCENARIO: HXD Existing Scenario
Created : 14-Oct-09 09:25
Description : HXD Existing Scenario
Last Run : 16-Feb-10 17:01
Run Duration : 000:00:27

STUDY AIRPORT
Latitude : 32.224361 deg
Longitude : -80.697472 deg
Elevation : 19.0 ft

CASES RUN:

CASENAME: HXD Existing
Temperature : 58.9 F
Pressure : 29.92 in-Hg
AverageWind : 8.0 kt
ChangeNPD : No

STUDY RUNWAYS
03
Latitude : 32.219055 deg
Longitude : -80.700531 deg
Xcoord : -0.1557 nmi
Ycoord : -0.3177 nmi
Elevation : 18.9 ft
OtherEnd : 21
Length : 4299 ft
Gradient : -0.16 %
TkoThresh : 0 ft
AppThresh : 299 ft

CASENAME: HXD Existing
RwyWind : 8.0 kt
21
Latitude : 32.229670 deg
Longitude : -80.694423 deg
Xcoord : 0.1552 nmi
Ycoord : 0.3179 nmi
Elevation : 12.1 ft
OtherEnd : 03
Length : 4299 ft
Gradient : 0.16 %
TkoThresh : 0 ft
AppThresh : 300 ft

CASENAME: HXD Existing
RwyWind : 8.0 kt

CASENAME: HXD Existing
RwyWind : 8.0 kt

STUDY HELIPADS
HELO
Latitude : 32.224361 deg
Longitude : -80.697472 deg
Xcoord : 0.0000 nmi
Ycoord : 0.0000 nmi

STUDY TRACKS
RwyId-OpType-TrkId
Sub PctSub TrkType Delta(ft)
03-APP-A
0 100.00 Vectors 0.0
03-APP-A1
0 100.00 Vectors 0.0
03-APP-A2
0 100.00 Vectors 0.0
03-APP-A3
0 100.00 Vectors 0.0
03-APP-A4
0 100.00 Vectors 0.0
03-APP-A5
0 100.00 Vectors 0.0
03-DEP-1
0 100.00 Vectors 0.0
03-TGO-1
0 100.00 Vectors 0.0
21-APP-1
0 100.00 Vectors 0.0

21-DEP-D
0 100.00 Vectors 0.0
21-DEP-D1
0 100.00 Vectors 0.0
21-DEP-D2
0 100.00 Vectors 0.0
21-DEP-D3
0 100.00 Vectors 0.0
21-DEP-D4
0 100.00 Vectors 0.0
21-DEP-D5
0 100.00 Vectors 0.0
21-TGO-1
0 100.00 Vectors 0.0
21-TGO-2
0 100.00 Vectors 0.0
HELO-APP-1
0 100.00 Vectors 27.0
HELO-DEP-1
0 100.00 Vectors 207.0

STUDY TRACK DETAIL
RwyId-OpType-TrkId-SubTrk
SegType Dist/Angle Radius(nmi)
03-APP-A-0
1 Straight 50.0000 nmi
03-APP-A1-0
1 Straight 50.0000 nmi
2 Left-Turn 136.0000 deg 0.5000
3 Straight 1.0000 nmi
4 Left-Turn 44.0000 deg 0.5000
5 Straight 1.8100 nmi
03-APP-A2-0
1 Straight 50.0000 nmi
2 Right-Turn 136.0000 deg 0.5000
3 Straight 1.0000 nmi
4 Right-Turn 44.0000 deg 0.5000
5 Straight 1.2300 nmi
03-APP-A3-0
1 Straight 50.0000 nmi
2 Right-Turn 180.0000 deg 1.0000
3 Straight 1.0000 nmi
4 Right-Turn 117.0000 deg 0.2000
5 Straight 1.2300 nmi
03-APP-A4-0
1 Straight 50.0000 nmi
2 Left-Turn 10.0000 deg 1.0000
3 Straight 2.0000 nmi
4 Left-Turn 44.0000 deg 0.5000
5 Straight 2.0000 nmi
03-APP-A5-0
1 Straight 50.0000 nmi
2 Right-Turn 10.0000 deg 1.0000
3 Straight 2.5000 nmi
4 Right-Turn 20.0000 deg 1.0000
5 Straight 1.5000 nmi
6 Left-Turn 93.0000 deg 0.2000
7 Straight 1.2300 nmi
03-DEP-1-0
1 Straight 50.0000 nmi
03-TGO-1-0
1 Straight 0.9000 nmi
2 Left-Turn 90.0000 deg 0.2500
3 Straight 0.5000 nmi
4 Left-Turn 90.0000 deg 0.2500
5 Straight 1.7000 nmi
6 Left-Turn 90.0000 deg 0.2500
7 Straight 0.5000 nmi
8 Left-Turn 90.0000 deg 0.2500
9 Straight 0.8000 nmi
21-APP-1-0
1 Straight 50.0000 nmi
21-DEP-D-0
1 Straight 50.0000 nmi
21-DEP-D1-0
1 Straight 2.7000 nmi
2 Right-Turn 44.0000 deg 0.5000
3 Straight 1.5000 nmi
4 Right-Turn 10.0000 deg 1.0000
5 Straight 50.0000 nmi
21-DEP-D2-0
1 Straight 2.6000 nmi
2 Right-Turn 44.0000 deg 0.5000
3 Straight 1.0000 nmi
4 Right-Turn 136.0000 deg 0.5000
5 Straight 50.0000 nmi
21-DEP-D3-0
1 Straight 2.0000 nmi
2 Left-Turn 44.0000 deg 0.5000
3 Straight 1.0000 nmi
4 Left-Turn 136.0000 deg 0.5000
5 Straight 50.0000 nmi
21-DEP-D4-0
1 Straight 1.3000 nmi

```
   2  Right-Turn     180.0000 deg      0.5000
   3  Straight      50.0000 nmi
21-DEP-D5-0
   1  Straight       1.3000 nmi
   2  Left-Turn      180.0000 deg      0.5000
   3  Straight      50.0000 nmi
21-TGO-1-0
   1  Straight       0.9000 nmi
   2  Left-Turn       90.0000 deg      0.2500
   3  Straight       0.5000 nmi
   4  Left-Turn       90.0000 deg      0.2500
   5  Straight       1.7000 nmi
   6  Left-Turn       90.0000 deg      0.2500
   7  Straight       0.5000 nmi
   8  Left-Turn       90.0000 deg      0.2500
   9  Straight       0.8000 nmi
21-TGO-2-0
   1  Straight       0.9000 nmi
   2  Left-Turn       90.0000 deg      0.2500
   3  Straight       1.0000 nmi
   4  Left-Turn       90.0000 deg      0.2500
   5  Straight       1.7000 nmi
   6  Left-Turn       90.0000 deg      0.2500
   7  Straight       1.0000 nmi
   8  Left-Turn       90.0000 deg      0.2500
   9  Straight       0.8000 nmi
 HELO-APP-1-0
   1  Straight      50.0000 nmi
 HELO-DEP-1-0
   1  Straight      50.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS

-------------------------------------------------------------------------------

STUDY AIRPLANES
   BEC58P       Standard data
   CNA55B       Standard data
   DHC8         Standard data
   GASEPF       Standard data
   GASEPV       Standard data
   LEAR35       Standard data

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS

-------------------------------------------------------------------------------

STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

-------------------------------------------------------------------------------

STUDY HELICOPTERS
   B206L        Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

-------------------------------------------------------------------------------

CASE FLIGHT OPERATIONS - [HXD Existing]
   Acft        Op   Profile  Stg  Rwy     Track    Sub  Group          Day     Evening     Night
   B206L        APP  STANDARD   1  HELO    1          0  ---          1.5240     0.0000     0.0470
   B206L        DEP  STANDARD   1  HELO    1          0  ---          1.5240     0.0000     0.0470
   BEC58P       APP  STANDARD   1  03      A          0  ---          0.3280     0.0000     0.0100
   BEC58P       APP  STANDARD   1  03      A1         0  ---          0.6560     0.0000     0.0200
```

BEC58P	APP	STANDARD	1	03	A2	0	---	0.1640	0.0000	0.0050
BEC58P	APP	STANDARD	1	03	A3	0	---	0.1640	0.0000	0.0050
BEC58P	APP	STANDARD	1	03	A4	0	---	1.3130	0.0000	0.0410
BEC58P	APP	STANDARD	1	03	A5	0	---	0.6560	0.0000	0.0200
BEC58P	APP	STANDARD	1	21	1	0	---	6.3710	0.0000	0.1970
BEC58P	DEP	STANDARD	1	03	1	0	---	3.2820	0.0000	0.1020
BEC58P	DEP	STANDARD	1	21	D	0	---	0.3190	0.0000	0.0100
BEC58P	DEP	STANDARD	1	21	D1	0	---	1.5930	0.0000	0.0490
BEC58P	DEP	STANDARD	1	21	D2	0	---	3.3450	0.0000	0.1030
BEC58P	DEP	STANDARD	1	21	D3	0	---	1.1150	0.0000	0.0340
BEC58P	TGO	STANDARD	1	03	1	0	---	0.3450	0.0000	0.0110
BEC58P	TGO	STANDARD	1	21	1	0	---	0.3350	0.0000	0.0100
BEC58P	TGO	STANDARD	1	21	2	0	---	0.3350	0.0000	0.0100
CNA55B	APP	STANDARD	1	03	A	0	---	0.0820	0.0000	0.0030
CNA55B	APP	STANDARD	1	03	A1	0	---	0.0080	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A2	0	---	0.0080	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A3	0	---	0.0080	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A4	0	---	0.7140	0.0000	0.0220
CNA55B	APP	STANDARD	1	21	1	0	---	1.5930	0.0000	0.0490
CNA55B	DEP	STANDARD	1	03	1	0	---	0.8210	0.0000	0.0250
CNA55B	DEP	STANDARD	1	21	D	0	---	0.1590	0.0000	0.0050
CNA55B	DEP	STANDARD	1	21	D1	0	---	1.2740	0.0000	0.0390
CNA55B	DEP	STANDARD	1	21	D2	0	---	0.0800	0.0000	0.0020
CNA55B	DEP	STANDARD	1	21	D3	0	---	0.0800	0.0000	0.0020
DHC8	APP	STANDARD	1	03	A	0	---	0.6890	0.0000	0.0210
DHC8	APP	STANDARD	1	03	A1	0	---	2.7000	0.0000	0.0830
DHC8	APP	STANDARD	1	03	A2	0	---	0.1720	0.0000	0.0050
DHC8	APP	STANDARD	1	03	A3	0	---	0.1720	0.0000	0.0050
DHC8	APP	STANDARD	1	03	A4	0	---	1.4360	0.0000	0.0440
DHC8	APP	STANDARD	1	03	A5	0	---	0.5740	0.0000	0.0180
DHC8	APP	STANDARD	1	21	1	0	---	11.1500	0.0000	0.3450
DHC8	DEP	STANDARD	1	03	1	0	---	5.7440	0.0000	0.1780
DHC8	DEP	STANDARD	1	21	D	0	---	0.3340	0.0000	0.0100
DHC8	DEP	STANDARD	1	21	D1	0	---	1.9510	0.0000	0.0600
DHC8	DEP	STANDARD	1	21	D2	0	---	7.6100	0.0000	0.2350
DHC8	DEP	STANDARD	1	21	D3	0	---	1.2540	0.0000	0.0390
GASEPF	APP	STANDARD	1	03	A	0	---	0.1310	0.0000	0.0040
GASEPF	APP	STANDARD	1	03	A1	0	---	0.2630	0.0000	0.0080
GASEPF	APP	STANDARD	1	03	A2	0	---	0.1310	0.0000	0.0040
GASEPF	APP	STANDARD	1	03	A3	0	---	0.1310	0.0000	0.0040
GASEPF	APP	STANDARD	1	03	A4	0	---	0.3940	0.0000	0.0120
GASEPF	APP	STANDARD	1	03	A5	0	---	1.5750	0.0000	0.0490
GASEPF	APP	STANDARD	1	21	1	0	---	5.0970	0.0000	0.1580
GASEPF	DEP	STANDARD	1	03	1	0	---	2.6260	0.0000	0.0810
GASEPF	DEP	STANDARD	1	21	D	0	---	0.0510	0.0000	0.0020
GASEPF	DEP	STANDARD	1	21	D1	0	---	1.4780	0.0000	0.0460
GASEPF	DEP	STANDARD	1	21	D4	0	---	2.6760	0.0000	0.0830
GASEPF	DEP	STANDARD	1	21	D5	0	---	0.8920	0.0000	0.0280
GASEPF	TGO	STANDARD	1	03	1	0	---	0.2760	0.0000	0.0090
GASEPF	TGO	STANDARD	1	21	1	0	---	0.2680	0.0000	0.0080
GASEPF	TGO	STANDARD	1	21	2	0	---	0.2680	0.0000	0.0080
GASEPV	APP	STANDARD	1	03	A	0	---	0.1310	0.0000	0.0040
GASEPV	APP	STANDARD	1	03	A1	0	---	0.2630	0.0000	0.0080
GASEPV	APP	STANDARD	1	03	A2	0	---	0.1310	0.0000	0.0040
GASEPV	APP	STANDARD	1	03	A3	0	---	0.1310	0.0000	0.0040
GASEPV	APP	STANDARD	1	03	A4	0	---	0.3940	0.0000	0.0120
GASEPV	APP	STANDARD	1	03	A5	0	---	1.5750	0.0000	0.0490
GASEPV	APP	STANDARD	1	21	1	0	---	5.0970	0.0000	0.1580
GASEPV	DEP	STANDARD	1	03	1	0	---	2.6260	0.0000	0.0810
GASEPV	DEP	STANDARD	1	21	D	0	---	0.0510	0.0000	0.0020
GASEPV	DEP	STANDARD	1	21	D1	0	---	1.4780	0.0000	0.0460
GASEPV	DEP	STANDARD	1	21	D4	0	---	2.6760	0.0000	0.0830
GASEPV	DEP	STANDARD	1	21	D5	0	---	0.8920	0.0000	0.0280
GASEPV	TGO	STANDARD	1	03	1	0	---	0.2760	0.0000	0.0090
GASEPV	TGO	STANDARD	1	21	1	0	---	0.2680	0.0000	0.0080
GASEPV	TGO	STANDARD	1	21	2	0	---	0.2680	0.0000	0.0080
LEAR35	APP	STANDARD	1	03	A	0	---	0.0820	0.0000	0.0030
LEAR35	APP	STANDARD	1	03	A1	0	---	0.0080	0.0000	0.0000
LEAR35	APP	STANDARD	1	03	A2	0	---	0.0080	0.0000	0.0000
LEAR35	APP	STANDARD	1	03	A3	0	---	0.0080	0.0000	0.0000
LEAR35	APP	STANDARD	1	03	A4	0	---	0.7140	0.0000	0.0220
LEAR35	APP	STANDARD	1	21	1	0	---	1.5930	0.0000	0.0490
LEAR35	DEP	STANDARD	1	03	1	0	---	0.8210	0.0000	0.0250
LEAR35	DEP	STANDARD	1	21	D	0	---	0.1590	0.0000	0.0050
LEAR35	DEP	STANDARD	1	21	D1	0	---	1.2740	0.0000	0.0390
LEAR35	DEP	STANDARD	1	21	D2	0	---	0.0800	0.0000	0.0020
LEAR35	DEP	STANDARD	1	21	D3	0	---	0.0800	0.0000	0.0020

CASE RUNUP OPERATIONS - [HXD Existing]

SCENARIO RUN OPTIONS
Run Type : Single-Metric
NoiseMetric : DNL
Do Terrain : No Terrain
Do Contour : Recursive Grid
Refinement : 10
Tolerance : 0.10
Low Cutoff : 55.0
High Cutoff : 85.0
Ground Type : All-Soft-Ground
Do Population : No
Do Locations : No

Do Standard : No
Do Detailed : No
Compute System Metrics:
DNL : No
CNEL : No
LAEQ : No
LAEQD : No
LAEQN : No
SEL : No
LAMAX : No
TALA : No
NEF : No
WECPNL : No
EPNL : No
PNLTM : No
TAPNL : No
CEXP : No
LCMAX : No
TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-8.0000	-8.0000	0.0	16.0000	16.0000	2	2	85.0	0.0	0.00

E.2 FUTURE OPERATIONS REPORT

INM 7.0 SCENARIO RUN INPUT REPORT 10-May-10 17:11

STUDY: C:\PROGRAM FILES\INM7.0\HXD MAY 2010\HXD MP 5\
Created : 14-Oct-09 08:54
Units : English
Airport : HXD
Description :
Your description

SCENARIO: HXD Existing Scenario
Created : 14-Oct-09 09:25
Description : HXD Existing Scenario
Last Run : 07-May-10 15:22
Run Duration : 000:00:34

STUDY AIRPORT
Latitude : 32.224361 deg
Longitude : -80.697472 deg
Elevation : 19.0 ft

CASES RUN:

CASENAME: HXD Existing
Temperature : 58.9 F
Pressure : 29.92 in-Hg
AverageWind : 8.0 kt
ChangeNPD : No

STUDY RUNWAYS
03
Latitude : 32.218308 deg
Longitude : -80.700945 deg
Xcoord : -0.1768 nmi
Ycoord : -0.3624 nmi
Elevation : 18.9 ft
OtherEnd : 21
Length : 4999 ft
Gradient : -0.14 %
TkoThresh : 0 ft
AppThresh : 0 ft

CASENAME: HXD Existing
RwyWind : 8.0 kt
21
Latitude : 32.230659 deg
Longitude : -80.693859 deg
Xcoord : 0.1839 nmi
Ycoord : 0.3771 nmi
Elevation : 12.1 ft
OtherEnd : 03
Length : 4999 ft
Gradient : 0.14 %
TkoThresh : 0 ft
AppThresh : 0 ft

CASENAME: HXD Existing
RwyWind : 8.0 kt

CASENAME: HXD Existing
RwyWind : 8.0 kt

STUDY HELIPADS
HELO
Latitude : 32.224361 deg
Longitude : -80.697472 deg
Xcoord : 0.0000 nmi

Ycoord : 0.0000 nmi

STUDY TRACKS

RwyId-OpType-TrkId

Sub	PctSub	TrkType	Delta(ft)
03-APP-A			
0	100.00	Vectors	0.0
03-APP-A1			
0	100.00	Vectors	0.0
03-APP-A2			
0	100.00	Vectors	0.0
03-APP-A3			
0	100.00	Vectors	0.0
03-APP-A4			
0	100.00	Vectors	0.0
03-APP-A5			
0	100.00	Vectors	0.0
03-DEP-1			
0	100.00	Vectors	0.0
03-TGO-1			
0	100.00	Vectors	0.0
21-APP-1			
0	100.00	Vectors	0.0
21-DEP-D			
0	100.00	Vectors	0.0
21-DEP-D1			
0	100.00	Vectors	0.0
21-DEP-D2			
0	100.00	Vectors	0.0
21-DEP-D3			
0	100.00	Vectors	0.0
21-DEP-D4			
0	100.00	Vectors	0.0
21-DEP-D5			
0	100.00	Vectors	0.0
21-TGO-1			
0	100.00	Vectors	0.0
21-TGO-2			
0	100.00	Vectors	0.0
HELO-APP-1			
0	100.00	Vectors	27.0
HELO-DEP-1			
0	100.00	Vectors	207.0

STUDY TRACK DETAIL

RwyId-OpType-TrkId-SubTrk

#	SegType	Dist/Angle	Radius(nmi)
03-APP-A-0			
1	Straight	50.0000 nmi	
03-APP-A1-0			
1	Straight	50.0000 nmi	
2	Left-Turn	136.0000 deg	0.5000
3	Straight	1.0000 nmi	
4	Left-Turn	44.0000 deg	0.5000
5	Straight	1.8100 nmi	
03-APP-A2-0			
1	Straight	50.0000 nmi	
2	Right-Turn	136.0000 deg	0.5000
3	Straight	1.0000 nmi	
4	Right-Turn	44.0000 deg	0.5000
5	Straight	1.2300 nmi	
03-APP-A3-0			
1	Straight	50.0000 nmi	
2	Right-Turn	180.0000 deg	1.0000
3	Straight	1.0000 nmi	
4	Right-Turn	117.0000 deg	0.2000
5	Straight	1.2300 nmi	
03-APP-A4-0			
1	Straight	50.0000 nmi	
2	Left-Turn	10.0000 deg	1.0000
3	Straight	2.0000 nmi	
4	Left-Turn	44.0000 deg	0.5000
5	Straight	2.0000 nmi	
03-APP-A5-0			
1	Straight	50.0000 nmi	
2	Right-Turn	10.0000 deg	1.0000
3	Straight	2.5000 nmi	
4	Right-Turn	20.0000 deg	1.0000
5	Straight	1.5000 nmi	
6	Left-Turn	93.0000 deg	0.2000
7	Straight	1.2300 nmi	
03-DEP-1-0			
1	Straight	50.0000 nmi	
03-TGO-1-0			
1	Straight	0.9000 nmi	
2	Left-Turn	90.0000 deg	0.2500
3	Straight	0.5000 nmi	
4	Left-Turn	90.0000 deg	0.2500
5	Straight	1.7000 nmi	
6	Left-Turn	90.0000 deg	0.2500
7	Straight	0.5000 nmi	
8	Left-Turn	90.0000 deg	0.2500

```
    9  Straight        0.8000 nmi
21-APP-1-0
    1  Straight       50.0000 nmi
21-DEP-D-0
    1  Straight       50.0000 nmi
21-DEP-D1-0
    1  Straight        2.7000 nmi
    2  Right-Turn     44.0000 deg      0.5000
    3  Straight        1.5000 nmi
    4  Right-Turn     10.0000 deg      1.0000
    5  Straight       50.0000 nmi
21-DEP-D2-0
    1  Straight        2.6000 nmi
    2  Right-Turn     44.0000 deg      0.5000
    3  Straight        1.0000 nmi
    4  Right-Turn    136.0000 deg      0.5000
    5  Straight       50.0000 nmi
21-DEP-D3-0
    1  Straight        2.0000 nmi
    2  Left-Turn      44.0000 deg      0.5000
    3  Straight        1.0000 nmi
    4  Left-Turn     136.0000 deg      0.5000
    5  Straight       50.0000 nmi
21-DEP-D4-0
    1  Straight        1.3000 nmi
    2  Right-Turn    180.0000 deg      0.5000
    3  Straight       50.0000 nmi
21-DEP-D5-0
    1  Straight        1.3000 nmi
    2  Left-Turn     180.0000 deg      0.5000
    3  Straight       50.0000 nmi
21-TGO-1-0
    1  Straight        0.9000 nmi
    2  Left-Turn      90.0000 deg      0.2500
    3  Straight        0.5000 nmi
    4  Left-Turn      90.0000 deg      0.2500
    5  Straight        1.7000 nmi
    6  Left-Turn      90.0000 deg      0.2500
    7  Straight        0.5000 nmi
    8  Left-Turn      90.0000 deg      0.2500
    9  Straight        0.8000 nmi
21-TGO-2-0
    1  Straight        0.9000 nmi
    2  Left-Turn      90.0000 deg      0.2500
    3  Straight        1.0000 nmi
    4  Left-Turn      90.0000 deg      0.2500
    5  Straight        1.7000 nmi
    6  Left-Turn      90.0000 deg      0.2500
    7  Straight        1.0000 nmi
    8  Left-Turn      90.0000 deg      0.2500
    9  Straight        0.8000 nmi
  HELO-APP-1-0
    1  Straight       50.0000 nmi
  HELO-DEP-1-0
    1  Straight       50.0000 nmi

AIRCRAFT GROUP ASSIGNMENTS


STUDY AIRPLANES
  BEC58P       Standard data
  CNA55B       Standard data
  DHC8         Standard data
  GASEPF       Standard data
  GASEPV       Standard data
  LEAR35       Standard data

STUDY SUBSTITUTION AIRPLANES

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS


STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES
```

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

STUDY HELICOPTERS
B206L Standard data

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

-

CASE FLIGHT OPERATIONS - [HXD Existing]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group		Day	Evening	Night
B206L	APP	STANDARD	1	HELO	1		0	---	1.5240	0.0000	0.0470
B206L	DEP	STANDARD	1	HELO	1		0	---	1.5240	0.0000	0.0470
BEC58P	APP	STANDARD	1	03	A		0	---	0.4880	0.0000	0.0150
BEC58P	APP	STANDARD	1	03	A1		0	---	0.9770	0.0000	0.0300
BEC58P	APP	STANDARD	1	03	A2		0	---	0.2440	0.0000	0.0080
BEC58P	APP	STANDARD	1	03	A3		0	---	0.2440	0.0000	0.0080
BEC58P	APP	STANDARD	1	03	A4		0	---	1.9540	0.0000	0.0600
BEC58P	APP	STANDARD	1	03	A5		0	---	0.9770	0.0000	0.0300
BEC58P	APP	STANDARD	1	21	1		0	---	9.4810	0.0000	0.2930
BEC58P	DEP	STANDARD	1	03	1		0	---	4.8840	0.0000	0.1510
BEC58P	DEP	STANDARD	1	21	D		0	---	0.4740	0.0000	0.0150
BEC58P	DEP	STANDARD	1	21	D1		0	---	2.3700	0.0000	0.0730
BEC58P	DEP	STANDARD	1	21	D2		0	---	4.9780	0.0000	0.1540
BEC58P	DEP	STANDARD	1	21	D3		0	---	1.6590	0.0000	0.0510
BEC58P	TGO	STANDARD	1	03	1		0	---	0.5140	0.0000	0.0160
BEC58P	TGO	STANDARD	1	21	1		0	---	0.4990	0.0000	0.0150
BEC58P	TGO	STANDARD	1	21	2		0	---	0.4990	0.0000	0.0150
CNA55B	APP	STANDARD	1	03	A		0	---	0.1220	0.0000	0.0040
CNA55B	APP	STANDARD	1	03	A1		0	---	0.0120	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A2		0	---	0.0120	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A3		0	---	0.0120	0.0000	0.0000
CNA55B	APP	STANDARD	1	03	A4		0	---	1.0620	0.0000	0.0330
CNA55B	APP	STANDARD	1	21	1		0	---	2.3700	0.0000	0.0730
CNA55B	DEP	STANDARD	1	03	1		0	---	1.2210	0.0000	0.0380
CNA55B	DEP	STANDARD	1	21	D		0	---	0.2370	0.0000	0.0070
CNA55B	DEP	STANDARD	1	21	D1		0	---	1.8960	0.0000	0.0590
CNA55B	DEP	STANDARD	1	21	D2		0	---	0.1190	0.0000	0.0040
CNA55B	DEP	STANDARD	1	21	D3		0	---	0.1190	0.0000	0.0040
DHC8	APP	STANDARD	1	03	A		0	---	1.0260	0.0000	0.0320
DHC8	APP	STANDARD	1	03	A1		0	---	4.0170	0.0000	0.1240
DHC8	APP	STANDARD	1	03	A2		0	---	0.2560	0.0000	0.0080
DHC8	APP	STANDARD	1	03	A3		0	---	0.2560	0.0000	0.0080
DHC8	APP	STANDARD	1	03	A4		0	---	2.1370	0.0000	0.0660
DHC8	APP	STANDARD	1	03	A5		0	---	0.8550	0.0000	0.0260
DHC8	APP	STANDARD	1	21	1		0	---	16.5920	0.0000	0.5130
DHC8	DEP	STANDARD	1	03	1		0	---	8.5480	0.0000	0.2640
DHC8	DEP	STANDARD	1	21	D		0	---	0.4980	0.0000	0.0150
DHC8	DEP	STANDARD	1	21	D1		0	---	2.9040	0.0000	0.0900
DHC8	DEP	STANDARD	1	21	D2		0	---	11.3240	0.0000	0.3500
DHC8	DEP	STANDARD	1	21	D3		0	---	1.8670	0.0000	0.0580
GASEPF	APP	STANDARD	1	03	A		0	---	0.1950	0.0000	0.0060
GASEPF	APP	STANDARD	1	03	A1		0	---	0.3910	0.0000	0.0120
GASEPF	APP	STANDARD	1	03	A2		0	---	0.1950	0.0000	0.0060
GASEPF	APP	STANDARD	1	03	A3		0	---	0.1950	0.0000	0.0060
GASEPF	APP	STANDARD	1	03	A4		0	---	0.5860	0.0000	0.0180
GASEPF	APP	STANDARD	1	03	A5		0	---	2.3440	0.0000	0.0730
GASEPF	APP	STANDARD	1	21	1		0	---	7.5850	0.0000	0.2350
GASEPF	DEP	STANDARD	1	03	1		0	---	3.9070	0.0000	0.1210
GASEPF	DEP	STANDARD	1	21	D		0	---	0.0760	0.0000	0.0020
GASEPF	DEP	STANDARD	1	21	D1		0	---	2.2000	0.0000	0.0680
GASEPF	DEP	STANDARD	1	21	D4		0	---	3.9820	0.0000	0.1230
GASEPF	DEP	STANDARD	1	21	D5		0	---	1.3270	0.0000	0.0410
GASEPF	TGO	STANDARD	1	03	1		0	---	0.4110	0.0000	0.0130
GASEPF	TGO	STANDARD	1	21	1		0	---	0.3990	0.0000	0.0120
GASEPF	TGO	STANDARD	1	21	2		0	---	0.3990	0.0000	0.0120
GASEPV	APP	STANDARD	1	03	A		0	---	0.1950	0.0000	0.0060
GASEPV	APP	STANDARD	1	03	A1		0	---	0.3910	0.0000	0.0120
GASEPV	APP	STANDARD	1	03	A2		0	---	0.1950	0.0000	0.0060
GASEPV	APP	STANDARD	1	03	A3		0	---	0.1950	0.0000	0.0060
GASEPV	APP	STANDARD	1	03	A4		0	---	0.5860	0.0000	0.0180
GASEPV	APP	STANDARD	1	03	A5		0	---	2.3440	0.0000	0.0730
GASEPV	APP	STANDARD	1	21	1		0	---	7.5850	0.0000	0.2350
GASEPV	DEP	STANDARD	1	03	1		0	---	3.9070	0.0000	0.1210
GASEPV	DEP	STANDARD	1	21	D		0	---	0.0760	0.0000	0.0020
GASEPV	DEP	STANDARD	1	21	D1		0	---	2.2000	0.0000	0.0680
GASEPV	DEP	STANDARD	1	21	D4		0	---	3.9820	0.0000	0.1230
GASEPV	DEP	STANDARD	1	21	D5		0	---	1.3270	0.0000	0.0410
GASEPV	TGO	STANDARD	1	03	1		0	---	0.4110	0.0000	0.0130
GASEPV	TGO	STANDARD	1	21	1		0	---	0.3990	0.0000	0.0120
GASEPV	TGO	STANDARD	1	21	2		0	---	0.3990	0.0000	0.0120
LEAR35	APP	STANDARD	1	03	A		0	---	0.1220	0.0000	0.0040
LEAR35	APP	STANDARD	1	03	A1		0	---	0.0120	0.0000	0.0000
LEAR35	APP	STANDARD	1	03	A2		0	---	0.0120	0.0000	0.0000

```
LEAR35      APP  STANDARD  1  03     A3       0  ---        0.0120    0.0000    0.0000
LEAR35      APP  STANDARD  1  03     A4       0  ---        1.0620    0.0000    0.0330
LEAR35      APP  STANDARD  1  21     1        0  ---        2.3700    0.0000    0.0730
LEAR35      DEP  STANDARD  1  03     1        0  ---        1.2210    0.0000    0.0380
LEAR35      DEP  STANDARD  1  21     D        0  ---        0.2370    0.0000    0.0070
LEAR35      DEP  STANDARD  1  21     D1       0  ---        1.8960    0.0000    0.0590
LEAR35      DEP  STANDARD  1  21     D2       0  ---        0.1190    0.0000    0.0040
LEAR35      DEP  STANDARD  1  21     D3       0  ---        0.1190    0.0000    0.0040
```

```
CONTOUR  Contour   -8.0000   -8.0000    0.0   16.0000   16.0000  2  2  85.0  0.0   0.00
-
```

CASE RUNUP OPERATIONS - [HXD Existing]

SCENARIO RUN OPTIONS
- Run Type : Single-Metric
- NoiseMetric : DNL
- Do Terrain : No Terrain
- Do Contour : Recursive Grid
- Refinement : 10
- Tolerance : 0.10
- Low Cutoff : 55.0
- High Cutoff : 85.0
- Ground Type : All-Soft-Ground
- Do Population : No
- Do Locations : No
- Do Standard : No
- Do Detailed : No
- Compute System Metrics:
  - DNL : No
  - CNEL : No
  - LAEQ : No
  - LAEQD : No
  - LAEQN : No
  - SEL : No
  - LAMAX : No
  - TALA : No
  - NEF : No
  - WECPNL : No
  - EPNL : No
  - PNLTM : No
  - TAPNL : No
  - CEXP : No
  - LCMAX : No
  - TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)

Table 8.1-1
Preliminary Project Cost Estimates (2010 $)*
Hilton Head Island Airport

Phase	Project	Cost	Federal	State	Local
I	Commercial Service Terminal Expansion	$1,900,000	$1,805,000	$0	$95,000
I	Land Acquisition for Airfield Deficiency Correction	$3,600,000	$3,420,000	$0	$180,000
I	Airfield Deficiency Correction	$2,041,400	$1,939,330	$51,035	$51,035
I	Runway 03 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Runway Extension Benefit Cost Analysis/Environmental Documentation	$500,000	$475,000	$12,500	$12,500
I	Land Acquisition for Runway Extension and Road Relocation	$5,500,000	$5,225,000	$0	$275,000
I	700' Runway Extension Design and Construction	$2,245,200	$2,132,940	$56,130	$56,130
I	400' Runway Extension Design and Construction	$925,000	$878,750	$23,125	$23,125
I	Runway 21 EMAS	$2,000,000	$1,900,000	$50,000	$50,000
I	Relocation of Beach City Road Design and Construction	$750,000	$712,500	$18,750	$18,750
I	Runway 03 34:1 Obstruction Removal (trees)	$1,500,000	$1,425,000	$37,500	$37,500
I	Transitional Surface Obstruction Removal (trees)	$2,000,000	$1,900,000	$50,000	$50,000
	TOTAL	**$24,961,600**	**$23,713,520**	**$349,040**	**$899,040**
II	Avigation Easements within Runway 21 RPZ	$1,145,000	$1,087,750	$0	$57,250
II	Commercial Service Parking Lot Expansion (120 spaces)	$922,100	$0	$0	$922,100
II	General Aviation Apron Expansion (18,500 sq yd)	$1,600,000	$1,520,000	$40,000	$40,000
II	10-Unit T-Hangar	$1,350,000	$1,282,500	$33,750	$33,750
II	Conventional Hangars (2)	$2,830,000	$2,688,500	$70,750	$70,750
II	Land Acquisition General Aviation Side	$3,335,000	$3,168,250	$0	$83,375
	TOTAL	**$11,182,100**	**$9,747,000**	**$144,500**	**$1,207,225**
III	10-Unit T-Hangar (2)	$2,660,000	$2,527,000	$66,500	$66,500
III	Conventional Hangars (2)	$2,450,000	$2,327,500	$61,250	$61,250
III	General Aviation Apron Expansion (17,000 sq yd)	$1,520,000	$1,444,000	$38,000	$38,000
III	Commercial Service Parking Lot Expansion (150 spaces)	$720,000	$0	$0	$720,000
III	Land Acquisition (Exec Air)	$9,400,000	$8,930,000	$0	$470,000
	TOTAL	**$16,750,000**	**$15,228,500**	**$165,750**	**$1,355,750**
	GRAND TOTAL	**$52,893,700**	**$48,689,020**	**$659,290**	**$3,462,015**

PRELIMINARY PROJECT COST ESTIMATE
4,300 FOOT RUNWAY (COMPLIANCE)
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
October 21, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$62,000.00	$62,000.00
2	REP	PAVEMENT REMOVAL	25,700	SY	$2.60	$66,820.00
3	P-151	CLEARING AND GRUBBING	5	AC	$2,000.00	$10,000.00
4	P-152	EXCAVATION	25,000	CY	$5.00	$125,000.00
5	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$50,000.00	$50,000.00
6	P-209	CRUSHED AGGREGATE BASE COURSE	7,400	CY	$13.00	$96,200.00
7	P-401	BITUMINOUS ASPHALTIC SURFACE COURSE	6,000	TN	$85.00	$510,000.00
8	P-620	PAVEMENT MARKINGS	6,000	SF	$2.00	$12,000.00
9	D-701	15" RCP, CLASS IV	600	LF	$37.50	$22,500.00
10	D-701	24" RCP, CLASS IV	900	LF	$45.00	$40,500.00
11	D-701	36" RCP, CLASS IV	500	LF	$65.00	$32,500.00
12	D-751	DROP INLET	12	EA	$4,000.00	$48,000.00
13	D-751	STORM DRAINAGE MANHOLE	4	EA	$4,000.00	$16,000.00
14	D-751	FLARED END SECTION	6	EA	$2,500.00	$15,000.00
15	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	9,500	LF	$10.00	$95,000.00
16	L-125	TAXIWAY LIGHTS	60	EA	$900.00	$54,000.00
17	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$34,000.00	$34,000.00
18	T-901	SEEDING	20	AC	$1,000.00	$20,000.00
19	T-908	MULCHING	20	AC	$1,000.00	$20,000.00
		10% CONTINGENCY				$127,000.00
		CONSTRUCTION TOTAL				**$1,456,520.00**
		Topographic Survey, Design, Bidding, Construction Admin,, Inspection and Testing				$293,480.00
		PROJECT TOTAL				**$1,750,000.00**
		TREE MITIGATION (ESTIMATE)				$145,700.00
		STORMWATER/ENVIRONMENTAL MITIGATION (ESTIMATE)				$145,700.00

* DOES NOT INCLUDE EMAS AND EROSION CONTROL PERMITTING

PRELIMINARY PROJECT COST ESTIMATE
5,400 FOOT RUNWAY (300 FOOT + 800 FOOT EXTENSIONS)
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
October 21, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$153,000.00	$153,000.00
2	REP	PAVEMENT REMOVAL	26,000	SY	$2.50	$65,000.00
3	P-151	CLEARING AND GRUBBING	14	AC	$2,000.00	$28,000.00
4	P-152	EXCAVATION	60,000	CY	$5.00	$300,000.00
5	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$160,000.00	$160,000.00
6	P-209	CRUSHED AGGREGATE BASE COURSE	20,100	CY	$13.00	$261,300.00
7	P-401	BITUMINOUS ASPHALTIC SURFACE COURSE	16,200	TN	$85.00	$1,377,000.00
8	P-401	PAVEMENT GROOVING	9,790	SY	$1.50	$14,685.00
9	P-620	PAVEMENT MARKINGS	9,500	SF	$2.00	$19,000.00
10	D-701	15" RCP, CLASS IV	1,250	LF	$37.00	$46,250.00
11	D-701	24" RCP, CLASS IV	1,500	LF	$45.00	$67,500.00
12	D-701	36" RCP, CLASS IV	1,100	LF	$65.00	$71,500.00
13	D-751	DROP INLET	34	EA	$4,000.00	$136,000.00
14	D-751	STORM DRAINAGE MANHOLE	8	EA	$4,000.00	$32,000.00
15	D-751	FLARED END SECTION	16	EA	$2,500.00	$40,000.00
16	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	16,000	LF	$10.00	$160,000.00
17	L-125	TAXIWAY LIGHTS	110	EA	$900.00	$99,000.00
18	L-125	RUNWAY LIGHTS	22	EA	$1,000.00	$22,000.00
19	L-125	L-858 AIRFIELD GUIDANCE SIGN	4	EA	$4,000.00	$16,000.00
20	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$85,000.00	$85,000.00
21	T-901	SEEDING	33	AC	$1,000.00	$33,000.00
22	T-908	MULCHING	33	AC	$1,000.00	$33,000.00
		10% CONTINGENCY				$307,000.00
		CONSTRUCTION TOTAL				**$3,526,235.00**

Topographic Survey, Design, Bidding, Construction Admin,, Inspection and Testing $688,765.00

PROJECT TOTAL **$4,215,000.00**

TREE MITIGATION (ESTIMATE)					$352,600.00
STORMWATER/ENVIRONMENTAL MITIGATION (ESTIMATE)					$352,600.00

* DOES NOT INCLUDE EMAS AND EROSION CONTROL PERMITTING

PRELIMINARY PROJECT COST ESTIMATE
18,500 SY APRON SPACE
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$102,000.00	$102,000.00
2	P-151	CLEARING AND GRUBBING	4	AC	$2,000.00	$8,000.00
3	P-152	EXCAVATION	10,000	CY	$6.50	$65,000.00
4	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$40,000.00	$40,000.00
5	P-209	10" CRUSHED AGGREGATE BASE COURSE	11,500	TN	$28.00	$322,000.00
6	P-401	4" BITUMINOUS ASPHALTIC SURFACE COURSE	4,700	TN	$88.00	$413,600.00
7	P-620	PAVEMENT MARKINGS	500	SF	$2.00	$1,000.00
8	M-102	TIE DOWN ANCHORS	48	EA	$350.00	$16,800.00
9	D-701	24" RCP, CLASS IV	500	LF	$45.00	$22,500.00
10	D-701	36" RCP, CLASS IV	250	LF	$65.00	$16,250.00
11	D-751	DROP INLET	12	EA	$5,000.00	$60,000.00
12	D-751	STORM DRAINAGE MANHOLE	2	EA	$5,000.00	$10,000.00
13	D-751	FLARED END SECTION	4	EA	$2,500.00	$10,000.00
14	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	600	LF	$12.00	$7,200.00
15	L-125	TAXIWAY LIGHTS	12	EA	$1,000.00	$12,000.00
16	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$10,000.00	$10,000.00
17	T-901	SEEDING	1	AC	$1,000.00	$1,000.00
18	T-908	MULCHING	1	AC	$1,000.00	$1,000.00
		15% CONTINGENCY				$152,000.00
		CONSTRUCTION TOTAL				**$1,270,350.00**

Engineering - Bidding, Construction Admin,, Inspection and Testing $317,587.50

PROJECT TOTAL **$1,587,937.50**

PRELIMINARY PROJECT COST ESTIMATE
17,500 SY APRON SPACE
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$97,000.00	$97,000.00
2	P-151	CLEARING AND GRUBBING	4	AC	$2,000.00	$8,000.00
3	P-152	EXCAVATION	9,500	CY	$6.50	$61,750.00
4	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$40,000.00	$40,000.00
5	P-209	10" CRUSHED AGGREGATE BASE COURSE	10,850	TN	$28.00	$303,800.00
6	P-401	4" BITUMINOUS ASPHALTIC SURFACE COURSE	4,450	TN	$88.00	$391,600.00
7	P-620	PAVEMENT MARKINGS	500	SF	$2.00	$1,000.00
8	M-102	TIE DOWN ANCHORS	42	EA	$350.00	$14,700.00
9	D-701	24" RCP, CLASS IV	500	LF	$45.00	$22,500.00
10	D-701	36" RCP, CLASS IV	250	LF	$65.00	$16,250.00
11	D-751	DROP INLET	12	EA	$5,000.00	$60,000.00
12	D-751	STORM DRAINAGE MANHOLE	2	EA	$5,000.00	$10,000.00
13	D-751	FLARED END SECTION	4	EA	$2,500.00	$10,000.00
14	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	600	LF	$12.00	$7,200.00
15	L-125	TAXIWAY LIGHTS	12	EA	$1,000.00	$12,000.00
16	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$10,000.00	$10,000.00
17	T-901	SEEDING	1	AC	$1,000.00	$1,000.00
18	T-908	MULCHING	1	AC	$1,000.00	$1,000.00
		15% CONTINGENCY				$146,000.00
		CONSTRUCTION TOTAL				**$1,213,800.00**

Engineering - Bidding, Construction Admin,, Inspection and Testing $303,450.00

PROJECT TOTAL **$1,517,250.00**

PRELIMINARY PROJECT COST ESTIMATE
10-UNIT NESTED T-HANGAR
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$86,000.00	$86,000.00
2	P-151	CLEARING AND GRUBBING	2	AC	$2,000.00	$4,000.00
3	P-152	EXCAVATION	5,000	CY	$6.50	$32,500.00
4	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$30,000.00	$30,000.00
5	P-209	10" CRUSHED AGGREGATE BASE COURSE	5,000	TN	$28.00	$140,000.00
6	P-401	4" BITUMINOUS ASPHALTIC SURFACE COURSE	2,100	TN	$88.00	$184,800.00
7	P-620	PAVEMENT MARKINGS	700	SF	$2.00	$1,400.00
8	D-701	24" RCP, CLASS IV	275	LF	$45.00	$12,375.00
9	D-701	36" RCP, CLASS IV	150	LF	$65.00	$9,750.00
10	D-751	DROP INLET	5	EA	$5,000.00	$25,000.00
11	D-751	STORM DRAINAGE MANHOLE	1	EA	$5,000.00	$5,000.00
12	D-751	FLARED END SECTION	2	EA	$2,500.00	$5,000.00
13	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	200	LF	$12.00	$2,400.00
14	L-125	TAXIWAY LIGHTS	5	EA	$1,000.00	$5,000.00
15	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$5,000.00	$5,000.00
16	T-901	SEEDING	0.5	AC	$1,000.00	$500.00
17	T-908	MULCHING	0.5	AC	$1,000.00	$500.00
18		10-UNIT NESTED T-HANGAR	1	EA	$400,000.00	$400,000.00
		15% CONTINGENCY				$129,000.00
		CONSTRUCTION TOTAL				**$1,078,225.00**

Engineering - Bidding, Construction Admin,, Inspection and Testing $269,556.25

PROJECT TOTAL **$1,347,781.25**

PRELIMINARY PROJECT COST ESTIMATE
TWO 10-UNIT NESTED T-HANGARS
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$170,000.00	$170,000.00
2	P-151	CLEARING AND GRUBBING	3	AC	$2,000.00	$6,000.00
3	P-152	EXCAVATION	10,000	CY	$6.50	$65,000.00
4	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$60,000.00	$60,000.00
5	P-209	10" CRUSHED AGGREGATE BASE COURSE	10,000	TN	$28.00	$280,000.00
6	P-401	4" BITUMINOUS ASPHALTIC SURFACE COURSE	4,000	TN	$88.00	$352,000.00
7	P-620	PAVEMENT MARKINGS	1,300	SF	$2.00	$2,600.00
8	D-701	24" RCP, CLASS IV	475	LF	$45.00	$21,375.00
9	D-701	36" RCP, CLASS IV	250	LF	$65.00	$16,250.00
10	D-751	DROP INLET	10	EA	$5,000.00	$50,000.00
11	D-751	STORM DRAINAGE MANHOLE	2	EA	$5,000.00	$10,000.00
12	D-751	FLARED END SECTION	4	EA	$2,500.00	$10,000.00
13	L-108	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	400	LF	$12.00	$4,800.00
14	L-125	TAXIWAY LIGHTS	11	EA	$1,000.00	$11,000.00
15	L-125	MISCELLANEOUS ELECTRICAL	1	LS	$10,000.00	$10,000.00
16	T-901	SEEDING	1	AC	$1,000.00	$1,000.00
17	T-908	MULCHING	1	AC	$1,000.00	$1,000.00
18		10-UNIT NESTED T-HANGAR	2	EA	$400,000.00	$800,000.00
		15% CONTINGENCY				$255,000.00
		CONSTRUCTION TOTAL				**$2,126,025.00**
		Engineering - Bidding, Construction Admin,, Inspection and Testing				$531,506.25
		PROJECT TOTAL				**$2,657,531.25**

PRELIMINARY PROJECT COST ESTIMATE
PARKING LOT EXPANSION - 150 SPACES
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$42,000.00	$42,000.00
2	P-151	CLEARING AND GRUBBING	1.5	AC	$2,000.00	$3,000.00
3	P-152	EXCAVATION	3,500	CY	$10.00	$35,000.00
4	P-152	UNSUITABLE EXCAVATION	1,500	CY	$15.00	$22,500.00
5	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$40,000.00	$40,000.00
6	P-209	8" CRUSHED AGGREGATE BASE COURSE	2,750	TN	$28.00	$77,000.00
7	RPS	3" BITUMINOUS ASPHALTIC SURFACE COURSE	1,050	TN	$88.00	$92,400.00
8	P-620	PAVEMENT MARKINGS	1,200	SF	$2.00	$2,400.00
9	RPS	CURB AND GUTTER	1,800	LF	$15.00	$27,000.00
10	D-701	24" RCP, CLASS IV	750	LF	$45.00	$33,750.00
11	D-701	36" RCP, CLASS IV	300	LF	$65.00	$19,500.00
12	D-751	CURB/DROP INLET	12	EA	$5,000.00	$60,000.00
13	D-751	STORM DRAINAGE MANHOLE	2	EA	$5,000.00	$10,000.00
14	D-751	FLARED END SECTION	2	EA	$2,500.00	$5,000.00
15	RPS	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	900	LF	$12.00	$10,800.00
16	RPS	MISCELLANEOUS ELECTRICAL	1	LS	$30,000.00	$30,000.00
17	T-901	SEEDING	1	AC	$1,000.00	$1,000.00
18	T-908	MULCHING	1	AC	$1,000.00	$1,000.00
		15% CONTINGENCY				$64,000.00
		CONSTRUCTION TOTAL				**$576,350.00**
		Engineering - Bidding, Construction Admin,, Inspection and Testing				$144,087.50
		PROJECT TOTAL				**$720,437.50**

PRELIMINARY PROJECT COST ESTIMATE
PARKING LOT EXPANSION - 120 SPACES
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$36,000.00	$36,000.00
2	P-151	CLEARING AND GRUBBING	1	AC	$2,000.00	$2,000.00
3	P-152	EXCAVATION	3,000	CY	$10.00	$30,000.00
4	P-152	UNSUITABLE EXCAVATION	1,250	CY	$15.00	$18,750.00
5	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$35,000.00	$35,000.00
6	P-209	8" CRUSHED AGGREGATE BASE COURSE	2,300	TN	$28.00	$64,400.00
7	RPS	3" BITUMINOUS ASPHALTIC SURFACE COURSE	900	TN	$88.00	$79,200.00
8	P-620	PAVEMENT MARKINGS	900	SF	$2.00	$1,800.00
9	RPS	CURB AND GUTTER	1,600	LF	$15.00	$24,000.00
10	D-701	24" RCP, CLASS IV	650	LF	$45.00	$29,250.00
11	D-701	36" RCP, CLASS IV	250	LF	$65.00	$16,250.00
12	D-751	CURB/DROP INLET	10	EA	$5,000.00	$50,000.00
13	D-751	STORM DRAINAGE MANHOLE	2	EA	$5,000.00	$10,000.00
14	D-751	FLARED END SECTION	2	EA	$2,500.00	$5,000.00
15	RPS	TRENCHING, CABLE, COUNTERPOISE, CONDUIT	750	LF	$12.00	$9,000.00
16	RPS	MISCELLANEOUS ELECTRICAL	1	LS	$30,000.00	$30,000.00
17	T-901	SEEDING	1	AC	$1,000.00	$1,000.00
18	T-908	MULCHING	1	AC	$1,000.00	$1,000.00
		15% CONTINGENCY				$55,000.00
		CONSTRUCTION TOTAL				**$497,650.00**

Engineering - Bidding, Construction Admin,, Inspection and Testing	$124,412.50
Environmental Documentation and Permitting	$300,000.00
PROJECT TOTAL	**$922,062.50**

PRELIMINARY PROJECT COST ESTIMATE
7000 SQ. FT. CORPORATE HANGAR
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$90,000.00	$90,000.00
2	P-152	EXCAVATION	750	CY	$12.00	$9,000.00
3	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$12,000.00	$12,000.00
4	D-701	24" RCP, CLASS IV	200	LF	$45.00	$9,000.00
5	D-701	36" RCP, CLASS IV	75	LF	$65.00	$4,875.00
6	D-751	DROP INLET	4	EA	$5,000.00	$20,000.00
7	D-751	STORM DRAINAGE MANHOLE	1	EA	$5,000.00	$5,000.00
8	D-751	FLARED END SECTION	2	EA	$2,500.00	$5,000.00
9		7000 SF CORPORATE HANGAR ERECTION	1	EA	$840,000.00	$840,000.00
		15% CONTINGENCY				$136,000.00
		CONSTRUCTION TOTAL				**$1,130,875.00**

Engineering - Bidding, Construction Admin,, Inspection and Testing	$282,718.75

PRELIMINARY PROJECT COST ESTIMATE
6000 SQ. FT. CORPORATE HANGAR
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

ITEM NO.	SPEC NO.	DESCRIPTION	QTY	UNIT	UNIT PRICE	TOTAL
1	P-150	MOBILIZATION	1	LS	$78,000.00	$78,000.00
2	P-152	EXCAVATION	500	CY	$14.00	$7,000.00
3	P-156	EROSION AND SEDIMENT CONTROL	1	LS	$12,000.00	$12,000.00
4	D-701	24" RCP, CLASS IV	200	LF	$45.00	$9,000.00
5	D-701	36" RCP, CLASS IV	75	LF	$65.00	$4,875.00
6	D-751	DROP INLET	4	EA	$5,000.00	$20,000.00
7	D-751	STORM DRAINAGE MANHOLE	1	EA	$5,000.00	$5,000.00
8	D-751	FLARED END SECTION	2	EA	$2,500.00	$5,000.00
9		6000 SF CORPORATE HANGAR ERECTION	1	EA	$720,000.00	$720,000.00
		15% CONTINGENCY				$117,000.00
		CONSTRUCTION TOTAL				**$977,875.00**
		Engineering - Bidding, Construction Admin,, Inspection and Testing				$244,468.75
		PROJECT TOTAL				**$1,222,343.75**

PRELIMINARY PROJECT COST ESTIMATE
Runway 03-21 Land Acquisition for Standards Correction
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

					2009 Market Value		
Parcel #	Property Owner	Acreage	Use	Land	Improvement	Total
R510 008 000 0183 0000	AJA LLC John Antunes Distinctive	0.89	commercial building	$ 268,388	$ 71,462	$ 339,850
Billing Address:	P.O. Box 23109 Hilton Head Island, SC 29925					
Location:	16 Hunter Road - has avigation easement					
R510 008 000 0184 0000	Gochnauer LLC	1.00	commercial building	$ 209,726	$ 288,845	$ 498,571
Billing Address:	6 Pender Lane Hilton Head Island, SC 29928					
Location:	14 Hunter Road					
R510 008 000 184A 0000	Z Investments LLC	1.05	vacant	$ 236,292	$ -	$ 236,292
Billing Address:	20 Sea olive Road Hilton Head Island, SC 29928					
Location:	12 Hunter Road - has avigation easement					
R510 008 000 0221 0000	Island Storage and Development	2.08	Airport Office Park (Master)	$ 500	$ -	$ 500
Billing Address:	591 Wilmer Avenue Cincinnati, OH 45226					
Location:	Airport Office Park (Dillon Road)					
R510 008 000 0221 0001	Timothy M Reed	0	commercial condominium	$ -	$ 164,000	$ 164,000
Billing Address:	29 Blue Heron point Hilton Head Island, SC 29926					
Location:	Airport Office Park (Dillon Road) - Unit A					
R510 008 000 0221 0002	Validation Technologies Inc	0	commercial condominium	$ -	$ 164,000	$ 164,000
Billing Address:	5 Baynard Park Road Hilton Head Island, SC 29928					
Location:	Airport Office Park (Dillon Road) - Unit B					
R510 008 000 0221 0003	Dennis B and Carol E Rogers Jtros	0	commercial condominium	$ -	$ 166,500	$ 166,500
Billing Address:	134 Via Castilla Jupiter, FL 33458					
Location:	Airport Office Park (Dillon Road) - Unit C					
R510 008 000 0221 0004	Dennis B and Carol E Rogers Jtros	0	commercial condominium	$ -	$ 169,000	$ 169,000
Billing Address:	134 Via Castilla Jupiter, FL 33458					
Location:	Airport Office Park (Dillon Road) - Unit D					
R510 008 000 0221 0005	Scacchi Enterprises LLC	0	commercial condominium	$ -	$ 187,000	$ 187,000
Billing Address:	16 Kings Court Hilton Head Island, SC 29926					
Location:	Airport Office Park (Dillon Road) - Unit E					
R510 008 000 0221 0006	Esquivel Enterprises LLC	0	commercial condominium	$ -	$ 187,000	$ 187,000
Billing Address:	4 Fox Meadow Drive Bluffton, SC 29910					
Location:	Airport Office Park (Dillon Road) - Unit F					
R510 008 000 0221 0007	Fantasy Tan Air Brush Tanning Syster	0	commercial condominium	$ -	$ 167,000	$ 167,000
Billing Address:	P.O. Box 5370 Hilton Head Island, SC 29938					
Location:	Airport Office Park (Dillon Road) - Unit G					
R510 008 000 0221 0008	Susan K and Rickey E Hicks Jtros	0	commercial condominium	$ -	$ 166,000	$ 166,000
Billing Address:	304 Mariners Cove Hilton Head Island, SC 29926					
Location:	Airport Office Park (Dillon Road) - Unit H					

PRELIMINARY PROJECT COST ESTIMATE
Runway 03-21 Land Acquisition for Standards Correction
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	Property Owner	Acreage	Use	Land	Improvement	Total
R510 008 000 0221 0009	Susan K and Rickey E Hicks Jtros	0	commercial condominium	$ -	$ 167,500	$ 167,500
Billing Address:	304 Mariners Cove Hilton Head Island, SC 29926					
Location:	Airport Office Park (Dillon Road) - Unit I					
R510 008 000 0221 0010	Barbara Baroni Trustee	0	commercial condominium	$ -	$ 158,700	$ 158,700
Billing Address:	5 Turrett Shell Hilton Head Island, SC 29926					
Location:	Airport Office Park (Dillon Road) - Unit J					
		10.72				
	PROJECT TOTAL					**$3,600,000**

PRELIMINARY PROJECT COST ESTIMATE
Runway 03-21 Land Acquisition for Runway Extension
HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	Property Owner	Acreage	Use	Land	Improvement	Total
R510 005 000 0278 0000	Palmetto Hall Plantation Home Owner' Association	10.16	recreation	$ 5,080	$ -	$ 5,080
Billing Address:	11 Palmetto Parkway Suite 204C Hilton Head Island, SC 29928					
Location:	54 Tucker Ridge Court					
R510 004 000 0328 0000	Hilton Head Island Land Trust Inc	1.42	access easement	$ 142,000	$ -	$ 142,000
Billing Address:	P.O. Box 21058 Hilton Head Island, SC 29925					
Location:	Beach City Road (Fort Howell)					
R510 004 000 0359 0000	Brooklyn Bridge Ltd Co	0.07	vacant	$ 500	$ -	$ 500
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	160 Beach City Road - has avigation easement					
R510 004 000 0344 0000	Brooklyn Bridge Ltd Co	2.75	The Commons on Beach City Road (Master)	$ 500	$ -	$ 500
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - has avigation easement					
R510 004 000 0344 0001	Hilton Head Deep Well Project Inc	0	commercial condominium	$ -	$ 609,000	$ 609,000
Billing Address:	P.O. Box 5543 Hilton Head Island, SC 29938					
Location:	154 Beach City Road - Unit 1					
R510 004 000 0344 0002	Beach First National Bank	0	commercial condominium	$ -	$ 568,000	$ 568,000
Billing Address:	3751 Grissom Parkway Myrtle Beach, SC 29577					
Location:	154 Beach City Road - Unit 2					
R510 004 000 0344 0003	Tebrake Group LLC	0	commercial condominium	$ -	$ 178,000	$ 178,000
Billing Address:	73 Skull Creek Drive #212B Hilton Head Island, SC 29926					
Location:	154 Beach City Road - Unit 3					
R510 004 000 0344 0004	Leon Teodoro Jr	0	commercial condominium	$ -	$ 174,500	$ 174,500
Billing Address:	P.O. Box 23232 Hilton Head Island, SC 29925					
Location:	154 Beach City Road - Unit 4					
R510 004 000 0344 0005	Nancy Osborne	0	commercial condominium	$ -	$ 190,500	$ 190,500
Billing Address:	137 Cordillo Parkway #5401 Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 5					
R510 004 000 0344 0006	Nancy Osborne	0	commercial condominium	$ -	$ 128,500	$ 128,500
Billing Address:	137 Cordillo Parkway #5401 Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 6					
R510 004 000 0344 0007	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 147,500	$ 147,500
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 7					
R510 004 000 0344 0008	Garamound LLC	0	commercial condominium	$ -	$ 144,500	$ 144,500
Billing Address:	154 beach City Road Unit H Hilton Head Island, SC 29926					
Location:	154 Beach City Road - Unit 8					
R510 004 000 0344 0009	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 142,000	$ 142,000
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 9					
R510 004 000 0344 0010	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 174,500	$ 174,500

PRELIMINARY PROJECT COST ESTIMATE

Runway 03-21 Land Acquisition for Runway Extension

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 10					
R510 004 000 0344 0011	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 176,000	$ 176,000
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 11					
R510 004 000 0344 0012	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 176,000	$ 176,000
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 12					
R510 004 000 0344 0013	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 143,000	$ 143,000
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 13					
R510 004 000 0344 0014	Brooklyn Bridge Ltd Co	0	commercial condominium	$ -	$ 143,000	$ 143,000
Billing Address:	17 Plumbridge Lane Hilton Head Island, SC 29928					
Location:	154 Beach City Road - Unit 14					
R510 004 000 0343 0000	Francis Marie Hartis Trustee	1.97	commercial building	$ 588,953	$ 277,215	$ 866,168
Billing Address:	148 Beach City Road Hilton Head Island, SC 29928					
Location:	148 Beach City Road	16.37				
	PROJECT TOTAL					**$5,500,000**

PRELIMINARY PROJECT COST ESTIMATE

Land Acquisition for Future Development

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
R510 008 000 222A 0000	Joanne Rodenberg	3.27	commerical	$ 968,387	$ 116,413	$ 1,084,800
Billing Address:	6 Dunecrest Lane Isle of Palms, SC 29451		auto repair			
Location:	35 Dillon RoadRoad - has avigation easement					
R510 005 000 0280 0000	Adrienne Carter Cannick Gardener	3.74	vacant	$ 715,711	$ -	$ 715,711
Billing Address:	P.O. Box 21087 Hilton Head Island, SC 29925					
Location:	property next to Carolina Air Center					
R510 009 000 1034 0000	Town of Hilton Head Island	13.1	commercial	$ 3,795,255	$ 586,626	$ 4,381,881
Billing Address:	1 Center Court Hilton Head Island, SC 29928					
Location:	75 Dillon Road					
		20.11				
	PROJECT TOTAL					**$3,335,000**

PRELIMINARY PROJECT COST ESTIMATE

Land Acquisition of Exec Air

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
R510 005 000 0293 0000	Carolina Air Center of Hilton Head I	1.75	vacant	$ 293,309	$ -	$ 293,309
Billing Address:	67 Bear Creek Hilton Head Island, SC 29926					
Location:	105 Summit Drive					
R510 005 000 271A 0000	Exec Air/Head Owners Association Inc	1.11	vacant	$ 293,098	$ -	$ 293,098
Billing Address:	95B Summit Drive Hilton Head Island, SC 29926					
Location:	95B Summit Drive					
R510 005 000 0286 0000	Gilleland Family Limited Partnership	5.99	Exec Air (Master)	$ 315,000	$ 235,200	$ 550,200
Billing Address:	165 North Sea Pines Drive Hilton Head Island, SC 29928					
Location:	71 Summit Drive					
R510 005 000 0286 0001	Hilton Head Air Service LLC	0	commercial condominium hangar	$ -	$ 510,500	$ 510,500
Billing Address:	71 Summit Drive Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 1A					
R510 005 000 0286 0002	Dale C and Carol J Eisenman	0	commercial condominium hangar	$ -	$ 184,500	$ 184,500
Billing Address:	7 Heyward Place Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 1B					
R510 005 000 0286 0003	Charles E and Sandra P Reed Jtros	0	commercial condominium hangar	$ -	$ 181,000	$ 181,000
Billing Address:	P.O. Box 6125 Hilton Head Island, SC 29938					
Location:	71 Summit Drive - Unit 1C					
R510 005 000 0286 0004	Dean E Sanborn	0	commercial condominium hangar	$ -	$ 181,000	$ 181,000
Billing Address:	3106 Riverside Drive Wantagh, NY 11793-4641					
Location:	71 Summit Drive - Unit 1D					
R510 005 000 0286 0005	Michael I Grigoriou Trustee	0	commercial condominium hangar	$ -	$ 184,500	$ 184,500
Billing Address:	89 South Port Royal Drive Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 1E					
R510 005 000 0286 0006	Hilton Head Flyers LLC	0	commercial condominium hangar	$ -	$ 139,000	$ 139,000
Billing Address:	7 Fisj Hawk Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 4A					
R510 005 000 0286 0007	Chew-Fisher Capital Business Park LL	0	commercial condominium hangar	$ -	$ 132,000	$ 132,000
Billing Address:	34 Ensis Road Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 4B					
R510 005 000 0286 0008	Ken Burckhardt	0	commercial condominium hangar	$ -	$ 132,000	$ 132,000
Billing Address:	5 Royal James Drive Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 4C					
R510 005 000 0286 0009	Mark A McAlister	0	commercial condominium hangar	$ -	$ 151,500	$ 151,500
Billing Address:	P.O. Box 2209 Bloomington, IN 47402					
Location:	71 Summit Drive - Unit 4D					
R510 005 000 0286 0010	JAAIR LLC	0	commercial condominium hangar	$ -	$ 549,000	$ 549,000
Billing Address:	P.O. Box 23109 Hilton Head Island, SC 29925					
Location:	71 Summit Drive - Unit 4E					
R510 005 000 0286 0011	James F Russo	0	commercial condominium hangar	$ -	$ 132,500	$ 132,500
Billing Address:	7 Fish Hawk Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 4F					
R510 005 000 0286 0012	Adianus P Clermont	0	commercial condominium hangar	$ -	$ 132,000	$ 132,000
Billing Address:	P.O. Box 98 Kingmont, WV 26578					
Location:	71 Summit Drive - Unit 4G					
R510 005 000 0286 0013	John Kuebel	0	commercial condominium hangar	$ -	$ 132,000	$ 132,000
Billing Address:	15 Baldwin Lane Bluffton, SC 29909					

PRELIMINARY PROJECT COST ESTIMATE

Land Acquisition of Exec Air

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
Location:	71 Summit Drive - Unit 4H					
R510 005 000 0286 0014	John Zarkovacki	0	commercial condominium hangar	$ -	$ 132,000	$ 132,000
Billing Address:	28 North Port Royal Drive Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 4I					
R510 005 000 0286 0015	Hilton Head Flyers LLC	0	commercial condominium hangar	$ -	$ 56,000	$ 56,000
Billing Address:	7 Fish Hawk Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 4J					
R510 005 000 0286 0016	Gilbert P Williamson	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	18 Lavington Road Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5A					
R510 005 000 0286 0017	CLD Aircraft Corp	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	33 Office Park Road #4 Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5B					
R510 005 000 0286 0018	Kawl Inc	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	48 Gull Point Road Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5C					
R510 005 000 0286 0019	210 NSS Inc Hilton Head Airplane Par	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	3511 Swerside Road Suite 105 Wilmington, DE 19810					
Location:	71 Summit Drive - Unit 5D					
R510 005 000 0286 0020	Bear Custom Trim Inc	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	153 Otter Road Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5E					
R510 005 000 0286 0021	Gilleland Family Limited Partnership	0	commercial condominium hangar	$ -	$ 111,500	$ 111,500
Billing Address:	165 North Sea Pines Drive Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5F					
R510 005 000 0286 0022	Richard M Lieberman	0	commercial condominium hangar	$ -	$ 111,500	$ 111,500
Billing Address:	9 Magnolia Crescent Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5G					
R510 005 000 0286 0023	Craftbuilt Homes LLC	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	16 Brams Point Road Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 5H					
R510 005 000 0286 0024	Nolan T Hanson & Assoc Inc	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	45 Queens Way Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5I					
R510 005 000 0286 0025	Solid Enterprises Inc	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	111South Port Royal Drive Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5J					
R510 005 000 0286 0026	Blaine H Loudin	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	9 Wedgefield Drive Hilton Head Island, SC 29926					
Location:	71 Summit Drive - Unit 5K					
R510 005 000 0286 0027	Chew-Fisher Capital Business Pak LL	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
Billing Address:	34 Ensis Road Hilton Head Island, SC 29928					
Location:	71 Summit Drive - Unit 5L					
R510 005 000 0286 0028	Jana M Qualey	0	commercial condominium hangar	$ -	$ 53,000	$ 53,000
Billing Address:	P.O. Box 10 Hilton Head Island, SC 29938					
Location:	71 Summit Drive - Unit 5M					

PRELIMINARY PROJECT COST ESTIMATE

Land Acquisition of Exec Air

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
R510 005 000 0286 0029 Billing Address: Location:	Kevin P and Debra A Fellinger 27 Cotesworth place Hilton Head Island, SC 29926 71 Summit Drive - Unit 6A	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0030 Billing Address: Location:	William R Schilling Jr. 44 Richfield Way Hilton Head Island, SC 29926 71 Summit Drive - Unit 6B	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0031 Billing Address: Location:	Copthorne Properties LLC 5 Steram Gun Place Hilton Head Island, SC 29928 71 Summit Drive - Unit 6C	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0032 Billing Address: Location:	Flying High Aviation Inc 29 Seabrook Landing Drive Hilton Head Island, SC 29926 71 Summit Drive - Unit 6D	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0033 Billing Address: Location:	Stephen L and Victoria B Ebbers Jtros 359 Long Cove Drive Hilton Head Island, SC 29928 71 Summit Drive - Unit 6E	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0034 Billing Address: Location:	Joseph J and Nance G Lynch Jtros 5 Sagebush Lane Hilton Head Island, SC 29926 71 Summit Drive - Unit 6F	0	commercial condominium hangar	$ -	$ 124,000	$ 124,000
R510 005 000 0286 0035 Billing Address: Location:	Tristar Investment Group 64 Leamington lane Hilton Head Island, SC 29928 71 Summit Drive - Unit 6G	0	commercial condominium hangar	$ -	$ 111,500	$ 111,500
R510 005 000 0286 0036 Billing Address: Location:	Golf Mike LLC 14 Wedgefield Drive Hilton Head Island, SC 29926 71 Summit Drive - Unit 6H	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0037 Billing Address: Location:	David Spradling 14 Tillinghast Circle Bluffton, SC 29910 71 Summit Drive - Unit 6I	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0038 Billing Address: Location:	Island Hangar LLC 251 South Seapines Drive No. 1933 Hilton Head Island, SC 29928 71 Summit Drive - Unit 6J	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0039 Billing Address: Location:	Brian C and Elaine F Turrisi Jtros 9407 Turnberry Drive Potomac, MD 20854 71 Summit Drive - Unit 6K	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0040 Billing Address: Location:	Mazzochi Brothers Construction Inc 72 Leamington Lane Hilton Head Island, SC 29928 71 Summit Drive - Unit 6L	0	commercial condominium hangar	$ -	$ 111,000	$ 111,000
R510 005 000 0286 0041 Billing Address: Location:	Tristar Investment Group 64 Leamington lane Hilton Head Island, SC 29928 71 Summit Drive - Unit 6M	0	commercial condominium hangar	$ -	$ 53,000	$ 53,000
R510 005 000 0286 0042 Billing Address: Location:	Michael I Grigoriou Trustee 89 South Port Royal Drive Hilton Head Island, SC 29928 71 Summit Drive - Unit 8A	0	commercial condominium hangar	$ -	$ 379,500	$ 379,500
		8.85				
	PROJECT TOTAL					**$9,400,000**

PRELIMINARY PROJECT COST ESTIMATE

Aviagation Easements in Runway 21 Runway Protection Zone

HILTON HEAD ISLAND AIRPORT
HILTON HEAD, SOUTH CAROLINA
September 28, 2010

				2009 Market Value		
Parcel #	**Property Owner**	**Acreage**	**Use**	**Land**	**Improvement**	**Total**
R510 005 000 0015 0000 Billing Address: Location:	St. James Baptist Church 209 Dillon Road Hilton Head Island, SC 29926 209 Dillon Road	1.71	church and cemetery	$ 623,972	$ 34,677	$ 658,649
R510 005 000 0014 0000 Billing Address: Location:	Nathan Ethel Rivers P.O. Box 21063 Hilton Head Island, SC 29925 204 Dillon Road	1.00	single family	$ 98,333	$ 73,856	$ 172,189
R510 005 000 0227 0000 Billing Address: Location:	Gerald K and Nanci P Weckhorst P.O. Box 22645 Hilton Head Island, SC 29925 XXXXXX	3.11	vacant	$ 274,737	$ -	$ 274,737
R510 005 000 0010 0000 Billing Address: Location:	Edith W Moultrie and Nathaniel Jo White 103 East Lathrop Avenue Savannah, GA 31401 Beach City Road, north of old school house	0.50	vacant	$ 50,000	$ -	$ 50,000
R510 005 000 010G 0000 Billing Address: Location:	217 Beach City Road LLC 70 Main Street Suite 100 Hilton Head Island, SC 29926 XXXXXXX	2.00	vacant	$ 190,000	$ -	$ 190,000
R510 005 000 010C 0000 Billing Address: Location:	217 Beach City Road LLC 70 Main Street Suite 100 Hilton Head Island, SC 29926 203 Beach City Road	0.94	single family	$ 92,621	$ 67,290	$ 159,911
R510 005 000 010F 0000 Billing Address: Location:	217 Beach City Road LLC 70 Main Street Suite 100 Hilton Head Island, SC 29926 6 Fish Haul Road	1.60	vacant	$ 587,776	$ -	$ 587,776
R510 005 000 192A 0000 Billing Address: Location:	Edward D and Lorinda Ann Lambert Jtros 8 Fish Haul Road Hilton Head Island, SC 29926 8 Fish Haul Road	1.00	commercial	$ 380,800	$ 112,281	$ 493,081
R510 005 000 192B 0000 Billing Address: Location:	Retreat Pet Suites LLC 9 Big Woods Drive Hilton Head Island, SC 29926 10 Fish Haul Road	1.42	Animal Boarding	$ 527,377	$ 20,396	$ 547,773
R510 005 000 0192 0000 Billing Address: Location:	Curtis Hennessey and Lynette Blair 12 Widewater Hilton Head Island, SC 29926 12 Fish Haul Road	2.57	commercial construction	$ 418,332	$ 131,668	$ 550,000
R510 005 000 0007 0000 Billing Address: Location:	William Harrison 2637 Moorings Parkway Snellville, GA 300039 XXXX	23.12	forest	$ 3,630,799	$ -	$ 3,630,799
R510 005 000 013A 0000 Billing Address: Location:	Gerald K and Nanci P Weckhorst P.O. Box 22645 Hilton Head Island, SC 29925 170 Dillon Road	0.74	single family	$ 73,408	$ 215,488	$ 288,896
	PROJECT TOTAL					**$1,145,000**