



Master Plan Update

EXECUTIVE SUMMARY

DEVELOPMENT COSTS AND PROGRAM PHASING

A schedule of estimated capital costs for each recommended project at the Brunswick Golden Isles Airport has been identified through the year 2020 and is shown in **Table 4**. Tabulations shown throughout the implementation chapter are provided for the following: Phase I (present – 2005), Phase II (2006 – 2010), and Phase III (2011 – 2020).

**Table 4
Schedule of Estimated Capital Costs (2000 Dollars)**

Development Area	Phase I 2000 -	Phase II 2006 -	Phase III 2011 -	Program Total
Airfield	\$1,251,600	\$1,301,000	\$4,098,600	\$6,651,200
Passenger	\$5,452,400	\$150,000	\$60,000	\$5,662,400
General Aviation	\$789,400	\$1,379,300	\$733,500	\$2,902,200
Miscellaneous	\$644,000	\$1,090,000	\$11,469,600	\$13,203,600
Totals	\$8,137,400	\$3,920,300	\$16,361,700	\$28,419,400

Source: THE LPA GROUP INCORPORATED Analysis, 2000.

FUNDING SOURCES

This section describes the types of funds potentially available to the Glynn County Airport Commission for financing the proposed capital improvements. The four main categories of potential funding include Federal, State, local, and private sources. **Table 5** presents the Airport Capital Program broken down by funding source.

**Table 5
Estimated Capital Costs and Funding Sources (2000 Dollars)**

Development Area	Estimated Capital Costs	Federal	State	Local	PFC
Airfield	\$6,651,200	\$5,986,080	\$0	\$645,120	\$20,000
Passenger	\$5,662,400	\$4,718,160	\$1,500	\$413,200	\$529,540
General Aviation	\$2,902,200	\$855,360	\$0	\$2,046,840	\$0
Miscellaneous	\$13,203,600	\$11,366,630	\$250	\$1,836,720	\$0
Totals	\$28,419,40	\$22,926,23	\$1,750	\$4,941,880	\$549,540

Source: THE LPA GROUP INCORPORATED Analysis, 2000.

The purpose of the Master Plan Study Update was to consider the influences affecting the demand for aviation facilities and services within the Brunswick Golden Isles Airport market area and to develop a plan to safely and efficiently meet anticipated airport needs over the future 2000 to 2020 time period. To do so, the study began with an assessment of existing conditions followed by forecasts of aircraft operations, passengers, and based aircraft. Comparing these forecasts to the existing conditions led to the identification of facility improvements needed during the study period and beyond. Each of these steps is summarized in the information below.

AIRPORT HISTORY

Brunswick Golden Isles Airport (BQK) is a public owned facility, whereby its current role in the national aviation system is to meet the needs of general aviation patrons, commercial passengers, air cargo operators, and other airport tenants. The existing and potential role of any airport is affected and in some instances, dictated by factors such as historical events, geographic location, acreage, and surface transportation.

The Airport came into existence as a result of being selected by the U.S. Navy as the site for one of a network of air stations established to patrol coastal shipping lanes for German U-boats. Construction on the air station began in September of 1942 and was completed in January 1943. The Navy decommissioned the Air Base in 1976. Commercial service at BQK began in February of 1970 when Delta Airlines began serving the airport.

Today, Brunswick Golden Isles Airport is a commercial service, primary airport located five miles north of downtown Brunswick in Glynn County. The City of Brunswick is located 80 miles south of Savannah, Georgia and 75 miles north of Jacksonville, Florida in the southeastern coastal region of Georgia's first congressional district. The Airport is currently situated on fee simple property held by Glynn County that exceeds 2,003 acres. Moreover, the Glynn County Airport Commission oversees and operates the Airport, which was formerly named Glynco Jetport.

AIRPORT FACILITIES SUMMARY

A description of each of the components of the Airport as they existed in March 1999 is summarized below. Included are the airfield, passenger terminal area, general aviation facilities, other miscellaneous support and ancillary facilities. An inventory of all primary airfield components was inclusive to the March 1999 inventory process. Data pertaining to: runway length, width, pavement strengths, designations, usage characteristics, wind coverage, lighting and marking; taxiway orientations, strengths, widths, separations, and deficiencies; visual and electronic navigational aids; airspace configuration and usage; and obstructions to the runway protection zones and surrounding airspace were collected. **Table 1** provides a concise accounting for all applicable airfield assets at the Airport.

**Table 1
Existing Facilities Summary**

General Airport Information			
Name and Identifier:	Brunswick Golden Isles Airport (BQK)		
Ownership:	Public		
Airport Field Elevation:	26' MSL		
Airport Reference Code:	D-IV		
Airport Reference Point	Latitude: 31 15' 31.7" N; Longitude: 81 27' 59.39" W		
Runway Data	7		25
Bearing	069 magnetic / 065 true	249 magnetic / 245 true	
Length	8001'		
Width	150'		
Pavement Strength	S-120, D-185, DT-364		
Marking	Precision Instrument	Precision Instrument	
Condition	Good		
Effective Runway Gradient	0.10%		
Obstruction Clearance Slope	50:1	50:1	
Runway Lighting	HIRL		
Approach Lighting System	MASLR		
VASI	P-4L	P-4L	
ILS	CAT I		
Airport Buildings		Navigational Aids	
Airline Terminal	21,697 SF	Rotating Beacon	Yes
General Aviation Terminal	7,500 SF	Wind Indicator	Yes-Lighted
T-Hangars	10-units	Segmented Circle	Yes
Conventional Hangars	51,200 SF	NDB	MCKINNON
Airport Maintenance	4,200 SF	AWOS-3	124.175
ARFF	3,800 SF (Index A)	CTAF/UNICOM	122.8
Apron		Control Tower	Inoperative
Air Carrier	10,100 SY	Automobile Parking Spaces	
General Aviation	33,230 SY	Pax. Terminal Total	283
Fuel		Short/Long Term	48/171
AVGAS (capacity: 15,000- ")	Yes	Employee Spaces	8
Jet A (capacity: 15,000-gallons)	Yes	Rental Car	56
MOGAS	No		

Source: THE LPA GROUP INCORPORATED Analysis, 2001

similarly located west of the existing fixed based operator (FBO) site. All related apron and access taxiway paving will occur incrementally and is shown adjacent to all new hangar areas. The plan also depicts ultimate expansion capability for general aviation. A development scenario for additional T-hangars and conventional/corporate hangars is shown both west of Gulfstream Aerospace Corporation as well as east of the passenger terminal area. The area to the east is intended to function as a potential new site for a second FBO and general aviation basing area, provided the demand exists at some point in the future.

Surface Transportation

Surface transportation improvements associated with the Airport are planned in an effort to better accommodate four traffic-generating sources: general aviation patrons, commercial passengers, terminal employees, and the general public. Proposed projects directly related to the general aviation areas are depicted as occurring in the immediate vicinity of existing FBO and corporate operations. These improvements include the addition of paved vehicular parking and/or paved access throughout the 20-year study period. Near-term improvements associated with the passenger terminal area include the construction of a new passenger terminal entrance roadway and expanded parking for rental car activity, the general public and airport employees. Additionally, an area designated for rental car servicing and storage has been allocated immediately east of the new entrance road. Perimeter access north of the Airport is adequately provided; however, over time as the northern portion of the property develops, various access points will be required to facilitate access during the 20-year plan. These improvements include the potential extension to the east and west, of the access roadway paralleling Runway 7-25 and fronting Stambaugh Aviation. Final alignment of this road will be dependent upon actual wetland delineation and parcel segregation.

Maintenance Facility

During the preparation of this master plan, the Airport initiated the construction of a new, relocated airport maintenance facility that will be located east of the passenger terminal area and west of the Job Corps site. The facilities will be adequate in the near-term, but a provision for expanded vehicle, parts and materials storage is provided at the site. Additional support facility expansion is depicted on the plan that includes an expansion to the existing ARFF facility located adjacent to the passenger terminal building.

Land Acquisition

Land acquisition is the remaining item depicted on the ALP that is likely to occur during the 20-year development window. Ultimately, approximately 87 acres that lie directly north of Stambaugh Aviation should be purchased for aviation-related purposes. This tract will become critical in future years to support the protection of long-range capacity relief for the airport and will provide a buffer between aviation-related operations and off-airport land uses. Additional land situated along the eastern and northeastern boundary of the airport, is also depicted as being ultimately acquired. This tract, of approximately 350 acres, provides the Runway Protection Zone (RPZ) for the ultimate airfield configuration and provides surplus property for aviation-related commercial development. The phasing of acquisition of this tract is undetermined and will likely take many years; however, demand for future development sites needed for revenue producing commercial/industrial uses should be considered the key force behind its acquisition by the Airport.

AIRPORT IMPROVEMENTS

Various alternative development concepts were evaluated to determine the optimum location and configuration to accommodate the defined facility requirements. The selected concepts were then shown on the Airport Layout Drawing, which establishes the future configuration of all runways, taxiways, and aprons, and also identifies areas set aside for the expansion of the passenger terminal area and support functions, general aviation areas, airport support facilities, and other aviation related areas to meet the needs of the Airport through the year 2020. In addition, areas are shown which should be reserved for development beyond 2020. Land that may be acquired, either to maintain compatibility between airport operations and development near the Airport or to allow for the expansion of aviation-related and revenue-producing facilities, is also depicted. These developments are shown on **Figure B** in the middle of this brochure.

The programmed improvements at the airport are subdivided into the following major categories: airfield, passenger terminal area, general aviation area, surface transportation and other. Items depicted on the Airport Layout Drawing, which are either included in the 20-year capital program or scheduled as ultimate improvements, are briefly addressed in this section.

Airfield

Major airfield improvements physically depicted for Brunswick Golden Isles Airport include: the enhancement of the runway intersection with taxiways F and H, the extension of Taxiway R1 from Taxiway A to Runway 7-25, the construction of a full-length parallel taxiway north of Runway 7-25, and the addition of hold pads at each departure end of the runway. Beyond the 20-year study period, capability for an incremental 4,000-foot extension to the northeast end of Runway 7-25 along with an ultimate 5,500-foot general aviation runway located 3,500 feet north of Runway 7-25 has been preserved. Early planning for these expansions enable protection of nearby airspace and promotes compatibility with adjacent land uses.

Passenger Terminal

The passenger terminal area for Brunswick Golden Isles Airport is scheduled for improvements throughout all phases of the 20-year capital program. The program incorporates major demolition and upgrade of the existing structure (including the closed ATCT) and expansion of the existing building in its current location. Approximately 10,000 square feet of new space will be added to the passenger terminal facilities by the end of the planning horizon, resulting in a total finished floor area of over 31,000 square feet. An expansion and reconfiguration of the baggage make-up and delivery areas will also take place on the north side of the terminal building.

General Aviation

Improvements associated with the general aviation area also occur throughout the various phases of the 20-year program. These improvements primarily involve conventional and T-hangar construction, taxiway widening and paving, and vehicular parking expansion. Based on 20-year facility requirements, approximately eight new T-hangar units will be needed and are provided for west of the existing bank of T-hangar units. Approximately 15,500

square feet of conventional hangar storage space will also be required to meet demand and is

The passenger terminal facilities are positioned on the southern side of Runway 7-25 at BQK. The terminal building first entered service in 1954 and has remained at today's present location. Over the years, facility expansion and renovation occurred to accommodate increasing levels of activity and improve passenger service, level of comfort and security. An air traffic control tower (ATCT) attached to the building is currently vacant. The two-story structure accommodates all passenger activities on the first floor with Glynn County Airport Commission administrative offices residing on the second floor. Recently expanded, the 3,213 square-foot west wing of the first floor provides a modern baggage carousel, new restrooms, rental car counters, and a courtesy phone center for area information, hotel reservations and transportation. Airline ticketing and passenger processing occurs on the first floor as well as security functions and other concessionaires. Space for airline operations and administrative offices is also provided.

General aviation facilities at BQK are located west of the passenger terminal area adjacent to Runway 7-25. In 1999, Brunswick Golden Isles Airport was home to 52 general aviation aircraft: 42 single-engine, 5 multi-engine, 1 turbojet, 1 rotorcraft and 3 other light aircraft. General aviation patrons at BQK receive service from the local fixed base operator, Glynn-Manning Aviation. The facilities available to based and transient users include a mix of storage hangars, apron tie-down spaces, terminal facilities, fueling services, automobile parking areas and other aircraft maintenance related services.

Table 1 lists other airport support facilities including airport maintenance, airport rescue and fire fighting facilities, and the fuel farm. Airport maintenance occupies a new facility with an area totaling 4,200 square feet east of the passenger terminal area. This maintenance facility is used primarily for building and airfield maintenance as well as for equipment, parts and supplies storage.

The existing aircraft rescue and fire fighting (ARFF) facilities, referred to as Airport Fire Station No. 5, are located adjacent to the commercial terminal building. The Commission has a mutual aid agreement with Glynn County, who operates the station and provides all necessary personnel and support for airport protection as well as emergency medical support services. The station is open and manned 24 hours a day, seven days per week, by a total of nine firemen.

The current fuel storage facility at the Airport is owned and operated by Glynn-Manning Aviation. Each of the underground tanks for AVGAS and Jet-A hold 15,000 gallons. In the absence of a fuel pipeline, fuel trucks conduct deliveries to this fuel storage facility.

Other aviation-related facilities on the Airport include Stambaugh Aviation, an aircraft maintenance facility located in the northeast portion of the airport; Rowland Flying Service; Gulfstream Aerospace Corporation; the Georgia Air National Guard; and the Civil Air Patrol. All remaining facilities on the Airport are non-aviation public and commercial properties including U.S. Customs (General Offshore Corp.) and the Brunswick Job Corp Center.

FORECASTS OF AVIATION ACTIVITY

This section presents a summary of the projections of aviation demand that formed the basis for future development at Brunswick Golden Isles Airport. By providing a measure of future aviation-related activity, these forecasts were used during the study effort to determine airport facility requirements in the short, intermediate, and long-term. These forecasts also determined the Airport's future role in terms of aircraft to be accommodated and thus the type of aviation demand to be served. Moreover, they provided the foundation for evaluating the ability of the existing airport facilities to meet demand. **Table 2** presents a summary of the activity forecasts.

As shown in **Table 2** and on **Figure A**, airline passenger enplanements are forecast to increase from 22,418 to 45,000 by the end of the planning period. Peak hour total enplanements and deplanements will rise correspondingly from 41 (at present) to 96 by the year 2020. This growing passenger demand will be supported by increased airline operational activity. Therefore, airline operations are forecast to rise to 28,448 and peak hour operations to 3 in the long-term. It is notable that the airline fleet will incorporate a higher percentage of regional jets over the same time period.

Table 2
Forecast Summary

Activity	Base Year	Forecast Years		
		2005	2010	2020
Annual Passenger Enplanements				
Regional Airline	22,418	27,957	33,700	45,018
Peak Hour	41	48	82	96
Annual Aircraft Operations				
Total Operations	19,514	25,027	26,849	28,448
Peak Hour Operations				
Commercial Airlines	1	2	3	3
General Aviation	10	13	13	14
General Aviation Based Aircraft				
Total Based Aircraft	52	68	73	75

Source: THE LPA GROUP INCORPORATED Analysis, 2001

**Table 3 (Continued)
Summary of Facility Requirements**

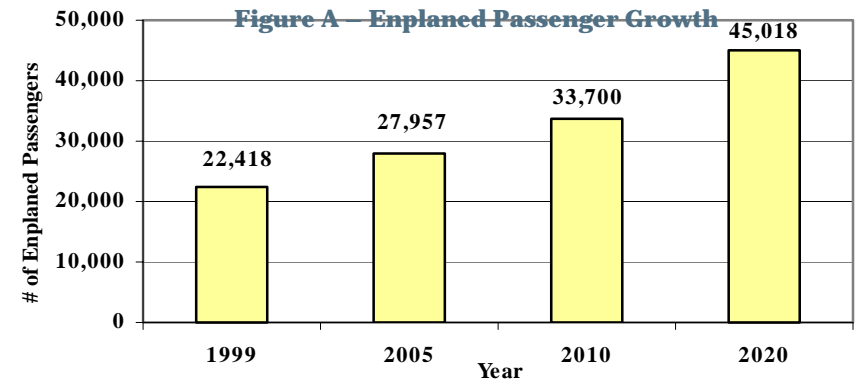
Facility	Existing	Future Requirements		
	1999	2005	2010	2020 or Beyond
Passenger Terminal				
Building Area (SF)	21,697	17,964	27,921	31,688
Number of Gates	2	2	3	3
Parking & Ground Access				
Public Parking	62	72	123	144
Rental Parking (Ready Return)	40	80	80	80
Employee Parking	13/21	15/24	25/41	29/48
Personal Car Curb Length (LF)	125	150	250	300
Commercial Curb Length (LF)	100	100	100	100
General Aviation Facilities				
Conventional Hangars (SF)	51,200	51,740	59,960	66,780
T-Hangars	10	17	17	18
Apron (SY)	33,200	23,050	24,980	25,750
GA Terminal (SF)	7,540	2,730	2,730	2,940
Automobile Parking	37	66	66	69
Ancillary Facilities				
ARFF Index	A	A	A	B
ARFF Station (SF)	3,800	4,200	4,200	5,100
Airport Maintenance (SF)	4,100	7,000	7,000	7,000
AVGAS (30-day) Storage	15,000	8,250	8,580	8,910
Jet-A (5-day) Storage	15,000	7,890	9,570	11,900

Note: Projects identified as occurring past 2020 are marked with an asterisk () and are mainly related to construction of Runway 7L-25R.*

Source: THE LPA GROUP INCORPORATED Analysis, 2000.

Table 3
Summary of Facility Requirements

Facility	Existing	Future Requirements		
	1999	2005	2010	2020 or Beyond*
Airfield				
Runway Capacity	110,700 annual operations	106,800 annual operations	102,900 annual operations	95,200 annual operations
Demand Percent Of Capacity	17.6%	23.4%	26.1%	29.9%
# Of Runways	1	1	1	2*
Runway Lengths	Runway 7-25: 8,001'	Runway 7-25: 12,000' optimum	Runway 7-25: 12,000' optimum	Runway 7R-25L: 12,000' Runway 7L-25R: 5,500'*
Taxiways	1 full-length parallel for Runway 7-25	2 full-length parallels for Runway 7-25	2 full-length parallels for Runway 7-25	2 full-length parallels for Runway 7R-25L 1 full-length parallel for Runway 7L-25R*
Pavement Strengths (S=single wheel; D=dual wheel; DT=dual tandem wheel)	S- 20,000 lbs. D-185,000 lbs. DT-364,000 lbs.	S-120,000 lbs. D-185,000 lbs. DT-364,000 lbs.	S-120,000 lbs. D-185,000 lbs. DT-364,000 lbs.	7R-25L: S-120,000 lbs. D-185,000 lbs. DT-364,000 lbs. 7L-25R: * S>30,000 lbs.
Primary NAVAIDS	CAT I ILS, VOR/DME, NDB	CAT I ILS, VOR/DME, NDB	CAT I ILS, VOR/DME, NDB	CAT I ILS/PGPS*, VOR/DME, NDB.



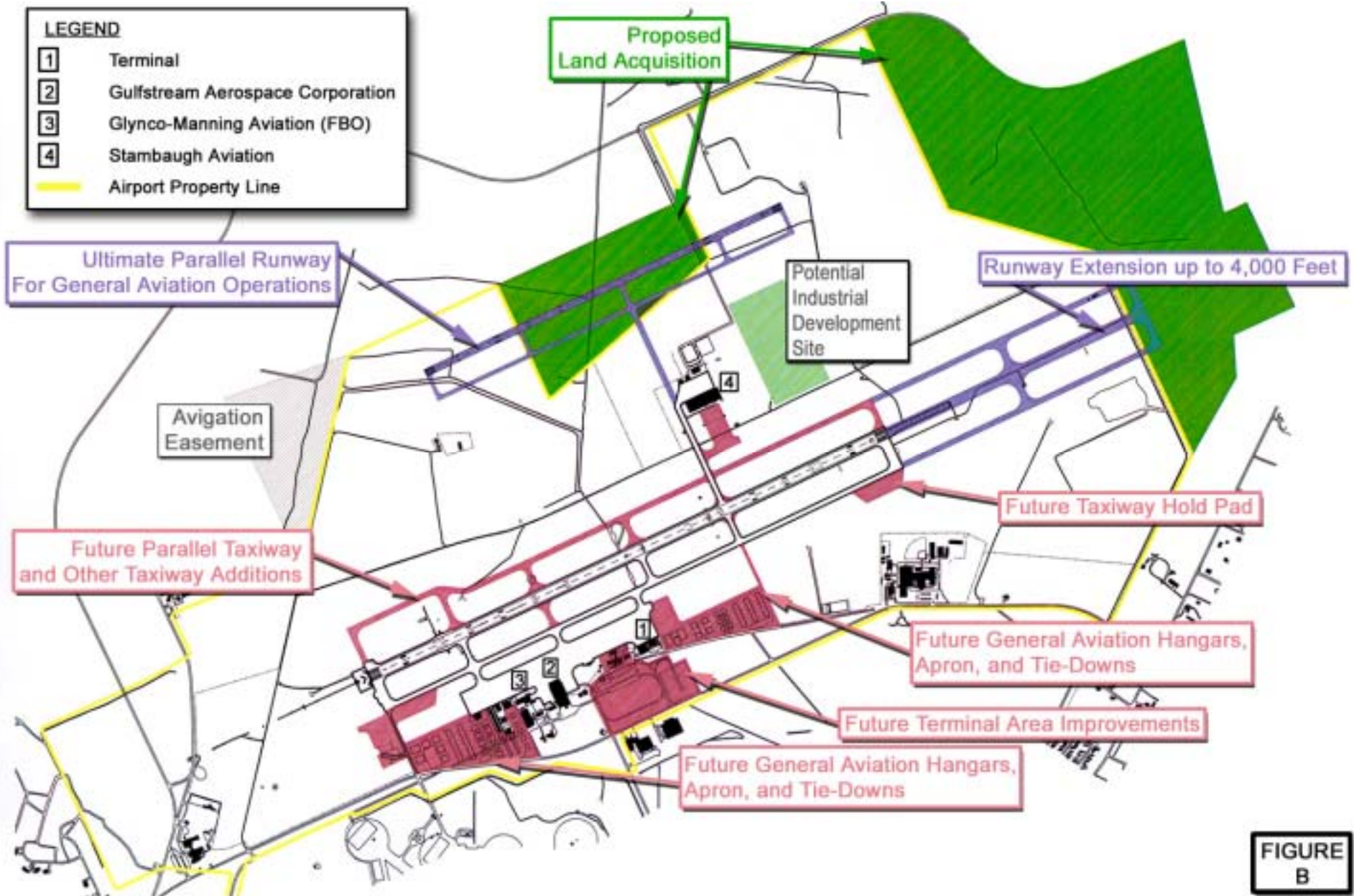
General aviation demand at BQK will also increase over the term of the 20-year planning period according to projections. Total based aircraft numbers are anticipated to rise to 75 by the year 2020. With regard to fleet mix, a greater percentage of turbine and rotor aircraft is expected due to a projected increase in business related activity. With increasing based aircraft numbers, growth in airfield operations will increase an average of approximately 1.8 percent annually. Peak hour general aviation operations will reach a moderate level of 14 by the year 2020. Although there are no air taxi operations at present, it is anticipated that this activity will be reinstated sometime in the future. Military operations are forecast to remain constant at 1,300 per year throughout the study period.

FACILITY REQUIREMENTS SUMMARY

The capacities of various existing airport facilities were compared with demand projections for each horizon year of the study. The evaluation allowed deficiencies to be recognized, and identification of additional facilities required to meet demand. Some of the major facility requirements identified include:

- Ability to provide an ultimate primary runway length of 12,000 feet;
- Ability to provide an ultimate, new, and parallel runway, which may be required to meet demand near or after the 20-year planning period;
- Taxiway improvements including a by-pass taxiway at the Runway 7 end and a north side full-length parallel taxiway to Runway 7-25; Additional airline terminal building space; and
- Vehicular (including rental car) parking and curbside improvements.

Table 3 presents a summary of these, general aviation and other facility requirements.



Summary Of Future Developments

Construct a parallel taxiway north of existing runway.

Construct a parallel 5,000 foot runway north of existing runway.

Extend Runway 7-25 up to 4,000 feet to the east.

Acquire property in support of runway improvements.

Various taxiway, apron, drainage, signage, and terminal road improvements.

Construct general aviation hangars and apron areas for aircraft tie-downs.



For Further Information, Please Contact:

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