

**A G E N D A**

**JAMES CITY COUNTY BOARD OF SUPERVISORS**

**READING FILE**

**May 26, 2009**

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**FOR YOUR INFORMATION**

1. Airport Feasibility Study

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# *Final Report*

# AIRPORT FEASIBILITY STUDY



PREPARED FOR

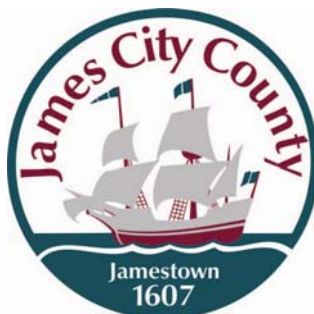
JAMES CITY COUNTY

BY

L. ROBERT KIMBALL & ASSOCIATES, INC.

May 2009

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# AIRPORT FEASIBILITY STUDY

## FOREWORD

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### STUDY PURPOSE

The Williamsburg – Jamestown Airport has been in existence since 1970, operating as a Privately – Owned Public – Use General Aviation Airport. The Current Virginia Air Transportation System Plan (VATSP) recognizes the Airport and acknowledges that the Airport serves an important element of Williamsburg – Jamestown Area aviation demand, operating within a General Aviation Community (GC) Airport role. It is estimated that in 2007, the Airport served as a gateway to bring some 8,000 visitors into the local communities.

Most recently, the private owners of the Airport have indicated their intent to retire and desire to sell the Airport Property. This pending property sale, and the potential for Airport closure, raised many questions, including: 1) If the existing Williamsburg – Jamestown Airport were to close, how would this affect current and future Airport users?; 2) Is the existing Williamsburg - Jamestown Airport site the best location to serve current and future Area aviation demand?; and 3) What alternatives might be available to serve both current and future Area aviation demand?

In an effort to answer the above and other questions, this Airport Feasibility Study has been both authorized and funded by FAA, the Virginia Department of Aviation, and James City County.

The overall purpose of this Airport Feasibility Study is to:

***determine the demand for aviation services and the alternatives available to serve this demand in the James City County area.***

The Study purpose will be accomplished through a series of objectives. Important Study objectives include:

- ➔ Establish a Public Participation / Public Information Program to provide a high level of Public Involvement in the Study.
- ➔ Establish a Community Airport Committee to provide input into the Study, and help represent various Community concerns.
- ➔ Determine and define the Williamsburg – Jamestown (Geographical) Aviation Service Area.
- ➔ Develop related Aviation Forecasts.
- ➔ Identify Area Aviation Facility Needs.



- ➔ Define Alternatives to meet Area aviation facility needs, and develop an Evaluation Matrix indicating the relative advantages and disadvantages of each alternative analyzed.

It should be noted that this Study is not, and is not intended to be a Site Selection Study. Therefore, the results of the Alternatives Evaluation effort will not result in a final recommendation for a future course of action, but will provide guidance for future decision makers.



**James City County  
Airport Feasibility Study**

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**James City County**  
**Airport Feasibility Study**  
**EXECUTIVE SUMMARY**

**Background**

The Williamsburg-Jamestown Airport (JGG) is a privately-owned, public use facility that has been in existence since 1970. At the time this Study was initiated, the airport was host to seventy-seven (77) based aircraft, the vast majority of which were small, single engine propeller aircraft. These aircraft, along with those flying to JGG from other airports, accounted for approximately 22,000 takeoffs and landings annually. The current Virginia Air Transportation System Plan (VATSP) acknowledges that the Airport serves an important element of Williamsburg – Jamestown area aviation demand. It is classified as a General Community airport within the system and it is estimated that in 2007, the Airport served as a gateway to bring some 8,000 visitors into the local communities.

The Airport Feasibility Study was initiated because the current owner of the facility has indicated a desire to sell the property. The overall purpose of this Study is to:

***determine the demand for aviation services and the alternatives available to serve this demand in the James City County area.***

To accomplish this, a systematic process was developed that involved the following:

- Evaluate existing conditions
- Develop forecasts
- Conduct a financial feasibility and public value assessment
- Analyze Airport requirements
- Develop procedures for analyzing and evaluating alternatives

Three alternatives were chosen to be evaluated:

1. Alternative A – “Status Quo” – assumes the existing facility will continue to operate as a privately-owned, public use facility.
2. Alternative B – “Local Acquisition” – considers the possibility that the airport might be acquired by a public sponsor. This could be one or multiple government entities.
3. Alternative C – “Develop New Airport” – investigates the possibility of establishing a new airport that might better meet the anticipated aviation demand.

### **Existing Conditions**

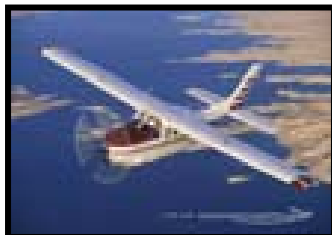
One of the first steps in determining the demand for aviation services in the James City County area was to define the aviation service area. Using standard aviation industry standards, i.e., drive time to access the nearest airport; the proximity of other airports, etc., a primary aviation service area was defined.

#### **Primary Aviation Service Area**



The 2003 Virginia Air Transportation System Update (VATSP) established a series of airport classifications that serve as a framework for describing the existing function of each airport in the system. One of those classifications is General Aviation Community Airport (GC), which, by definition is to “provide general aviation facilities and services to business and recreational users. JGG is classified as a GC airport within the system.

As a part of the Study process, it was also important to evaluate the facilities provided at the existing airport. JGG has one paved runway that is 3,204 feet long, which is in good condition and typically accommodates small general aviation aircraft, to include single and multi-engine piston and turbo-prop aircraft, as well as small corporate jets.







Services provided by JGG include fuel (both Avgas and Jet A), aircraft hangar and tiedown storage, aircraft maintenance, flight instruction, and a very popular restaurant.



Almost all of the facilities are in reasonably good condition with the exception of the access road and some portions of the taxiway system and aircraft parking aprons.

The Study also analyzed certain socioeconomic conditions in the area. One of the primary indicators of an area's ability to support general aviation is based on personal income. The per capita personal income in James City County and Williamsburg is the highest in the state (reference Table 1-2). James City County and the City of Williamsburg have a combined PCPI of \$41,401 which far exceeds the state PCPI of \$37,974. The average annual growth rate from 1995-2005 was 5.3% compared to the state average of 4.7%.

<b>Table 1-2</b>		
<b>Per Capita Personal Income, 1995 - 2005</b>		
<b>County or City, State</b>	<b>2005</b>	<b>Growth Rate 1995-2005 (PCPI)</b>
James City County and Williamsburg, VA	\$41,401	5.3%
York County and Poquoson, VA	\$36,964	4.6%
Charles City County, VA	\$28,578	5.0%
Gloucester County, VA	\$29,271	4.2%
Hampton, VA	\$30,389	4.8%
King and Queen County, VA	\$27,720	4.6%
New Kent County, VA	\$30,189	3.5%
Newport News, VA	\$28,436	4.3%
Surry County, VA	\$25,101	3.1%
West Virginia	\$26,435	4.1%
North Carolina	\$30,785	3.8%
Virginia	\$37,974	4.7%

An environmental overview was conducted as a part of this Study. This was done because of the potential for future public ownership and an associated potential for federal funding eligibility under the FAA's Airport Improvement Program (AIP). Projects funded under AIP must comply with the provisions of the National Environmental Policies Act of 1969 (NEPA). For this Study, nine (9) different environmental impact categories were evaluated, including noise. The primary environmental issues that may



have to be addressed at the existing Airport relate to wetlands and floodplains. Further, an in-depth Environmental Assessment (EA) may be required as a part of any transfer of ownership to a public entity. It should be noted that, based on FAA and HUD standards, noise is not an issue (reference Attachment 1-C, Figure 6, of the Study).

Finally, an important part of the Study process involved public participation. This included: 1) an extensive User Survey program; 2) monthly meetings of a six-member Community Airport Committee (CAC); 3) use of the County's website; 4) a Public Workshop; and 5) routine review of all draft Study documents by the Federal Aviation Administration's (FAA) Washington Airports District Office and the Virginia Department of Aviation (DOAV). Summaries of all public participation documents are included in the Study.

### **Aviation Forecasts**

Because part of the overall purpose of the Study was to determine aviation demand, it was important to develop forecasts of aviation activity. The summary of key elements of the forecasts, which were reviewed and approved by both the FAA and DOAV, are presented in the following table:

<b>Table 2-8</b>				
<b>FORECAST SUMMARY TABLE</b>				
	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Based Aircraft</b>	83	92	102	111
<b>Based Aircraft Itinerant Operations</b>	9,700	11,880	13,320	14,700
<b>Transient Aircraft Itinerant Operations</b>	6,410	6,630	6,900	7,180
<b>Local Aircraft Operations</b>	7,200	7,500	7,800	8,100
<b>Total Aircraft Operations</b>	23,310	26,010	28,020	29,980

*A Transient Aircraft Operation* means a takeoff or a landing performed at the airport by an aircraft visiting the area.

*An Itinerant Operation* means a takeoff by an aircraft with the intent of leaving the local area and landing at the destination airport; or a landing by an aircraft arriving from an originating airport normally located beyond the local area

As indicated on the Forecast Summary Table, there is a definite on-going aviation demand in the Study Area. This need for a general aviation (GC) airport in this region is further validated in the latest Virginian Airport System Plan.





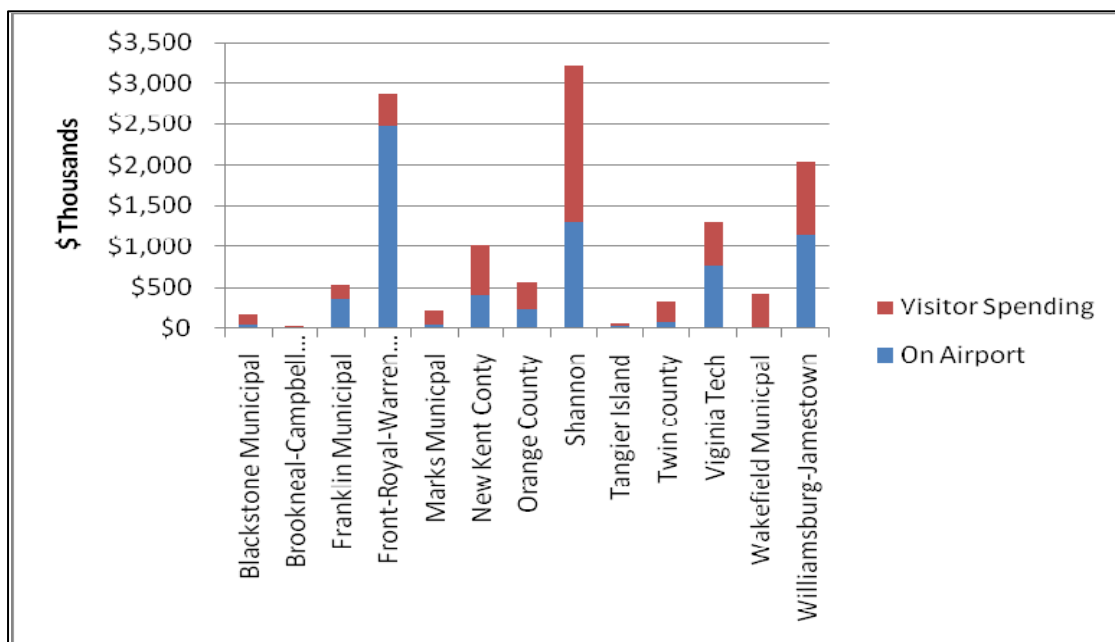
## **Financial Feasibility and Public Value Assessment**

Several different financial and economic evaluations were made in the Study:

### **Economic Impact**

Several different financial aspects of meeting aviation demand in the James City County area were evaluated. One element evaluated was the overall economic benefit of general aviation airports in general, as well as JGG specifically, to the local communities. As documented in the 2004 Virginia Airport System Economic Impact Study, the 13 GC airports in Virginia generated nearly \$13 million in direct on airport impacts and through direct visitor spending. At slightly more than \$2 million, JGG returned the third highest total of direct impacts among these airports.

**Exhibit 3-2**  
**Relative Economic Impacts of GC Airports**



In 2007, the estimated contribution of JGG to the local economy included 39 jobs, \$936,000 in wages and \$2.8 million in business sales.

Since the airport is situated near several cities and tourist destinations, there are travelers that use the airport for business or recreation who spend money in the local economy on hotels, restaurants, shopping, ground transportation, and entertainment. In 2007, visitor spending was responsible for 26 jobs, \$545,000 in wages and \$1.9 million in business sales. By 2025, with a consistent increase in visitors, the total impacts are estimated to grow to 30 jobs, \$637,000 in wages and \$2.2 million in sales.



Table 3-11 shows the combined impacts of on-airport activity and visitor spending. The total impact ranges from 39 jobs, \$936,000 in wages and \$2.8 million in sales in 2007 to 47 jobs, \$1.2 million in wages and \$3.4 million in sales in 2025.

<b>Table 3-11</b>					
<b>Total Projected Economic Impacts of Williamsburg-Jamestown Airport, 2007-2025</b>					
<i>Dollars are Presented in Constant \$2007</i>					
<b>Total Impacts (2007\$)</b>	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Jobs - Direct	30	31	33	35	36
Jobs - Spin-off	9	9	10	10	11
<b>Jobs - Total</b>	<b>39</b>	<b>40</b>	<b>43</b>	<b>45</b>	<b>47</b>
Wages - Direct (\$1,000's)	\$680	\$707	\$764	\$805	\$846
Wages - Spin-off (\$1,000's)	\$256	\$266	\$284	\$299	\$315
<b>Wages - Total (\$1,000's)</b>	<b>\$936</b>	<b>\$973</b>	<b>\$1,048</b>	<b>\$1,104</b>	<b>\$1,161</b>
Sales - Direct (\$1,000's)	\$1,858	\$1,925	\$2,055	\$2,159	\$2,265
Sales - Spin-off (\$1,000's)	\$971	\$1,006	\$1,074	\$1,128	\$1,184
<b>Sales - Total (\$1,000's)</b>	<b>\$2,829</b>	<b>\$2,931</b>	<b>\$3,129</b>	<b>\$3,287</b>	<b>\$3,449</b>

### Personal Property Tax

It also should be noted that the based aircraft at the airport generate personal property taxes for James City County. The current rate is \$4.00 per \$100 of assessed value. Table 3-12 summarizes the revenue generated from that source.

<b>Table 3-12</b>					
<b>Projected Personal Property Tax Revenue Generated from Williamsburg-Jamestown Airport, 2007-2025</b>					
	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Based Aircraft	77	82	100	107	114
Personal Property Tax	\$42,960	\$46,480	\$51,520	\$57,120	\$62,160

### Grant Funding

In its current standing as a GC privately owned public use airport, JGG is eligible for grants from the Special Fund administered by the Commonwealth's Department of Aviation. Over the past 20 years, JGG received 29 grants from the Commonwealth, totaling roughly \$2.2 million. The airport matched these grants with \$863,000. Most grants have been provided on an 80%/20% basis, meaning that 80% of project costs have been funded by the Commonwealth and 20% of costs have been paid by the airport.

Should JGG become a publicly-owned airport, then additional funding mechanisms become available. And if JGG could be entered into the National Plan of Integrated



Airport System (NPIAS), additional funding through the FAA's Airport Improvement Program (AIP) would be available. Many capital improvement projects would be eligible for 95% federal funding.

### Existing Airport Revenue/Expense

As shown in Table 3-13, on an income basis, JGG operated at a loss, ranging from five to seventy-two thousand dollars for the most recent five years that data are available after accounting for depreciation of the airport's capital assets.

<b>Table 3-13</b>					
<b>Net Annual Income of Williamsburg-Jamestown Airport, 2002 -2005, 2007</b>					
<b>Dollars are in Nominal Value</b>					
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2007</b>
Total Revenue	\$456,292	\$371,924	\$436,235	\$452,131	\$533,064
Total Costs	\$402,248	\$390,084	\$407,996	\$430,596	\$501,479
Net Revenue/(Loss)	\$54,044	(\$18,160)	\$28,239	\$21,535	\$31,585
Depreciation	\$58,641	\$53,511	\$49,335	\$44,106	\$43,460
Net Profit (Loss)	(\$4,597)	(\$71,671)	(\$21,096)	(\$22,571)	(\$11,875)

It should be noted here that, before depreciation, JGG operated at a profit for four of the five (5) years examined. It should also be noted that when costs were evaluated, there appeared to be no line items to cover debt service on any loans that may have been taken out to cover the local share of capital improvement projects.

### Airport Requirements Analysis

There were two primary goals in this analysis: 1) analyze the ability of the existing Williamsburg-Jamestown Airport to meet current FAA design standards; and 2) define the requirements for an optimum airport able to accommodate the anticipated aeronautical demand defined in the forecast analysis.

### Existing Airport

The existing Airport, as a privately owned, public use facility, has to meet DOAV licensing requirements only; it does not have to meet FAA design standards. Because, however, of the potential for public ownership and subsequent eligibility for federal funding, it was necessary to evaluate JGG in terms of meeting FAA design standards. These standards will vary based on the size of the aircraft currently using, or forecasted to use JGG. The appropriate design standards for this particular situation were chosen and applied. Seventeen (17) different standards were analyzed and, while the Airport was in compliance with many of them, there were also several that need corrective action in order to meet FAA criteria. Virtually all of those that were substandard can be mitigated. The most notable ones are: shift the runway approximately 221 feet to the

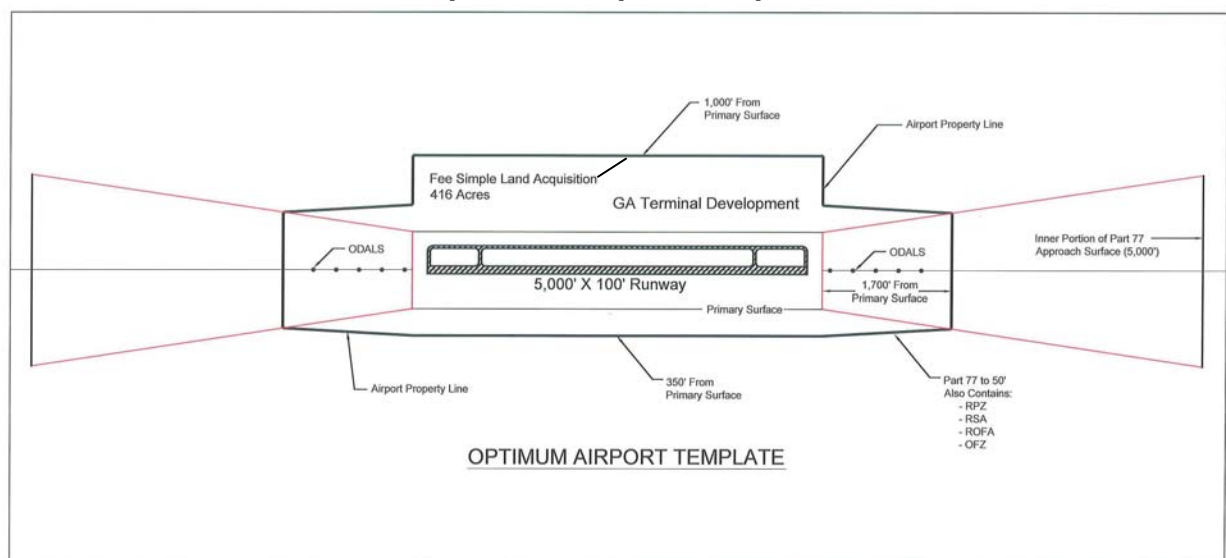


northeast in order to provide the required runway safety area; widen the runway from 60 feet to 75 feet (note: no overall change to the existing runway length of 3,204 feet was recommended); and remove/top several trees. Additionally, a small portion of the parallel taxiway would have to be abandoned and approximately 17 aircraft tiedowns would be eliminated. The total estimated cost for accomplishing these is \$3.2 million. It is anticipated that all of these projects should be eligible for some level of grant assistance.

The existing Special Use Permit (SUP) relative to the existing airport was also addressed during the Study. It was noted that the FAA found certain elements of the SUP objectionable to a point where, unless they were modified or removed, federal funding would not be possible. A summary of a conference call with the FAA on this subject is presented in Attachment 1-B.

The second part of this analysis defined the requirements for an optimum airport able to accommodate the anticipated aeronautical demand defined in the forecast analysis. As previously stated, there are several levels of FAA design standards, depending on the size/type of aircraft to be served. Further, as a part of the Study, the DOAV requested that a facility meeting the next higher level of FAA design standards be evaluated. To accomplish this, and since it was obvious that the existing Airport could not accommodate the design standards necessary for the higher standards, an airport template was developed and provided to the County to portray an “order of magnitude” depiction of what would be necessary to build a new facility. The level of effort necessary to accomplish this evaluation is to determine if potential location(s) exist within the Service Area to accommodate a new airport. It was not the intent of this Study to do a complete Site Selection Analysis and determine a specific location

### Optimum Airport Template





## **Alternatives Evaluation**

This part of the Study introduces and defines the alternatives, criteria, and the evaluation procedures used to evaluate three (3) established alternatives. The alternatives are: Alternative A – “Status Quo”; Alternative B – “Local Acquisition”; and Alternative C – “Develop New Airport”. Twenty seven (27) evaluation criteria were selected for use during the alternatives evaluation effort. A weighting system was used to factor criteria importance. Each member of the Community Airport Committee was asked to “weight” the importance of each criterion on a scale of 1 to 10, with 1 meaning the criterion is of “very minor importance,” and 5 standing for “average importance,” and a 10 meaning the criterion is of “very high importance.” The weightings received from each Committee member were then averaged together to produce an average weighting for each criterion. A separate scoring process was used by the Consultant, using a scale of between 1 to 5, to consider the relative advantages and disadvantages of each criterion, as related to the other alternatives.

Applying these weighting systems, the alternative with the highest score (the preferred alternative) was Alternative C, “Develop New Airport;” the second highest score was Alternative B, “Local Acquisition;” and Alternative A, “Status Quo,” had the lowest score.

## **Summary**

### **1. Demand:**

All of the indices evaluated in the Study show that there is demand for a General Aviation Community Airport in the region.

### **2. Economic:**

- a. The existing Airport contributes approximately \$2.8 million to the regional economy on annual basis, with the potential for more. There is also annual personal property tax on aircraft revenue going to James City County. If the Airport were to close, these economic benefits could be lost, resulting in a costly reduction in revenues to the region.
- b. The possibility exists for the Airport Owners to sell the facility for non-aviation purposes, which could obviously negatively impact these aviation-related revenue sources.
- c. In order to help ensure these economic contributions continue, it may be necessary for a public entity (as yet to be defined) to acquire the Airport.
- d. It will cost approximately \$3.2 million to bring the existing Airport up to FAA standards, which will be necessary in order for the FAA to consider providing federal funding. This amount excludes land acquisition costs.
- e. It is possible that another private owner may acquire the facility and continue to operate it as an airport.
- f. Public ownership opens the door for additional funding mechanisms.



- g. The cost of constructing a new (Greenfield site) airport is estimated to be approximately \$16 million. This cost is for land acquisition and the construction of a single runway, taxiways, and aircraft parking apron(s); it does not include construction of any structures (hangars, terminal, equipment storage, etc.).

**3. Alternative Analysis:**

Based on the scoring methodology used, the alternative receiving the highest score was Alternative C, "Develop New Airport."



# CHAPTER 1

## EXISTING CONDITIONS

### 101. GEOGRAPHIC STUDY AREA

The Initial Geographic Study Area for the purpose of this Study was defined in the work scope to be the Historic Triangle Area, along with both James City County, and York County. The Historic Triangle Area is normally defined to contain Historic Jamestown, the City of Williamsburg, and Yorktown (as connected by The Colonial Parkway), and their immediate geographical areas.

In an effort to first introduce the Geographical Study Area on more of a Regional scale, sections of other counties have been added to the Initial Area. These sections include parts of New Kent, King and Queen, and Henrico Counties to the north; part of Charles City County to the west; and parts of Newport News and Norfolk County to the south.

Exhibit 1-1 illustrates the Initial Geographical Study Area, along with the added sections of other counties as discussed above. As shown, from a Regional perspective, the Initial Area can be viewed as being generally centered between the Richmond Metropolitan Area to the north, and the Norfolk Metropolitan Area to the south. In addition to featured airport facilities as described below, major highways (such as Interstate 64), military installations (such as the Yorktown Naval Weapons Station), and historic areas (such as the Williamsburg, VA Colonial National Historic Park) are shown in the figure.

**Exhibit 1-1**  
**Geographic Study Area**



## A. AREA AVIATION FACILITIES

The following provides a basic information tabulation regarding Geographical Study Area Airports that are considered as having relevance to both this Study, and an understanding of the Study Area<sup>1</sup>. These facilities consist of Commercial Service, Public-Use General Aviation, and Military Airports located primarily between the York River, and the James River. Facility location is indicated by general direction and distance from the Williamsburg – Jamestown Airport (JGG). Important information contained in the 2003 Virginia Air Transportation System Plan (VATSP) is also provided below. Facility location can also be viewed in Exhibit 1-1 as previously presented.

### Commercial Service Airports

**Airport Name:** Richmond International Airport (RIC).

**Location From JGG:** 33 nautical (air) miles / 49 statute (driving) miles northwest.

**Activity Information:** The Airport accommodates approximately 1.6 million passenger enplanements, and some 121,000 total aircraft operations on an annual basis. Currently, some 75 aircraft are based at the Airport.



**Runway/Approach Information:** The Airport is equipped with three active runways, with the longest runway having a published length of 9,003 feet. Precision instrument approach capability is provided.

**VATSP Service Role/Runway Length:** A Commercial Service (CM) Role for both the existing and future period is shown. A future primary runway length of 10,300 feet is indicated.

**VATSP Capacity Level:** The Airport was projected to operate at 66% of available runway capacity in 2005, increasing to 86% in 2020.

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**Airport Name:** Newport News – Williamsburg International (PHF).

**Location From JGG:** 12 nautical (air) miles / 21 statute (driving) miles southeast.

**Activity Information:** The Airport accommodates approximately 513,000 passenger enplanements, and some 227,000



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<sup>1</sup> Source of photos: AirNav.com. Photo may not be current or correct





total aircraft operations on an annual basis. Currently, some 118 aircraft are based at the Airport.

**Runway/Approach Information:** The Airport is equipped with two active runways, with the longest runway having a published length of 8,003 feet. Precision instrument approach capability is provided.

**VATSP Service Role/Runway Length:** A Commercial Service (CM) Role for both the existing and future period is shown. A future primary runway length of 10,000 feet is indicated.

**VATSP Capacity Level:** The Airport was projected to operate at 103% of available runway capacity in 2005, increasing to 127% in 2020.

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**Airport Name:** Norfolk International (ORF).

**Location From JGG:** 32 nautical (air) miles / 46 statute (driving) miles southeast.

**Activity Information:** The Airport accommodates approximately 1.9 million passenger enplanements, and some 129,000 total aircraft operations on an annual basis. Currently, some 106 aircraft are based at the Airport.



**Runway/Approach Information:** The Airport is equipped with two active runways, with the longest runway having a published length of 9,001 feet. Precision instrument approach capability is provided.

**VATSP Service Role/Runway length:** A Commercial Service (CM) Role for both the existing and future period is shown. No change in primary runway length is indicated.

**VATSP Capacity Level:** The Airport was projected to operate at 80% of available runway capacity in 2005, increasing to 94% in 2020.

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### **Public-Use General Aviation Airports**

**Airport Name:** Williamsburg – Jamestown Airport (JGG).

**Location From JGG:** N/A.

**Activity Information:** The Airport accommodates approximately 22,000 total aircraft operations on an annual basis. Currently, some 77 aircraft are based at the Airport.



**Runway/Approach Information:** The Airport is equipped with one active runway having a published length of 3,204 feet. The Airport offers one non-precision circling instrument approach.

**VATSP Service Role/Runway Length:** A General Aviation – Community (GC) Role for both the existing and future period is shown. No change in runway length is indicated.

**VATSP Capacity Level:** The Airport was projected to operate at 10% of available runway capacity in 2005, increasing to 15% in 2020.

**Airport Name:** New Kent County Airport (W96).

**Location From JGG:** 25 nautical (air) miles / 38 statute (driving) miles northwest.

**Activity Information:** The Airport accommodates approximately 26,000 total aircraft operations on an annual basis. Currently, some 46 aircraft are based at the Airport.



**Runway/Approach Information:** The Airport is equipped with one active runway having a published length of 3,600 feet. The Airport offers non-precision instrument approach capabilities.

**VATSP Service Role/Runway Length:** A General Aviation – Community (GC) Role for both the existing and future period is shown. No change in runway length is indicated.

**VATSP Capacity Level:** The Airport was projected to operate at 7% of available runway capacity in both 2005 and 2020.

**Airport Name:** Middle Peninsula Regional Airport (FYJ).

**Location From JGG:** 17 nautical (air) miles / 31 statute (driving) miles north.

**Activity Information:** The Airport accommodates approximately 15,000 total aircraft operations on an annual basis. Currently, some 34 aircraft are based at the Airport.



**Runway/Approach Information:** The Airport is equipped with one active runway having a published length of 5,000 feet. The Airport offers non-precision instrument approach capabilities.

**VATSP Service Role/Runway Length:** A General Aviation – Regional (GR) role for both the existing and future period is shown. There is no increase in runway length anticipated.

**VATSP Capacity Level:** The Airport was projected to operate at 6% of available runway capacity in 2005, increasing to 11% in 2020.

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### **Military Airports**

**Airport Name:** Camp Peary Landing Strip (W94).

**Location From JGG:** 6 nautical (air) miles / 7 statute (driving) miles northeast.

**Activity Information:** Activity information is not currently published.



**Runway/Approach Information:** The Facility is equipped with one runway having a published length of 5,018 feet. The Facility offers (military) non-precision instrument approach capabilities.

**Potential for Public/Joint Use:** The military mission associated with this Facility is not anticipated to change. Restrictions to civil aviation and public-use are not anticipated to be removed in the foreseeable future.

**Airport Name:** Felker AAF.

**Location From JGG:** 8 nautical (air) miles / 9 statute (driving) miles southeast.

**Activity Information:** Activity information is not currently published.

**Runway/Approach Information:** The Facility is equipped with one runway having a published length of 3,020 feet. No civil instrument approach information is currently published for this facility.



**Potential for Public/Joint Use:** The military mission associated with this facility is not anticipated to change. Restrictions to civil aviation and public-use are not anticipated to be removed in the foreseeable future.

**Airport Name:** Langley Air Force Base

**Location From JGG:** 20 nautical (air) miles / 28 statute (driving) miles southeast.

**Activity Information:** Activity information is not currently published.

**Runway/Approach Information:** The Facility is equipped with one runway having a published length of 10,000 feet.



**Potential for Public/Joint Use:** The military mission associated with this facility is not anticipated to change. Restrictions to civil aviation and public-use are not anticipated to be removed in the foreseeable future.

## 102. AREA OF INFLUENCE

The Initial Geographical Study Area can be refined by considering the location of the existing Williamsburg – Jamestown Airport, along with the locations of other existing public-use airports serving general aviation activity, in the vicinity. The objective here is to determine the Geographical Area of Influence that the Williamsburg – Jamestown Airport has with regard to influencing the distribution of General Aviation Activity in the area.

The Area of Influence to be used in this Study has been logically established. The Area of Influence is bounded by three existing publicly owned, public-use airports that are considered to be located near or slightly beyond the outer



portions of the potential Williamsburg – Jamestown Aviation Service (Market) Area. As illustrated in Exhibit 1-2 the three outlying boundary airports are:

- ➔ **New Kent County Airport (W96)**, located in New Kent County approximately twenty-five nautical miles northwest of the Williamsburg – Jamestown Airport.
- ➔ **Middle Peninsula Regional Airport (FYJ)**, located in King and Queen County approximately seventeen nautical miles north of the Williamsburg – Jamestown Airport.
- ➔ **Newport News – Williamsburg International Airport (PHF)**, located in Newport News County approximately twelve nautical miles southeast of the Williamsburg – Jamestown Airport.

**Exhibit 1-2**  
**Area of Influence**



The next section will consider aviation activity, airport capacity, and competition factors associated with the defined Area of Influence and related airports. The analysis will result in the establishment of the Williamsburg – Jamestown Aviation Service Area.

### **103. WILLIAMSBURG-JAMESTOWN AVIATION SERVICE AREA**

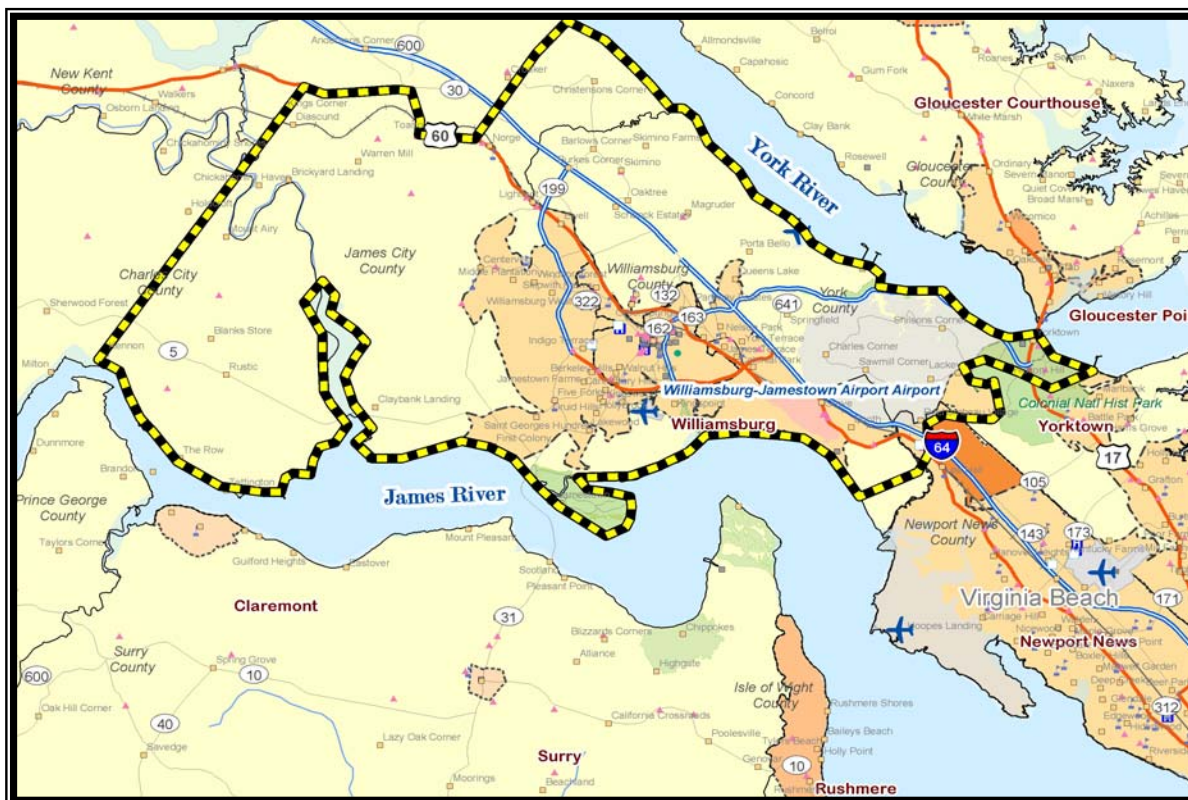
Historically, various surveys have been conducted to determine how far various general aviation airport users are willing to drive to gain access to an airport. The

results of these surveys indicate that the majority of general aviation airport users prefer a drive of 30 minutes or less to gain access to an airport. The 2003 Virginia Air Transportation System Plan (VATSP) also recognizes a 30 minute driving time as an important factor when considering the service area of a general aviation airport.

While a 30-minute driving time (isocronal) can be used as a starting point with regard to service area analysis, many other factors need to be considered. These factors include the location of other competing airports, the facilities offered at competing airports (such as hangar space and runway length), the availability of capacity (or congestion) found at competing airports, and access constraints such as the presence of large bodies of water, or lack of roadways.

With regard to the Williamsburg – Jamestown area, a Primary Aviation Service Area has been established as illustrated in Exhibit 1-3. This Area is considered to be the “primary” service area because the vast majority of based aircraft owners / renter pilots are anticipated to originate from this area. This statement is supported by a review of the existing based aircraft owner mailing list for the existing Williamsburg – Jamestown Airport, which shows that a very high percentage of owners (almost 70 percent) reside in the Williamsburg area. The established Primary Aviation Service Area considers the 30 minute driving time isocronal, which has been adjusted in consideration of the locations of the three neighboring airports discussed above in Section 1.3 “Area of Influence”, as well as many of the factors discussed above.

**Exhibit 1-3**  
**Primary Aviation Service Area**





As shown, the Primary Aviation Service Area considers the locations of the Jamestown River and the York River, as well as the area highway system. Both are important factors when considering service area driving times. Other geographical features are also shown in Exhibit 1-3. These include major military installations (such as Camp Peary, the U.S. Naval Supply Center, the Yorktown Naval Weapons Station, and Fort Eustis. These military installation areas are not anticipated to appreciably influence civil aviation activity in the Williamsburg – Jamestown Aviation Service Area. Major environmental related areas are also shown (such as the Newport News Park and Reservoir, and the Chickahominy Wildlife Management Area. These environmentally restricted areas are anticipated to remain undeveloped.

The Primary Aviation Service Area generally extends north/northwest along Interstate 64 and U.S. Highway 60, reaching its far point near the community of Lanexa. It is considered that both the existing New Kent County Airport and the existing Middle Peninsula Regional Airport will serve the geographical area north of the Primary Aviation Service Area. As indicated in the VATSP and based on airport visits, both of these Airports have adequate capacity to serve their respective market areas, and major improvements are being planned to accommodate anticipated future users. As a point of reference, optimum driving time from the existing Williamsburg – Jamestown Airport to the New Kent County Airport and Middle Peninsula Regional Airport were determined to be 45 minutes and 41 minutes, respectively. This supports the logical placement of the north/northwest Primary Aviation Service Area boundary, which recognizes the inefficiency of duplicate airport facilities serving the same market area.

Considering the location of Route 5, the Primary Aviation Service Area extends slightly into Charles City County located to the west of James City County. It is anticipated that the geographical area to the west/northwest of this segment of the Aviation Service Area will primarily be served by the existing New Kent County Airport.

To the south/southeast, the Primary Aviation Service Area generally follows Interstate 64 and the Colonial Parkway, reaching its far point at Yorktown. It is noted that this segment of the Aviation Service Area extends to an area in close proximity to the existing Newport News – Williamsburg International Airport. As indicated in the VATSP and based on an airport visit, this Commercial Service Airport is reaching airfield capacity, and continues to serve a growing percentage of airline and large business /corporate aircraft activity. This, along with a limited land area for additional (smaller) general aviation facility development is anticipated to cause some general aviation users to seek a less congested airport facility. As a point of reference, optimum driving time from the existing Williamsburg – Jamestown Airport to the Newport News – Williamsburg International Airport was determined to be 26 minutes.

The results of the above Williamsburg – Jamestown Aviation Service Area analysis will be used to consider the demand for aviation services within the defined Aviation Service Area in Chapter Two, titled “Aviation Forecasts”.



## 104. AREA AIRSPACE STRUCTURE

Airspace is defined as the portion of the atmosphere above a particular land area, especially above a nation. To efficiently and effectively manage the large amount of air traffic that traverses the sky each day, the atmosphere above the United States is divided into several sectors, or classes.

There are six (6) classes of airspace. *Controlled Airspace* is a general term that covers five of the six classes. These classes are Class A, Class B, Class C, Class D, and Class E. While operating in controlled airspace, the pilot is subject to certain operating rules, as well as pilot qualifications and aircraft equipment requirements. Class G airspace is referred to as *Uncontrolled Airspace*. FAA Air Traffic Control (ATC) does not exercise control of air traffic in Class G airspace. A more detailed description of airspace may be found at Attachment 1-A.

Unlike driving a car, there are no guidance signs in the sky to alert pilots when they are entering into a different class of airspace. The signposts that pilots do have are dimensioned and depicted on aeronautical charts. Exhibit 1-4 illustrates a portion of the Sectional Aeronautical Chart that highlights the airspace structure in the vicinity of James City County, and the defined Williamsburg – Jamestown Aviation Service Area.

**Exhibit 1-4**  
**Sectional Aeronautical Chart**



### ➔ Class E Non-Surface Based Controlled Airspace





The magenta colored irregular box area that fades toward the Williamsburg – Jamestown Service Area (as indicated in Exhibit 1-4) designates Class E non-surfaced based controlled airspace. This Class E airspace begins at an elevation of 700 feet above the surface. Other Class E non-surface based airspace extends outward beyond the rectangular magenta (fading) area, where it begins at an elevation of 1,200 feet above the surface. Basic VFR weather minimums for aircraft operating in Class E airspace requires a flight visibility of three statute miles, and a distance from cloud requirement of 500 feet below, 1,000 feet above, and 2,000 feet horizontally.

➔ **Class E Surface Based Controlled Airspace.**

An area of Class E surface based controlled airspace is also shown in Exhibit 1-4). This Class E surface based airspace is designated by the magenta colored dash lined box area that extends from a southeast direction to the northwest and ends adjacent to the existing Williamsburg – Jamestown Airport symbol. This Class E surface based airspace helps protect instrument approach airspace associated with the Felker AAF military airport facility located to the southeast. When Class E surface based airspace is in effect, aircraft operating under Visual Flight Rules (VFR) are restricted from operating beneath a ceiling in the surface area when the ceiling is less than 1,000 feet. Also, three statute miles visibility is required.

➔ **Military Training Route.**

As also shown in Exhibit 1-4, a notable Military Training Route (VR1753) exists to the north area of the Williamsburg – Jamestown Aviation Service Area. This route is orientated in a northeast – southwest direction. Military operations are conducted on this route in VFR conditions at an altitude of at or below 1,500 feet above the surface.

➔ **Departure Procedure**

With regard to the existing Williamsburg – Jamestown Airport, one published Departure Procedure exists for the Airport. The procedure indicates a Take-Off (weather condition) minimum of a ceiling of 300 feet and a visibility minimum of one statute mile for departures on Runway 31.

➔ **IFR Airspace Control**

Instrument Flight Rules (IFR) airspace in the area is primarily controlled by the Norfolk Approach Control Facility, and it is noted that one Instrument Approach Procedure is published for the Williamsburg – Jamestown Airport as shown in Exhibit 1-5.

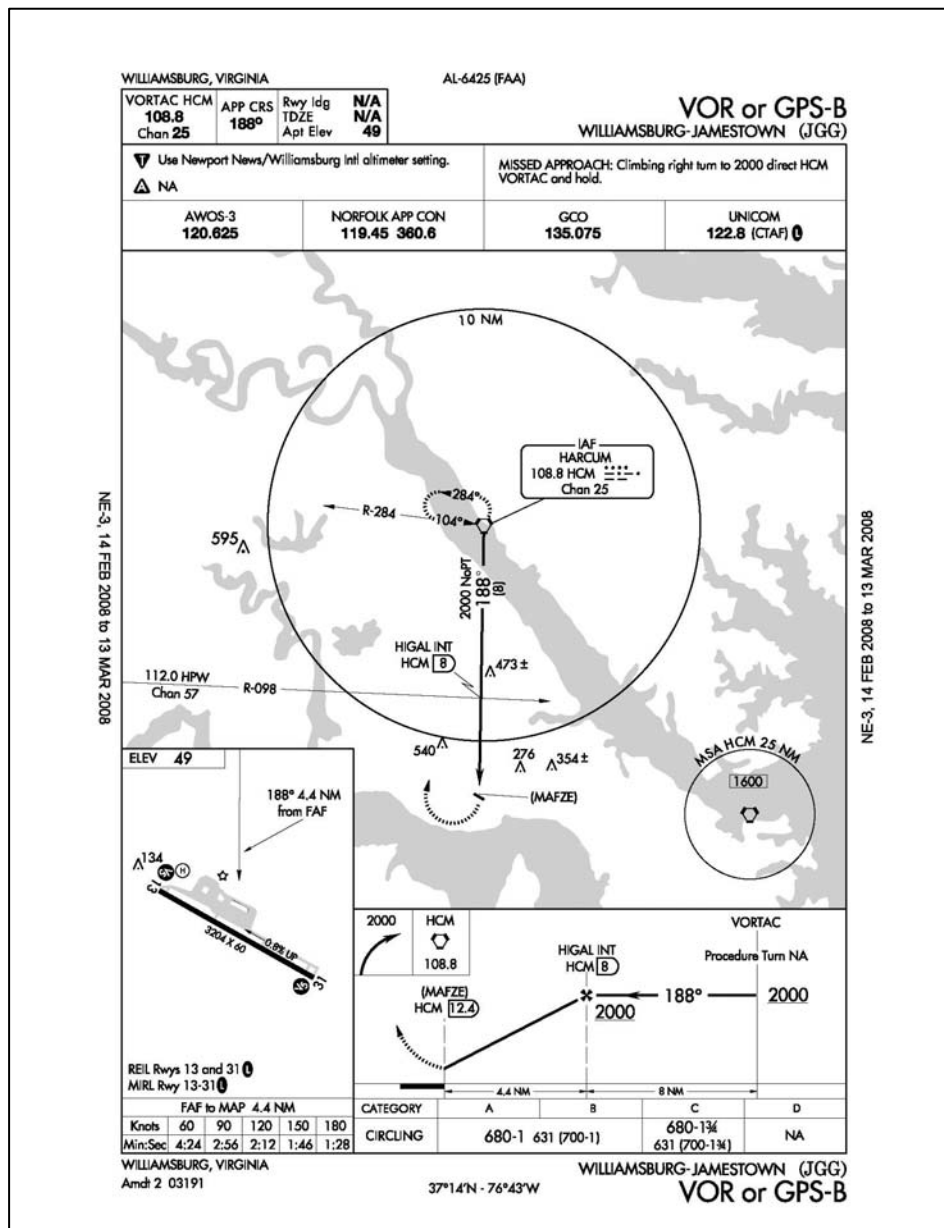
The Very High Frequency Omni-Directional Radio Range or Global Positioning System (VOR or GPS-B) Approach is considered a circling procedure because the final approach course is not closely aligned with the runway centerline. The



approach offers a Minimum Decent Altitude (MDA) of 680 feet above Mean Sea Level (MSL), which translates to a height of 631 feet above airport elevation. One statute mile visibility is required for aircraft in Approach Category A and B. This visibility minimum increases to one and three quarter mile for aircraft in Approach Category C.

The airspace structure in the vicinity of James City County, and the defined Williamsburg – Jamestown Aviation Service Area is not considered to appreciably congested, constrained, or restricted.

**Exhibit 1-5**  
**JGG Instrument Approach**



## 105. TRAFFIC PATTERNS AND NOISE ABATEMENT PROCEDURES

A traffic pattern is the rectangular path that aircraft use to fly in the vicinity of an airport. It consists of an upwind, crosswind, downwind, base, and final leg. Normally, all turns in a traffic patterns are to the left.



Four (4) noise abatement procedures have been established at the Williamsburg – Jamestown Airport to help mitigate aircraft noise exposure to the surrounding communities, and support the Airport's good neighbor policy. These procedures are described below.

- ➔ Right Hand Traffic Pattern For Runway 13: Aircraft normally make left turns when maneuvering in the airport traffic pattern. This is known as a "Standard Left Hand Pattern". However, for aircraft operating on Runway 13 at the Airport, a (nonstandard) Right Hand Traffic Pattern has been established. This procedure allows aircraft to maneuver primarily near the James River, and away from more noise sensitive areas, located to the south and east of the Airport.
- ➔ Runway 31 Preferred For Landing Aircraft: When wind and other conditions allow, Runway 31 is designated as the preferred landing runway to help avoid noise sensitive areas.
- ➔ Runway 31 Noise Abatement Departure Procedure: When departing on Runway 31, aircraft are advised to turn left to a heading of 270 degrees as soon as practicable to avoid noise sensitive areas.
- ➔ Runway 13 Noise Abatement Departure Procedure: When departing on Runway 13, aircraft are advised to turn right as soon as practicable to avoid noise sensitive areas.

## 106. OBSTRUCTIONS

To ensure a safe operating environment for aircraft, both the FAA and the Virginia Department of Aviation (DOAV) have developed a set of standards in the form of imaginary surfaces that are designed to help ensure that the airspace used by aircraft is free of obstructions that may pose a safety hazard. Of particular concern for the purposes of this Study are the approach surfaces to the runway. It should be noted that there are many different types of approaches and, therefore, many different associated imaginary approach surfaces. The surfaces analyzed for this Study were:

- ➔ DOAV Visual Approach Standards
- ➔ FAA Threshold Siting Night Circling
- ➔ FAR Part 77

Large scale drawings depicting the results of the surface evaluations were provided to the Community Airport Committee, DOAV, and the FAA in a separate



series of drawings. It should be noted that, while there were some obstructions identified, none were considered to be limiting or significant relative to the existing Airport.

## **107. SPECIAL USE PERMIT**

### **Introduction**

Located within the political jurisdiction of James City County, the Williamsburg – Jamestown Airport operates under a Special Use Permit (SUP). Presently, (SUP-1-04) as adopted on June 8, 2004 by the James City County Board of Supervisors is in full effect.

This section of the Report is intended to briefly outline the history of the SUP, and define the conditions contained within the SUP that are related to Airport development / improvements, and operational procedures. A copy of the full SUP can be found in Attachment 1-B. A brief summary of the FAA's position on the SUP is also in Attachment 1-B.

The relevance of the conditions, and their influence with regard to Airport operations, improvement potential, and development potential, will be addressed in Chapter Six, titled Alternatives Evaluation.

### **History**

James City County documentation confirms that the Airport officially opened in 1970 as a privately owned airport operated for use by the general public. In 1986, a Special Use Permit Application (SUP-26-85) was approved by the Board of Supervisors, which made the Airport use a legal conforming use in the R-8 Zoning District. In this regard, a special use permit is required for airports and accessory uses in the R-8 Rural Residential Zoning District in which the Airport is located.

In 1997, the Board of Supervisors approved (SUP-23-97), which permitted phased development of the Airport over a 20 year period, as detailed in a Master Plan Study completed in 1993.

Furthermore, in 2004, the Board of Supervisors approved (SUP-16-04), which, by amendment, provided for the construction of proposed T-Hangers on Parcel No. (1-12). The conditions previously contained in (SUP-23-97) were carried forward within (SUP-16-04), which represents the current SUP.

An Airport Layout Plan Update Study and accompanying Narrative Report were completed in 2006. In part, the Narrative Report states that:

The Airport Layout Plan “depicts the specific facilities that James City County has approved under the Special Use Permit. As such, any recommendations for facilities that, based on the forecasts, will exceed the limitations of the SUP, must



be presented to James City County and approval secured for another amendment to the SUP”.

With regard to Ultimate Development shown on the 2006 Airport Layout Plan, the Narrative Report states that “This Ultimate development is significant as the Special Use Permits issued by James City County do not include approvals of any airport development labeled as Ultimate”.

**Summary of Conditions Listed in (SUP-16-04) as related to Airport development / improvements and operational procedures.**

1) No extension of the existing runway shall be permitted. A paved safety overrun adjacent to Runway 13 (western end of runway), not to exceed 900 feet may be constructed in accordance with FAA standards. The paved safety overrun shall be marked appropriately and lights shall be installed and maintained across the width of the runway to delineate the runway and safety overrun.

2) The Williamsburg-Jamestown Airport shall review, revise, and publish, as necessary, the description of the airport and associated local rules, procedures, and warnings in the following industry publications:

- a. Airport Facility Directory
- b. VDOA (5010) Inspection Form-Remarks/Runway section.
- c. Permanent NOTAM (Class II).

These publications shall indicate the established flight patterns and procedures and notify all pilots of the special established patterns to avoid the surrounding residential neighborhoods and Rawls Byrd Elementary School. This condition shall be satisfied prior to the issuance of a building permit for any of the proposed improvements contained within the Master Plan. Documentation shall also be submitted to the Community Airport Committee.

Also the following steps shall be taken:

- a. Report the basic pertinent information by UNICOM when pilots check in for takeoff and landing operations.
- b. Identify/distribute information through a published set of “Airport Rules and Regulations”.
- c. Post/display Special Operating Procedures in the flight planning area and other conspicuous areas of the terminal building.

3) The Airport Procedures shall be amended to require runway preference for runway 31 for all arriving aircraft, not just twin-engine aircraft as stated in the current Airport Procedures.

4) Signs shall be erected at both ends of the runway which read as follows:

For departures on Runway 31: “Remember to turn left to avoid flying over the Elementary School”.



For departures on Runway 13: “Remember to make right turn for noise abatement”.

5) Approval of the facilities contained in the Master Plan in no way obligates the County to approving the construction of these facilities. The proposed facilities shall undergo the typical site plan and building plan review process and receive County approval before construction of these facilities and improvements shall commence.

6) A lighting plan shall be prepared and approved by the Planning Director for each site plan submitted that contains outdoor lighting. All outdoor lighting, exclusive of lights for the runway, taxiways, and other required safety lighting, shall have recessed lenses.

7) The following size limitations shall apply to the planned facilities:

T-Hangar Units	63 units* maximum
Corporate Hangar Units	14 units* maximum
Apron Parking Tie-Downs	49 spaces maximum
Terminal Building Expansion	2,500 square feet maximum –
Total size of building shall not exceed 7,327 square feet (4,327 + 2,500)	
Flight Management Building	2,500 square feet maximum

\* For T-Hangars and Corporate Hangars – 1 unit is equivalent to 1 aircraft parking space.

8) The improvements labeled as “Ultimate” on the Master Plan are not approved as part of this application. A 25-foot wide paved apron shall be permitted between the helipads (Stage III) and Hangar 14 (Stage I). The purpose of this paved apron would be to provide access to hangars on the west side of the airport.

9) No GPS “straight-in” approach procedure shall be permitted at the Airport.

10) The corporate hangars may include attached accessory office space that is exclusive of the airplane storage area. The office area shall be used / occupied by the owners or tenant of the corporate hangar to which the office / storage area is attached. The use of the office space shall be strictly limited to airport-related activities. The cumulative amount of office space attached to corporate hangars shall not exceed 5,000 square feet (i.e., five corporate hangars with 1,000 square feet office space OR two corporate hangars with 2,500 square feet - the other three shall contain no office space, or any combination thereof not to exceed 5,000 square feet).

11) A landscaped buffer around the perimeter of the site shall be maintained or established which accomplishes the goal of screening the proposed airport improvements from adjacent properties. The Planning Director shall determine



whether additional landscaping is needed to screen future improvements from adjacent properties at the time of site plan review.

## 108. EXISTING FACILITIES

As a part of the Study, an on-site inspection of all Williamsburg-Jamestown Airport facilities was conducted primarily to determine the types of facilities that are located on the Airport, as well as their condition. It should be noted that an in-depth engineering analysis of these facilities was not conducted.

➔ **Runway:** The Airport has a single paved runway (13-31) that is 3,204 feet long and 60 feet wide. The overall condition of the surface is fair to good.



➔ **Taxiways:** Access to/from the runway is provided by a full length parallel taxiway, which is 30 feet wide; there are four (4) connector taxiways – one at each end of the runway and two (2) midfield taxiways that are 40 feet wide. There are portions of the taxiway system that are in need of surface rehabilitation.



➔ **Aprons:** There are two (2) main aircraft parking aprons. Most of the surfaces are in fair condition; however, there are some areas in need of rehabilitation.

➔ **Terminal Building:** The Terminal Building is in excellent condition. It contains flight planning facilities, a pilot shop, as well as a restaurant; conference services are available.

➔ **Hangars:** There are both T-hangars and unit hangars on the Airport. The structures appear to be in good to excellent condition.



➔ **Fuel Storage Facilities:** Both Jet A and 100LL fuels are available at the Airport. Storage is provided in two 12,000 gallon above-ground fuel tanks.



➔ **Airport Access Road:** Access to the Airport is via Marclay Road. It is in very poor condition.

Overall, the Airport appears to be in good condition, with no major condition issues noted.

## 109. SOCIOECONOMIC DATA

### A. Population, Income, & Employment

#### 1. Population

The Commonwealth of Virginia is divided into 95 counties and 36 independent cities. James City County, York County, and the City of Williamsburg will be the focus for presentation of demographic data. All are included in the Geographic Study Area (GSA) used for the evaluation of existing airport conditions and to determine in the potential aviation demand within the defined GSA. Although not all Airport studied are included in these 2 counties, highlights for various demographic components relating to applicable counties will be highlighted and discussed as necessary.

Based on the 2006 population census estimates, York County and James City County were ranked 29<sup>th</sup> and 31<sup>st</sup> out of 134, respectively. Both counties contributed approximately 1.6% to Virginia's total population of 7.6 million. Trends were similar based on census data for 2000. Williamsburg is classified as an independent city for Census purposes and was ranked 109<sup>th</sup>. With a few exceptions for Williamsburg, population has steadily increased since 1930 with details provided in the Table 1-1 below.





In addition, the James City County Planning Division provided second quarter

**Table 1-1  
Geographic Study Area (GSA) Population for 1990 - 2006<sup>2</sup>**

JAMES CITY COUNTY				YORK COUNTY			WILLIAMSBURG CITY		
Date	Population	Chg	Annual % Chg	Population	Chg	Annual % Chg	Population	Chg	Annual % Chg
1900	3,688	-	-	7,482	-	-	2,044	-	-
1910	3,624	(64)	-0.2%	7,757	275	0.4%	2,714	670	3.6%
1920	3,676	52	0.2%	8,046	289	0.4%	2,462	-252	-1.0%
1930	3,879	203	0.6%	7,615	-431	-0.6%	3,778	1,316	5.9%
1940	4,907	1,028	2.9%	8,857	1,242	1.8%	3,942	164	0.5%
1950	6,317	1,410	3.2%	11,750	2,893	3.6%	6,735	2,793	7.9%
1960	11,539	5,222	9.2%	21,583	9,833	9.3%	6,832	97	0.2%
1970	17,853	6,314	6.1%	33,203	11,620	6.0%	9,069	2,237	3.6%
1980	22,763	4,910	3.1%	35,463	2,260	0.8%	9,870	801	1.0%
1990	34,970	12,207	6.0%	42,422	6,959	2.2%	11,530	1,660	1.9%
2000	48,102	13,132	4.2%	56,297	13,875	3.6%	11,998	468	0.5%
2006-est	59,741	11,639	4.8%	61,879	5,582	2.0%	11,793	-205	-.3%

population estimates / projections for the years 2001 through 2030 for James City County. Increases are expected for all years. This Division has estimated the population at 61,249 persons as of 3<sup>rd</sup> quarter 2007 and has projected that population will reach 94,773 persons by 2030.

The Williamsburg-Jamestown Airport is situated in James City County and is located three (3) miles south west of the City of Williamsburg. This is the only Airport being studied that is located in the GSA. Given the population increases to date in these geographic areas as well as continued increases per the projections provided for James City County, one could conclude that some of the increase can only mean additional need for aviation services. The historical triangle GSA is all contained in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area (MSA).

The census estimate for 2006 also shows a significant increase in Virginia's population from roughly 7.1 million persons at 2000 to 7.6 million, an increase of approximately 8%. This state's population was ranked 12<sup>th</sup> in the nation. Persons per square mile per the 2000 Census was ranged from a low of 336 persons for James City County to a high of 1,333 for the City of Williamsburg. York County reported 531 persons per square mile.

<sup>2</sup> U.S. Bureau of Census via Real Estate Center website - [www.recenter.tamu.edu/data](http://www.recenter.tamu.edu/data), accessed November 8, 2007



## 2. Personal Income

Personal income is the sum of all wages and salaries, including government subsidies, received by persons and then divided by the resident population of that area. According to the Bureau of Economic Analysis (BEA) - Bearfacts, James City County and Williamsburg had a per capita personal income (PCPI) of \$41,401 in 2005 and ranked 7th in the state. Likewise, the same information for both York and the City of Poquoson was \$36,964. Both of the results exceed the national average of \$34,471. In addition, the PCPI for James City County and Williamsburg exceeded the Virginia PCPI of \$39,564. Virginia's PCPI ranked 15<sup>th</sup> in the United States.

Table 1-2 displays the PCPI of surrounding counties, West Virginia, North Carolina, and Virginia. The average annual growth rate for both the nation and Virginia from 1995-2005 was 4.2%. The average annual growth rate of PCPI for most of the adjacent areas are close or exceed the national annual growth rate with the exception of New Kent and Surry counties.

<b>Table 1-2</b>		
<b>Per Capita Personal Income, 1995- 2005<sup>3</sup></b>		
<b>County or City, State</b>	<b>2005</b>	<b>Growth Rate 1995-2005 (PCPI)</b>
James City County and Williamsburg, VA	\$41,401	5.3%
York County and Poquoson, VA	\$36,964	4.6%
Charles City County, VA	\$28,578	5.0%
Gloucester County, VA	\$29,271	4.2%
Hampton, VA	\$30,389	4.8%
King and Queen County, VA	\$27,720	4.6%
New Kent County, VA	\$30,189	3.5%
Newport News, VA	\$28,436	4.3%
Surry County, VA	\$25,101	3.1%
West Virginia	\$26,435	4.1%
North Carolina	\$30,785	3.8%
Virginia	\$37,974	4.7%

The cost to relocate to James City County and York demands a higher income level, which is supported by the results presented in Table 1-2. James City County and the city of Williamsburg have a combined PCPI of \$41,401 which far exceeds the state PCPI of \$37,974. The average annual growth rate from 1995-2005 was 5.3% compared to the state average of 4.7%.

### B. Employment

There are a significant number of businesses located in the Counties/Cities contained in the GSA and surrounding area. The locations referenced in Table 1-3 below account for approximately 6% of Virginia's total business

<sup>3</sup> Source: Bureau of Economic Analysis (BEA) - Bearfacts,  
<http://www.bea.gov/bea/regional/bearfacts/> Accessed November 9, 2007.



establishments. The data presented excludes details for self-employed individuals, employees of private households, railroad employees, agricultural production employees, and most government employees.

<b>Table 1-3</b>			
<b>Business: Establishments, Employees &amp; Payroll 2005<sup>4</sup></b>			
<b>County or City, State</b>	<b>Total Establishments</b>	<b>No. Employees</b>	<b>Payroll (\$1,000)</b>
Charles City County, VA	194	2,114	\$57,985
Gloucester County, VA	940	7,173	\$160,404
Hampton, VA	2,480	47,354	\$1,344,547
James City County, VA - * GSA	1,308	16,395	\$517,038
King and Queen County, VA	128	862	\$19,833
New Kent County, VA	296	1,955	\$53,941
Newport News, VA	3,904	87,452	\$3,000,770
Surry County, VA	79	1,419	\$90,562
Williamsburg, VA - * GSA	768	16,588	\$421,744
York County, VA - * GSA	1,391	15,217	\$404,751

The economic base for the GSA is relatively diverse with retail trade, professional, scientific & technical services, construction, health care/social assistance, other services, and accommodation & food services sectors representing the primary employers. Given the rich history of the GSA and related attractions, it is not surprising that retail trade and accommodation & food services are highly represented in the GSA. Table 1-4 highlights the number of jobs by industry.

<sup>4</sup> Source: U.S. Census Bureau, County Business Patterns (NAICS) -2005 - <http://censtats.census.gov/cbpnaic/cbpnaic.shtml>. Accessed November 12, 2007.

Table 1-4<sup>5</sup>

## GSA Industry Overview, 2005

Industry	Number of Jobs		
	James City County	York County	Williamsburg
Total by place of work	1,308	1,391	768
Forestry, Fishing, Hunting, and Agriculture Support	2	8	1
Mining	1	2	1
Construction	236	242	39
Manufacturing	29	36	6
Wholesale Trade	39	44	12
Retail Trade	212	248	148
Transportation and Warehousing	21	24	8
Information	16	15	14
Finance and Insurance	70	56	50
Real Estate and Rental & Leasing	69	49	47
Professional, Scientific & Technical Services	173	144	75
Management of Companies & Enterprises	10	4	2
Administrative, Support, Waste Management and Remediation Services	87	109	29
Educational services	6	13	13
Health Care and Social Assistance	117	72	79
Arts, Entertainment, and Recreational	27	24	14
Accommodation and Food Services	85	123	165
Other services, excluding Public Administration	102	176	65
Unclassified	6	2	0

<sup>5</sup> Source: U.S. Census Bureau, County Business Patterns (NAICS) -2005 - <http://censtats.census.gov/cbpnaic/cbpnaic.shtml>. Accessed November 12, 2007.



The largest employers for the GSA at third quarter 2007 are listed in Table 1-5 below.

Table 1-5			
Major Employers <sup>6</sup>			
Rank	James City County	York County	Williamsburg
1.	Williamsburg James City County School Board	York County School Board	College of William and Mary
2.	Eastern State Hospital	County of York	Colonial Williamsburg Foundation
3.	County of James City	Wal Mart	Colonial Williamsburg Hotel
4.	Wal Mart	Anheuser Busch, Inc.	Sentara Healthcare
5.	Jamestown Yorktown Foundation	Water Country USA	Aramark Campus
6.	Selective HR Solutions	U.S. Department of Defense	City of Williamsburg
7.	Riverside Regional Medical Center	The Great Lakes Companies Inc	Red Lobster & The Olive Garden
8.	Williamsburg Plantation	Fairfield Williamsburg	Fashions Outlet of America

The rate of unemployment has always been closely related to the prosperity of manufacturing and related industries. Historically, both James City County and York County had above average unemployment rates compared to Virginia and other surrounding counties (reference Table 1-6). Virginia's unemployment rate at 2006 was 3.0%, compared to 2.6% for both James City and York Counties. Williamsburg has not fared as well posting an unemployment rate of 5.8%. In addition, 2004 median household income for James City and York Counties was approximately 30% higher than the Virginia's average of \$51,103.

<sup>6</sup> Source: Virginia Employment Commission, <http://www.vec.virginia.gov>, Accessed March 6, 2008



Table 1-6								
Unemployment Rates (%) Surrounding Counties/States 1999-2006 <sup>7</sup>								
County	1999	2000	2001	2002	2003	2004	2005	2006
Charles City County, VA	2.7	2.4	4.9	5.2	5.0	5.0	4.3	3.9
Gloucester County, VA	2.3	1.9	2.4	3.1	3.1	3.0	3.0	2.6
Hampton, VA	3.9	2.7	3.5	5.1	5.1	4.6	4.4	3.6
James City County, VA - *GSA	1.9	2.0	2.5	3.2	3.1	3.3	3.1	2.6
King and Queen County, VA	3.1	2.5	3.3	4.3	4.5	3.8	3.8	3.3
New Kent County, VA	1.9	1.8	3.0	3.5	3.5	3.4	3.2	2.7
Newport News, VA	3.9	2.6	3.5	4.7	4.9	4.4	4.4	3.5
Surry County, VA	7.5	2.9	3.3	4.4	4.5	4.1	4.7	3.3
Williamsburg, VA - *GSA	5.6	4.3	5.7	7.3	8.2	7.5	7.1	5.8
York County, VA - *GSA	2.0	1.9	2.5	3.0	3.1	3.0	3.0	2.6
West Virginia	6.3	5.5	5.2	5.9	6.0	5.3	5.0	4.9
North Carolina	3.3	3.7	5.6	6.6	6.4	5.5	5.2	4.8
Virginia	2.7	2.3	3.2	4.2	4.1	3.7	3.5	3.0

## 110. ENVIRONMENTAL OVERVIEW

Because the potential for future public ownership is being evaluated as a part of this Study, it is important to understand that, as a publicly-owned facility, the Airport may then become eligible for Federal funding under the Federal Aviation Administration's (FAA) Airport Improvement Program (AIP). Projects funded under the AIP program must comply with Federal guidelines regarding the environment. The consideration of environmental factors is delineated in Council on Environmental Quality (CEQ) regulations implementing the National Environmental Policies Act of 1969 (NEPA). The NEPA statute and CEQ regulations, which are necessary anytime federal funding or a federal action is involved, require the integration of the NEPA process with other planning at the earliest possible time. Doing this early in the planning process helps incorporate environmental factors in project planning and development, avoid delays and second-guessing later in the NEPA process, and can head off potential conflicts. The principal objective of an environmental overview is to document environmental conditions that should be considered in the identification and analysis of airport development alternatives. Typically, the overview includes the following information:

- ➔ Items known from prior environmental and planning documents, and from the expertise of environmental professionals, community planners, and resource agencies;
- ➔ Items that can be easily seen during a walking survey of the airport or off-airport area; and

<sup>7</sup> Source: United States Department of Agriculture, Economic Research Service – Datasets – <http://www.ers.usda.gov/Data/unemployment/>, Accessed October 12, 2007





- ➔ Information from various types of available environmental resource maps of the airport area.

The overview is intended to provide information regarding obvious environmental resources that could potentially affect the planning of proposed development. It does not involve substantial investigations such as wetland delineations or cultural resource studies. Please note that many of the following environmental discussions reference Figure numbers. All of the Figures are contained in Attachment 1-C

The FAA standards for NEPA compliance are found in FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, and Order 5050.4B, *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions*, and *The Environmental Desk Reference for Airport Actions*. For the purposes of this Study, the environmental categories contained in those standards to be evaluated are:

- ➔ **Air quality (EPA Green Book review only)**

According to the FAA Environmental Desk Reference for Airport Actions Chapter 1, a detailed air quality analysis is required for a project that has the potential to affect the attainment and maintenance of established air quality standards due to the projects size, scope, or location. The EPA has established National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide) in accordance with the Clean Air Act. Geographic areas across the country have been rated as being in attainment, nonattainment, or as a maintenance area with regard to the above pollutants. Attainment areas are identified as areas in which levels of all criteria air pollutants meet the NAAQS. Nonattainment areas are identified as areas in which levels of one more pollutants is above the NAAQS. Maintenance areas are defined as areas formerly in nonattainment.

According to The EPA Green Book, the Williamsburg-Jamestown Airport is in an attainment area for the following air pollutants: carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter PM-10, particulate matter PM-2.5 and lead. However, the Williamsburg Jamestown Airport is located within a 1-hour ozone and 8-hour ozone maintenance area. According to the Environmental Desk Reference, general conformity regulations apply for Federal actions located in a maintenance designated area for any of the six criteria pollutants. For National Environmental Policy Act (NEPA) purposes, an air quality analysis is normally necessary depending on the size of the airport and nature of a project

In accordance with EPA's exempted action of administrative, planning, enforcement, and inspection activities, the proposed feasibility study is an exempt project under CAA General Conformity. However, should specific



project activities occur, a more detailed review of potential effects to air quality must be analyzed.

➔ **Coastal Zone Management**

In accordance with Chapter 4 of the FAA Environmental Desk Reference for Airport Actions, all airport actions occurring in or affecting coastal zones identified within the coastal zone management program must comply to meet the requirements of the Coastal Zone Management Act of 1972.

According to the Virginia Department of Environmental Quality (VA DEQ) Virginia Coastal Zone Management Program (Virginia CZM Program), the Williamsburg-Jamestown Airport is located within a coastal zone (Figure 1). Conservation lands, non-tidal wetlands, tidal wetlands, and anadromous fish use areas located within the coastal zone adjacent to the airport. Anadromous fish are identified as fish that live mostly in the sea but breed in fresh water. Due to no specific planned projects being identified for this feasibility study, there will be no impacts to the coastal zone at this time. However, future projects would require coordination with VA DEQ and an analysis of impacts to the coastal zone.

➔ **Compatible land use**

Chapter 5 of the FAA Environmental Desk Reference for Airport Actions states “the compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of noise impacts related to that airport”. It also states that land use within the vicinity of the airport should be assessed so as not to adversely affect safe aircraft operations. Specific planned projects have not been identified as a part of this feasibility study. As such, this section will discuss existing land use within and adjacent to airport property utilizing The National Map (<http://nationalmap.gov/>) provided by USGS (Figure 2).

The airport property primarily consists of commercial / industrial/ transportation land. The current land use surrounding the airport consists of pasture/hay, row crops, emergent herbaceous and woody wetlands, evergreen and deciduous forests, low and high intensity residential, bare rocks/sand/clay, and quarries/strip mines/gravel pits. There is a closed and sealed landfill, as well as a mulching/recycling operation on airport property. Due to the airport being situated within a coastal zone, having surrounding wetlands and residential areas, and being located within a 100 year floodplain, the effects on the land use by future proposed projects must be analyzed.

In addition, the 2003 James City County Comprehensive Plan identified land surrounding the airport as low density residential. If land development should take place, the timing and intensity of development will be conditioned on the sufficient buffering and screening of adjacent



property and the maintenance of an acceptable level of service for roads and other public services (2003 James City County Comprehensive Plan page 130).

➔ **Department of Transportation Act: Sec 4(f)**

The FAA Environmental Desk Reference for Airport Actions Chapter 7, indicates that Section 4(f) of the Department of Transportation (DOT) Act is currently codified as 49 USC Section 303(c). Requirements from Section 4(f) indicates that, “subject to exceptions for de minimis impacts, the Secretary may approve a transportation 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 or land of an historic site of national, state, or local significance as determined by the official having jurisdiction thereof unless there is no feasible and prudent alternative to the use of such land and such program or project includes all possible planning to minimize harm resulting from the use.”

The following resources were reviewed to determine the presence of Section 303/4(f) lands within the project area:

- 1) The National Wilderness Preservation System website ([www.wilderness.net](http://www.wilderness.net))
  - No wilderness areas close to airport
- 2) USFWS America’s National Wildlife Refuge System website ([www.fws.gov/refuges](http://www.fws.gov/refuges))
  - No refuges near airport
- 3) National Park Service website ([www.nps.gov/findpark](http://www.nps.gov/findpark))
  - 0 parks within 10 miles of airport; 4 within 15 miles of airport
- 4) United States Department of Agriculture Forest Service National Forests Website ([www.fs.fed.us](http://www.fs.fed.us))
  - No national forests near airport
- 5) Virginia Department of Conservation and Recreation
  - York River State Park, 11 miles west of Williamsburg
- 6) United States Geological Survey 7.5’ Hog Island Quadrangle via topozone website ([www.topozone.com](http://www.topozone.com))
  - Swamps and woodlands
- 7) Virginia Department of Historic Resources ([www.dhr.virginia.gov](http://www.dhr.virginia.gov))

There are no wilderness areas, wildlife refuges, national forests, public parks, or state parks within or immediately adjacent to the airport property. Correspondence was faxed on February 28, 2008 to the Virginia



Department of Historic Resources (VA DHR) requesting an archives search for previously recorded archaeological sites and architectural structures and districts within and adjacent to the airport. In a letter dated March 10, 2008 VA DHR provided a map (reference Figure 7) that identifies previously recorded archaeological and architectural resources within a  $\frac{3}{4}$  mile radius of the airport. VA DHR records indicate that the airport property does not contain previously identified sites.

Areas protected under Section 4(f) would not be impacted as a result of this feasibility study as there have not been specific planned projects identified. Future projects may require additional coordination with VA DHR concerning prehistoric and historic resources under Section 106 of the National Historic Preservation Act of 1966 and Section 4(f).

→ **Endangered Species**

In order to meet the requirements listed in Chapter 8 of the FAA Environmental Desk Reference for Airport Actions, coordination with agencies having jurisdiction over federally listed threatened or endangered species must occur. On February 3, 2008 correspondence letters were submitted to Virginia Department of Conservation and Recreation (VA DCR) and the Virginia Department of Game and Inland Fisheries (VA DGIF) to determine if any threatened or endangered species are known to be present within the airport property.

A letter dated March 27, 2008 was received from the VA DCR indicating that Mountain camellia (*Stewartia ovata*) has a historical occurrence within the project vicinity. Mountain camellia is a shrub of the tea family and is uncommon through its range. It is considered rare in Virginia, currently existing in four locations and historically recorded in multiple locations. This shrub tends to grow on wooded bluffs and slopes with alkaline soils. VA DCR recommends a survey of the project area for this species. The VA DCR has entered into a memorandum of agreement with the Virginia Department of Agriculture and Consumer Services regarding state-listed plant and insect species. VA DCR indicates that the project will not affect state-listed plants or insects. They also state that State Natural Area Preserves are not present within the project area.

A letter dated April 23, 2008 was received from the VA DGIF indicating that the federal species of concern/state threatened species the bald eagle (*Haliaeetus leucocephalus*) has been recorded within 0.5 miles of the airport and the portion of College Creek adjacent to the airport is designated as a Confirmed Anadromous Fish Use Area, as well as the portion of James River to which it is a tributary to.

The VA DGIG also gathers information through the Virginia Department of Agriculture and Consumer Services (VA DACS). The VA DACS database indicates that the federal threatened/ state endangered small whorled



pogonia (*Isotria medeoloides*) has been documented within 2 miles of the airport.

Impacts to endangered species is not anticipated given this feasibility study does not identify specific planned projects. A survey for Mountain camellia would be required for future projects proposing disturbance to the airport property. Further coordination with the VA DGIF, VA DACS and U.S. Fish and Wildlife Service concerning the bald eagle, anadromous fish species and the small whorled pogonia would be required for future airport projects.

## → **Floodplains**

Chapter 12 of the FAA Environmental Desk Reference for Airport Actions indicates that “to meet Executive Order 11988, Floodplains, and the U.S. Department of Transportation Order 5650.2, Floodplain Management and Protection, all airport development actions must avoid the floodplain, if a practicable alternative exists.” If practicable alternatives do not exist, actions must be designed to minimize adverse impacts to natural and beneficial values of the floodplain, and to minimize potential risks to flood-related property loss and impacts on human safety, health, and welfare.

According to the Federal Emergency Management Act (FEMA) developed Flood Insurance Rate Map (FIRM) Panel 0205C, the Williamsburg-Jamestown Airport is located within Zone AE and Zone X designations (Figure 3). Zone AE is designated as being inside the 100 year floodplain. While Zone X is located outside the 100 year and 500 year floodplains. Although floodplains are present in the area, specific planned projects have not been identified as part of this feasibility study; therefore, there will be no impacts to existing floodplains. Future projects may require a floodplain analysis.

## → **Hazardous Materials**

In accordance with the FAA Environmental Desk Reference for Airport Actions Chapter 13 the use, storage, transfer, or dispersal of hazardous materials is regulated by federal, state, and local laws, which may extend to past and future landowners. It also states that disruption to these sites containing hazardous materials or contaminants may impact soils, surface water, groundwater, air quality, and the organisms using these resources.

A review of federal, state and local agency databases was conducted by Environmental Data Resources Inc (EDR) for the airport area. The EDR Radius Map with GeoCheck® report, determined that the Williamsburg-Jamestown Airport property contains or contained underground storage tanks (UST) and aboveground storage tanks (AST). Three UST's, two of which contained AV gas and one which contained Jet fuel were indicated



as being removed from the ground. Two ASTs containing AV gas were identified as being present. Disruption to hazardous materials will not occur, as a result of this feasibility study. Future projects may require an analysis of hazardous materials impacts.

- ➔ **Wetlands** (Note: potential wetlands will be identified through a review of National Wetland Institute maps only).

As stated in Chapter 21 of the FAA Environmental Desk Reference for Airport Actions, wetland delineations must be conducted for projects proposing earth disturbance in accordance with the U.S. Army Corps of Engineers 1987 Wetland Delineation Manual to determine if wetlands are present through a wetland delineation. Executive Order 11990, Protection of Wetlands, and DOT Order 5660.1A, Preservation of Wetlands, requires that federal agencies avoid wetlands whenever practicable alternatives are possible.

The Virginia Coastal Zone Management Program and the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) were reviewed to identify mapped wetlands (Figures 4 and 5). According to this review the Williamsburg-Jamestown Airport is located within the Lower James Watershed. College Creek and a mix of palustrine wetlands are situated adjacent to airport property.

The mapped wetlands are identified as:

- ➔ Palustrine, forested, broad-leaved deciduous, seasonal-tidal (PFO1R)
- ➔ Palustrine, scrub-shrub, broad-leaved deciduous, temporarily flooded (PSS1A)
- ➔ Palustrine, unconsolidated bottom, permanently flooded, excavated (PUBHx)
- ➔ Palustrine, emergent, persistent, seasonal-tidal (PEM1R)
- ➔ Palustrine, emergent, persistent (PEM1N)
- ➔ Riverine, tidal, unconsolidated bottom, permanent-tidal (R1UBV);

Specific planned projects have not been identified as part of this feasibility study; therefore wetlands would not be affected. However, should future projects with ground disturbance occur, a wetland delineation would be required.

- ➔ **Noise** (Note: noise contours for the existing Airport will be developed using the latest version of the Integrated Noise Model [INM].

Chapter 17 of the FAA Environmental Desk Reference for Airport Actions indicates that airport noise is often the most controversial environmental impact that the FAA examines. Many airport improvement and alteration projects have the potential to increase aircraft operations, which may promote noise impacts.





The Integrated Noise Model (INM) is the FAA's tool for detailed noise analysis. INM calculates day/night average sound levels (DNL) for noise, which are measured in decibels and based on the human ear's perception of noise throughout a 24-hour time period. The FAA has established the 65 DNL as the limit for acceptable noise, citing all day/night levels below 65 as within acceptable limits.

To establish a baseline, INM was used for this Study to create noise contours of the current aircraft activities. Runway information and aircraft operations were input into the model to create contours that depict existing noise patterns. The noise analysis was accomplished based on the 2007 estimated aircraft operations as presented in Chapter 2, *Aviation Forecasts*.

The noise patterns depicted in Figure 6 reveal the areas impacted by the 65 and 70 day/night average sound levels (DNL). The exhibit shows that the contours are entirely contained within airport property. No sensitive properties such as residences or businesses are impacted by the 65 or greater DNL.

## 111. PUBLIC PARTICIPATION

### A. User Surveys

As a part of the overall public participation process, a series of User Survey forms were developed. The overall intent of these forms was to not only provide a mechanism to those who use the Airport to voice their opinions, but also to help develop a database for statistical analysis of operations and other planning issues.

There were three (3) separate survey forms:

- ➔ Based Aircraft User Survey
- ➔ Visitor Aircraft User Survey
- ➔ Renter Aircraft User Survey

Copies of the Based Aircraft User Survey forms were mailed to the owners of each of the aircraft based at JGG. As of March 1, 2008, forty-seven (47) responses were received. The following is a summary of the responses to questions asked in that survey.

- ➔ Average number of hours flown annually: 350
- ➔ Aircraft Usage:
  - 45% used their aircraft for business purposes to some degree
  - 82% used their aircraft for personal flying
  - 1% of their flying was for instruction
  - 45% of their flying was for proficiency purposes



- ➔ Average number of annual local operations: 160
- ➔ Average number of annual itinerant operations: 110
- ➔ If the Airport were to be closed:
  - Relocate to another airport: 29
    - Newport News
    - New Kent
    - Middle Peninsula
    - Other
  - Sell my aircraft: 9
  - Other: 5
- ➔ Experience any operating problems at JGG?
  - Yes: 6
  - No: 40

A Summary of the Based Aircraft User Survey may be found at Attachment 1-D

Copies of the Visitor Aircraft User Survey form were distributed by the Airport Owners to operators of aircraft that were visiting JGG. As of March 1, 2008, 65 forms were completed.

The following is a summary of the results of that survey.

- ➔ The reason for flying to JGG:
  - Business: 10
  - Personal: 39
  - Vacation: 3
  - Instruction: 4
  - Military: 3
  - Air taxi-cargo: 1
  - Air taxi-passenger: 1
  - Proficiency: 5
  - Other: 10
- ➔ Average number of persons on board the aircraft: 2.26
- ➔ Average number of times JGG used by respondents annually: 18
- ➔ If JGG were to be closed, you would:
  - Fly to another airport: 18
  - Drive (as opposed to flying): 2
  - Not come here at all: 33
- ➔ Experience any operating problems at JGG:
  - Yes: 7
  - No: 43

There were three (3) responses to the Renter Pilot User Survey. A summary of those responses may be found at Attachment 1-D



## **B. Community Airport Committee**

A 6-member Community Airport Committee (CAC) has been established by James City County. The Study Consultant attended three (3) CAC meetings throughout the development of the Airport Feasibility Study. A Public Workshop was also held to offer the public an opportunity to meet with the planners, the CAC, and other community leaders to discuss various aspects of the Study. A summary of each of these meetings may be found at Attachment 1-E.

## **C. Web Page**

Information relative to the Airport Feasibility Study may be found on the County's website at <http://www.james-city.va.us/government/airport-study.html>

## **D. Agency Review**

During the course of developing the Study, each of the draft documents was presented to the CAC, DOAV, and FAA for review and comment. A summary of these reviews, as well as the response to comments received is provided in Attachment 1-F.

## **E. Community Airport Committee Recommendation**

The recommendation made to the James City County Board of Supervisors by the Community Airport Committee is presented in Attachment 1-G.

## **F. James City County Board of Supervisors Record of Decision.**

The record of decision promulgated by the James City County Board of Supervisors regarding the Airport Feasibility Study is presented in Attachment 1-H.

## CHAPTER 2

# AVIATION FORECASTS

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### 201. INTRODUCTION

The overall objective of this Airport Feasibility Study is to determine the demand for aviation facilities and the alternatives available to serve this demand in the James City County Area.

As presented in Chapter One titled “Existing Conditions”, the Geographical Study Area was introduced and an analysis was performed to define the Area of Influence associated with area aviation demand. This was accomplished recognizing that there are other area airports that, to an extent, compete to serve an overlapping aviation market area.

Next, further analysis was accomplished to establish the primary Williamsburg – Jamestown Aviation Service Area, as previously presented in Exhibit 1-3. The established Williamsburg – Jamestown Aviation Service (or market) Area represents the primary geographical area not readily served by other area aviation facilities. It is noted that, considering the factors noted above, as well as reasonable driving times for users, and geographical constraints (such as the James River and York River), the defined Aviation Service Area is contained within an area remaining relatively close to the existing Williamsburg – Jamestown Airport. This factor allows previous demand projections for the Airport (and vicinity) to be considered here, along with new scenarios.

The purpose of this section now becomes one of establishing forecasts of aviation demand for the defined Williamsburg – Jamestown Aviation Service Area. The forecasts will be developed at 5-year intervals, beginning with the year 2010, and continuing through the year 2025. This time period was selected to generally conform to forecast time periods used in the 2006 Williamsburg – Jamestown Airport Layout Plan (ALP) Update Study and Narrative Report. Projections contained in the 2003 Virginia Air Transportation System Plan Study (VATSP) Update for the years 2015 and 2020 will also be considered here. Where comparative projection study years differ, extrapolation and other techniques will be used to provide a comprehensive data base.

The Williamsburg – Jamestown Aviation Service Area Forecasts will be established by conducting a comparison review of previous forecasts that have been developed for the Airport Area by other sources, along with three (3) new scenarios developed as part of this Study. A comparison review will then lead to the selection of a preferred forecast, which will then be used to determine various



airport facilities needed to serve anticipated demand, as well as the alternatives available to accommodate the demand.

It is noted that the Williamsburg – Jamestown Airport is not presently included in FAA's National Plan of Integrated Airport Systems (NPIAS) Report. Therefore, no NPIAS or FAA Terminal Area Forecast (TAF) projections are available to assist this forecasting effort.

## 202. BASED AIRCRAFT FORECASTS

### A. Existing Forecasts and New Scenarios

Existing forecasts of based aircraft at the Williamsburg - Jamestown Airport are shown in Table 2-1. The previous Master Plan projections represent historic master plan data found in the 2003 System Plan VATSP Report. The 2003 VATSP projections represent the forecasts established during the System Plan Update. The 2006 ALP Update projections present the forecasts that were selected as part of the most recent Airport Layout Plan Update Study and Narrative Report.

It is noted that, with minor modification and extrapolation to the year 2025, the 2006 ALP Update Study selected the 2003 VATSP projections for use in the ALP update Study. This explains why the projection numbers are so similar.

Table 2-1			
EXISTING FORECASTS OF BASED AIRCRAFT			
Year	Previous Master Plan*	2003VATSP	2006 ALP Update**
<u>Actual</u> 2007	77	77	77
<u>Forecast</u> 2010	-	-	69
2015	60	76	75
2020	62	83	-
2025	-	-	89

\* As indicated in the 2003 VATSP Report.

\*\* With minor modification, the 2006 ALP Update uses the 2003 VATSP projections.

Because the 2006 ALP Update projections are predicated on the 2003 VATSP projections and the numbers are so similar, the 2006 ALP Update projections will be carried forward to represent both forecasts. The existing forecasts to be carried forward will next be adjusted as required to reflect an actual 2007 level of 77 aircraft based at the Williamsburg - Jamestown Airport, as determined during the inventory process for this Study. The growth rates contained in the existing forecasts were extrapolated to provide comprehensive projections for all key planning years over the 2010 to 2025 planning period. In some cases, growth rates were modified slightly and rounded to provide a linear projection.





The adjusted existing forecasts are shown in Table 2-2, along with three new forecast scenarios developed as a part of this study. The new forecast scenarios are: 1) a National Market Share projection which considers that Aviation Service Area based aircraft levels might follow National US projections; 2) a Population Correlation projection which considers that Aviation Service Area based aircraft levels might follow James City County population growth projections; and 3) a Hangar Stimulation projection which considers that additional hangar development/availability may attract additional aircraft to the Aviation Service Area.

Table 2-2					
ADJUSTED FORECASTS OF BASED AIRCRAFT AND NEW SCENARIO PROJECTIONS					
Year	Previous Master Plan	2006 ALP Update/2003 VATSP	National Market Share	Population Correlation	Hangar Stimulation
<u>Actual</u> 2007	77	77	77	77	77
<u>Forecast</u> 2010	79	82	81	83	82
2015	82	88	87	92	100
2020	84	95	91	102	107
2025	86	102	95	111	114

### 1. National Market Share Projection

The publication "FAA Aerospace Forecast FY 2007 – 2020" indicates that, in 2007, there were a total of 231,343 active general aviation and air taxi aircraft in the US, and that this fleet is expected to increase at an average annual rate of 1.4 percent over the FAA forecast period to a total of 274,914 in the year 2020. With a 2007 based aircraft level of 77 aircraft at the Williamsburg - Jamestown Airport, this means that the Airport is currently capturing a 0.0333 percent market share of the National fleet. By extrapolating the FAA National Forecast to the year 2025 and assuming the 0.0333 percent market share will continue in future years, yields the National Market Share projection as previously shown in Table 2-2.

### 2. Population Correlation Projection

Future James City County Population projections were published by the James City County Planning Division in September of 2007. The projections indicate that in the year 2007, County population totaled 60,388 persons, and that County population is anticipated to increase to 87,298 persons in the year 2025. With a 2007 based aircraft level of 77 aircraft at the Williamsburg – Jamestown Airport, this translates to a per capita population factor of 0.001275. Assuming this per capita population factor continues over future years, yields the Population Correlation projection as previously shown in Table 2-2.



### **3. Hangar Stimulation Projection**

Recent hangar development/availability at the Williamsburg – Jamestown Airport is viewed as having helped stimulate the growing number of based aircraft at the Airport. As an example, the 2006 ALP Update Study indicates that there were 60 aircraft based at the Airport in February 2005. This level of based aircraft has increased to 77 aircraft in November of 2007. This represents a 28 percent increase over a relatively short 33 month period, and it is noted that new hangar construction did occur at the Airport during this period. Since engineering plans already exist for the potential development of an additional 36 T-hangar spaces in the future and, according to the Airport owner, there are over 50 people on a waiting list for hangar spaces, in essence, this scenario states that the construction of 36 additional T-hangar spaces over the Study period would attract 36 additional based aircraft that would not have based at the Airport without the additional hangars. As previously shown in Table 2-2, to investigate this possibility, twelve aircraft have been added to the 2006 ALP Update/2003 VATSP projection scenario for each of the key years of 2015, 2020, and 2025 to create the Hangar Stimulation projection.

#### **B. Selection of the Preferred Based Aircraft Forecast**

Table 2-2 presented the adjusted based aircraft forecasts associated with the previous Master Plan Study, and the 2006 ALP Update Study/ 2003 VATSP Study. In addition, Table 2-2 also presented new based aircraft projections associated with the National Market Share, Population Correlation, and Hangar Stimulation scenarios.

This section now discusses and analyzes each of the adjusted based aircraft forecasts, and new based aircraft scenario projections, and leads to the selection of the preferred based aircraft forecast.

##### **1. Previous Master Plan Forecast**

The Previous Master Plan Forecast (as adjusted) represents the most modest projection, and suggests that based aircraft at the Airport will grow from a 2007 level of 77 aircraft, to a 2025 level of 86 aircraft. This represents an overall growth rate of 11.7 percent, with an additional 9 aircraft projected to be based at the Airport over the year 2007 thru 2025 time period. This forecast is viewed as showing a very low level of growth over the future study period, which is inconsistent with more recent based aircraft growth rates experienced at the Airport, as previously discussed. This Forecast is considered to have a significant risk of underestimating Aviation Service Area demand.

Therefore, the Previous Master Plan Forecast (as adjusted) is not considered valid for potential selection and is not selected as the preferred based aircraft forecast.



## **2. 2006 ALP Update/2003 VATSP Forecast**

This Forecast (as adjusted) suggests that based aircraft at the Airport will grow from a 2007 level of 77 aircraft, to a 2025 level of 102 aircraft. This represents an overall growth rate of 32.5 percent, with an additional 25 aircraft projected to be based at the Airport over the year 2007 thru 2025 time period. This forecast is viewed as showing a more moderate level of growth over the future study period, and better reflects recent levels of based aircraft growth experienced at the Airport.

This forecast is viewed as valid for potential selection.

## **3. National Market Share Projection**

This Projection suggests that based aircraft at the Airport will grow from a 2007 level of 77 aircraft, to a 2025 level of 95 aircraft. This represents an overall growth rate of 23.4 percent, with an additional 18 aircraft projected to be based at the Airport over the year 2007 thru 2025 time period. Similar to the Previous Master Plan Forecast, this projection is viewed as showing a relatively low level of growth over the future study period, inconsistent with more recent based aircraft growth rates experienced at the Airport.

The National Market Share Projection is predicated on the growth of the number of active aircraft in the National US fleet (i.e. new aircraft produced are added to the forecast while retired or destroyed aircraft are removed from the forecast). As such, the projection does not fully account for factors that influence the owners of pre-existing active aircraft when considering a location to base their aircraft. Such factors include owners relocating to a new city, or seeking a different less congested airport.

Since the additional factors described above have been determined important to this Study, the National Market Share Projection is not considered valid for potential selection and is not selected as the preferred based aircraft forecast.

## **4. Population Correlation Projection**

This projection suggests that based aircraft at the Airport will grow from a 2007 level of 77 aircraft, to a 2025 level of 111 aircraft. This represents an overall growth rate of 44.2 percent, with an additional 34 aircraft projected to be based at the Airport over the year 2007 thru 2025 time period.

This projection is viewed as valid for potential selection, and the fact that it is predicated on anticipated County population growth adds credibility to the projection.



## 5. Hangar Stimulation Projection

This Projection suggests that based aircraft at the Airport will grow from a 2007 level of 77 aircraft, to a 2025 level of 114 aircraft. This represents an overall growth rate of 48.1 percent, with an additional 37 aircraft projected to be based at the Airport over the year 2007 thru 2025 time period. While the growth rate associated with this Projection is very close to the growth rate of the previous Population Correlation Projection, the Hangar Stimulation Projection is based on three supplemental items, which are: 1) a review of the stimulation effect that recent hangar development has had on based aircraft levels; 2) information received regarding the current hangar waiting list for the Airport, and 3) the consideration of pending plans for additional hangar development at the Airport.

As previously indicated, engineering plans exist for the development of an additional 36 hangar spaces at the Airport. While potential construction and rental timing is unknown, for the purposes of this study, it is assumed that should this level of hangar development and rental occur over the study period, an additional 12 based aircraft (above the previous 2006 ALP Update/2003 VATSP Adjusted Forecast) could be attracted during each of the (2010-2015, 2015-2020 and 2020-2025) time periods.

As a result of the above analysis, the Hangar Stimulation Projection is considered to be valid for potential selection.

### **Preferred Based Aircraft Forecast**

Of the five forecast scenarios discussed above, three were considered valid for potential selection as the preferred based aircraft forecast. These three are:

- The 2006 ALP Update/2003 VATSP Forecast
- The Population Correlation Projection
- The Hangar Stimulation Projection

Of the three forecasts listed above for potential selection, the Population Correlation Projection is considered to best represent the based aircraft demand potential as associated with the defined Williamsburg – Jamestown Aviation Service Area, and is therefore selected as the preferred forecast.

This selection is predicated on the information and data presented above, and review comments received from the review agencies and the Community Airport Committee. Here it was considered that the 2006 ALP Update/2003 VATSP Forecast does not reflect the latest socioeconomic projections published in September 2007; and the Hangar Stimulation Projection is dependent on a number of variables which may not occur in the future to validate the projection.



### C. Projected Based Aircraft by Type

Projected based aircraft by type for the Williamsburg – Jamestown Aviation Service Area are shown below in Table 2-3. Three primary reference sources were used to develop the projections: 1) recent and current Airport records of based aircraft by type; 2) information obtained from the Based Aircraft Owner and Renter Pilot Surveys; and 3) information contained in the publication FAA Aerospace Forecast – Fiscal Years 2007-2020.

The projections indicate that single-engine piston aircraft are anticipated to continue to be the predominant aircraft type based at the Airport. The level of twin-engine piston aircraft is anticipated to remain essentially constrained over the study period do to the high operating costs and the relatively nominal performance associated with these aircraft types. It is noted that a small number of diesel powered single and twin-engine piston aircraft are entering the fleet. However, the reliability and cost efficiency of the diesel aircraft engine has not been proven yet, and it is unclear if larger more substantial numbers will enter the US fleet.

In concert with FAA forecasts, the based aircraft projections show an increasing percentage of single-engine and twin-engine turboprop aircraft, and recognize the emergence of the small, personal, Very Light Jet (VLJ) aircraft. Lastly, the projection recognizes the potential for a small number of rotorcraft to potentially be based at the Airport in the future.

Table 2-3							
PROJECTED BASED AIRCRAFT BY TYPE							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Actual</u> 2007	74	1	2	0	0	0	77
<u>Forecast</u> 2010	78	1	3	1	0	0	83
2015	82	2	3	2	2	1	92
2020	89	3	3	3	3	1	102
2025	94	4	3	4	4	2	111

## 203. AIRCRAFT OPERATIONS

### A. Introduction

During the inventory process for this Study, it was determined that the Airport Owner maintains substantial records regarding various categories of aircraft activity occurring at the Airport.

In an effort to produce the most reliable forecasts possible, the data contained in these Airport records were used extensively, along with information extracted from the Based Aircraft Owner, Renter Pilot, and Visiting Aircraft Surveys as





conducted for this Study. National aircraft activity projections found in the publication “FAA Aerospace Forecast Fiscal Years 2007 – 2020” were also used to develop the forecasts that will be presented below.

The forecast categories to be presented have been formulated to meet the specific requirements of this Study. When reviewing the forecasts, the following generalized definitions should be kept in mind:

- 1) *A Based Aircraft Operation* means a takeoff or a landing performed by an aircraft based at the airport.
- 2) *A Transient Aircraft Operation* means a takeoff or a landing performed at the airport by an aircraft visiting the area.
- 3) *An Itinerant Operation* means a takeoff by an aircraft with the intent of leaving the local area and landing at the destination airport; or a landing by an aircraft arriving from an originating airport normally located beyond the local area.
- 4) *A Local Operation* means an operation performed by an aircraft which:
  - ➔ Operates in the local traffic pattern (such as a Touch and Go operation), or within sight of the departure airport;
  - ➔ Are known to be departing for, or arriving from flight in local practice areas located within a 20-mile radius of the departure airport, or
  - ➔ Execute simulated instrument approaches or low passes at the airport.

### B. Based Aircraft Itinerant Operations By Type

As shown below in Table 2-4, itinerant operations conducted by based aircraft are anticipated to grow from a 2007 estimated level of 8,940 annual operations to a 2025 level of 14,700 annual operations. This represents an overall increase of 66 percent over the study period. These operational forecasts reflect the itinerant activity anticipated by a growing number of based aircraft and changing based aircraft type mix, as previously presented in Table 2-3.

Table 2-4							
BASED AIRCRAFT ITINERANT OPERATIONS							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Estimate</u> 2007	8,500	240	200	0	0	0	8,940
<u>Forecast</u> 2010	8,860	250	310	280	0	0	9,700
2015	9,890	500	320	560	500	110	11,880
2020	10,520	750	330	840	750	130	13,320
2025	10,980	1,000	340	1,120	1,000	260	14,700



### C. Transient Aircraft Itinerant Operations by Type

As shown below in Table 2-5, itinerant operations conducted by visiting aircraft are anticipated to grow from a 2007 estimated level of 6,240 annual operations to a 2025 level of 7,180 annual operations. This represents an overall increase of 15 percent over the study period. The forecast relies heavily on Airport Transient Aircraft Operational Records, as well as information extracted from the Visiting Aircraft Surveys.

Table 2-5							
TRANSIENT AIRCRAFT ITINERANT OPERATIONS							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Estimate</u> 2007	4,760	130	800	370	30	150	6,240
<u>Forecast</u> 2010	4,880	140	810	380	40	160	6,410
2015	5,000	160	820	400	70	180	6,630
2020	5,130	190	830	430	120	200	6,900
2025	5,250	220	840	460	190	220	7,180

### D. Local Operations By Aircraft Type

As shown below in Table 2-6, local operations are anticipated to grow from a 2007 estimated level of 6,900 annual operations to a 2025 level of 8,100 annual operations. This represents an overall increase of 17 percent over the study period. The forecast recognizes that the vast majority of local operations are conducted by single-engine piston aircraft during training and proficiency flights, and that the growing cost of fuel and use of advanced flight simulators will moderate growth.

Table 2-6							
LOCAL OPERATIONS BY AIRCRAFT TYPE							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Estimate</u> 2007	6,830	20	30	0	0	30	6,910
<u>Forecast</u> 2010	7,120	20	30	0	0	30	7,200
2015	7,400	30	30	0	0	40	7,500
2020	7,700	30	30	0	0	40	7,800
2025	8,000	30	30	0	0	40	8,100

Note: Touch and Go operations are a part of local operations, and are virtually all conducted by single-engine piston aircraft. It is estimated that 35 percent of all single-engine piston aircraft local operations will also be Touch and Go operations.



## E. Air Taxi, Air Tour, And Military Operations

### 1. Air Taxi Aircraft Operations

Air Taxi Operations are governed by Federal Aviation Regulation (FAR) Part 135. Also known as Air Charter Operations, this activity is conducted by operators who offer “on demand” air transportation service to the general public. Air Taxi Operations are conducted using various aircraft types. Historically, predominant aircraft types have included twin-engine piston, twin-engine turboprop, and jet aircraft. More recently, use of single-engine piston and single-engine turboprop aircraft have increased. As shown below in Table 2-7, based on Airport records, it is estimated that some 500 Air Taxi Aircraft Operations presently occur on an annual basis.

As also shown in Table 2-7, it is anticipated that Air Taxi operations will exhibit a strong growth trend over future years, reaching a level of 1,100 Air Taxi Aircraft Operations in the year 2025. This growth considers the recent introduction (and anticipated success) of the new on demand air taxi business model pioneered by Day Jet. Utilizing Very Light Jet (VLJ) aircraft and other new technologies, such Air Taxi operators are striving to offer the public reliable, more direct air transportation service - at reduced total travel time, and cost.

It should be noted that the Air Taxi Aircraft Operations projections shown in Table 2-7 have been integrated into the Based Aircraft Itinerant Operations By (Aircraft) Type forecast, as well as the Transient Aircraft Itinerant Operations By (Aircraft) Type Forecast, as previously presented.

Table 2-7					
PROJECTED AIR TAXI OPERATIONS					
	Estimate	Forecast			
Year	2007	2010	2015	2020	2025
Operations	500	550	700	900	1,100

### 2. Air Tour Aircraft Operations

During previous years, the Williamsburg – Jamestown Airport offered formalized Air Tour flights of the Historic Triangle Area to the general public. A Cessna 206 and other fixed-wing aircraft were used to provide this service.

However, in recent years, with the advent of new security and environmental (noise) concerns, new Federal Aviation Regulation (FAR) Part 136 titled “Commercial Air Tours and National Park Air Tour” was adopted. This FAR set in place new rules and restrictions which no longer made the continuation of Air Tour flights at the Williamsburg - Jamestown Airport practicable.

Given the continuing national security and environmental concerns, it is not anticipated that the provisions of FAR Part 136 will be relaxed in the foreseeable future. Therefore, a return of formalized Air Tour flights at the Airport is not anticipated.

### 3. Military Aircraft Operations

Airport records indicate that, on an annual basis, some one hundred (100) Military Aircraft Operations are conducted at the Airport. These operations primarily represent US Military T34C (Turbo Mentor) aircraft conducting cross-country training flights. This nominal amount of activity is anticipated to remain steady and at the same level over the future study period.

It should be noted that the Military Aircraft Operations projections as discussed above have been integrated into the Transient Aircraft Itinerant Operations By (Aircraft) Type Forecast, as previously presented.



### F. Forecast Summary Table

Table 2-8 provides a summary of the prominent forecast projections established in this section.

Table 2-8				
FORECAST SUMMARY TABLE				
	2010	2015	2020	2025
<b>Based Aircraft</b>	83	92	102	111
<b>Based Aircraft Itinerant Operations</b>	9,700	11,880	13,320	14,700
<b>Transient Aircraft Itinerant Operations</b>	6,410	6,630	6,900	7,180
<b>Local Aircraft Operations</b>	7,200	7,500	7,800	8,100
<b>Total Aircraft Operations</b>	23,310	26,010	28,020	29,980

### 204. PROJECTED CRITICAL DESIGN AIRPLANES

This section is intended to project and define the more demanding, or “critical to airport design” airplane, or family grouping of airplanes, anticipated to use the airport on a regular basis. FAA has developed a Substantial Use Threshold to more technically define “regular basis”. This Threshold requires that critical

design airplanes perform at least 500 or more annual itinerant operations (composed of both landings and takeoffs) at the airport. The intent here is to discourage more significant amounts of airport facility expansion where such expansion will only benefit a relatively few airport users, and not prove to be cost effective.

With regard to the Williamsburg – Jamestown Aviation Service Area (and Airport), the current family grouping of critical airplane types is composed of various models of Twin-Engine Turboprop Airplanes, and Light Jet Airplanes. Representative types are:

- The Beechcraft King Air B200GT Twin-Engine Turboprop. This airplane has a Wing Span of 54.5 Feet, a Length of 43.8 Feet, and a Height of 14.8 Feet. With a Gross Weight of 12,500 Pounds, it offers a Normal Cruise Speed of 336 MPH, and has a Maximum Landing Weight Approach Speed of less than 121 Knots.



- The Cessna Citation CJ2 Twin-Engine Turbofan Jet. This airplane has a Wing Span of 49.8 Feet, a Length of 47.7 Feet, and a Height of 14 feet. With a Gross Weight of 12,500 Pounds, it offers a Normal Cruise Speed of 481 MPH, and has a Maximum Landing Weight Approach Speed of less than 121 Knots.



While the family grouping of critical airplane types is not anticipated to appreciably change in the future from what it is today, it is considered that one additional new airplane type should be added to the family.

As previously discussed in this Report, by most expert accounts, the emergence of the Very Light Jet (VLJ) is anticipated to represent a significant factor, influencing the mix of traffic at numerous community/business market area orientated general aviation airports in the US. As such, and as shown below, the Eclipse 500 VLJ is selected as the representative type to be added to the family grouping of critical airplane types.

- The Eclipse 500 Twin-Engine Turbofan VLJ. This airplane has a Wing Span of 37.9 Feet, a Length of 33.5 Feet, and a Height of 11 Feet. With a Gross Weight of 6,029 Pounds, it offers a Normal Cruise Speed of 426 MPH, and has a Maximum Landing Weight Approach Speed of less than 121 Knots.







With regard to midsize and large cabin Business and Corporate jet aircraft, it is noted that some of the operators of these Aircraft may continue to prefer to use the Newport News Williamsburg International Airport to accommodate their operations.

The Newport News Airport is well suited to accommodate operations by these larger Business and Corporate Aircraft, and offers: an FAA Air Traffic Control Tower for arrival/departure, sequencing and enhanced communications; precision instrument approaches for all weather operations; adequate runway length to reduce the need for enroute fuel stops during long haul length trips; and Fixed Base Operator (FBO) facilities with the equipment and resources necessary to handle/service these types of larger aircraft. Many corporate flight departments require the above items when selecting an airport.

In addition, (for the larger business/corporate jet operator), the optimum 30 minute driving time from the Newport News Williamsburg International Airport to the center of the Williamsburg – Jamestown Aviation Service area is considered to be quite reasonable. And for those operators of Midsize and Large Cabin Business and Corporate Jet Aircraft that originate or have ground destinations in the northern part of the Williamsburg – Jamestown Aviation Service area, it is noted that the runway length has been recently extended to 5,000 feet at the Middle Peninsula Regional Airport. With this runway extension now completed, along with other planned improvements, the Middle Peninsula Airport will be better able to serve larger Business and Corporate aircraft, and offer a somewhat more efficient driving time to the northern part of the Williamsburg – Jamestown Aviation Service Area.

With regard to the Newport News Williamsburg International Airport, it is further noted that this facility continues to expand its role as a major Commercial (airline) Service and Corporate Aviation Airport. However, this Airport is currently reaching available airside capacity, and it is important that capacity be available to allow the Airport to serve its primary role.

It therefore becomes important that a stable general aviation airport facility be available within the Williamsburg – Jamestown Aviation Service Area to accommodate related Aviation Service Area demand. If this does not occur, it is anticipated that a large amount of Williamsburg – Jamestown Aviation Service Area demand will be shifted to the Newport News-Williamsburg International Airport, further complicating capacity concerns at the Newport News Airport.

Alternatives to provide for a stable general aviation airport to accommodate Williamsburg – Jamestown Aviation Service Area demand will be investigated later in this Study.



## 205. Airport Reference Code Selection

As defined in FAA Advisory Circular 150/5300-13 (Change 12) titled “Airport Design”, the Airport Reference Code (ARC) is a coding system used to relate airport design criteria to the operational and physical characteristics of airplanes anticipated to operate at an airport. As shown in Table 2-9 and Table 2-10, the ARC is made up of: 1) Aircraft Approach Category (AAC), which is based on maximum landing weight approach speed; and 2) Airplane Design Group (ADG), which is based on both airplane wing span and tail height.

Table 2-9	
AIRCRAFT APPROACH CATEGORY	
Category	Speed
A	<91 knots
B	91 knots - <121 knots
C	121 knots - <141 knots
D	141 knots - <166 knots
E	166 knots or more

Table 2-10		
AIRPLANE DESIGN GROUP		
Group #	Tail Height	Wingspan (feet)
I	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262

Based on the Projected Family Grouping of Critical Airplane Types defined above, and the criteria contained in Table 2-9 and Table 2-10, an Airport Reference Code (ARC) of B-II is selected as most appropriate and applicable to the Williamsburg – Jamestown Aviation Service Area (and Airport).

# FINANCIAL FEASIBILITY AND PUBLIC VALUE ASSESSMENT

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### **301. QUALITATIVE AND QUANTITATIVE BENEFITS:**

Estimates based on the 2004 Virginia Airport System Economic Impact Study shows that Williamsburg-Jamestown Airport generated nearly \$3 million of economic activity (business sales) in the region of James City County, York County, and Newport News in 2007, in addition to qualitative benefits. This economic activity supported 39 jobs in the region and over \$900,000 in payroll. Economic benefits consist of on-airport business, off-airport spending by visitors who fly into JGG and spin-off activities (also known as multiplier affects), which are caused by businesses making supplier purchases and workers spending their wages in the region. Qualitative and quantitative impacts of JGG are discussed in sections 301, A and 301. B, below, and projected economic contributions are reviewed in section 302. B.

#### **A. Qualitative Benefits**

Williamsburg-Jamestown (JGG) is one of 14 airports recommended in the 2003 Virginia Air Transportation System Plan Update to be classified as General Aviation Community (GC) Airports. These airports provide general aviation facilities and services to business and recreational users, and typically serve their respective communities or a smaller market area.

General aviation airports are an essential component of the communities they serve. Many businesses cite proximity to an airport as a reason for locating in a particular area. Not only can airports generate economic benefits, but many companies not directly tied to aviation rely on airport services to support their daily business activities, further contributing to an area's economy.

While the economic linkage between an airport and on-airport tenants and travel-related industries is readily apparent, there are less obvious interdependencies between airport and their communities. GA airports typically provide numerous "value-added" qualitative benefits to host communities and regions in Virginia. Exhibit 3-1 lists the most common qualitative attributes of airports.



Exhibit 3-1 Range of Qualitative Features at GC Airports		
Recreational flying	Aerial Inspections	Museums on airport
Recreational parachuting	Advertising/banner towing	Police/other law enforcement/ fire protection on airport
Recreational ballooning	Agricultural spraying	Use of facilities for community events
Flight training	Traffic/news reporting	Visits to community/ region from VIPs
Search & rescue services	Environmental patrol	Career training/education
Emergency medical evacuation	Aerial photography/ surveying	Preservation of open space & wetlands
Staging area for community events	Providing on site office/ business park space & amenities for non –aviation businesses in community	

The 2004 Commonwealth of Virginia Economic Impact Study lists the following qualitative features for Williamsburg-Jamestown Airport:

- ➔ Aerial Inspections
- ➔ Advertising/banner towing
- ➔ Law enforcement/ fire protection on airport
- ➔ Flight training
- ➔ Facilitating Visits to community/ region from VIPs
- ➔ Search & rescue services
- ➔ Aerial photography/ surveying
- ➔ Preservation of open space & wetlands
- ➔ Career training/education
- ➔ Staging area for community events
- ➔ Providing on site office/ business park amenities for non –aviation businesses in community

## B. Economic Benefits

GC airports can provide a range of important services to local economies by serving needs of companies that rely on private aviation for business activity, facilitating visitor travel and subsequent visitor spending in local economies, and generating employment in aviation related businesses that service aircrafts, pilots and GA passengers. Total economic impacts are derived from the sum of on-airport direct impacts, off-airport direct impacts (visitor spending), and spin-off impacts (multiplier effect). Each type of impact is defined as follows:



1. **On-Airport Direct Impacts** represent on-airport businesses such as fixed base operators (FBOs), government, aircraft sales and services, and other tenants located at the airport. This category also includes airport management and other individuals employed directly by the airport.
2. **Off-Airport Direct Impacts (Visitor Spending)** are financial transactions that occur primarily off-site and are associated with visitor spending. The primary difference between on-airport direct impacts and off-airport direct impacts is that off-airport businesses benefit from additional revenue because of the airport, but would likely exist in the absence of the airport. The principal measure of off-airport direct impacts is expenditures made in the regional area by air travelers arriving in itinerant GA operation. Expenditures include items such as lodging, food, entertainment, and retail purchases. Off-airport direct impacts are often reported as indirect impacts.
3. **Spin-Off Impacts (Multiplier Effects)** effects come as a result of the direct stimulus; these come in the form of additional business sales (suppliers for the direct business) and consumer spending (spending of workers from direct and indirect business) to reflect the recycling of dollars through the economy. Spin-off effects occurring outside a designated area is considered economic leakage and is not reflected in the multiplier.

As documented in the 2004 Virginia Airport System Economic Impact Study, the 13 (recommended) GC airports<sup>1</sup> in Virginia generated nearly \$13 million in direct on airport impacts and through direct visitor spending. Impacts per airport ranged from \$31,000 to more than \$3.2 million. At slightly more than \$2 million, Williamsburg-Jamestown Airport returned the third highest total of direct impacts among these airports. Table 3-1 shows that the direct economic contribution of JGG was more than twice the mean average of all GC airports and nearly four times the median.

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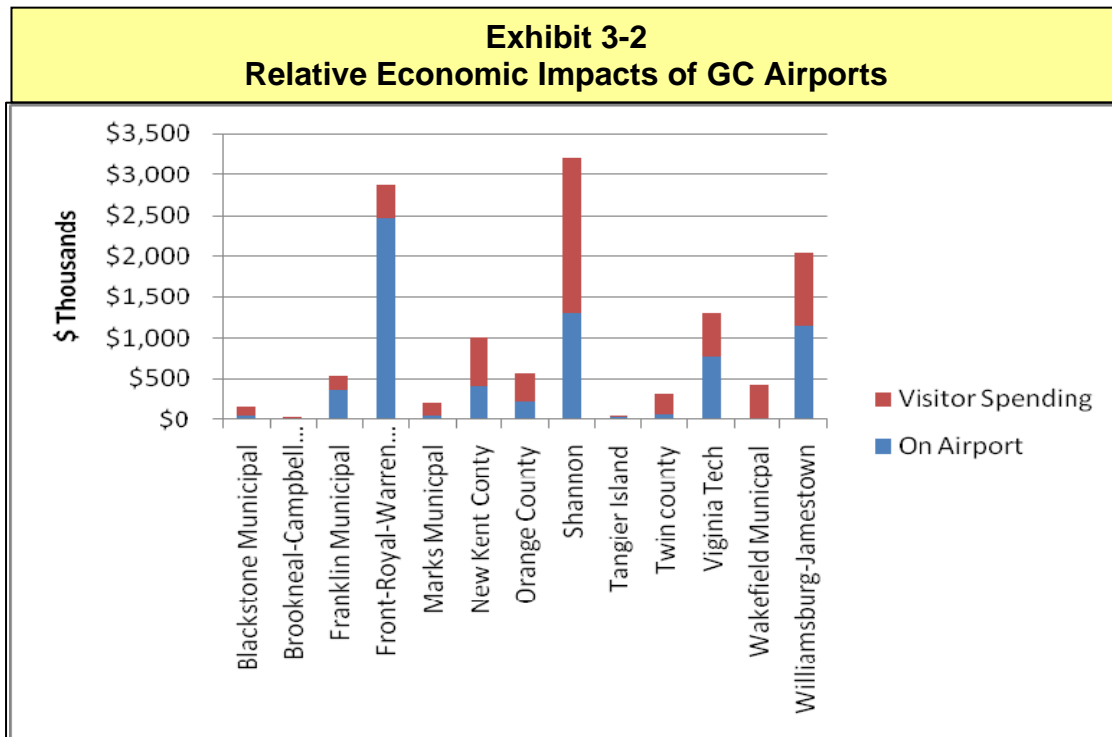
<sup>1</sup> This analysis does not include Lee County Airport, which opened subsequent to the 2001 base year for the 2004 Virginia Airport System Economic Impact Study.



Table 3-1			
Economic Contribution of JGG Compared to all GC Airports (in \$1,000s)			
	Direct On Airport	Direct Visitor Spending	Total Direct Contribution
Mean Average	\$531	\$454	\$985
Median	\$234	\$337	\$535
Williamsburg-Jamestown	\$1,147	\$887	\$2,034
Totals of Recommended GC Airports	\$6,898	\$5,903	\$12,801

Sources: 2004 Virginia Airport System Economic Impact Study and 2003 Virginia Air Transportation System Plan Update. Lee County Airport is not included because it was opened after data were collected for the Economic Impact study.

Exhibit 3-2, below, illustrates the relative economic impacts among the (recommended) GC airports.



Source: 2004 Virginia Airport System Economic Impact Study Lee County Airport is not included because it was opened after data were collected for the study

Data used in the 2004 study was used to estimate the current and projected impacts for Williamsburg-Jamestown Airport. The project team collected 2007 on airport employment (including airport owners). Spending per visitor was inflated to represent 2007 values. The process for calculating spin-off effects for Williamsburg-Jamestown was replicated from the previous study; this involved using the IMPLAN model with the most recent multipliers (2006) for the three-county region -- James City, Newport News and York counties (this was the region used in the 2004 study).



The impacts also had to be estimated for the future; this was done through the use of the predicted increase in operations. Estimates of future on-airport impacts were based on the rate of increase in *total operations*. Future visitor spending was calculated by using the passengers per operation from the previous study along with the predicted *transient-itinerant operations*.<sup>2</sup> Table 3-2 shows the predicted operations and visitors for 2007.

Table 3-2	
2007 Operations and Visitors	
Total Operations	22,080
Transient-Itinerant Operations	6,240
Visitors	8,112
Source: L.R. Kimball & Associates and EDR Group	

According to the airport management, there are three activities now at the airport: food service, flight instruction, and repair/maintenance. These activities, along with the airport management, represented 10 direct jobs.<sup>3</sup> Table 3-3 shows the estimated direct, spin-off and total effects from the activity at the airport 2007.

Table 3-3	
Estimated 2007 Economic Impacts from On-Airport Activity at Williamsburg-Jamestown Airport	
Jobs - Direct	10
Jobs - Spin-off	3
<b>Jobs - Total</b>	<b>12</b>
Wages - Direct (\$1,000's)	\$298
Wages - Spin-off (\$1,000's)	\$93
<b>Wages - Total (\$1,000's)</b>	<b>\$391</b>
Sales - Direct (\$1,000's)	\$593
Sales - Spin-off (\$1,000's)	\$314
<b>Sales - Total (\$1,000's)</b>	<b>\$907</b>
Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group	

The airport is situated near several cities and tourist destinations. Travelers using the airport for business or recreation spend money in the local economy on hotels, restaurants, shopping, ground transportation, and entertainment. The spending patterns used in the analysis were taken from the previous study. Table 3-4 shows the visitor spending impacts generated by the airport. As seen in the table, visitor spending impacts are significantly higher than on-airport impacts. In

<sup>2</sup> Number of visitors = passengers per operation \* transient-itinerant operations \* .5

<sup>3</sup> The direct impact from airport management included \$55,000 in salaries from the budget for miscellaneous personnel and the net earnings of \$33,000 from 2007.



2007, estimates of visitor spending show 26 jobs, \$545,000 in wages and \$1.9 million in business sales.

<b>Table 3-4</b>	
<b>Estimated 2007 Economic Impacts from Visitor Spending</b>	
Jobs - Direct	20
Jobs - Spin-off	6
<b>Jobs - Total</b>	<b>26</b>
Wages - Direct (\$1,000's)	\$382
Wages - Spin-off (\$1,000's)	\$163
<b>Wages - Total (\$1,000's)</b>	<b>\$545</b>
Sales - Direct (\$1,000's)	\$1,265
Sales - Spin-off (\$1,000's)	\$657
<b>Sales - Total (\$1,000's)</b>	<b>\$1,922</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group

Table 3-5 shows the combined estimated contribution of Williamsburg-Jamestown Airport to the regional economy in 2007. In total the airport generated 39 jobs, \$936,000 in wages and \$2.8 million in business sales.

<b>Table 3-5</b>	
<b>Total Economic Contribution of Williamsburg-Jamestown Airport to the Region in 2007</b>	
Jobs - Direct	30
Jobs - Spin-off	9
<b>Jobs - Total</b>	<b>39</b>
Wages - Direct (\$1,000's)	\$680
Wages - Spin-off (\$1,000's)	\$256
<b>Wages - Total (\$1,000's)</b>	<b>\$936</b>
Sales - Direct (\$1,000's)	\$1,858
Sales - Spin-off (\$1,000's)	\$971
<b>Sales - Total (\$1,000's)</b>	<b>\$2,829</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group



## 302. REVENUES AND EXPENSES

This section of the analysis examined the financial records for the airport. The first step was to collect accounting information from the airport including revenues, costs, and capital expenditures for past years. Also, for comparison of past years to 2007 the line items had to be aggregated.

Table 6 shows cash revenues and costs (excluding depreciation) of the airport dating back to 2002. As shown below, in terms of net income, the airport has turned a cash profit for every year with the exception of 2003. The relatively large revenue surplus in 2002 is due in part to a grant received by the airport.<sup>4</sup> However, this measure does not include depreciation which will be discussed later. The Dollars are presented in constant 2007 terms in order to show revenue streams without the affects of inflation over time.

<b>Table 3-6</b>					
<b>Net Annual Income of Williamsburg-Jamestown Airport, 2002 -2005, 2007</b>					
<b>Presented in Fixed 2007 Dollars</b>					
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2007</b>
<b>Revenue (2007\$)</b>					
Fuel sales	\$243,326	\$189,428	\$228,077	\$219,298	\$309,084
Landing, storage, and hangar fees	\$119,301	\$133,297	\$133,845	\$133,128	\$155,531
Gift Shop and tickets	\$35,878	\$30,259	\$32,572	\$24,643	\$22,137
Parking Income	\$28,215	\$21,069	\$25,861	\$23,342	\$20,647
Rental Income	\$45,807	\$42,236	\$40,358	\$33,008	\$21,564
Misc.	\$55,017	\$4,011	\$20,060	\$47,672	\$4,102
<b>Total</b>	<b>\$527,543</b>	<b>\$420,299</b>	<b>\$480,773</b>	<b>\$481,091</b>	<b>\$533,064</b>
<b>Costs (2007\$)</b>					
Fuel Costs	\$131,787	\$167,119	\$166,373	\$169,101	\$194,899
Gift Shop and Ticket Costs	\$26,005	\$19,089	\$15,883	\$21,513	\$16,755
Salaries	\$78,330	\$67,204	\$72,182	\$61,753	\$55,444
Interest	\$81,783	\$81,433	\$87,039	\$75,977	\$108,094
Repair and Main	\$14,991	\$21,156	\$14,376	\$23,339	\$11,751
Taxes, Licenses and Fees	\$43,453	\$28,335	\$32,038	\$42,976	\$71,799
Supplies	\$2,675	\$2,008	\$2,331	\$4,624	\$4,880
Insurance	\$21,843	\$17,175	\$18,760	\$17,979	\$19,480
Misc.	\$50,435	\$20,967	\$28,099	\$26,871	\$4,304
Utilities	\$13,757	\$16,335	\$12,569	\$14,043	\$14,073
<b>Total</b>	<b>\$465,060</b>	<b>\$440,821</b>	<b>\$449,651</b>	<b>\$458,177</b>	<b>\$501,480</b>
<b>Net Revenue</b>	<b>\$62,483</b>	<b>-\$20,522</b>	<b>\$31,122</b>	<b>\$22,914</b>	<b>\$31,584</b>

Source: CPA audited financial statements from 2002 -2005 and unaudited cash flow statement for 2007 provided by Williamsburg-Jamestown Airport. Aggregations by EDR Group.

Note that 2006 data were not available.

<sup>4</sup> This is the only grant received in the years presented. The grant was for \$46,544 (in 2002 dollars) and expenditures against the grant were shown as \$35,085.

**303. PRO-FORMA ESTIMATES OF FUTURE YEARS****A. Sales and Income**

The aggregated revenues and costs (shown above) were then projected for the forecast years—2010, 2015, 2020, and 2025. Two different approaches were used for these projections: 1) applying the past trends of each category for future years and 2) applying the projected increase in total operations.

The first method using past trends created an increasing gap between revenues and costs causing a large net loss for the airport in 2015, 2020, and 2025. By 2025, the airport was projected to operate with a loss of almost \$500,000 (in 2007 dollars). This result is typical with the use of past trends. The short time-span of the past data shows perturbations which are exacerbated when projected over a long time-span. Therefore, the second method of projecting the revenues and costs by the growth in operations produced a conservative, more realistic estimate. In these projections the airport continued to have a slight net gain (excluding depreciation). Table 3-7 shows the projected revenues and costs for the forecast years. In this scenario, the net income gradually increases over time, reaching \$43,000 (in constant 2007 dollars) by 2025.

<b>Table 3-7</b>				
<b>Table 7: Projected Net Income of Williamsburg-Jamestown Airport</b>				
<b>Presented in Fixed 2007 Dollars</b>				
	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
<b>Revenue (2007\$)</b>				
Fuel sales	\$326,284	\$370,517	\$396,272	\$422,028
Landing, storage, and hangar fees	\$164,186	\$186,444	\$199,404	\$212,364
Gift Shop and tickets	\$23,369	\$26,537	\$28,382	\$30,226
Parking Income	\$21,796	\$24,751	\$26,471	\$28,192
Rental Income	\$22,764	\$25,849	\$27,646	\$29,443
Misc.	\$4,330	\$4,917	\$5,259	\$5,601
<b>Total</b>	<b>\$562,729</b>	<b>\$639,015</b>	<b>\$683,434</b>	<b>\$727,854</b>
<b>Costs (2007\$)</b>				
Fuel Costs	\$205,745	\$233,636	\$249,877	\$266,118
Gift Shop and Ticket Costs	\$17,687	\$20,085	\$21,481	\$22,877
Salaries	\$58,530	\$66,464	\$71,084	\$75,704
Interest	\$114,109	\$129,578	\$138,586	\$147,593
Repair and Main	\$12,405	\$14,087	\$15,066	\$16,046
Taxes, Licenses and Fees	\$75,795	\$86,070	\$92,053	\$98,036
Supplies	\$11,168	\$12,682	\$13,564	\$14,446
Insurance	\$20,564	\$23,352	\$24,975	\$26,599
Misc.	\$4,544	\$5,160	\$5,518	\$5,877
Utilities	\$8,839	\$10,038	\$10,735	\$11,433
<b>Total</b>	<b>\$529,387</b>	<b>\$601,153</b>	<b>\$642,940</b>	<b>\$684,728</b>
<b>Net Revenue</b>	<b>\$33,342</b>	<b>\$37,862</b>	<b>\$40,494</b>	<b>\$43,126</b>

Source: L. R. Kimball & Associates and Williamsburg-Jamestown Airport, calculations by EDR Group



These measures are considered to be conservative and subject to change. There are several possibilities where the airport could increase its revenues that are not assumed here. For instance, the airport could increase its fuel fees which would increase revenue in the first item in Table 3-7.

## B. Economic Contributions

Future economic impacts are based on the predicted increase in operations through 2025. Estimates of future on-airport impacts involved increasing the impacts at the rate of increase in *total operations*. Future visitor spending was calculated by using the passengers per operation from the previous study along with the predicted *transient-itinerant operations*.<sup>5</sup> Table 3-8 shows base year operations and visitors for 2007 and the forecast years—2010, 2015, 2020, and 2025.

Table 3-8					
Predicted Operations and Visitors					
	2007	2010	2015	2020	2025
Total Operations	22,080	23,310	26,470	28,310	30,150
Transient-Itinerant Operations	6,240	6,410	6,630	6,900	7,180
Visitors	8,112	8,333	8,619	8,970	9,334

Source: Kimball Associates and EDR Group

According to the airport management, there are three activities now at the airport: food service, flight instruction, and repair/maintenance. These activities, along with the airport management, represented 10 direct jobs.<sup>6</sup> Table 3-9 shows the direct, spin-off and total effects from the activity at the airport. These effects are shown for 2007 as well as for the forecast years (in constant dollars<sup>7</sup>). In 2007, the on-airport impacts totaled 12 jobs, \$391,000 in wages and \$907,000 in business sales. Assuming that impacts increase at the same rate as operations, the total impacts by 2025 will be 17 jobs, \$534,000 in wages and \$1.2 million in sales.

<sup>5</sup> Number of visitors = passengers per operation \* transient-itinerant operations \* .5

<sup>6</sup> The direct impact from airport management included \$55,000 in salaries from the budget for miscellaneous personnel and the net earnings of \$33,000 from 2007.

<sup>7</sup> The adjustment to 2007 dollars used the Consumer Price Index for the U.S. Southeast from the Bureau of Labor Statistics (BLS).





<b>Table 3-9</b>					
<b>Projected Economic Impacts from On-Airport Activity at Williamsburg-Jamestown Airport, 2007-2025.</b>					
<i>Presented in Fixed 2007 Dollars</i>					
<b>On-airport Impacts (2007\$)</b>	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Jobs - Direct	10	10	11	12	13
Jobs - Spin-off	3	3	3	4	4
<b>Jobs - Total</b>	<b>12</b>	<b>13</b>	<b>15</b>	<b>16</b>	<b>17</b>
Wages - Direct (\$1,000's)	\$298	\$315	\$358	\$383	\$407
Wages - Spin-off (\$1,000's)	\$93	\$98	\$111	\$119	\$127
<b>Wages - Total (\$1,000's)</b>	<b>\$391</b>	<b>\$413</b>	<b>\$469</b>	<b>\$502</b>	<b>\$534</b>
Sales - Direct (\$1,000's)	\$593	\$626	\$711	\$760	\$809
Sales - Spin-off (\$1,000's)	\$314	\$331	\$376	\$402	\$428
<b>Sales - Total (\$1,000's)</b>	<b>\$907</b>	<b>\$957</b>	<b>\$1,087</b>	<b>\$1,162</b>	<b>\$1,238</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group

The airport is situated near several cities and tourist destinations. Travelers using the airport for business or recreation spend money in the local economy on hotels, restaurants, shopping, ground transportation, and entertainment. The spending patterns used in the analysis were taken from the previous study. Table 3-10 shows the visitor spending impacts generated by the airport, which are significantly higher than on-airport impacts. In 2007, visitor spending was responsible for 26 jobs, \$545,000 in wages and \$1.9 million in business sales (estimates based on 2004 study). By 2025, with a consistent increase in visitors, the total impacts are estimated to grow to 30 jobs, \$637,000 in wages and \$2.2 million in sales.

<b>Table 3-10</b>					
<b>Projected Regional Economic Impacts of Visitor Spending from Williamsburg-Jamestown Airport, 2007- 2025</b>					
<i>Dollars are Presented in Constant \$2007</i>					
<b>Visitor Spending Impacts (2007\$)</b>	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Jobs - Direct	20	21	22	22	23
Jobs - Spin-off	6	6	6	7	7
<b>Jobs - Total</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>
Wages - Direct (\$1,000's)	\$382	\$392	\$406	\$422	\$439
Wages - Spin-off (\$1,000's)	\$163	\$168	\$173	\$180	\$188
<b>Wages - Total (\$1,000's)</b>	<b>\$545</b>	<b>\$560</b>	<b>\$579</b>	<b>\$602</b>	<b>\$627</b>
Sales - Direct (\$1,000's)	\$1,265	\$1,299	\$1,344	\$1,399	\$1,456
Sales - Spin-off (\$1,000's)	\$657	\$675	\$698	\$726	\$756
<b>Sales - Total (\$1,000's)</b>	<b>\$1,922</b>	<b>\$1,974</b>	<b>\$2,042</b>	<b>\$2,125</b>	<b>\$2,211</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group



Table 3-11 shows the combined impacts of on-airport activity and visitor spending. The total impact ranges from 39 jobs, \$936,000 in wages and \$2.8 million in sales in 2007 to 47 jobs, \$1.2 million in wages and \$3.4 million in sales in 2025.

<b>Table 3-11</b>					
<b>Total Projected Economic Impacts of Williamsburg-Jamestown Airport, 2007-2025</b>					
<i>Dollars are Presented in Constant \$2007</i>					
<b>Total Impacts (2007\$)</b>	<b>2007</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Jobs - Direct	30	31	33	35	36
Jobs - Spin-off	9	9	10	10	11
<b>Jobs - Total</b>	<b>39</b>	<b>40</b>	<b>43</b>	<b>45</b>	<b>47</b>
Wages - Direct (\$1,000's)	\$680	\$707	\$764	\$805	\$846
Wages - Spin-off (\$1,000's)	\$256	\$266	\$284	\$299	\$315
<b>Wages - Total (\$1,000's)</b>	<b>\$936</b>	<b>\$973</b>	<b>\$1,048</b>	<b>\$1,104</b>	<b>\$1,161</b>
Sales - Direct (\$1,000's)	\$1,858	\$1,925	\$2,055	\$2,159	\$2,265
Sales - Spin-off (\$1,000's)	\$971	\$1,006	\$1,074	\$1,128	\$1,184
<b>Sales - Total (\$1,000's)</b>	<b>\$2,829</b>	<b>\$2,931</b>	<b>\$3,129</b>	<b>\$3,287</b>	<b>\$3,449</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group

The economic impacts discussed were assumed to grow at a rate commensurate with operations. However, due to the small size of the airport, many changes could affect these results. If another tenant moved onto the airport then on-airport impacts would drastically increase. Also, if the airport were to draw a higher share of visitors this would then augment the impacts of visitor spending in the economy. Therefore, the total impacts shown here may be viewed as conservative.

It also should be noted that the based aircraft at the airport generate personal property taxes for James City County. The current rate is \$4.00 per \$100 of assessed value. These would occur regardless of whether the airport was publicly or privately owned. However, they would not accrue to the county without the airport's existence. An estimation of the impact of personal property taxes for the future was derived from the current and projected based aircraft (from the population correlation scenario in Chapter 2) and resulting tax revenue. For future years, personal property tax revenues per aircraft are assumed to be consistent with the base year 2007 average. The results are seen in Table 3-12 for 2007 and the forecast years.



Table 3-12					
Projected Personal Property Tax Revenue Generated from Williamsburg-Jamestown Airport, 2007-2025					
	2007	2010	2015	2020	2025
Based Aircraft	77	83	92	102	111
Personal Property Tax	\$42,960	\$46,480	\$51,520	\$57,120	\$62,160

Source: Office of the James City County Commissioner of the Revenue, L. R. Kimball & Associates and EDR Group.

### 304. CAPITAL EXPENDITURE GAP

The previous evaluation excluded capital expenditures and depreciation of capital at the airport. Table 3-6 shows that from a revenue standpoint that the airport operated with small surpluses in 2002, 2004, 2005, 2007, and showed an operating loss in 2003. Data are shown in constant 2007 dollars to provide an understanding of the annual revenue flows. Table 3-13 below is in nominal dollars and presents capital depreciation.<sup>8</sup>

The business model of an airport, even a privately owned airport, is different than many companies. The presumption associated with depreciation is that the depreciated value of assets should be set aside each year, so that a business will be able to replace its assets when required. Airports, however, are eligible for grants that heavily subsidize rehabilitation or replacement of assets. In its current status, JGG remains eligible for state funding because the airport is included in the Virginia Air Transportation System Plan. JGG would be eligible for federal funds administered by the FAA, as well, should the airport be designated as a NPIAS facility. It should be noted that inclusion into the National Plan of Integrated System (NPIAS) is not a foregone conclusion. Lack of federal participation in capital improvement projects can greatly increase the local cost.

As shown in Table 3-13, on an income basis, JGG operated at a loss, ranging from five to seventy-two thousand dollars for the most recent five years that data are available after accounting for depreciation of the airport's capital assets. We see below that value lost annually through depreciation is greater year after year than operating revenue streams generated by the airport, so annually depreciating values cannot be set aside from operating revenues.<sup>9</sup>

<sup>8</sup> Depreciation already reflects decreasing value over time.

<sup>9</sup> In reality, and with proper maintenance, assets are often used for years after being totally depreciated, although they will have to be replaced or be significantly renovated (in the case of a runway, for example) at some point in time.



Table 3-13					
Net Annual Income of Williamsburg-Jamestown Airport, 2002 -2005, 2007					
Dollars are in Nominal Value					
	2002	2003	2004	2005	2007
Total Revenue	\$456,292	\$371,924	\$436,235	\$452,131	\$533,064
Total Costs	\$402,248	\$390,084	\$407,996	\$430,596	\$501,479
Net Revenue/(Loss)	\$54,044	(\$18,160)	\$28,239	\$21,535	\$31,585
Depreciation	\$58,641	\$53,511	\$49,335	\$44,106	\$43,460
Net Profit (Loss)	(\$4,597)	(\$71,671)	(\$21,096)	(\$22,571)	(\$11,875)

Source: L. R. Kimball & Associates and Williamsburg-Jamestown Airport, calculations by EDR Group

The airport currently has \$3.7 million in capital assets including: land, roads, buildings and furniture among others. (See Table 3-14.) Between 2002 and 2005, the average annual depreciation of these assets was \$50,000 in nominal terms (\$57,000 in 2007 dollars). The cumulative depreciation is currently at over \$1 million, making the net value of capital assets \$2.7 million.<sup>10</sup>

As we do not have access to the depreciation schedules of current assets (and calculating depreciation accumulated through 2025 is beyond the scope of this analysis, we estimate that capital assets at the airport will depreciate by an additional \$500,000 - \$1 million by 2025. Total depreciation of assets will account for about \$1.5 to \$2 million. Moreover, this does not account for future improvements to buildings and aviation facilities at the airport during. At this time, JGG does not show a revenue stream to set aside a capital fund or to leverage to borrow money (and incur more debt service). This leads to the discussion of other ways that the airport may be able to counterbalance its capital costs with other sources of financing.

<sup>10</sup> Also, the airport spent nearly \$130,000 in construction costs in 2007.



Table 3-14	
Value of Assets at JGG	
Property & Equipment	Value
Land	\$525,933
Hangar	\$304,640
New Hangar Building	\$464,249
Roads	\$50,170
Runway Apron	\$416,622
Beacon Tower	\$20,318
New Hangar 2 Building	\$220,302
Fuel Farm	\$342,250
Furniture/Equipment	\$49,302
Building	\$788,849
Leasehold Improvements	\$291,341
Taxiway/Helipad	\$38,397
Construction in Progress	\$129,827
Other	\$79,947
<b>Subtotal</b>	<b>\$3,722,147</b>
Accumulated Depreciation	(\$1,003,637)
<b>Net Value Property &amp; Equipment</b>	<b>\$2,718,510</b>

Source: Williamsburg-Jamestown Airport unaudited balance sheet, December 31, 2007. The balance sheet also has a line item labeled "Other Depreciable Assets" at a value of \$189,000 in addition to "Property and Equipment"

## A. Commonwealth of Virginia Grants

In its current standing as a GC privately owned public use airport, JGG is eligible for grants from the Special Fund administered by the Commonwealth's Department of Aviation and funded by state taxes on aviation fuel. The funds JGG receives through this fund are maintenance, equipment, and security related. All capital improvement projects are funded through the Commonwealth Airport Fund. From 1988 through 2007 these grants have supported approximately \$3 million of capital improvements and airport planning. Over these 20 years, JGG received 29 grants from the Commonwealth, totaling roughly \$2.2 million. The airport matched these grants with \$863,000. Most grants have been provided on an 80%/20% basis, meaning that 80% of project costs have been funded by the Commonwealth and 20% of costs have been paid by the airport. Table 3-15 below lists the projects and planning documents supported by DOA, including costs shared by the Department and the Airport.



Table 3-15						
Grants Received from DOA , 1988-2007						
Year	Subject	Percent State Grant & Local Match		Dollars		
		DOA Grant	Airport Match	DOA Grant	Airport Match	Total Project Cost
1988	Terminal Building Construction	51%	49%	\$252,654	\$242,746	\$495,400
1990	Auto Parking Lot & Overlay of Taxiway Const.	80%	20%	\$80,159	\$20,040	\$100,199
1990	Construction of Utilities for Terminal Building	45%	55%	\$22,881	\$27,965	\$50,846
1990	Construction of Additional Auto Parking	80%	20%	\$27,000	\$6,750	\$33,750
1993	Airport Master Plan	80%	20%	\$51,500	\$12,875	\$64,375
1993	Engineering for Runway Rehabilitation	80%	20%	\$19,200	\$4,800	\$24,000
1994	Security Lighting	80%	20%	\$3,328	\$832	\$4,160
1994	Runway Rehab, Phase 2	80%	20%	\$144,377	\$36,094	\$180,471
1996	SWPP	80%	20%	\$2,669	\$667	\$3,336
1996	Tractor and Mower	50%	50%	\$24,984	\$24,984	\$49,969
1997	AWOS Design	80%	20%	\$15,944	\$3,986	\$19,930
1997	Hangar site pre	80%	20%	\$56,535	\$14,134	\$70,669
1997	ALP	80%	20%	\$11,000	\$2,750	\$13,750
1998	AWOS Design	80%	20%	\$16,000	\$4,000	\$20,000
1998	UST Design	60%	40%	\$19,441	\$12,961	\$32,402
1998	SPCC Plan	80%	20%	\$4,000	\$1,000	\$5,000
1999	UST Construction	50%	50%	\$105,559	\$105,559	\$211,117
2000	Apron Expansion Design	80%	20%	\$39,994	\$9,998	\$49,992
2000	Access Road Design Construction	80%	20%	\$122,720	\$30,680	\$153,400
2002	T-hangar Site/ Access Road	80%	20%	\$35,200	\$8,800	\$44,000
2003	SWPP Update	80%	20%	\$3,000	\$750	\$3,750
2003	Apron Expansion Construction	80%	20%	\$472,797	\$118,199	\$590,997
2004	Design & Construct Maint. Equip. Building	80%	20%	\$25,000	\$6,250	\$31,250
2004	Clear Hangar Site Preparation	80%	20%	\$60,970	\$15,243	\$76,213
2005	ALP Update	80%	20%	\$16,000	\$4,000	\$20,000
2005	T-Hangar Site Prep & Auto Parking	80%	20%	\$504,208	\$126,052	\$630,261
2005	T Hangar Site Prep	80%	20%	\$25,600	\$6,400	\$32,000
2006	Access Road Relocation and Rehabilitation	80%	20%	\$42,400	\$10,600	\$53,000
2007	Obstruction Survey	80%	20%	\$16,000	\$4,000	\$20,000
				<b>\$2,221,120</b>	<b>\$863,115</b>	<b>\$3,084,236</b>

Source: Virginia Department of Aviation. Calculations by EDR Group





Table 3-16 summarizes the 29 grants in broad categories by the type of improvement or planning initiative funded. Note, for hangars the special grants can support site work, but not construction.

Table 3-16			
Grants Provided by DOA 1988-2007 By Purpose			
Category	DOA Grants	Airport Match	Total Project Cost
Aviation Weather Observing System	\$31,944	\$7,986	\$39,930
Access Road	\$165,120	\$41,280	\$206,400
Apron Improvements	\$512,791	\$128,198	\$640,989
Airport Layout Plan, Master Plan & Obstruction Survey	\$94,500	\$23,625	\$118,125
Environmental*	\$9,669	\$2,417	\$12,086
Leaking Underground Storage Tank	\$125,000	\$118,520	\$243,520
Hangar Support and Grounds	\$682,514	\$170,629	\$853,143
Runway Improvements	\$163,577	\$40,894	\$204,471
Maintenance Building & Equipment	\$49,984	\$31,234	\$81,219
Terminal Building	\$275,535	\$270,711	\$546,246
Parking Facilities	\$107,159	\$26,790	\$133,949
Security	\$3,328	\$832	\$4,160
Totals	\$2,221,120	\$863,115	\$3,084,236

\*Storm water pollution prevention and spill prevention control

Source: Virginia Department of Aviation. Calculations by EDR Group.

The depreciation over the five years shown on table 3-13 shows a cumulative loss of value of \$249,053 on capital assets at JGG. During those same years, the Commonwealth provided more than almost \$1.1 million in grant assistance for capital improvements, and the Airport's match for these grants totaled nearly \$281,000. An additional \$35,000 in grants, requiring almost \$9,000 in matching funds from JGG, was also received by the airport during these years. As seen in Table 3-17, annualized depreciation of assets at JGG ran from almost \$59,000 in 2002 to more than \$43,000 in 2007. From 2002 through 2005, however, the airport received between \$35 thousand and \$530 thousand annually for capital related projects (and an additional \$16,000 in 2007 to conduct an obstruction survey).



Table 3-17

**Grant income for capital improvements exceeds values of depreciated assets and match requirements from Airport**

	2002	2003	2004	2005	2007	Totals
DOA grants received for capital projects	\$35,200	\$472,797	\$85,970	\$529,808	\$0	\$1,123,775
Local match	\$8,800	\$118,199	\$21,492	\$132,452	\$0	\$280,943
Net grant (capital) revenue to airport	\$26,400	\$354,598	\$64,478	\$397,356	\$0	\$842,832
Depreciated assets (from Table 3-13)	\$58,641	\$53,511	\$49,335	\$44,106	\$43,460	\$249,053
Net capital flow, including depreciation	(\$32,241)	\$301,087	\$15,143	\$353,250	(\$43,460)	\$593,779
Capital projects funded by grants	T-hangar & access road site work	Apron expansion	Maintenance equipment storage facility design & construction; Hangar site prep.	T-hangar & auto parking site prep		
Other grants received for non-capital projects		SWPP update	ALP update		Obstruction survey	

Sources: Virginia Department of Aviation and financial balance sheets provided by JGG. Calculations by EDR Group.

**B. Grant Obligations**

Grants provided to JGG by the Department of Aviation require 20 year assurances that the airport will remain in operation as a public use facility. If JGG is sold but maintained as a public use airport, the assurances can be transferred to the new owners, whether private or public. Prior to a public use airport being sold, the Virginia Department of Aviation must amend the license. As part of the licensing procedure, the prospective buyer would have to complete an assumption agreement that would transfer the obligations of the grants to the new owner.

If JGG ceases to be a public use airport, then DOA will be owed the pro-rated value of grants received by the airport over previous 20 years. The way the assurances read is that the pro rata share of the grant would be owed once the airport is no longer used as a public use airport, even if the airport property is not sold until a later date. For example, if the existing (or a future) sponsor closed the airport in a future year on April 1st but did not sell it until the following June 30th, the pro-rata share of the grants would be determined as of the former date. For



example, JGG received two grants in 2000, totaling \$162,714 (see Table 3-15, above). If the airport closes in 2010, DOA will be owed approximately \$81,357 from these two grants (10 years outstanding / 20 year obligation (times) \$162,714 of DOA funds). We use the term *approximately* because the actual date of the grant and “would-be” date of the closing is the actual framework for calculating the amounts per grant that would be owed to the Commonwealth. The difference in a generalized year- to- year calculation and an exact day-to-day method is shown below.

The two largest grants JGG has received from DOA over the past 20 years are \$504,208 for T-hangar site improvements and automobile parking dated November 3, 2005 (with its 20 year assurance stretching to November 2, 2025) and \$472,297 for apron expansion, dated April 17, 2003 (with contractual assurance to April 16, 2023). Table 3-18 shows the amount that would be due to DOA if the airport closed as of January 1, July 1 and December 31, 2010, as well as the approximate amounts based on year-to-year approximations.

Table 3-18						
Examples of Required Payback Schedules if JGG Closes in 2010						
Grant: T-hangar site improvements and automobile parking (November 3, 2005), \$502,208			Grant: Apron expansion (April 17, 2003), \$472,797			Total Both Grants Due to DOA
Assume Date JGG No Longer an Airport	Number of Days Expired	Portion of Grant Due to DOA	Assume Date JGG No Longer an Airport	Number of Days Expired	Portion of Grant Due to DOA	
1-Jan-10	1520	\$399,280	1-Jan-10	2451	\$314,163	\$713,443
1-Jul-10	1701	\$386,785	1-Jul-10	2632	\$302,448	\$689,233
31-Dec-10	1884	\$374,152	31-Dec-10	2815	\$290,604	\$664,756
Based on year-to-year approximation		\$378,156	Based on year-to-year approximation		\$307,318	\$685,475

Source: Virginia Department of Aviation. Calculations by EDR Group.

Table 3-19 show the approximate balances that would be owed to DOA if JGG closes in 2010, 2015, 2020 or 2025 from the 29 grants made from 1988 through 2007, based on an approximate year-to year calculation. By 2010 there would be no balances the grant made in 1988. Actual balances on the three grants made in 1990 would depend on the dates of the grants were made and the date of closure. Note, that balances for grants made after 2007 would have to be added to this totals.



Table 3-19	
Approximate Balances of DOA Grants Made 1998-2007 if JGG Stops Being a Public Use Airport	
Year	Remaining Balance
2008	\$1,266,585
2010	\$1,069,738
2015	\$624,587
2020	\$246,856
2025	\$3,720
Source: Virginia Department of Aviation. Calculations by EDR Group.	

### 305. ALTERNATIVE FINANCING METHODS

Several alternative financing methods were evaluated in this report. Currently Williamsburg-Jamestown Airport is a private<sup>11</sup>, non-NPIAS airport; therefore, the options for financing may be limited.

Options for publicly owned airports include:

1. General obligation bond – this is generally secured by municipalities and therefore would not be an option for this airport.
2. Revenue bond/financing – this may also be done through municipalities. It is usually done at airports that have significant commercial operations and therefore may not be an option for this airport.
3. General tax fund – this may be done by the FAA giving 95%, the state providing 3% and the airport providing 2% (sometimes through the county). However, it is only possible for NPIAS airports and the qualification process is difficult.

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<sup>11</sup> For private financing, an airport could seek out personal investors or apply for loans directly with a bank. It may, however, prove difficult for a small airport to find individual investors or to qualify for a loan. The challenge for private airports is to have the ability to justify further operation of the airport with other activity. For instance, the Williamsburg-Jamestown Airport previously had a landfill on-site. It may be possible then to leverage private investment through expanding this kind of activity at the airport.



There is also the option of state funding programs for public-use airports. According to Virginia Department of Aviation, a non-NPIAS airport is only eligible for funding through state discretionary, facilities and equipment, voluntary security, and maintenance programs. It is not eligible for federal funding.

The following programs are available for public airports (non-NPIAS) from the state of Virginia<sup>12</sup>:

### **A. Commonwealth Airport Fund**

The airport would only be eligible for the state discretionary portion of this fund. The state provides 80% of the costs and the local entity provides 20% (at a maximum of \$3 million).

### **B. Aviation Special Fund**

The Special Fund is funded through taxes on fuel and aircraft. Special Fund programs are available pending sufficient funds exist at the time an eligible project is sought. The following programs are awarded through this fund:

#### **1. Facilities and Equipment Program**

This program provides funding for projects involving communication, navigation, and information to increase safety. The amount of funding depends on if the system will be owned by the DOAV or sponsors.

#### **2. Voluntary Security**

Funding is provided through the Virginia Security Program (VSP) for increasing security at public-use GA airports. Funding is provided for 80% of the costs.

#### **3. Maintenance Program**

This program provides funding for 80 % of one-time maintenance project, up to a maximum of \$150,000.

#### **4. Aviation Promotion and Air Service Development**

Up to \$25,000 is provided for marketing efforts.

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<sup>12</sup> Information provided by the Virginia Department of Aviation, Airport Program Manual, April 2006. Updated information came from questioning people at the department.



## **5. Air Service Development Program**

Funding is provided to airports to attract or expand air services, including: air service studies, airline visits, and market research. For general aviation airports, 50% of the project cost is covered –up to \$20,000.



# AIRPORT REQUIREMENTS ANALYSIS

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### 401. GENERAL

This section is intended to accomplish two primary objectives, as defined below:

- A. This section will define the Optimum Airport Requirements and Design Standards to be pursued in an effort to accommodate the anticipated aeronautical demand trend as defined in Chapter 2 titled *Aviation Forecasts*.
- B. This section will also analyze the ability of the existing Williamsburg-Jamestown Airport (JGG) to meet current FAA design standards. Recommendations and preliminary cost estimates will be developed to address any existing non-standard conditions.

### 402. DESIGN STANDARDS ANALYSIS

The FAA has established standards for use in determining the appropriate size and design of airside facilities. The selection of appropriate design standards for the development of airside facilities is based primarily upon the characteristics of the aircraft that are projected to use the Airport on a regular basis.

The airport design process first requires selecting the Airport Reference Code(s) along with determining the lowest designated or planned approach visibility minimums for each runway end. Once the Airport Reference Code (ARC) is established, the appropriate design standards can be applied as related to the ARC. As determined in Chapter 2, *Aviation Forecasts*, the ARC for JGG has been selected as B-II. This selection considered the “Substantial Use Threshold” as defined in Advisory Circular 150/5325-4B, *Runway Length Requirements for Airport Design*, which indicates that the critical design airplane should be composed of a family grouping of airplanes anticipated to make at least 500 or more annual itinerant operations at the airport.

It should be further noted that, based on discussions with the Virginia Department of Aviation, it was requested that, where feasible, dimensional standards be preserved to accommodate an ARC of C-II, along with an associated ultimate runway length of 5,000 feet. This will preserve the potential for further airport development beyond an ARC of B-II, should such development become justified at some point in the future.

The primary sources for airport design and evaluation criteria to be used in this Study are found in FAA Advisory Circular, 150/5300-13, *Airport Design*; FAA Advisory Circular, 150/5325-4B, *Runway Length Requirements for Airport Design*; and Federal Aviation Regulations, and Part 77, *Objects Affecting Navigable Airspace*.



As mentioned above, an additional consideration related to the determination of the appropriate design standards to be selected involves the lowest approach visibility minimums to be planned. Currently, there is one published instrument approach procedure to JGG, which is a VOR or GPS-B circling approach with visibility minimums of 1 mile.

To provide for enhanced airport utility during reduced visibility conditions and at night, an optimum approach visibility minimum of not lower than  $\frac{3}{4}$  statute mile will be considered.

Given the above discussion, **optimum** airport design standards will first be defined. Once this is accomplished, the ability of the existing Williamsburg – Jamestown Airport Site to accommodate the optimum design standards will be evaluated.

Design standards to be considered are as follows:

- ➔ Runway length
  - ➔ Runway Width
  - ➔ Runway Safety Area Width
  - ➔ Runway Safety Area Length Prior to Landing Threshold
  - ➔ Runway Safety Area Length Beyond Runway End
  - ➔ Obstacle Free Zone Width and Length
  - ➔ Runway Object Free Area Width
  - ➔ Runway Object Free Area Length Beyond RW End
  - ➔ Runway Protection Zone
  - ➔ Runway Centerline to Taxiway/Taxilane Centerline
  - ➔ Runway Centerline to Holdline
  - ➔ Runway Centerline to Aircraft Parking Area
  - ➔ Taxiway Width
  - ➔ Taxiway Safety Area Width
  - ➔ Taxiway Object Free Area Width
  - ➔ Runway End Siting
  - ➔ Part 77, *Objects Affecting Navigable Airspace*
-

## 403. Selected Optimum Airport Standards

### A. Optimum Runway Length

The optimum runway length for the primary runway at an airport can be determined in accordance with the criteria found in FAA Advisory Circular (AC) 150/5325-4B, *Runway Length Requirements for Airport Design*. This AC was updated by FAA in July of 2005 and provides runway length guidance related to family groupings of critical design airplanes anticipated to use the associated airport on a regular basis, thereby meeting the “substantial use threshold”.

A review of AC 150/5325-4B disclosed that Chapter 2, titled “Runway Lengths for Small Airplanes with Maximum Certified Takeoff Weight of 12,500 Pounds or Less” best represented the family grouping of airplane types projected to be accommodated within the Williamsburg – Jamestown Aviation Service Area on a regular basis, as discussed in Chapter 2, *Aviation Forecasts*.

Furthermore, within Chapter 2 of the AC, it was determined that the Runway Length Curves and associated Representative Airplane types as provided in Figure 2-2 titled “Small Airplanes Having 10 or More Passenger Seats” best matched the anticipated demand trend to be accommodated. *Here it should be noted that representative airplane types listed in Figure 2-2 are primarily operated in a business / corporate aircraft configuration with less than 10 passenger seats.*

As stated in the AC, the Runway Length Curve Graphic provided in Figure 2-2 already incorporates the following parameters:

- Zero headwind component.
- Maximum certified takeoff and landing weights.
- Optimum flap setting for the shortest runway length (normal operation).
- Accelerate – stop distance parameter.

Figure 2-2 from AC 150/5325-4B is presented below as Exhibit 4-1. As indicated, two additional parameters are needed to produce a recommended runway length. The first is the Mean Daily Maximum Temperature (MDMT) of the Hottest Month of the Year. Here, the proper temperature was determined by determining the MDMT for both Richmond Virginia (88.3 Degrees Fahrenheit in July), and Norfolk Virginia (87.2 Degrees Fahrenheit in July) using available data from the National Oceanic and Atmospheric Administration (NOAA). These temperatures were then averaged to produce a MDMT of 87.8 Degrees, as considered most appropriate for the Williamsburg – Jamestown Aviation Service Area.

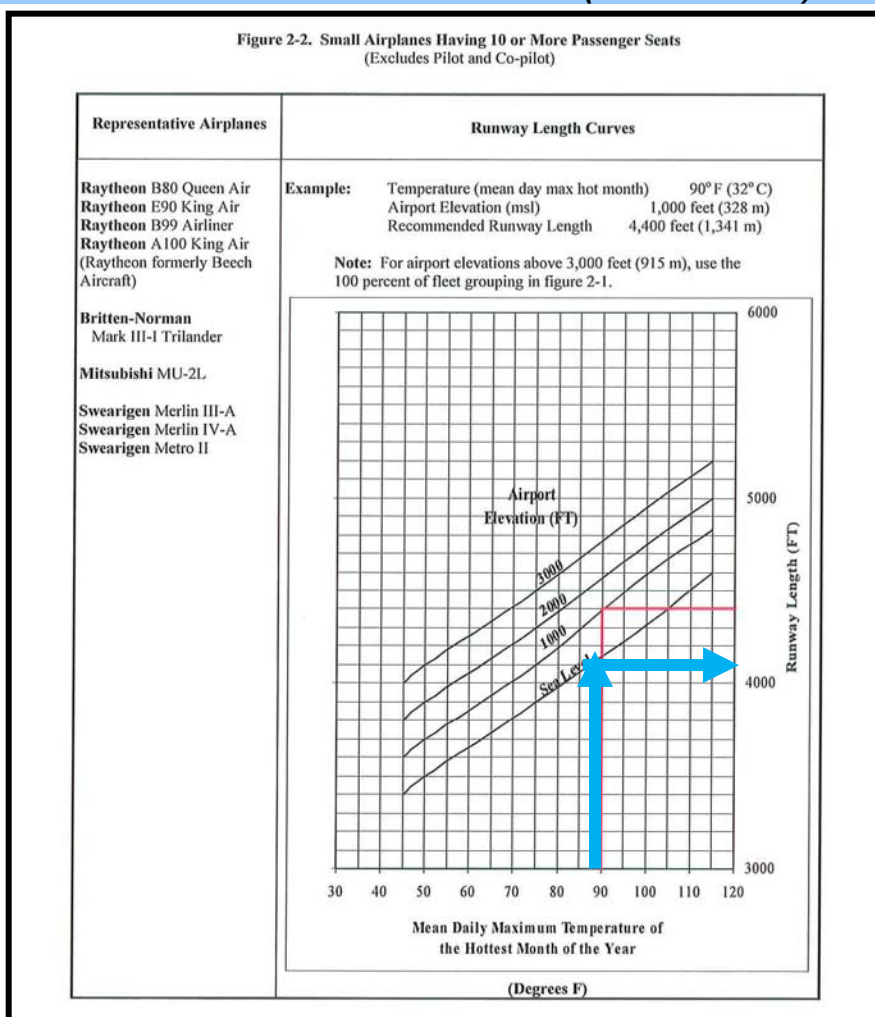
The second parameter needed is the elevation of the airport above Mean Sea Level (MSL). Here an Elevation of 50 Feet MSL was used as most appropriate for the Williamsburg – Jamestown Aviation Service Area.

As further shown in Exhibit 4-1, when the MDMT of 87.8 Degrees and the Elevation of 50 Feet MSL are applied to the FAA Runway Length Curve Graphic, a Recommended Runway length of 4,150 Feet is produced.

While the 4,150 foot runway length is considered the optimum length to accommodate an ARC of B-II, it is noted again that based on discussions with the Virginia Department of Aviation, it was requested that, where feasible, dimensional standards be preserved to accommodate an ARC of C-II, along with an associated ultimate runway length of 5,000 feet. This will preserve the potential for further airport development beyond an ARC of B-II, should such development become justified at some point in the future. The above request will be accommodated as indicated below.

#### Exhibit 4-1

### WILLIAMSBURG-JAMESTOWN AIRPORT RUNWAY LENGTH DETERMINATION (FAA CHARTS)





### B. Optimum Lateral Design Standards

As shown below in Table 4-1, various lateral design standards have been defined for the optimum airport facility offering a visibility minimum of not lower than  $\frac{3}{4}$  Statute Mile. Appropriate design standards are indicated for an ARC of B-II, and C-II, as requested by the Virginia Department of Aviation. The lateral design standards were extracted from AC 150/5300-13, (Change 13) titled *Airport Design*.

Table 4-1		
Lateral Design Standards		
Item	ARC of B-II	ARC of C-II
➔ Runway Width	75 Feet	100 Feet
➔ Runway Safety Area Width	150 Feet	400 Feet
➔ Runway Safety Area Length Prior To Landing Threshold	300 Feet	600 Feet
➔ Runway Safety Area Length Beyond Runway End	300 Feet	1,000 Feet
➔ Obstacle Free Zone Width and Length Beyond Runway End.	Width=250' Length=200'	Width=400' Length=200'
➔ Runway Object Free Area Width	500 Feet	800 Feet
➔ Runway Object Free Area Length Beyond RW End	300 Feet	1,000 Feet
➔ Runway Protection Zone	Length=1,700' Inner=1,000' Outer=1,510'	Same
➔ Runway Centerline to Taxiway/Taxilane Centerline	240 Feet	300 Feet
➔ Runway Centerline to Holdline	125 Feet	250 Feet
➔ Runway Centerline to Aircraft Parking Area	250 Feet	400 Feet
➔ Taxiway Width	35 Feet	Same
➔ Taxiway Safety Area Width	79 Feet	Same
➔ Taxiway Object Free Area Width	131 Feet	Same



### C. Optimum Runway End Siting Requirements

Runway End Siting Requirements are defined in Appendix 2 of AC 150/5300-13 (Change 13) titled *Airport Design*. These defined dimensional standards also require consideration of an Obstacle Clearance Surface (OCS), as associated with the appropriate runway type.

Appropriate dimensional standards for the previously defined optimum airport facility are shown below in Table 4-2.

Table 4-2					
Runway End Siting					
Runway Type	Dimensional Standards (Feet)				
	Distance From Threshold	Total Inner Width	Total Outer Width	Length	OCS/ Slope
(3)* Approach end of runways expected to serve large airplanes (visual day/night); or instrument minimums $\geq 1$ statute mile (day only).	0'	400'	1,000'	10,000'	20:1
(8)* Approach end of runways expected to accommodate instrument approaches having visibility minimums $\geq \frac{3}{4}$ but $< 1$ statute mile, day or night.	200'	800'	3,800'	10,000'	20:1

\* These numbers represent the line item categories found in AC 150/5300-13, Appendix 2, Table A2-1, "Approach/Departure Requirements Table."

### D. Optimum FAR Part 77 Airspace Surfaces.

Airspace surface requirements are defined in Federal Aviation Regulation (FAR) Part 77 titled *Objects Affecting Navigable Airspace*.

Appropriate airspace surfaces for the previously defined optimum airport facility are shown below in Table 4-3.

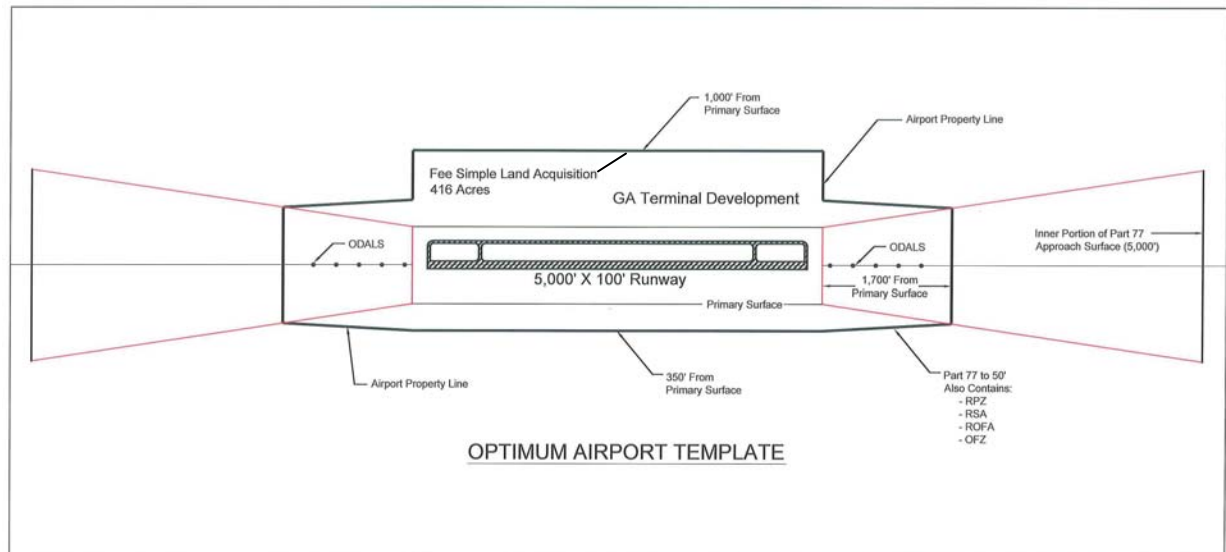


Table 4-3	
Part 77 Surfaces – Larger Than Utility Runway	
Larger Than Utility Runway With Non-Precision Instrument Approaches having Visibility Minimums as Low as $\frac{3}{4}$ Mile.	Part 77 Surface Dimensions (Feet)
Width of Primary Surface and Approach Surface Width at Inner End.	1,000
Radius of Horizontal Surface	10,000
Approach Surface Width at End	4,000
Approach Surface Length	10,000
Approach Slope	34:1

### E. Optimum Airport Template

The Optimum Airport Design Standards as defined above have been utilized to develop the Optimum Airport Template, as illustrated in Exhibit 4-2. Later in this Study, the template will be used in an effort to assess the ability of various alternatives to accommodate optimum airport facilities.

**Exhibit 4-2**  
**Optimum Airport Template**



## 404. Standards Selected For JGG

### A. Introduction

Early during the analysis process, it became obvious that the existing Williamsburg – Jamestown Airport (JGG) site would not be able to accommodate the vast majority of design standards selected for the Optimum Airport Facility, as previously discussed in Section 402. As an example, the site can not accommodate many of the requirements needed to meet potential ARC C-II standards, or provide an instrument approach offering a visibility minimum as low as  $\frac{3}{4}$  statute mile.

Therefore, it was determined that, considering the limitations of the existing Airport site, this section would concentrate on defining the FAA Design Standards that, (within an ARC classification of B-II and with an instrument approach visibility minimum of one statute mile), can be either fully accommodated, or accommodated to a high degree, at the existing Airport site.

Aerial photography of the Airport will be used to show the locations and the dimensions of the various FAA Design Standards found suitable for consideration, along with a table summarizing the ability to accommodate the standard.

### B. JGG Runway Length

As previously discussed in Chapter 1, *Existing Conditions*, the runway configuration at JGG consists of a single runway having a published length of 3,204 feet. Also, as previously discussed in Section 403, A, above, using FAA criteria, a runway length of 4,150 feet has been determined to be an optimum runway length to accommodate an ARC of B-II.

However, an initial analysis of the present Airport site performed as part of this study has indicated that such a potential runway extension is not feasible. In fact, given the location of College Creek off the southeast end of the runway, and developed adjoining land uses (and obstructions) to the northwest of the runway, no appreciable runway extension is considered feasible, nor is one recommended.

With the above acknowledged, one additional factor involving existing runway length needs to be considered. As will be discussed below in Section 404, D, the Runway 31 Threshold area (located at the southeast end of the runway) does not provide the full 300 foot Runway Safety Area (RSA), as needed using FAA design standards. Two options are available to resolve this situation:

- 1) Approximately 221 feet of Runway pavement might be removed at the Runway 31 Threshold end to provide the full 300 foot RSA. However, this would shorten runway length to approximately 2,983 feet.



- 2) Approximately 221 feet of Runway pavement could be removed at the Runway 31 Threshold end to provide the full 300 foot RSA, as above, and an additional 221 feet of runway pavement might be placed at the Runway 13 Threshold end. This would preserve the existing runway length of 3,204 feet.

**Recommendation:** It is recommended that the runway length remain at 3,204'.

### C. JGG Runway Width

The width of the runway is influenced by the ARC, and also by the approach visibility minimum. With an ARC of B-II and a planned visibility minimum of one statute mile, a 75 foot runway width is applicable at JGG. A summary of the runway width analysis may be found in Table 4-4. The existing runway width (60') at JGG currently does not meet design standard criteria.

Table 4-4			
Runway Width			
Runway Analysis Item	Standard Width	Existing Condition	Sub-Standard Condition
Runway Width – ARC-B-II	75'*	60'	Yes

**Recommendation:** Widen runway to 75 feet.

### D. Runway Safety Area

The Runway Safety Area (RSA) is a defined 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. The design standards state that the RSA shall be:

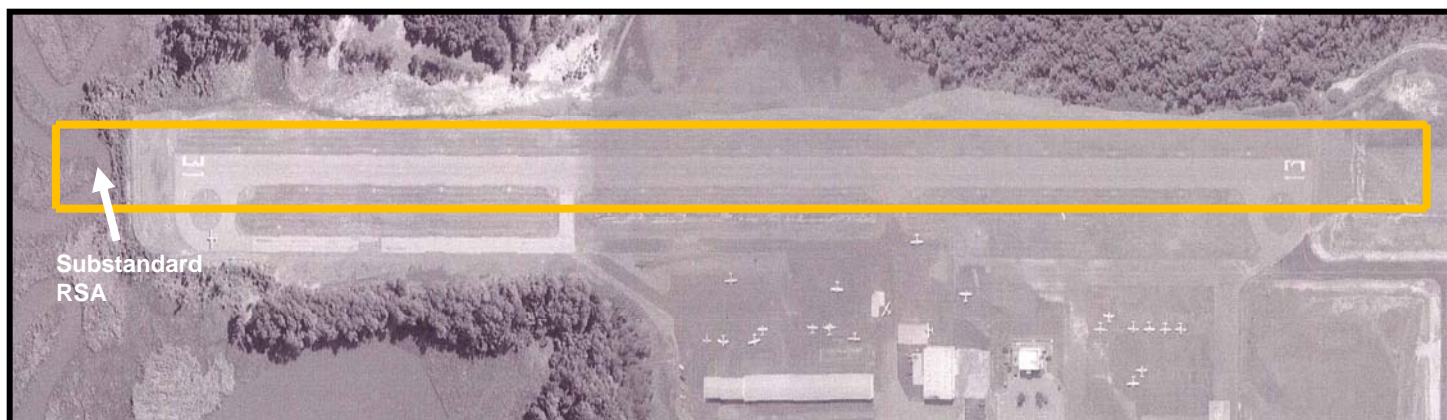
- ➔ Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;
- ➔ Drained by grading or storm sewers to prevent water accumulation;
- ➔ Capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and
- ➔ Free of objects, except for objects that need to be located in the runway 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. In no case should their height exceed 3 inches above grade.

As presented in Table 4-5 and depicted in Exhibit 4-3, JGG is not in compliance with the FAA RSA standards for length beyond the RW 13 end and for length at the Runway 31

threshold end. With regard to the Runway 13 threshold end, the standard can be met with minor grading and drainage upgrades.

Table 4-5			
Runway Safety Area (RSA)			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway Safety Area Width	150'*	150'	
Runway Safety Area Length Beyond RW 13 end	300'	79'	Yes
Runway Safety Area Length Beyond RW 31 end	300'*	300'	
Runway Safety Area Length Prior to RW 13 Landing Threshold	300'	300'	
Runway Safety Area Length Prior to RW 31 Landing Threshold	300	79'	Yes

**Exhibit 4-3**  
**Runway Safety Area**



*Note: not to scale*

**Recommendation:** As discussed in Section 404, B., remove approximately 221 feet of runway pavement at the Runway 31 Threshold end to provide the full 300 foot RSA, and place an additional 221 feet of runway pavement at the Runway 13 Threshold end. This would preserve the existing runway length of 3,204 feet.

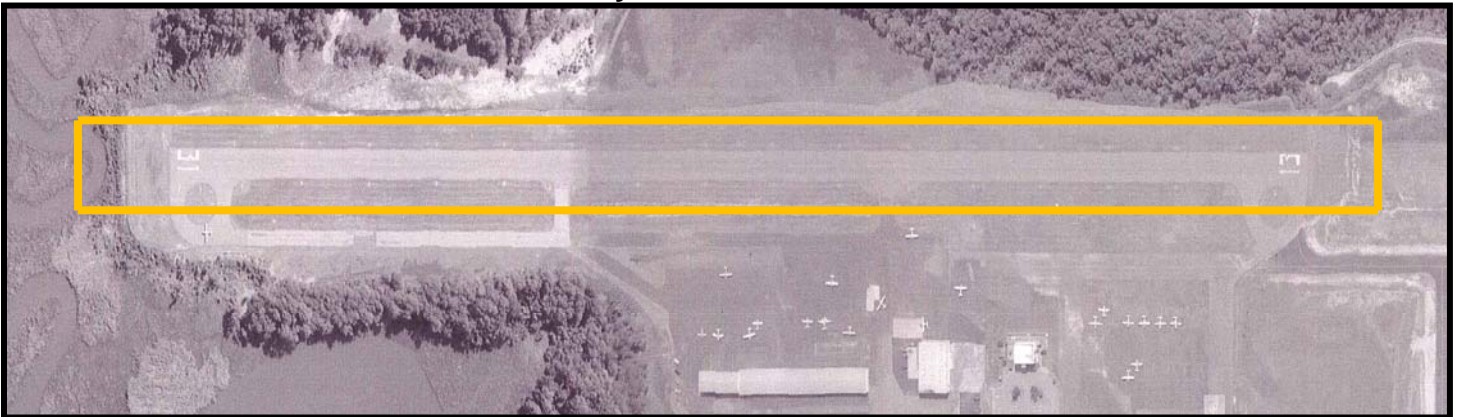
### E. Runway Obstacle Free Zone

The Runway Obstacle Free Zone (OFZ) is the airspace below 150 feet above the established airport elevation along the runway and extended runway centerline that is

required to be clear of all objects, except for frangible visual NAVAIDs that need to be located in the OFZ because of their function. This is necessary in order to provide clearance protection for aircraft landing or taking off from the runway, and for missed approaches. The clearing standard also precludes taxiing and parked airplanes. An evaluation of existing OFZ design criteria for Runway 13-31 shown in Table 4-6 and depicted in Exhibit 4-4.

Table 4-6			
Obstacle Free Zone (OFZ)			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway Obstacle Free Zone Width	250'	250'	
Runway Obstacle Free Zone Beyond RW 13 end	200'	200'	
Runway Obstacle Free Zone Length Beyond RW 31 end	200'	200'	

**Exhibit 4-4**  
**Runway Obstacle Free Zone**



*Note: not to scale*

## F. Runway Object Free Area

The Runway Object Free Area (ROFA) is a two dimensional surface centered on the runway centerline. The clearing standard requires clearing the OFA of above ground objects protruding above the runway safety area edge elevation. Except where precluded by other clearing standards, it is acceptable to place objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes and to taxi and hold aircraft in the OFA. Objects non-essential for air navigation or aircraft ground maneuvering purposes are not to be placed in the OFA. This includes parked airplanes and agricultural operations.

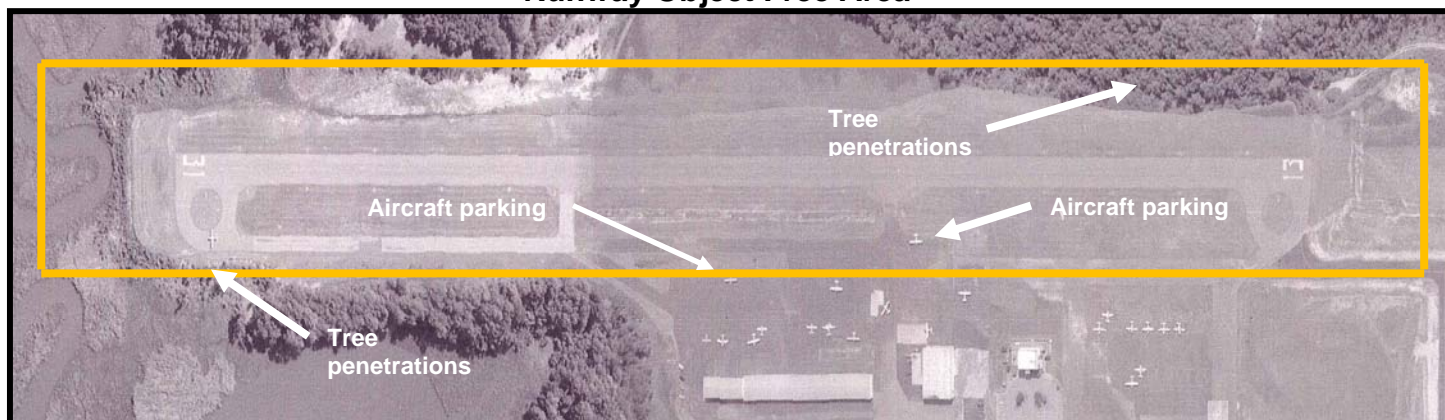


An evaluation of existing ROFA design criteria for Runway 13-31 is shown in Table 4-7 and depicted in Exhibit 4-5.

Table 4-7			
Object Free Area (ROFA)			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway Object Free Area Width	500'*	±400'	Yes
Runway Object Free Area Length Beyond RW 13 end	300'*	300'	
Runway Object Free Area Length Beyond RW 31 end	300'*	300'	

There are groups of trees and some aircraft parking positions that penetrate the ROFA.

**Exhibit 4-5**  
**Runway Object Free Area**



*Note: not to scale*

**Recommendation:** Remove tree penetrations in the ROFA and abandon the aircraft parking positions.

## G. Runway Protection Zone

The RPZ is trapezoidal in shape and centered about the extended runway centerline from either runway end. The RPZ dimension for a particular runway end is a function of the type of aircraft and approach visibility minimum standard associated with that runway end. The RPZ function is to enhance the protection of people and property on the ground. Where practical, airport operators should have positive control over the property under the runway approach and departure areas to at least the limits of the RPZ. It is desirable to clear the entire RPZ of all aboveground objects. Where this is impractical, airport owners, as a minimum, shall maintain the RPZ clear of all facilities supporting incompatible activities. Incompatible activities include, but are not limited to,





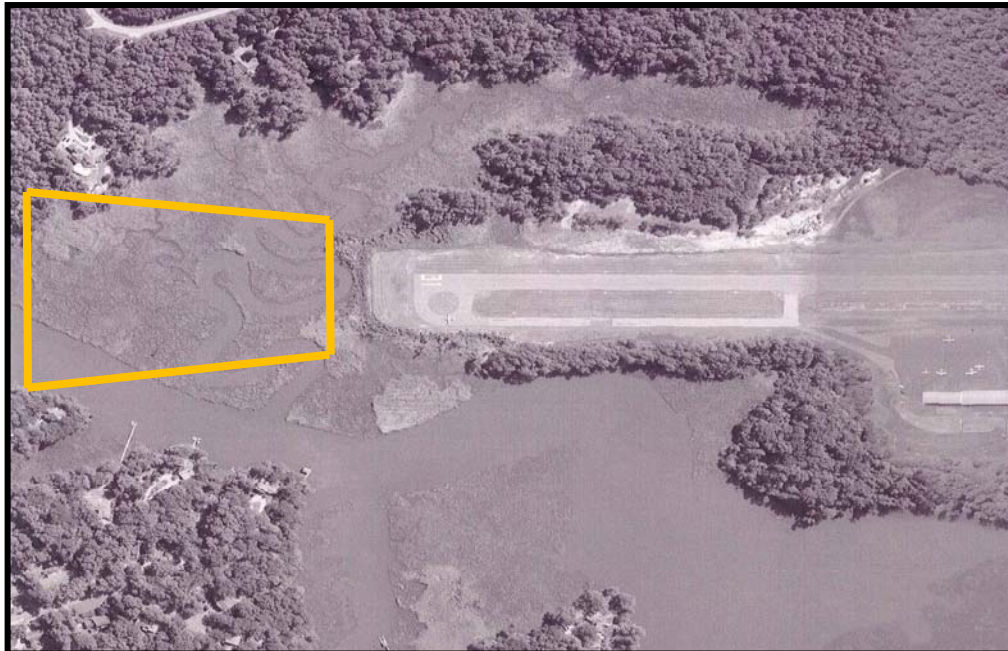
those that lead to an assembly of people. Land uses prohibited from the RPZ are: residences and places of public assembly (churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly). According to FAA Advisory Circular 150/5300-13, *Airport Design*, "Where it is determined to be impractical for the airport owner to acquire and plan the land uses within the entire RPZ, the RPZ land use standards have recommendation status for that portion of the RPZ not controlled by the airport owner."

For planning purposes at JGG, the standards for approach visibility minimums for "Visual and Not Lower than 1 mile" for aircraft "Approach Categories A & B" will be used at both ends of the runway. A summary of RPZ dimensions is presented in Table 4-8. For purposes of this Study, the dimensions associated with Approach Visibility Minimums for Visual and Not Lower than 1-Mile and Aircraft Approach Categories A & B will be used as highlighted in yellow in Table 4-8.

The existing Runway Protection Zones for JGG are approximated in Exhibit 4-6 and Exhibit 4-7. As can be seen in these exhibits, there appears to be no incompatible land uses within the existing RPZs.

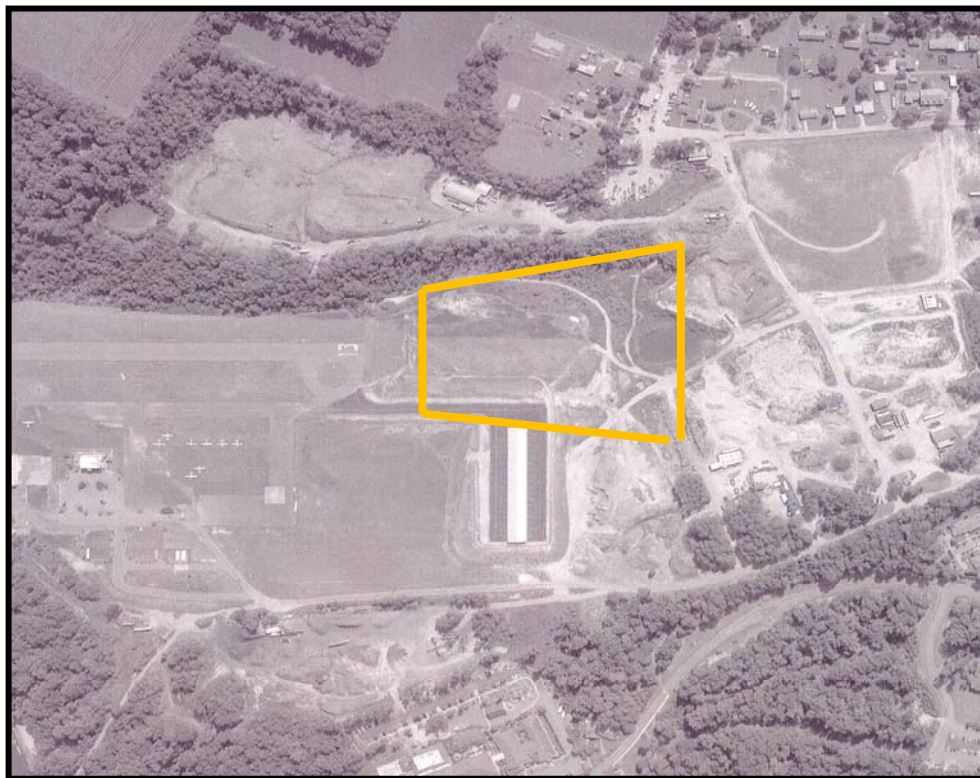
Table 4-8					
RPZ Dimensions					
Approach Visibility Minimums	Facilities Expected To Serve	Dimensions			
		Length Feet	Inner Width Feet	Outer Width Feet	RPZ Acres
Visual And Not Lower than 1-Mile	Small Aircraft Exclusively	1,000	250	450	8.035
	Aircraft Approach Categories A & B	1,000	500	700	13.770
	Aircraft Approach Categories C & D	1,700	500	1,010	29.465
Not Lower Than ¾-Mile	All Aircraft	1,700	1,000	1,510	48.978
Lower Than ¾-Mile	All Aircraft	2,500	1,000	1,750	78.914

**Exhibit 4-6**  
**Runway Protection Zone – RW 31**



*Note: not to scale*

**Exhibit 4-7**  
**Runway Protection Zone – RW 13**



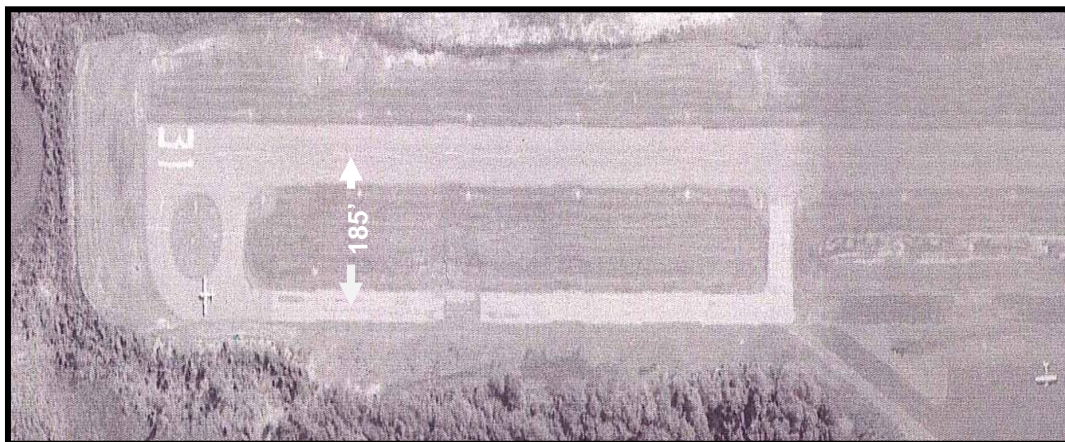
*Note: not to scale*

## H. Runway Centerline to Taxiway Centerline

This distance is established in such a manner as to satisfy the requirement that no part of an aircraft (tail, wing tip, etc.) on the taxiway/taxilane centerline is within the RSA or penetrates the OFZ. The requirements for JGG are presented in Table 4-9 and depicted in Exhibit 4-8. As depicted, there is a section of the parallel taxiway that may not be able to be relocated due to the close proximity of water.

Table 4-9			
Runway Centerline to Parallel Taxiway Separation			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway to Parallel Taxiway Separation Distance	240'	185'	Yes

**Exhibit 4-8**  
**Runway Centerline to Taxiway Centerline**



Note: not to scale

**Recommendation:** Close that portion of the parallel taxiway that cannot be relocated.

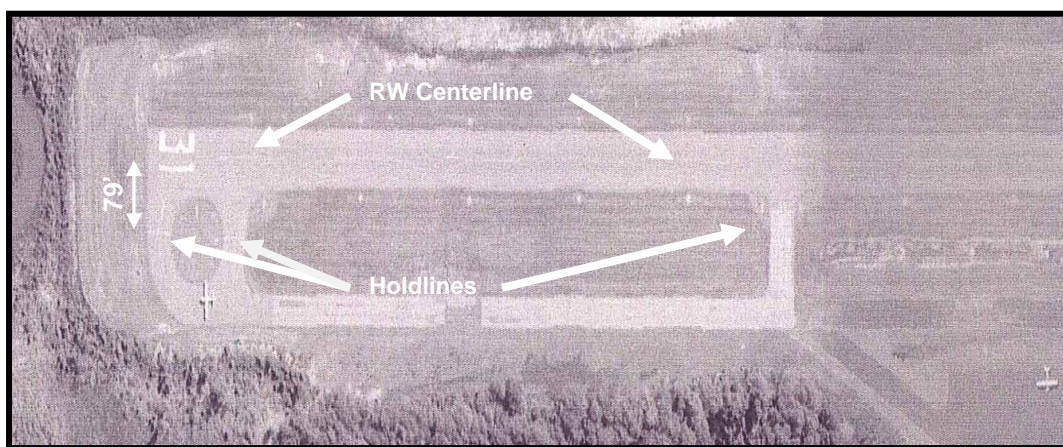
## I. Runway Centerline to Holdline

The standards for placement of holdline markings are found in AC 150/5340-18D, *Standards for Airport Sign Systems*. Holdline markings are located on all taxiways that intersect runways based upon the most critical aircraft using the runway. At airports without operating control towers the runway holding position markings identify the location where a pilot should assure there is adequate separation with other aircraft before proceeding onto the runway. As indicated in Section 1, *Existing Inventory*, several of the holdlines at JGG are substandard due to their proximity to the runway centerline. The standards for (small aircraft) holding position markings for JGG are presented in Table 4-10 and approximated on Exhibit 4-9.



Table 4-10			
Runway Centerline to Holdline Separation			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway Centerline to Holdline Separation	125'	79'	Yes

**Exhibit 4-9**  
**Runway Centerline to Holdline Separation Distance**



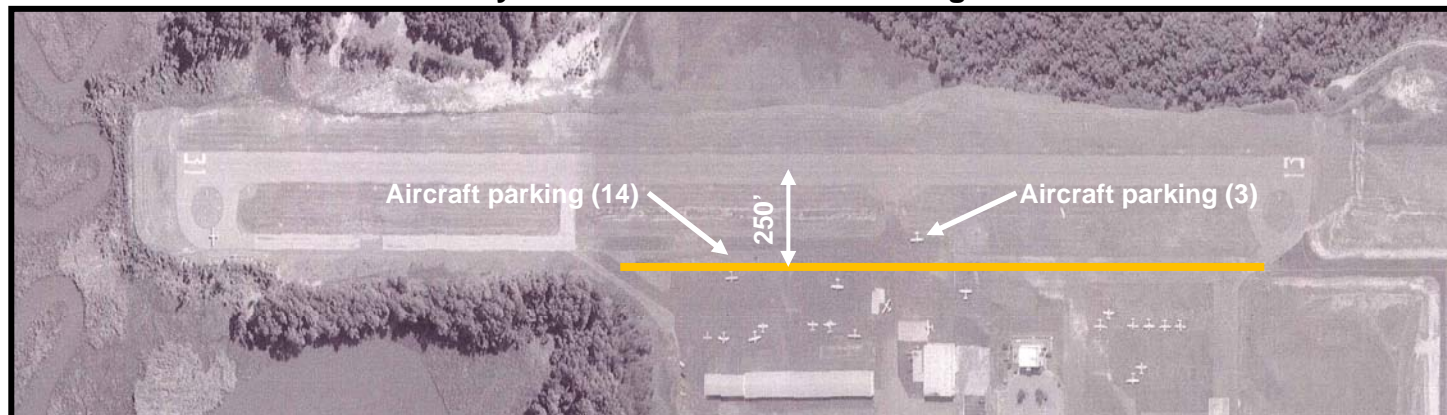
**Recommendation:** Relocate holdlines to correct position.

## J. Runway Centerline to Aircraft Parking Area

Runway centerline to aircraft parking areas is determined by the landing and takeoff flight path profiles and physical characteristics of airplanes. The runway to parking area standard precludes any part of a parked airplane (tail, wingtip, nose, etc.) from being within the runway object free area or penetrating the OFZ. The standards for aircraft parking area separation are presented in Table 4-11 and depicted in Exhibit 4-10. There are two aircraft parking areas that appear to be within the ROFA.

Table 4-11			
Runway Centerline to Aircraft Parking Area			
Runway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Runway to Aircraft Parking Area	250'	150'	Yes

### Exhibit 4-10 Runway Centerline to Aircraft Parking Area



**Recommendation:** Abandon those parking positions that do not meet the runway centerline to aircraft parking area separation distance (see ROFA discussion above).

### K. Taxiway Width

The taxiway pavement needs to be of sufficient width to provide adequate clearance between the outside wheel and the pavement edge. The required taxiway width for Design Group II is 35'.

Table 4-12			
Taxiway Width (ADG II)			
Taxiway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Width	35'	± 29'	Yes

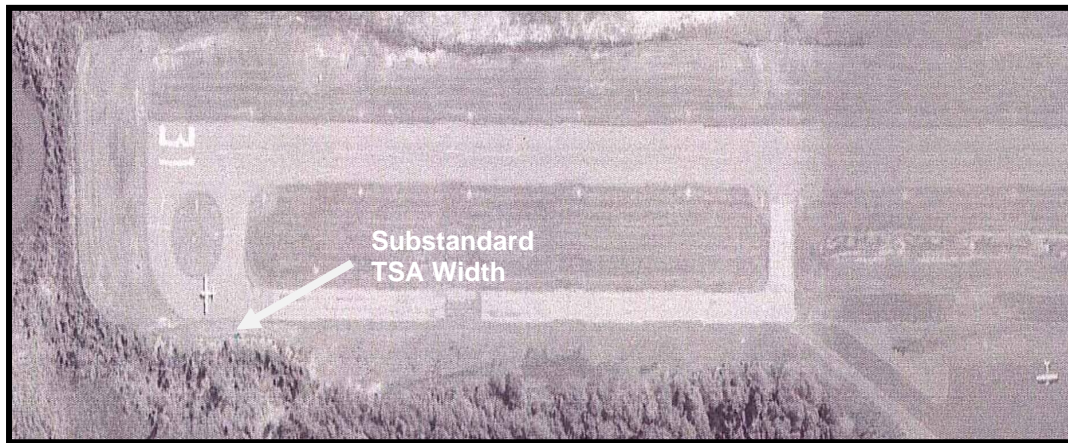
**Recommendation:** Widen taxiways to 35'.

### L. Taxiway Safety Area Width

The taxiway safety area (TSA) is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. As indicated in Table 4-13 and depicted in Exhibit 4-11, there are some substandard TSA's, primarily at the east end. It appears that there is one area in close proximity to the water (RW 31 end) and, accordingly, may not be able to be mitigated.

Table 4-13			
Taxiway Safety Area Width			
Taxiway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Width	79'	± 60'	Yes

### Exhibit 4-11 Taxiway Safety Area



**Recommendation:** It is anticipated that this section of the taxiway will have to be closed.

#### M. Taxiway Object Free Area Width

The taxiway object free area (TOFA) is an area on the ground centered on a taxiway 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.

Table 4-14			
Taxiway Object Free Area Width			
Taxiway Analysis Item	Required Dimension	Existing Condition	Sub-Standard Condition
Width	131'	131'	

#### N. Runway End Siting

According to AC 150/5300-13, *Airport Design*, Appendix 2, “Runway End Siting Requirements,” the threshold should be located at the beginning of the full-strength runway pavement or runway surface. However, displacement of the threshold may be required when an object that obstructs the airspace required for landing airplanes is beyond the airport owner’s power to remove, relocate, or lower. Thresholds may also be displaced for environmental considerations, such as noise abatement, or to provide the standard RSA and ROFA lengths.

The standards in Appendix 2 are intended to minimize the loss of operational use of the established runway and reflect the FAA policy of maximum utilization and retention of





existing paved areas on airports. Also, the standards should not be interpreted as an FAA blanket endorsement of the alternative to displace a threshold. Such displacement should only take place after a full evaluation reveals that displacement is the only practical alternative. A summary of the appropriate standards are summarized in Table 4-15. Here, it is noted that two standards require consideration, as shown below. The first standard considers the appropriate approach surface and slope beginning at the runway threshold, while the second considers the appropriate approach surface and slope beginning 200 feet from the threshold.

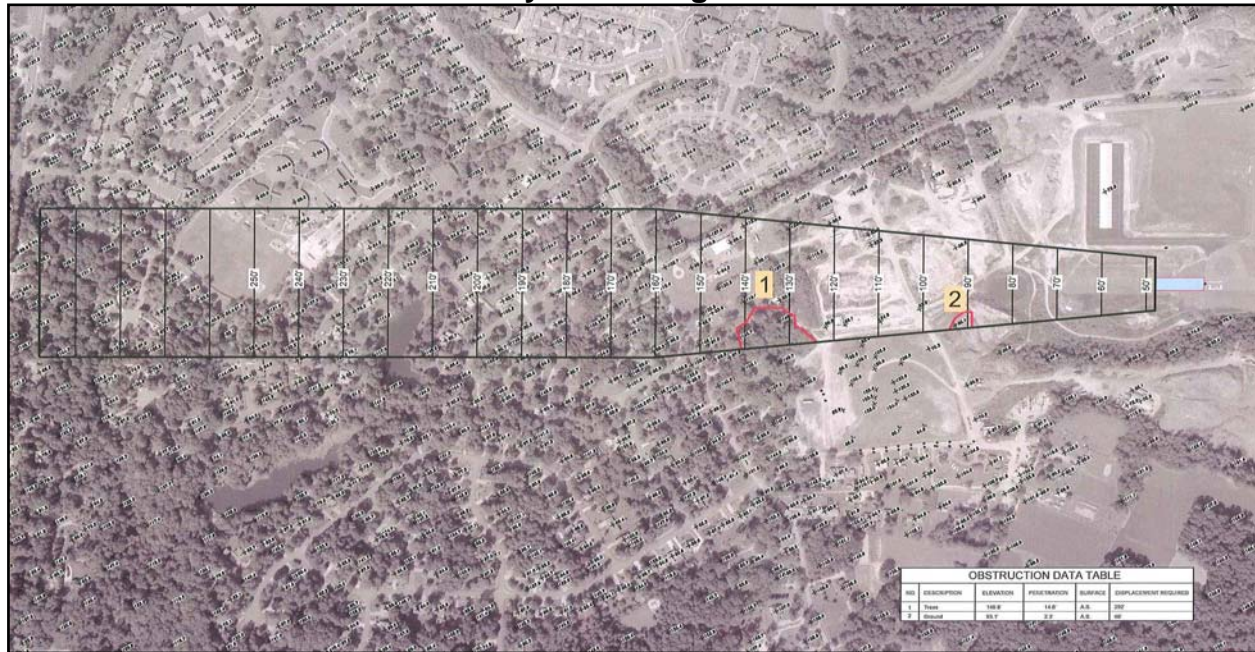
Of the two standards presented in Table 4-15, the critical one is the top one (2). If there are any objects penetrating this surface, it will mean that, unless those objects can be removed or lowered to a point where they no longer penetrate the surface, the landing threshold for that end of the runway will have to be displaced to a point where a clear surface can be provided. If there are penetrations to the second standard (5), the AC indicates that lighting of obstacle penetrations to this surface or the use of a Visual Glide Slope Indicator (VGSI) may avoid displacing the threshold.

As presented in paragraph 404.D, above, in order to provide the requisite runway safety area at the approach end of Runway 31, the threshold will have to be relocated approximately 221'; if the existing runway length is to be maintained, then a 221' extension to the Runway 13 approach end should be constructed. Accordingly, the runway end siting criteria should be applied to the relocated sites in order to accurately evaluate the runway end siting criteria. The criteria #2 evaluation is depicted in Exhibit 4-12 and Exhibit 4-13.

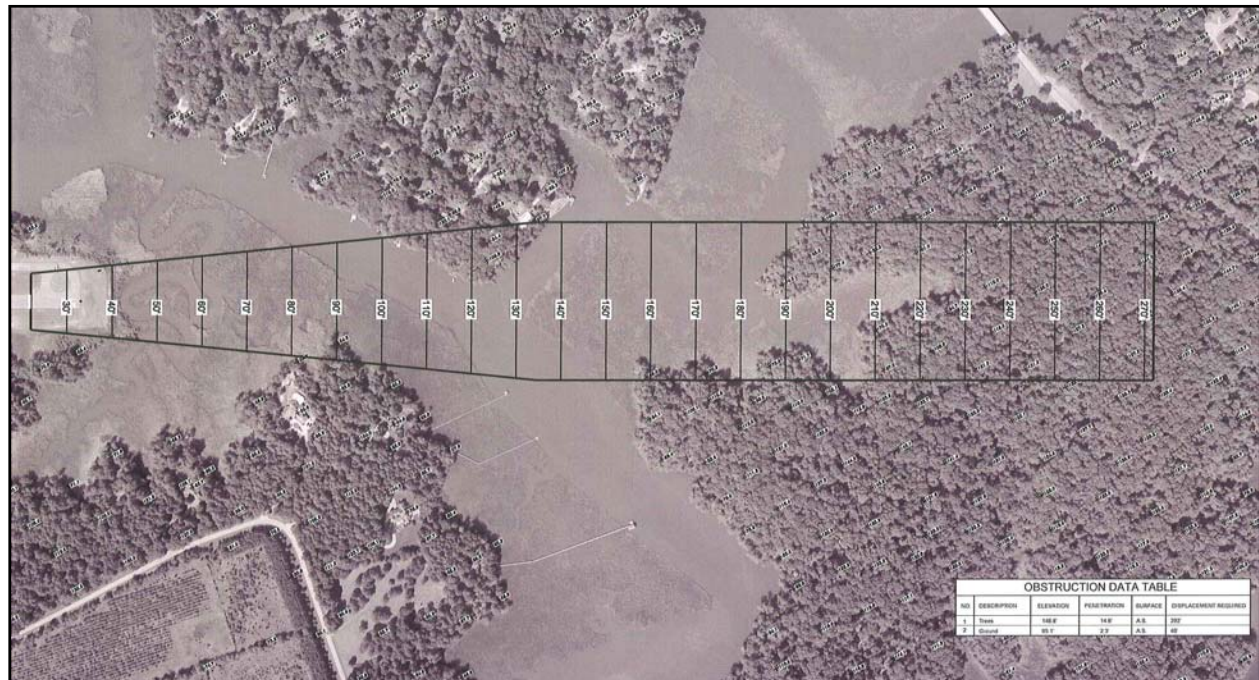
Table 4-15					
Runway End Siting Requirements					
Runway Type	Distance from Threshold	Total- Inner Width	Total- Outer Width	Length	Slope
(2)* Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. (Visual runways only, day/night)	0	250'	700'	5,000'	20:1
(5)* Approach end of runways expected to support instrument straight in night operations, serving approach category A and B aircraft only.	200'	400'	3,800	10,000	20:1

\* These numbers represent the line item categories found in AC 150/5300-13, Appendix 2, Table A2-1, "Approach/Departure Requirements Table."

**Exhibit 4-12**  
**Runway End Siting – RW 13**



**Exhibit 4-13**  
**Runway End Siting – RW 31**





As presented in the above exhibits, there would be tree and ground penetrations to the runway end siting surfaces on the RW 13 end. There are no penetrations on the RW 31 end. If the trees cannot be removed/lowered, then the RW 13 threshold would have to be displaced 292'; if it is not practicable to lower the ground (landfill), then the threshold would have to be relocated 46'.

**Recommendation:** The tree and ground/landfill penetrations to the runway end siting standards on the Runway 13 end should be lowered to preclude the need to displace the threshold.

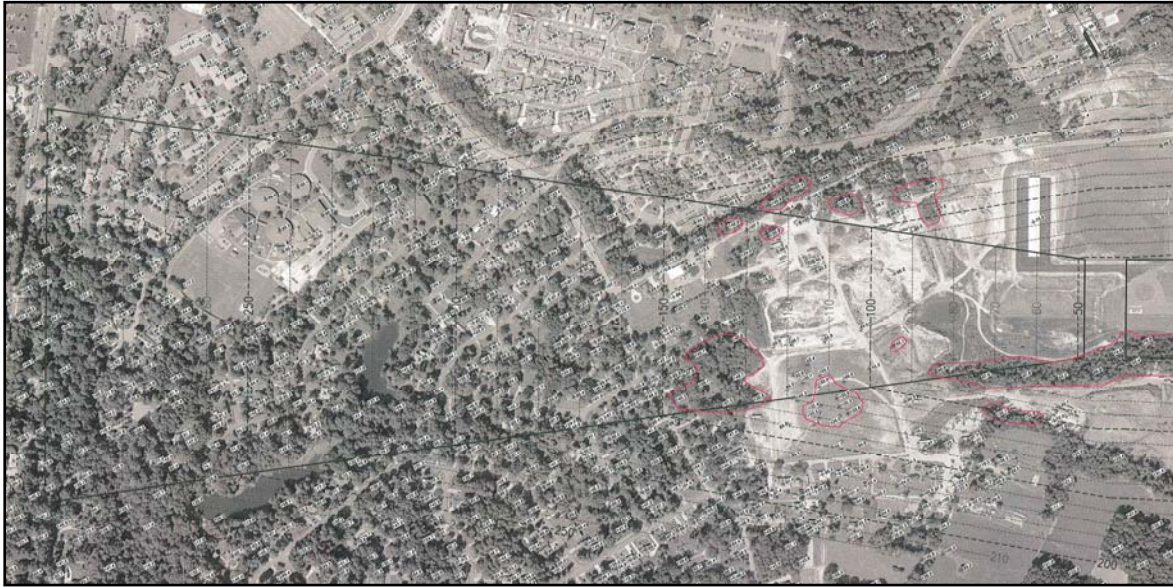
## 1. FAR Part 77

Federal Aviation Regulations (FAR) Part 77, *Objects Affecting Navigable Airspace*, establishes standards for determining obstructions to air navigation at airports available for public use. The FAR provides for a series of imaginary surfaces around the airport. Any natural or manmade objects penetrating these surfaces are considered to be obstructions to air navigation and should be removed, topped, and/or lighted in order to provide safe operating condition at the airport. For the purposes of this evaluation, the standards for a utility runway (used by aircraft of 12,500 pound maximum gross weight and less) will be applied. These standards are presented in Table 4-16 and depicted on Exhibit 4-14 (Runway 13), Exhibit 4-15 (Runway 31) and Exhibit 4-16 (primary surface). Please note that the Part 77 analyses are based on the current runway configuration.

Table 4-16	
Part 77 – Utility Runway	
Utility/Non-Precision Instrument Runway with Visibility Minimums Greater than $\frac{3}{4}$ Mile.	Part 77 Surface Dimensions (Feet)
Width of Primary Surface and Approach Surface Width at Inner End.	500
Radius of Horizontal Surface	5,000
Approach Surface Width at End	2,000
Approach Surface Length	5,000
Approach Slope	20:1



**Exhibit 4-14**  
**Part 77 Surfaces – Runway 13**



**Exhibit 4-15**  
**Part 77 Surfaces – Runway 31**



### Exhibit 4-16 Part 77 Surfaces – Primary Surface



As with the Runway End Siting surface discussion above, there are tree and ground penetrations to the Part 77 approach surfaces. There are also tree penetrations to the primary surface. It should be noted here that there are also transition surfaces that are applicable that emanate from sides of both the approach surface and the primary surface.

**Recommendation:** Appropriate aviation easements should be obtained and the Part 77 obstructions removed/lowered. For those obstructions where it is not practical to obtain the necessary easement and cannot be removed/lowered, it is recommended that an FAA Form 7460 be initiated for each of the obstructions with the intent of obtaining a Determination of No Hazard. In some cases, it may be necessary to provide obstruction lighting.





#### 405. Summary of Recommendations

Table 4-17 summarizes the recommendations presented. Where applicable, a rough cost estimate to address each condition is provided (note: the costs presented do not include any required environmental evaluation).

**Table 4-17**  
**Summary of Recommendations**

Table 4-17	
Summary of Recommendations	
Recommendations	Cost Estimate
1. It is recommended that the runway length remain at 3,204'	N/A
2. Widen runway to 75 feet	\$1,000,000
3. Remove approximately 221 feet of runway pavement at the Runway 31 Threshold end to provide the full 300-foot RSA, and place an additional 221 feet of runway pavement at the Runway 13 Threshold end. This would preserve the existing runway length of 3,204 feet	\$250,000
4. Remove tree penetrations in the ROFA; abandon aircraft parking positions	\$150,000
5. Close that portion of the parallel taxiway that cannot be relocated	N/A
6. Relocate holdlines to correct position	\$11,000
7. Abandon aircraft tiedowns that do not meet runway centerline to aircraft parking area separation standards.	N/A
8. Widen taxiways to 35'	\$320,000
9. Close that portion of the parallel taxiway with the substandard runway / taxiway separation distance	N/A
10. The tree and ground (landfill) penetrations to the runway end siting standards on the Runway 13 end should be removed/lowered to preclude the need to displace the threshold.	\$79,500*
11. Appropriate aviation easements should be obtained and the Part 77 obstructions removed/lowered. For those obstructions where is not practical to obtain the necessary easement and cannot be removed/lowered, it is recommended that an FAA Form 7460 be initiated for each of the obstructions with the intent of obtaining a Determination of No Hazard. In some cases, it may be necessary to provide obstruction lighting	\$1,400,000
12. <b>TOTAL</b>	<b>\$3,210,500</b>

\* This estimate does not include the lowering of the capped landfill. There are too many unknowns at this planning level to provide an accurate estimate.



## CHAPTER 5

# ALTERNATIVES EVALUATION PROCEDURES

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### 501. Introduction

This section introduces the alternatives evaluation procedures that will be used during the actual alternatives evaluation effort, which will occur during the next phase of this Study. The procedures have been formulated with input from the Community Airport Committee, the Virginia Department of Aviation (DOAV), and Federal Aviation Administration (FAA).

### 502. Alternatives To Be Evaluated

Three (3) alternatives have been formulated to undergo future evaluation, as described below.

#### Alternative A – “Status Quo”.

This alternative assumes that the existing Williamsburg - Jamestown Airport would continue to operate as a privately owned public-use airport facility in compliance with current DOAV Licensing and Minimum Design Standards. This alternative also considers that all conditions in the current Special Use Permit (SUP) would remain in effect.

#### Alternative B – “Local Acquisition”.

This alternative considers the possibility that the existing Williamsburg – Jamestown Airport might be acquired by a public sponsor, and improved (where practicable) to meet FAA Design Standards. Local acquisition could potentially increase the stability of the existing Airport facility, and enhance the possibility of future FAA Funding Grants to help implement Airport improvements. This alternative also considers that any conditions in the current SUP which were found objectionable by FAA (and a barrier to potential funding) would be reevaluated by James City County through direct discussions with FAA.

#### Alternative C – “Develop New Airport”.

This alternative will investigate the possibility of establishing a new airport that might better meet the anticipated airport facility needs associated with the



previously defined Williamsburg – Jamestown Primary General Aviation Service Area.

It is important to note that no specific potential site will be identified as part of this Study.

### **503. Selected Evaluation Criteria**

Twenty Seven (27) evaluation criteria have been selected for use during the alternatives evaluation effort, as defined below in Exhibit 5-1.

#### **Exhibit 5-1** **Listing and Explanation Of Evaluation Criteria To Be Used In The** **Alternatives Evaluation Effort.**

##### **Known Environmental Factors Category**

1. Compatible Land Use  
*This criterion provides for the ability to conduct a general assessment of each alternative's ability to support compatible land use between the airport facility and the surrounding community. This will be accomplished by considering the ability to preserve and fully protect all safety areas and protection zones as associated with each alternative. Since the 65Ldn and higher noise levels are also normally contained within the safety areas and protection zones, potential noise impacts will also have been considered. Applicable information found in The Virginia Department of Aviation's compatible land use guide will also be considered.*
2. Potential Recreation / Wildlife / Historic Area Impacts  
*This criterion will consider potential impacts to publicly owned recreation areas, wildlife areas, and historic areas as associated with each alternative. Number of acres of potential impact will be used to assess this factor.*
3. Wetlands  
*This criterion will consider potential impacts to known wetland areas. Existing and available wetland mapping will be used to perform this analysis for each alternative. Number of acres of potential impact will be used to assess this factor.*
4. Floodplains  
*This criterion will consider potential impacts to known floodplain areas. Existing and available floodplain mapping will be used to perform this analysis for each alternative. Number of acres of potential impact will be used to assess this factor.*



**5. Proximity To Land Fill / Wildlife Hazards**

*Active sanitary land fills and other geographical features can attract wildlife activity (such as bird activity) that can pose a hazard to aircraft operations. As such, this criterion will consider the potential for wildlife hazards as associated with each alternative.*

**6. Land Acquisition**

*This criterion will consider the amount of land acquisition that would be needed to support the implementation of each alternative. Acres of needed land acquisition will be used to assess this factor.*

Engineering Factors Category

**7. Special Engineering Factors**

*Engineering contingencies (such as unstable soil types) can influence the implementation ability of an alternative. As such, this criterion will consider and list significant engineering factors as related to each alternative.*

**8. Utility / Pipeline Relocation**

*This criterion will consider the amount of utility / pipeline relocation that would be needed to support the implementation of each alternative. Linear feet of needed relocation will be used to assess this factor.*

**9. Building / Structure Removal**

*This criterion will consider the amount of building / structure removal that would be needed to support the implementation of each alternative. Number of structures needing removal will be used to assess this factor.*

**10. Topography Factors**

*Topographical features (such as ground contour elevation changes) can influence the implementation ability of an alternative. As such, this criterion will consider and list significant topography factors as related to each alternative.*

Surface Transportation Factors Category

**11. Road / Rail Relocation**

*This criterion will consider the amount of road / rail line relocation that would be needed to support the implementation of each alternative. Linear feet of needed relocation will be used to assess this factor.*

**12. New Roadway Requirements**

*This criterion will consider the amount of new roadway development that would be needed to support the implementation of each alternative. Linear*



*feet of needed new roadway development will be used to assess this factor.*

### **13. Highway Congestion Factor**

*Potential alternative implementation could change airport user driving patterns and subject users to added highway congestion. As such, this criterion will consider the potential of users being subjected to known "highly congested" highway areas.*

### **14. User Driving Time**

*Potential alternative implementation could influence user driving time from origination areas to the airport facility. As such, this criterion will consider changes to estimated average user driving minutes as associated with each alternative.*

## **Operational Factors Category**

### **15. Ability To Meet Design Standards**

*This criterion will assess each alternative's ability to meet appropriate airport design standards. Commonwealth of Virginia standards will be used for the "Status Quo" alternative, and FAA design standards will be used for all other alternatives. The following design standards will be considered:*

- ➔ *Runway length*
- ➔ *Runway Width*
- ➔ *Runway Safety Area Width*
- ➔ *Runway Safety Area Length Prior to Landing Threshold*
- ➔ *Runway Safety Area Length Beyond Runway End*
- ➔ *Obstacle Free Zone Width and Length*
- ➔ *Runway Object Free Area Width*
- ➔ *Runway Object Free Area Length Beyond RW End*
- ➔ *Runway Protection Zone*
- ➔ *Runway Centerline to Taxiway/Taxilane Centerline*
- ➔ *Runway Centerline to Holdline*
- ➔ *Runway Centerline to Aircraft Parking Area*
- ➔ *Taxiway Width*
- ➔ *Taxiway Safety Area Width*
- ➔ *Taxiway Object Free Area Width*
- ➔ *Runway End Siting*
- ➔ *Part 77, Objects Affecting Navigable Airspace*

### **16. Airspace / Airfield Capacity**

*As associated with each alternative, this criterion will assess the ability of the area airspace to accommodate the anticipated aeronautical demand*



*without conflict, and the ability of the runway/taxiway system to accommodate anticipated aircraft operations without appreciable delay.*

**17. Obstruction Removal**

*This criterion will consider the number of obstructions that would require removal to meet aircraft approach, departure, and circling airspace needs, as related to each alternative. Applicable information found in The Virginia Department of Aviation's compatible land use guide will also be considered.*

**18. Instrumentation / lighting Improvements**

*This criterion will consider each alternative's ability to utilize and incorporate current and upcoming technologies such as GPS - WAAS based navigation and approach capabilities, as well as lighting aids.*

**19. Ability to Meet User Needs**

*This criterion will assess each alternative's overall ability to meet user needs, including: ability to provide convenient access to destinations within the service area; ability to accommodate a high percentage if the anticipated aircraft mix; and ability to provide on airport support facilities for various types of general aviation related activities.*

**Economic Factors Category**

**20. Development Costs**

*This criterion will consider the estimated development costs associated with the implementation of each alternative. Constant 2008 dollars will be used in all calculations.*

**21. Economic Benefits**

*Using existing data contained in the 2004 Commonwealth of Virginia Economic Impact Study, this criterion will consider how airport related jobs might shift from one community to another community – as related to each alternative.*

**22. FAA Funding Potential**

*As associated with each alternative, this criterion will assess the potential of the airport facility to be included in FAA's National Plan of Integrated Airport Systems (NPIAS) document, and become eligible for FAA grant funding.*

**23. Financial Viability Potential**

*As associated with each alternative, and using other similar general aviation airports as examples, this criterion will consider the potential of the airport facility to operate as a viable economic entity.*





### Public Support Factors Category

**24. Ability To Secure A Public Airport Sponsor**

*As associated with each alternative, this criterion will consider the ability to secure a public airport sponsor for the airport facility.*

**25. Airport User Support**

*This criterion will assess the ability to achieve a high level of airport user support as related to each alternative.*

**26. Community Support**

*This criterion will assess the ability to achieve a high level of community support as related to each alternative.*

**27. Public Agency Support**

*This criterion will assess the ability to achieve a high level of public agency support as related to each alternative.*

### **504. Alternatives Evaluation Matrix**

The results of the full technical analysis as associated with alternatives evaluation effort will be summarized on the Alternatives Evaluation Matrix. For example, under "Land Acquisition", number of acres required will be indicated for each alternative. Exhibit 5-2 provides a sample of the matrix format to be used.



**Exhibit 5-2**  
**Sample Alternatives Evaluation Matrix Format**

Criteria	<u>Alternative A</u> Status Quo	<u>Alternative B</u> Local Acquisition	<u>Alternative C</u> Develop New Airport
<b><u>ENVIRONMENTAL</u></b>			
Compatible Land Use			
Potential Recreation/Wildlife/Historic Area Impacts			
Wetlands			
Floodplains			
Proximity To Land Fill/Wildlife Hazards			
Land Acquisition			
<b><u>ENGINEERING</u></b>			
Special Engineering Needs			
Utility/Pipeline Relocation			
Building/Structure Removal			
Topography Factors			
<b><u>SURFACE TRANSPORTATION</u></b>			
Road/Rail Relocation			
New Roadway Requirements			
Highway Congestion Factor			
User Driving Time			
<b><u>OPERATIONAL</u></b>			
Meet Design Standards			
Airspace/Airfield Capacity			
Obstruction Removal			
Instrumentation / Lighting Improvements			
Meet User Needs			
<b><u>ECONOMIC</u></b>			
Development Costs			
Economic Benefits			
FAA Funding Potential			
Financial Viability Potential			



<b><u>PUBLIC SUPPORT</u></b>			
Secure Public Airport Sponsor			
Airport User Support			
Community Support			
Public Agency Support			

### **505. Alternative Scoring and Rating Matrix**

In an effort to allow a straight forward understanding of the advantages and disadvantages of each alternative, both a Scoring and Rating Process will be used.

The Scoring Process will be conducted by the Consultant, using a scale of between 1 to 5, to consider the relative advantages and disadvantages of each criterion, as related to the other alternatives.

A score of 5 would indicate the best opportunity of meeting documented needs, fostering value to the community, and reducing potential negative impacts. A score of 1 indicates the opposite. Scores between 1 and 5 indicate the relative differences between worst and best. Procedures to be utilized to determine score numbers between 1 and 5 are shown below in Exhibit 5-3.

#### **Exhibit 5-3** **Alternatives Evaluation Scoring Methods** **(To be used by the Consultant)**

##### **Sample "Quantitative" Criterion = Development Costs**

###### **Proposed Scoring Method**

Lowest Development Costs = 5 (Best)

Within 10% of best = 4 (Very Good)

Within 11-25% of best = 3 (Good)

Within 26-40% of best = 2 (Poor)

Not within 40% of best = 1 (Very Poor)



Sample “Qualitative” Criterion = Community Support

Proposed Scoring Method

Highest Support Potential = 5 (Best)

Significant Support Potential = 4 (Very Good)

Moderate Support Potential = 3 (Good)

Minor Support Potential = 2 (Poor)

Lowest Support Potential = 1 (Very Poor)

An alternative weighting system will also be used to factor criteria importance as determined by the Community Airport Committee. In this regard, each Committee member has been asked to “weight” the importance of each criterion on a scale of 1 to 10, with 1 meaning the criterion is of “very minor importance”, and 5 standing for “average importance”, and a 10 meaning the criterion is of “very high importance”.

The weightings received from each Committee member were then averaged together to produce an average weighting for each criterion. Average weightings calculated from weights provided by each Community Airport Committee member are shown below in Exhibit 5-4.



**Exhibit 5-4**  
**James City County Airport Feasibility Study**

**Importance Weighting Of Evaluation Criteria**

**(To Be Accomplished By Each Community Airport Committee Member)**

CRITERIA	ASSESSMENT OF CRITERIA IMPORTANCE
1. Compatible Land Use	8.9
2. Potential Recreation / Wildlife / Historic Area Impacts	6.6
3. Wetlands	6.7
4. Floodplains	4.6
5. Proximity To Land Fill / Wildlife Hazards	5.4
6. Land Acquisition	6.6
7. Special Engineering Factors	5.1
8. Utility / Pipeline Relocation	3.4
9. Building / Structure Removal	5.3
10. Topography Factors	5.6
11. Road / Rail Relocation	4.0
12. New Roadway Requirements	4.4
13. Highway Congestion Factor	3.1





CRITERIA	ASSESSMENT OF CRITERIA IMPORTANCE
14. User Driving Time	5.7
15. Ability To Meet Design Standards	9.1
16. Airspace / Airfield Capacity	8.3
17. Obstruction Removal	8.0
18. Instrumentation / Lighting Improvements	7.3
19. Ability to meet User Needs	8.9
20. Development Costs	8.0
21. Economic Benefits	8.7
22. FAA Funding Potential	10.0
23. Financial Viability Potential	9.6
24. Ability To Secure A Public Airport Sponsor	7.0
25. Airport User Support	7.9
26. Community Support	8.1
27. Public Agency Support	7.4

Once the Scoring and Rating numbers have been calculated, they will be displayed on the Alternatives Scoring and Rating Matrix. A sample format of this matrix is shown below in Exhibit 5-5.



**Exhibit 5-5**  
**Sample Alternatives Scoring and Rating Matrix**

Criteria	Weight	A – Status Quo		B – Local Acquisition		C – Develop New Airport	
		Score	Rating	Score	Rating	Score	Rating
<b><u>ENVIRONMENTAL</u></b>							
Compatible Land Use							
Potential Recreation/Wildlife/Historic Area Impacts							
Wetlands							
Floodplains							
Proximity To Land Fill/Wildlife Hazards							
Land Acquisition							
<b><u>ENGINEERING</u></b>							
Special Engineering Needs							
Utility/Pipeline Relocation							
Building/Structure Removal							
Topography Factors							
<b><u>SURFACE TRANSPORTATION</u></b>							
Road/Rail Relocation							
New Roadway Requirements							
Highway Congestion Factor							
User Driving Time							
<b><u>OPERATIONAL</u></b>							
Meet Design Standards							
Airspace/Airfield Capacity							
Obstruction Removal							
Instrumentation/Lighting Improvements							
Meet User Needs							
<b><u>ECONOMIC</u></b>							
Development Costs							
Economic Benefits							
FAA Funding Potential							
Financial Viability Potential							



<b><u>PUBLIC SUPPORT</u></b>							
Secure Public Airport Sponsor							
Airport User Support							
Community Support							
Public Agency Support							
<b>TOTALS</b>							

Lastly, it should be noted that selection of a favored alternative will not be accomplished as a result this Study. Matrix information is intended to provide future decision makers with information relative to the advantages and disadvantages of each alternative.



## CHAPTER 6

# ALTERNATIVES EVALUATION RESULTS

### 601. Introduction

As previously presented, Chapter Five titled “Alternatives Evaluation Procedures” introduced and discussed the comprehensive methodology and associated procedures to be used when conducting the actual alternatives evaluation. All procedures have been formulated with input from the Community Airport Committee (CAC), the Virginia Department of Aviation (DOAV), and FAA. The procedures were also presented and discussed at a Public Workshop held on October 27, 2008.

This section of the Report will now present and summarize the results of the Evaluation.

It should be noted that the intent of the Alternatives Evaluation is to provide the decision makers with information relative to the advantages and disadvantages of each alternative. The final decision is presented in Attachment 1-H.

### 602. Evaluation and Scoring / Rating Matrices

Both the completed Alternatives Evaluation Matrix and the Alternatives Scoring and Rating Matrix are presented for review as shown below in Exhibit 6-1 and Exhibit 6-2 respectively.



**Exhibit 6-1**  
**Alternatives Evaluation Matrix**

Criteria	Alternative A Status Quo	Alternative B Local Acquisition	Alternative C Develop New Airport
<b>ENVIRONMENTAL</b>			
Compatible Land Use	No Change	Better Safety Area/ RPZ Protection Would Enhance Compatibility	Acquisition Acreage Would Accommodate All Compatibility Standards
Potential Recreation / Wildlife / Historic Area Impacts	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential Issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Some Mitigation Anticipated Based On Future Site Selection
Wetlands	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential Issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Some Mitigation Anticipated Based On Future Site Selection
Floodplains	No Change	National Environmental Policy Act (NEPA) Compliance Would Be Required. Potential issues Have Been Identified. Further Studies Will Be Necessary To Determine Any Potential Impacts.	Anticipated That Future Site Selected Will Not Impact Floodplains
Proximity To Land Fill/Wildlife Hazards	No Change	Non-Sanitary Land Fill Is Closed, New Fencing Would Decrease Wildlife Hazards	Anticipated That Future Site Selected Will Not Conflict With Land Fill / Wildlife Hazards
Land Acquisition	None	Some 107 Acres Acquired From Airport Owner; 46 Acres of Avigation Easements To Be Acquired From Private Owners	Some 416 Acres Of Land Acquisition Required





<b><u>ENGINEERING</u></b>			
Special Engineering Needs	None	Non-Sanitary Land Fill Cap May Require Lowering	Special Engineering Needs Will Be Considered During The Site Selection Process
Utility/Pipeline Relocation	None	None Anticipated	Only Minor Utility Relocations Anticipated Dependent On Future Site Selection
Building/Structure Removal	None	None Anticipated	Only Minor Removals Anticipated Dependent On Future Site Selection
Topography Factors	None	None Anticipated	Only Minor Topography Factors Anticipated Dependent On Future Site Selection
<b><u>SURFACE TRANSPORTATION</u></b>			
Road/Rail Relocation	None	None Anticipated	Only Minor Road Relocations Anticipated Dependent On Future Site Selection
New Roadway Requirements	None	Existing Access Road Will Require Improvements	New Roadways Will Be Needed For Airport Access And Are Dependent On Future Site Selection
Highway Congestion Factor	Currently Not A Major Factor	No Change	It Is Anticipated That A Future Site Selection Study Will Consider / Avoid Congestion Situations
User Driving Time	Currently Reasonable	No Change	Continued Reasonable Driving Times Are Anticipated If Future Site Remains In Defined Service Area



**Exhibit 6-1 (continued)**

<b><u>OPERATIONAL</u></b>			
Meet FAA Design Standards	Would Continue To Meet Only DOAV Standards	Can Meet Basic FAA Standards If A Portion of the Parallel Taxiway And Some Aircraft Tiedowns Are Abandoned	Would Meet All DOAV And FAA Design Standards
Airspace/Airfield Capacity	Would Continue To Be Adequate With Limited Airspace	Would Continue To Be Adequate With Limited Airspace	It Is Anticipated That The Future Site Selected Would Provide Enhanced Airspace/ Capacity & IFR Capabilities
Obstruction Removal	Normal Trimming Maintenance Only	Would Require Trimming Of Off-Airport Tree Groupings And Possible Lowering Of Non-Sanitary Land Fill Cap	Land Acquisition Would Protect Part 77 To 50 Feet With Only Minor Removals Anticipated Beyond Recommended Property Line
Instrumentation / Lighting Improvements	No Improvements	Site-limited Improvements Only	Significant Improvements Could Be Implemented
Meet User Needs	Would Meet Needs To A Moderate Degree	Would Meet Needs To A High Degree with Some Operational Restrictions Due to Runway Length / Approach Capabilities.	Would Meet Needs To A Very High Degree With Almost No Restrictions Due To Runway Length / Approach Capabilities.



## Exhibit 6-1 (continued)

<b><u>ECONOMIC</u></b>			
Development Costs	\$0.0	\$3,210,500.00 <sup>1</sup>	\$16,000,000.00 <sup>2</sup>
Economic Benefits	Airport Related Jobs Retained Locally	Airport Related Jobs Retained Locally	In Defined Service Area
FAA Funding Potential	Very Low Without Public Sponsor	FAA Funding Probability Is Considered Moderate	More Significant FAA Funding Requirement Considered Possible With Comprehensive Financial Plan
Financial Viability Potential	Low Without Public Sponsor And FAA Funding Support	High With Public Sponsor And FAA Funding Support	Very High With Public Sponsor And FAA Funding Support
<b><u>PUBLIC SUPPORT</u></b>			
Secure Public Airport Sponsor	Very Low Without FAA Funding Support	Moderate With FAA Funding Support	Likely With FAA Funding Support
Airport User Support	Continued High Level Of Support	Continued High Level Of Support	With An Optimum Site Found And Selected, A Very High Level Of Support Is Anticipated
Community Support	Continued Low / Moderate Support Level	Continued Low / Moderate Support Level	With An Optimum Site Found And Selected, A High Level Of Support Is Anticipated
Public Agency Support	Continued Strong DOAV Support	Continued Strong DOAV Support With Better Potential For FAA Support	With An Optimum Site Found And Funding Arranged, A High Level Of Support Is Anticipated

<sup>1</sup> This cost does not include acquisition of the existing Airport. An acquisition cost will be added pending on-going discussions with Owner.

<sup>2</sup> This cost does not include construction of hangars and other support facilities, which can be funded by airport tenants / businesses.



**Exhibit 6-2**  
**Alternatives Scoring and Rating Matrix**

Criteria	Weight	A – Status Quo		B – Local Acquisition		C – Develop New Airport	
		Score	Rating	Score	Rating	Score	Rating
<b><u>ENVIRONMENTAL</u></b>							
Compatible Land Use	8.9	3	26.7	4	35.6	5	44.5
Potential Recreation/Wildlife/Historic Area Impacts	6.6	4	26.4	4	26.4	4	26.4
Wetlands	6.7	4	26.8	4	26.8	4	26.8
Floodplains	4.6	3	13.8	3	13.8	5	23.0
Proximity To Land Fill/Wildlife Hazards	5.4	2	10.8	3	16.2	5	27.0
Land Acquisition	6.6	5	33.0	4	26.4	1	6.6
<b><u>ENGINEERING</u></b>							
Special Engineering Needs	5.1	5	25.5	2	10.2	4	20.4
Utility/Pipeline Relocation	3.4	5	17.0	5	17.0	4	13.6
Building/Structure Removal	5.3	5	26.5	5	26.5	4	21.2
Topography Factors	5.6	5	28.0	5	28.0	4	22.4
<b><u>SURFACE TRANSPORTATION</u></b>							
Road/Rail Relocation	4.0	5	20.0	5	20.0	4	16.0
New Roadway Requirements	4.4	5	22.0	4	17.6	3	13.2
Highway Congestion Factor	3.1	4	12.4	4	12.4	4	12.4
User Driving Time	5.7	4	22.8	4	22.8	4	22.8
<b><u>OPERATIONAL</u></b>							
Meet FAA Design Standards	9.1	1	9.1	2	18.2	5	45.5
Airspace/Airfield Capacity	8.3	3	24.9	3	24.9	5	41.5
Obstruction Removal	8.0	3	24.0	2	16.0	4	32.0
Instrumentation/Lighting Improvements	7.3	2	14.6	3	21.9	5	36.5
Meet User Needs	8.9	3	26.7	4	35.6	5	44.5
<b><u>ECONOMIC</u></b>							
Development Costs	8.0	5	40.0	3	24.0	1	8.0
Economic Benefits	8.7	5	43.5	5	43.5	4	34.8
FAA Funding Potential	10.0	1	10.0	3	30.0	4	40.0
Financial Viability Potential	9.6	2	19.2	3	28.8	4	38.4



<b>PUBLIC SUPPORT</b>							
Secure Public Airport Sponsor	7.0	1	7.0	3	21.0	4	28.0
Airport User Support	7.9	4	31.6	4	31.6	5	39.5
Community Support	8.1	3	24.3	3	24.3	4	32.4
Public Agency Support	7.4	2	14.8	3	22.2	4	29.6
<b>TOTALS</b>		<b>94</b>	<b>601.4</b>	<b>97</b>	<b>641.7</b>	<b>109</b>	<b>747.0</b>

### 603. Alternatives Evaluation Summary

#### Alternative "C"

With a Score of 109 and a Rating of 747.0, Alternative "C" - *Develop New Airport* achieved both the highest score and rating of the three alternatives evaluated.

A number of important potential advantages were recognized with this alternate. First, land acquisition of some 416 acres (if determined achievable) would allow the airport to fully meet all FAA design standards, provide an enhanced level of adjoining land use compatibility, and serve virtually all anticipated user needs. In addition, proposed airport acreage would provide for further possible airport development to accommodate a larger family of general aviation business aircraft - if found justified in the future.

Given the attributes associated with a new airport site, and the need to continue to efficiently serve the continuing demand trend, it is considered possible that FAA, working closely with DOAV, may determine the new airport site concept worthy for inclusion in the NPIAS, increasing the probability for FAA funding from the Aviation Trust Fund.

Naturally, to achieve FAA participation, the airport sponsor would be required to agree to various grant assurances and obligations. Compliance with NEPA regulations would also be required.

While some level of public resistance can always be expected as associated with a project of this type, it is considered that, given the ability to find and secure a new site and acquire adequate funding support; this alternative is likely to achieve a high level of airport user and community support.

Lastly, a new unconstrained airport facility better able to serve an expanded group of airport users offers the opportunity to increase airport revenues, thereby enhancing financial viability.



With regard to disadvantages, a number of important unknowns and risks are associated with this alternative.

For example, it is presently unknown if an adequate new airport site (containing the attributes discussed above) can be found / assembled and acquired. Contact with James City County indicates that such a site would most probably be composed of agricultural land currently zoned A-1. The feasibility of identifying and acquiring an optimum site could only be determined by going forward with a future Comprehensive Site Selection Study.

Also, new airport ownership/sponsorship may become a major consideration. Depending on the location of a new site, local funding availability and public resources available, multi-jurisdictional sponsorship, or the possibility of the creation of an airport authority, may become a requirement / advantage.

In addition, the cost of a new airport is roughly estimated to be approximately \$16 Million. While this rough estimate included land acquisition, it does not include the cost of hangars and other facilities that would potentially be paid for by airport tenants. Even with (potential) FAA and DOAV funding support, local match requirements will represent a sizeable dollar amount that must be provided for.

Lastly, inclusion of the new site / airport in the NPIAS with the prospect of FAA funding from the Aviation Trust Fund is not a foregone conclusion, and may or may not occur in the future. However, it should be considered that FAA did participate in this Airport Feasibility Study, and, should FAA participate in a Future Site Selection Study and a suitable site is found, FAA might be more likely to include the new airport site in the NPIAS.

### Alternative "B"

With a Score of 97 and a Rating of 641.7, Alternative "B" – *Local Acquisition* achieved the second highest score and rating of the three alternatives evaluated.

This alternative offers the advantage of retaining and improving the existing airport to the highest degree found practical. It would allow continued use of the airport facilities that have been invested in over previous years. This Alternative would also eliminate the requirement to go forward with a selection of a Greenfield site, and, assuming a suitable site is found, follow through with a rather extensive land acquisition and airport development project.

Airport improvement costs for those projects considered feasible and associated with this alternative are considered reasonably affordable at an estimated \$3.2 Million. However, it should be noted that the estimated \$3.2 Million does not include the cost to acquire the existing airport property. This cost must be established by a licensed property appraiser and review appraiser.

This alternative suggests that the existing airport would be acquired by a public sponsor (owner). With public sponsorship and the associated long term commitment





to the airport, it is considered that a moderate potential exists for inclusion of the airport in NPIAS with possible FAA funding support from the Aviation Trust Fund. Such action on the part of the FAA working closely with the DOAV would enhance the stability of the airport, helping to ensure the airports continued existence to serve continuing demand. Such funding support would substantially increase the financial viability of the airport for the public sponsor.

With regard to significant disadvantages associated with this alternative, it is noted that the present airport site is somewhat constrained. As an example, runway end locations will need to be modified, with the potential for a displaced threshold to provide the standard approach clearance over the closed non-sanitary land fill. In addition, a section of the existing parallel taxiway may require closure because the standard runway / taxiway separation distance cannot be accommodated.

Additionally, to gain FAA support (considered critical to financial viability), the airport sponsor will be required to agree to various grant assurances and obligations. Some of these assurances will require modifications to the Special Use Permit (SUP) now in effect. In addition, compliance with NEPA regulations would also be required.

#### Alternative "A"

With a Score of 94 and a Rating of 601.4, Alternative "A" – *Status Quo* achieved the lowest score and rating of the three alternatives evaluated.

As might be expected as associated with the Status Quo Alternative, major advantages are centered on the lack of development costs, and the anticipation that the airport would continue to function as it does today, meeting user needs to a moderate degree without new program or financial requirements.

However, given the current "status quo" situation of the existing airport, it is questionable whether circumstances will provide for the continued existence of the airport in the future.

The major disadvantage of this alternative is that, given the present owners intent to retire and sell the airport property, the property will most likely be converted to non-airport use as highest and best land use factors are considered by a new owner.

Also, because this alternative does not provide for possible ownership of the airport by a public sponsor, the potential for FAA support to retain the airport is considered very low.

Potential closure of the existing airport without new airport site development would result in the displacement of the current airport tenants and businesses, and constrain direct general aviation access to the local area.

**ATTACHMENT 1-A**

**AIRSPACE**

# Airspace at-a-Glance



FL 600  
18,000 MSL

**Class A**  
"Above"

AOPA Air Safety Foundation, 800-USA-AOPA, www.aopa.org

14,500 MSL



## Airspace Requirements for Weather Minimums & Communications

Airspace Features	Class A Airspace	Class B Airspace	Class C Airspace	Class D Airspace	Class E Airspace	Class G Airspace
Operations Permitted	IFR	IFR & VFR	IFR & VFR	IFR & VFR	IFR & VFR	IFR & VFR
Entry Prerequisites	ATC Clearance	ATC Clearance	IFR: Clearance VFR: Radio Contact	IFR: Clearance VFR: Radio Contact	IFR: Clearance and Radio Contact VFR: None	None
Minimum Pilot Qualifications	Instrument Rating	Private Cert. Endorsed Student Cert.	Student Cert.	Student Cert.	Student Cert.	Student Cert.
Two-way Radio Comm.	Yes	Yes	Yes	Yes	IFR Only	No
VFR Min. Visibility Below 10,000 MSL	N/A	3 Statute Miles	3 Statute Miles	3 Statute Miles	3 Statute Miles	Day - 1 Statute Mile Night - 3 Statute Miles
VFR Min. Visibility 10,000 MSL and Above	N/A	3 Statute Miles	3 Statute Miles	3 Statute Miles	5 Statute Miles	5 Statute Miles**
VFR Minimum Distance from Clouds Below 10,000 MSL	N/A	Clear of Clouds	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal
VFR Minimum Distance from Clouds 10,000 MSL and Above	N/A	Clear of Clouds	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	1,000 Below 1,000 Above 1 Statute Mile Horizontal	1,000 Below 1,000 Above 1 Statute Mile Horizontal
Aircraft Separation	All	All	IFR, Special VFR and Runway Operations	IFR, Special VFR and Runway Operations	IFR, Special VFR	None
Traffic Advisories	N/A	N/A	Yes	Workload Permitting	Workload Permitting	Workload Permitting

\* Student pilot operations at some Class B airports are prohibited.

\*\* When flying 1,200 AGL or below: Day: 1 mile visibility, clear of clouds  
Night: 3 miles visibility, 500 below, 1,000 above, 2,000 horizontal.

# ATTACHMENT 1-B

## SPECIAL USE PERMIT (SUP)



## RESOLUTION

### CASE NO. SUP-16-04. WILLIAMSBURG-JAMESTOWN AIRPORT - SUP AMENDMENT

WHEREAS, the Board of Supervisors of James City County has adopted by ordinance specific land uses that shall be subjected to a special use permit process; and

WHEREAS, in accordance with Section 15.1-431 of the Code of Virginia, and Section 20-15 of the James City County Zoning Ordinance, a Public Hearing was advertised, adjoining property owners notified, and a hearing scheduled on Zoning Case No. SUP-16-04 for the purpose of amending the existing special use permit for the Williamsburg-Jamestown Airport which is located on Parcel Nos. (1-5A) and (1-6) on James City County Real Estate Tax Map No. (48-2) and zoned R-8, Rural Residential, to include a portion of Parcel No. (1-12) on James City County Real Estate Tax Map No. (48-2) as shown on the Airport Layout Plan dated May 24, 2004, that is located generally south of Marclay Road and north of Parcel No. (1-5A); and

WHEREAS, the Planning Commission, following its Public Hearing on June 7, 2004, recommended approval of Case No. SUP-16-04, by a vote of 7 to 0.

NOW, THEREFORE, BE IT RESOLVED that the Board of Supervisors of James City County, Virginia, does hereby approve the issuance of Special Use Permit No. SUP-16-04 as described herein with the following conditions:

1. No extension of the existing runway shall be permitted. A paved safety overrun adjacent to Runway 13 (western end of runway), not to exceed 900 feet may be constructed in accordance with FAA standards. The paved safety overrun shall be marked appropriately and lights shall be installed and maintained across the width of the runway to delineate the runway and safety overrun.
2. The Williamsburg-Jamestown Airport Special Operating Procedures shall be amended such that Condition No. 5 under General Procedures which states that, "the calm wind runway (less than five knots) will be Runway 13, weather and traffic permitting" shall be deleted. The existing Williamsburg-Jamestown Airport Special Airport Operating Procedures, with the above revision noted, shall remain in effect.
3. The Williamsburg-Jamestown Airport shall review, revise, and publish, as necessary, the description of the airport and associated local rules, procedures, and warnings in the following industry publications:
  - a. Airport Facility Directory
  - b. VDOA (5010) Inspection Form - Remarks/Runway section.
  - c. Permanent NOTAM (Class II)

These publications shall indicate the established flight patterns and procedures and notify all pilots of the special established patterns to avoid the surrounding residential neighborhoods and Rawls Byrd Elementary School. This condition shall



be satisfied prior to the issuance of a building permit for any of the proposed improvements contained within the Master Plan. Documentation shall also be submitted to the Community Airport Committee.

Also the following steps shall be taken:

- a. Report the basic pertinent information by UNICOM when pilots check in for takeoff and landing operations.
- b. Identify/distribute information through a published set of "Airport Rules and Regulations."
- c. Post/display Special Operating Procedures in the flight planning area and other conspicuous areas of the terminal building.

4. The Airport Procedures shall be amended to require runway preference for runway 31 for all arriving aircraft, not just twin-engine aircraft as stated in the current Airport Procedures.

5. Signs shall be erected at both ends of the runway which read as follows:

For departures on Runway 31: "Remember to turn left to avoid flying over the Elementary School."

For departures on Runway 13: "Remember to make right turn for noise abatement."

6. A Community Airport Committee shall be established. The Committee's purpose is to provide a formal setting for an on-going dialogue between all interested parties (i.e., the citizens, the County, the Airport owners and operators, pilots, Williamsburg-James City County Schools, and business community). It shall be the responsibility of the Airport owners to establish the Committee. The Committee shall be a balanced representation of the following interest groups: airport owners/operators, citizens, the County, Williamsburg-James City County Schools, and pilots. The Committee shall be comprised of no fewer than five persons and no more than 10 persons. The Airport owners shall submit a list of committee members to the County for approval within six months of the approval of this Special Use Permit application. The Committee shall meet at least four times per year in open session.

7. Approval of the facilities contained in the Master Plan in no way obligates the County to approving the construction of these facilities. The proposed facilities shall undergo the typical site plan and building plan review process and receive County approval before construction of these facilities and improvements shall commence.

8. A lighting plan shall be prepared and approved by the Planning Director for each site plan submittal that contains outdoor lighting. All outdoor lighting, exclusive of lights for the runway, taxiways, and other required safety lighting, shall have recessed lenses

9. The following size limitations shall apply to the planned facilities:

T-Hangar Units	63 units* maximum
Corporate Hangar Units	14 units* maximum
Apron Parking Tie-Downs	49 spaces maximum

Terminal Building Expansion	2,500 square feet maximum -- Total size of building shall not exceed 7,327 square feet (4,327 + 2,500)
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Flight Management Building	2,500 square feet maximum
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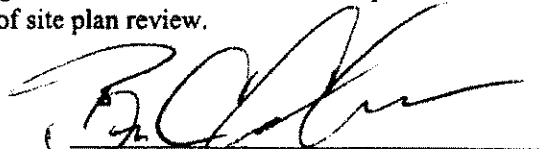
\*For T-Hangars and Corporate Hangars - 1 unit is equivalent to 1 aircraft parking space.

10. The improvements labeled as "Ultimate" on the Master Plan are not approved as part of this application. A 25-foot wide paved apron shall be permitted between the helipads (Stage III) and Hangar 14 (Stage I). The purpose of this paved apron would be to provide access to hangars on the west side of the airport.

11. No GPS "straight-in" approach procedure shall be permitted at the Airport.

12. The corporate hangars may include attached accessory office space that is exclusive of the airplane storage area. The office area shall be used/occupied by the owners or tenant of the corporate hangar to which the office/storage area is attached. The use of the office space shall be strictly limited to airport-related activities. The cumulative amount of office space attached to corporate hangars shall not exceed 5,000 square feet (i.e., five corporate hangars with 1,000 square feet office space OR two corporate hangars with 2,500 square feet -- the other three shall contain no office space, or any combination thereof not to exceed 5,000 square feet).

13. A landscaped buffer around the perimeter of the site shall be maintained or established which accomplishes the goal of screening the proposed airport improvements from adjacent properties. The Planning Director shall determine whether additional landscaping is needed to screen future improvements from adjacent properties at the time of site plan review.

  
Bruce C. Goodson  
Chairman, Board of Supervisors

ATTEST:

  
Sanford B. Wanner  
Clerk to the Board

SUPERVISOR	VOTE
BRADSHAW	AYE
HARRISON	AYE
BROWN	AYE
MCGLENNON	AYE
GOODSON	AYE

Adopted by the Board of Supervisors of James City County, Virginia, this 8th day of June, 2004.



## DEVELOPMENT MANAGEMENT

101-E MOUNTS BAY ROAD, P.O. BOX 8784, WILLIAMSBURG, VIRGINIA 23187-8784  
(757) 253-6671 Fax: (757) 253-6850 E-MAIL: devtman@james-city.va.us

CODE COMPLIANCE  
(757) 253-6626  
codecomp@james-city.va.us

ENVIRONMENTAL DIVISION  
(757) 253-6670  
environ@james-city.va.us

PLANNING  
(757) 253-6685  
planning@james-city.va.us

COUNTY ENGINEER  
(757) 253-6678  
INTEGRATED PEST MANAGEMENT  
(757) 253-2620

June 22, 2004

Mr. Larry Waltrip  
Williamsburg Jamestown Airport  
100 Marclay Road  
Williamsburg, VA 23185

**RE: Case No. SUP-16-04 Williamsburg Jamestown Airport SUP Amendment**

Dear Mr. Waltrip:

This is to confirm that on June 8, 2004 the James City County Board of Supervisors approved your request for the above referenced application. The approval was issued as specified on the attached Resolution.

If you have any questions, please contact me.

Sincerely,

O. Marvin Sowers, Jr.  
Director of Planning

OMS/tlr

**AGENDA ITEM NO. G-4**

**SPECIAL USE PERMIT CASE NO. 16-04. Williamsburg-Jamestown Airport - SUP Amendment  
Staff Report for the June 8, 2004, Board of Supervisors Meeting**

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This staff report is prepared by the James City County Planning Division to provide information to the Planning Commission and Board of Supervisors to assist them in making a recommendation on this application. It may be useful to members of the general public interested in this application.

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**PUBLIC HEARINGS**

**Planning Commission:**  
**Board of Supervisors:**

**Building F Board Room; County Government Center**

June 7, 2004, 7 p.m.  
June 8, 2004, 7 p.m.

**SUMMARY FACTS**

**Applicant:** Larry Waltrip, Williamsburg-Jamestown Airport

**Land Owner:** Mary S. Waltrip

**Proposed Use:** Airport facilities, including T- Hangars as shown on previously approved master plan

**Location:** 100 Marclay Road, off of Lake Powell Road

**Tax Map/Parcel:** (48-2) (1-5A) and (1-6) and the addition of the part of (1-12) which is located south of Marclay Road

**Parcel Size:** 116.0 acres, 8.6 acres, and approximately 14.6 acres

**Zoning:** R-8, Rural Residential

**Comprehensive Plan:** Airport

**Primary Service Area:** Inside

**STAFF RECOMMENDATION**

This SUP amendment will allow for the development of the airport property in accordance with the master plan approved with Special Use Permit SUP-23-97. As no additional facilities are being proposed in the updated master plan, and as the property is designated Airport on the Comprehensive Plan Land Use Map, staff recommends approval of this SUP amendment.

**Staff Contact:** Sarah Weisiger, Planner      Phone: 253-6685

**PLANNING COMMISSION RECOMMENDATION**

The Planning Commission meeting is to be held on June 7, 2004, after this report is prepared and distributed. The Planning Commission recommendation will be given during the staff presentation of this case.

### **PROJECT DESCRIPTION AND PROPOSED OPERATION**

Mr. Larry Waltrip of the Williamsburg-Jamestown Airport has applied on behalf of Mary Waltrip to amend Special Use Permit 23-97. A special use permit is required for airports and accessory uses in the R-8, Rural Residential zoning district in which the property is located. In 1997, SUP-23-97 was approved for property on Marclay Drive also identified as Parcel Nos. (1-5A) and (1-6) on James City County Real Estate Tax Map No. (48-2). However, the approved master plan in SUP-23-97 showed airport development including T-hangars located on both Parcel No. (1-5A) and Parcel No. (1-12). Because the original SUP did not include portions of Parcel No. (1-12) in the Board of Supervisors' resolution or in the public hearing advertisements, the parcel cannot be developed unless this SUP amendment is granted.

The SUP amendment will allow for the construction of the proposed T-hangars on Parcel No. (1-12) in an area located south of Marclay Road and adjacent to the airport. The conditions of SUP-23-97 will be carried over with no changes made for this SUP amendment. Also, staff finds that no additional facilities, other than those originally proposed and approved with SUP-23-97, have been proposed with the master plan.

### **Airport History**

The airport officially opened in 1970 as a privately owned airport operated for use by the general public. In 1986, a special use permit application (SUP-26-85) was approved by the Board of Supervisors which made the airport use a legal conforming use in the R-8 zoning district. In 1997, the Board of Supervisors approved SUP-23-97, which permitted phased development of the airport over a 20 year period.

### **Updated Master Plan**

The applicant has updated the master plan to show all existing and proposed airport uses. Since 1997, an aviation fuel farm and an apron expansion including 25 tie-downs have been constructed. A site plan has been approved for a corporate hangar and an Aircraft Rescue and Firefighting building; these have not been constructed.

On the proposed plan, the applicant has provided a table showing how many units are proposed for each corporate hangar and T-hangar. In 1997, these hangars were approved and units were limited to the numbers allowed under SUP Condition No. 9. The applicant has updated the dates of the four development stages to Stage I: 1998-2002; Stage II: 2003-2007; Stage III: 2008-2017; and Ultimate: Beyond 2017.

The stage of development referred to as "Ultimate" is shown on the approved and proposed master plans but is not allowed under SUP Condition No. 10. A note has been added to the proposed plan stating that no approval of the Ultimate stage is being sought at this time. Also, no GPS "straight-in" approach is being proposed at this time and is prohibited by SUP condition. A paved safety overrun is shown on the master plan; this is not a runway extension; a paved safety overrun is striped and has lights placed across the width of the runway.

### **COMPREHENSIVE PLAN**

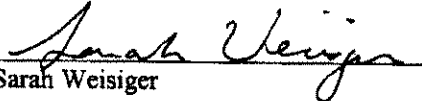
The Comprehensive Plan Land Use Map designates the properties as Airport. The principal suggested uses include aviation, with airport-related commercial and office development as clearly secondary uses.

### **Staff Comments:**

The proposed amendment is consistent with the Comprehensive Plan.

### CONCLUSIONS & CONDITIONS

Staff finds that the proposed amendment is in accordance with the Comprehensive Plan, and believes that this SUP amendment will accomplish what the Board of Supervisors had intended when SUP-23-97 was approved in 1997. The conditions of SUP-23-97 are included without any changes. Staff recommends approval of this special use permit with the conditions in the attached resolution.

  
Sarah Weisiger

CONCUR:

\_\_\_\_\_  
O. Marvin Sowers, Jr.

SW/tlc  
SUP1604airprt.wpd

### ATTACHMENTS:

1. Location Map
2. Photo Map of Airport
3. Proposed Master Plan - Airport Layout Plan (under separate cover)
4. Resolution



**James City County**  
**Airport Feasibility Study**  
**Summary - Teleconference 12/29/08**  
**SPECIAL USE PERMIT**

A teleconference was held on Monday, December 29, 2008, at the request of the Community Airport Committee. The primary purpose of the call was to discuss the FAA's position regarding various conditions listed in the Williamsburg-Jamestown Airport Special Use Permit (SUP), and SUP related potential impact regarding the possible availability of future Federal Aviation Funding in support of the existing facility. Participating in the call were the following:

Terry Page	FAA, Manager, Washington Airports District Office
Jeff Breeden	FAA, Planner, Washington Airports District Office
Scott Denny	Virginia Department of Aviation (DOAV)
Tucker Edmonds	Community Airport Committee (CAC)
Steven Hicks	Assistant County Administrator, James City County
Allen Murphy	James City County
Melissa Brown	James City County
Glenn Kay	L. Robert Kimball & Associates, Inc.
Ron Deck	L. Robert Kimball & Associates, Inc.

The following is a summary of comments made during the call:

- ➔ Terry Page- Ideally, the FAA would like to see the SUP go away altogether and, in Mr. Page's opinion, if the County owned the Airport, there should be no need for an SUP since all of the development and improvements taking place on the Airport would be dictated by a Master Plan / Airport Layout Plan developed and approved by the County. The Master Plan is a key document.
- ➔ SUP item 1 – states that no runway extension shall be permitted, except for a 900' paved safety overrun. This overrun item is based on a previous planning effort and is not considered prudent. Further, as previously stated, runway length is a product of the Master Plan process, so the County, as Airport owner, can determine length. Runway length is a recommendation, not a mandated design standard.

It was further discussed that, given the limitations of the existing Airport site, it may be necessary to consider reducing existing runway length to meet some FAA design standards. Here it was noted that a runway length of less than 3,000 feet would substantially reduce the utility of the Airport.

- ➔ SUP item 2 – amends a previous condition and is not relevant.
- ➔ SUP item 3 – relates to the publishing of local rules, procedures, etc. in industry publications. The Airport can request a Notice to Airmen (NOTAM) for whatever reason they deem necessary. However, the final decision of what gets published is an FAA decision. Further, if the County accepts federal funds to acquire the airport and it becomes a “federally obligated airport”, flight restrictions (such as designating a preferred landing runway) are considered to be voluntary only, and cannot be mandated by the Airport.
- ➔ SUP item 4 – Airport procedures for runway preference. FAA has no problem with this item, provided it is a recommended or voluntary preference, and not mandatory or enforceable.
- ➔ SUP item 5 – information signs at both ends of runway. FAA has no problem with this item.
- ➔ SUP item 6 – establishment of a Community Airport Committee. FAA has no problem with this item.
- ➔ SUP item 7 – County approval of new construction on Airport. FAA has no problem with this. However, any construction should be in accordance with the Master Plan and approved Airport Layout Plan.
- ➔ SUP item 8 – County approval of an airport lighting plan(for each on-Airport development site). This item was intended to provide some protection for nearby airport neighbors. It is not applicable to FAA-mandated runway, taxiway, or other safety-related lighting. FAA has no problem with this item as long as the lighting does not have a blinding effect on pilots. Runway and taxiway edge lighting is “standard” for airports, with standard light types, colors, wattage, etc. These lights are approximately ground level, so they should not affect airport neighbors. However, these lights cannot be modified.
- ➔ SUP item 9 – deals with size limitations for planned airport facilities, primarily hangars. FAA indicated that when an Airport accepts federal funding, they must comply with several Grant Assurances, one of which states that an airport must be as self-sufficient as possible. Since hangar rental income is a primary source of revenue, arbitrarily restricting the number of facilities is not acceptable. Another Grant Assurance states that the Airport must be accessible to the public. Arbitrarily restricting the use of available land to some entity that may want to build a facility on vacant Airport land is not acceptable. Development guidelines within the Master Plan and the establishment of Minimum Standards can give the Airport some degree of control; however they must be done within the guidance established in the Grant Assurances.

- ➔ SUP item 10 – deals with the existing Master Plan and is not relevant.
- ➔ SUP item 11 – No GPS “straight-in” approach procedure shall be permitted at the Airport. The FAA expressed concern over this item. If they were to consider investing in the Airport, they would like to see the best procedures possible. Instrument procedures are what make the facility available under adverse weather conditions, thus improving overall accessibility and utility. The discussions focused primarily on the impact of such procedures on the Rawls Byrd Elementary School. It was discussed that, because of the close proximity of the school to the Airport, any kind of offset approach may not be practical. Consideration could be given to developing a straight in approach to Runway 31.
- ➔ SUP item 12 – The FAA would require removing the maximum amount of office space limitation for the development. The SUP limitation on the maximum amount of development may violate the Grant Assurances, and therefore is not consistent with federally funded airports. See comment for Condition 9 above.
- ➔ SUP item 13 – deals with landscape buffer around the airport perimeter. FAA has no problem with this item as long as whatever is planted is not a wildlife attractant or an obstruction to any of the FAA design standards.

Other discussion items:

- ➔ Some of the language in the SUP is included to better insure airport neighbors that their concerns are being addressed.
- ➔ Acquisition cost is an important factor for the FAA, and FAA considers cost along with the anticipated benefits to the aviation system when deciding where best to invest FAA Trust Fund Grant dollars.
- ➔ Discussion regarding the shifting of the runway 221’ to the southeast in order to provide the required runway safety area at the Runway 31 approach end.
  - With this shift, the sealed landfill and some trees become a threshold siting surface penetration. If the trees cannot be removed / lowered, the Runway 13 landing threshold would have to be displaced approximately 292’; if the landfill cannot be lowered, the threshold would have to be displaced 46’ (reference page 4-19 thru 4-21 of the Airport Feasibility Study).
  - This shift calls for maintaining the existing runway length of 3,204’.

→ Greenfield Site discussion

- The process of constructing a new airport can be lengthy (up to 10 years) and costly.
    - Tappahannock was constructed for approximately \$10 million (this include land acquisition, as well as runway, taxiway, and apron construction; it did not include hangar or terminal construction)
    - Stafford was constructed for around \$35 million.
  - Environmental clearances are time consuming
  - Both DOAV and FAA seemed to encourage further investigation of a new site accommodating a longer runway. There is a need to support general aviation in the region, and they do not want to encourage smaller general aviation aircraft to use Newport News, which is primarily for scheduled airline service and larger corporate jet aircraft.
- Terry Page offered to provide a briefing to the Board of Supervisors for the purpose of explaining both the “good and the bad” factors regarding the potential of being a recipient of federal funding and agreeing to various grant assurances.
- Scott Denny cautioned that if the County were to decide to pursue either acquisition of the existing Airport or a Greenfield site, that a Site Selection Study would be required by DOAV as the next step in the process. Such a study could take eighteen (18) months to complete.

**ATTACHMENT 1-C**

**ENVIRONMENTAL**

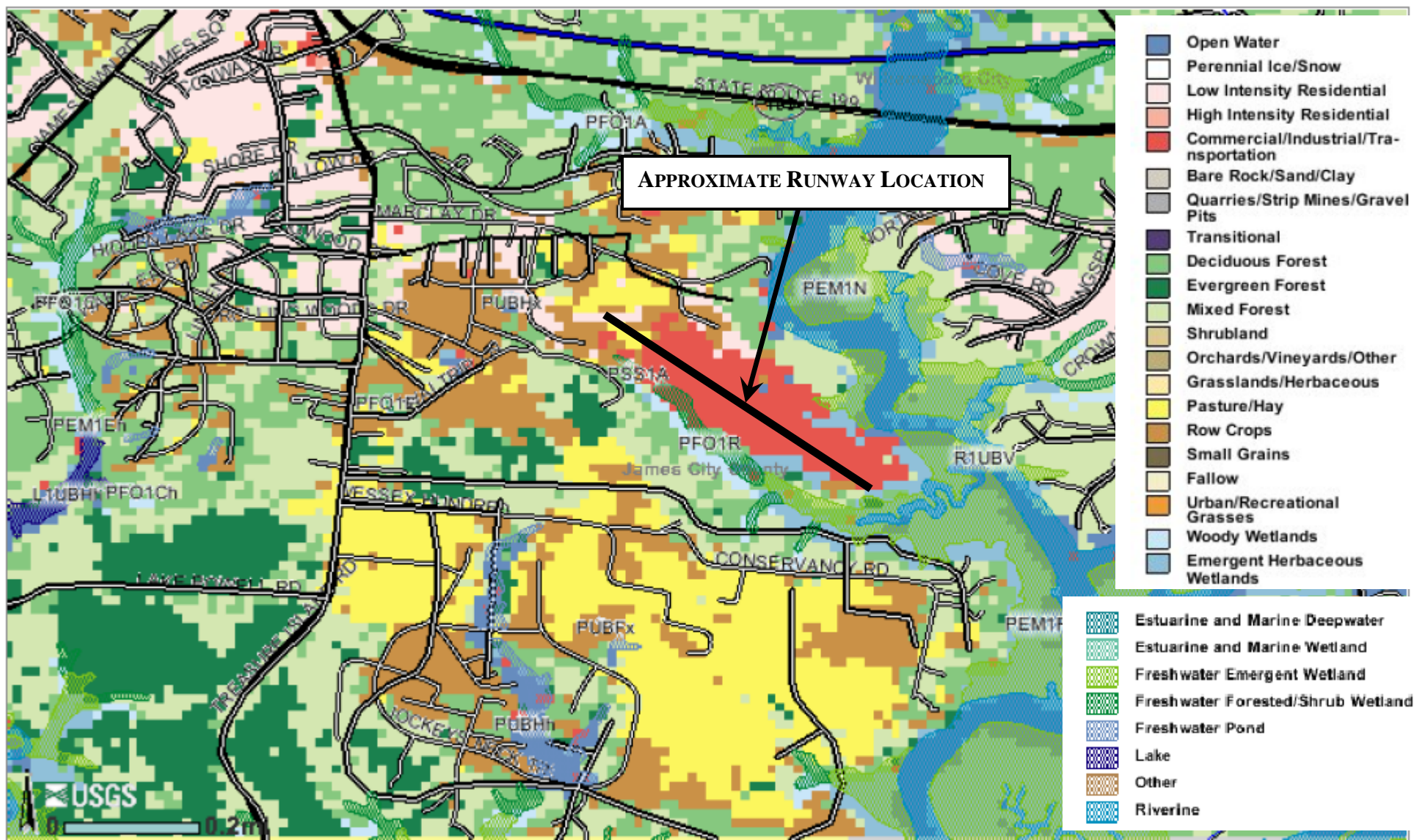






Virginia's Coastal Zone

Figure 1



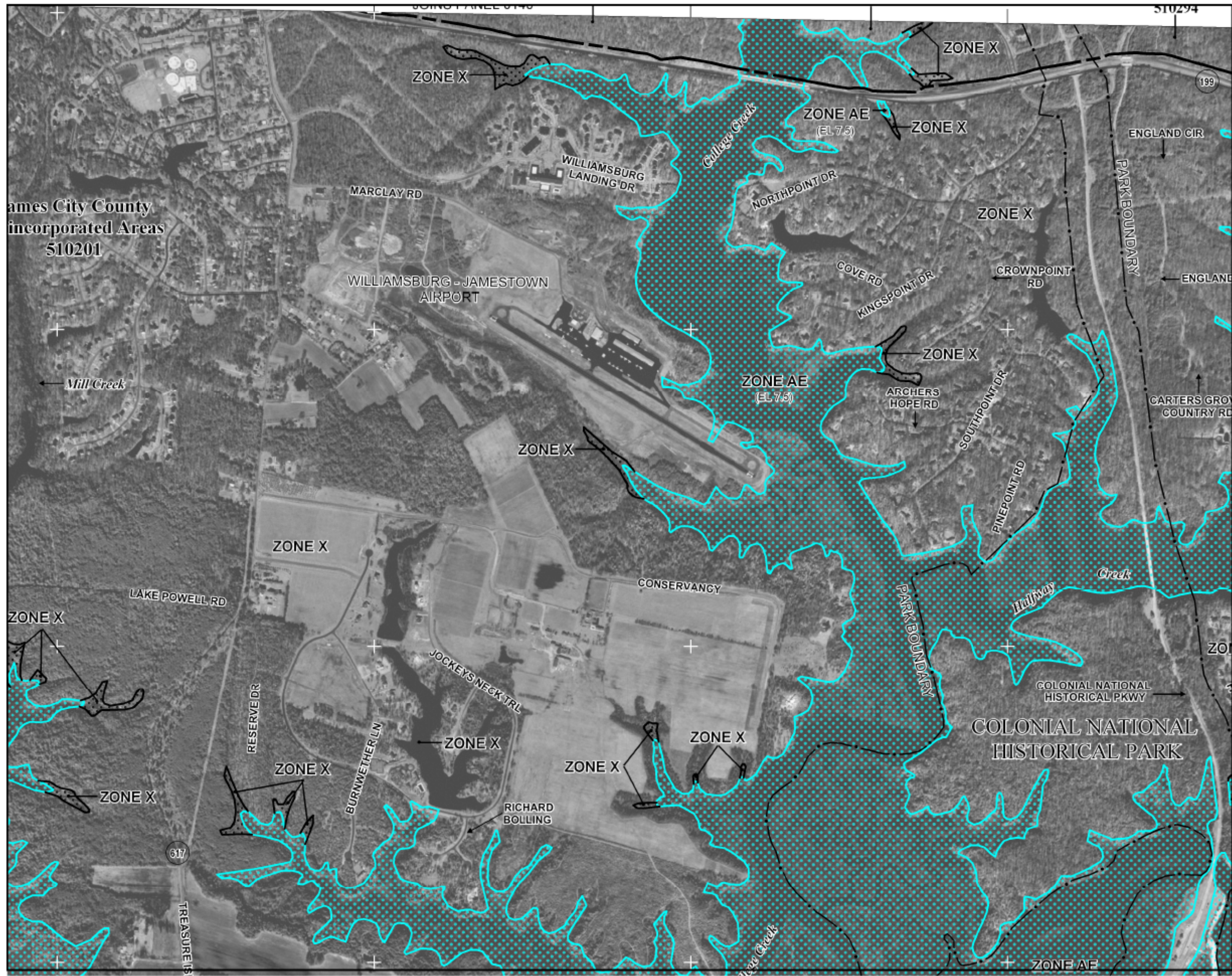
37°15'6"N  
76°44'22"W  
Map Extent  
76°41'44"W  
37°13'32"N




Geographic Coordinate System (WGS84)

Figure 2







**MAP SCALE 1" = 1000'**

0 0 1000 2000  
FEET

0 0 1000 2000  
METERS

**PANEL 0205C**


**FIRM**  
FLOOD INSURANCE RATE MAP  
JAMES CITY COUNTY,  
VIRGINIA  
AND INCORPORATED AREAS

**PANEL 205 OF 240**  
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
JAMES CITY COUNTY	510201	0205	C
WILLIAMSBURG, CITY OF	510294	0205	C

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
51095C0205C

**EFFECTIVE DATE**  
SEPTEMBER 28, 2007

Federal Emergency Management Agency

**Figure 3**

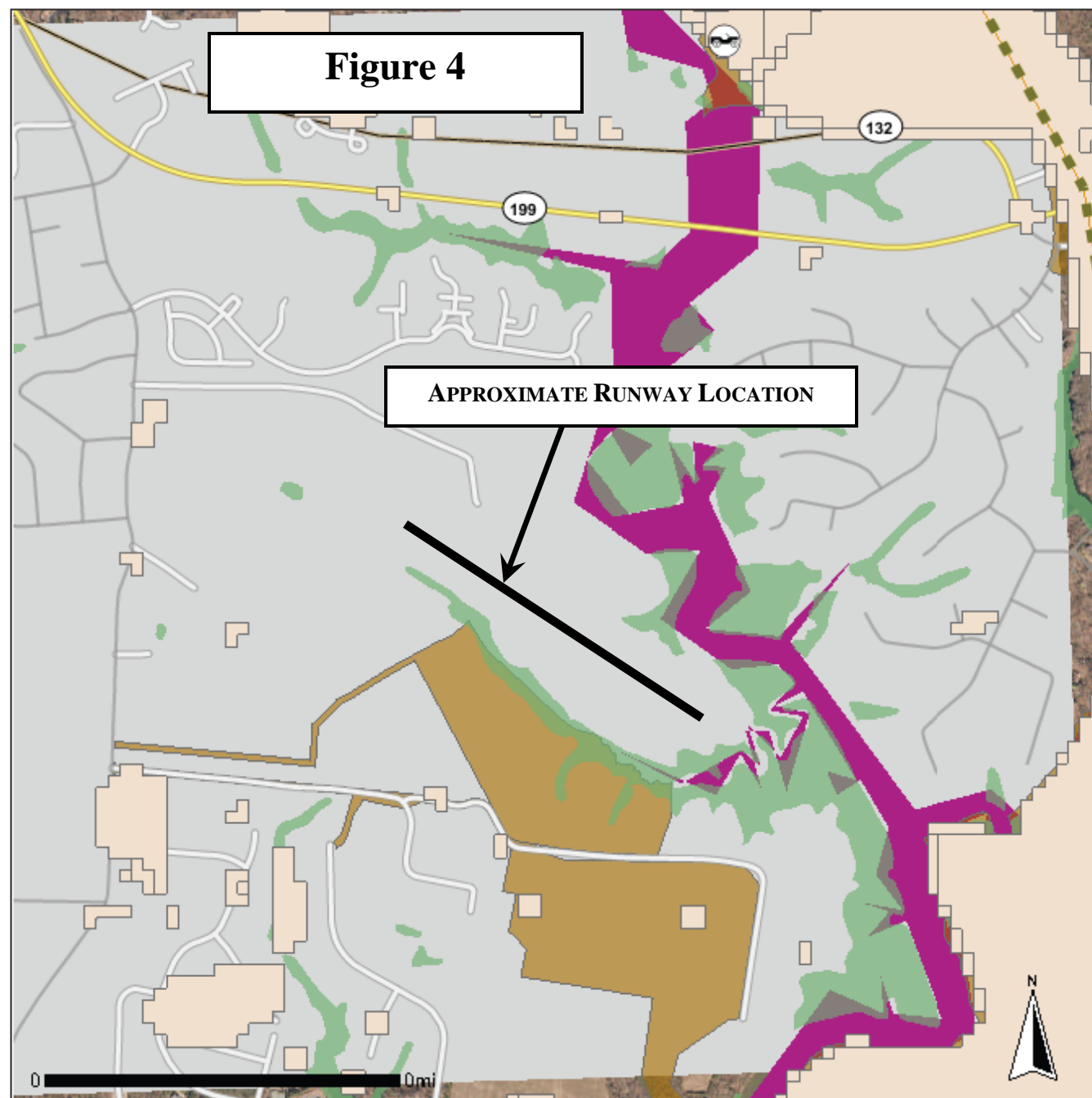
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



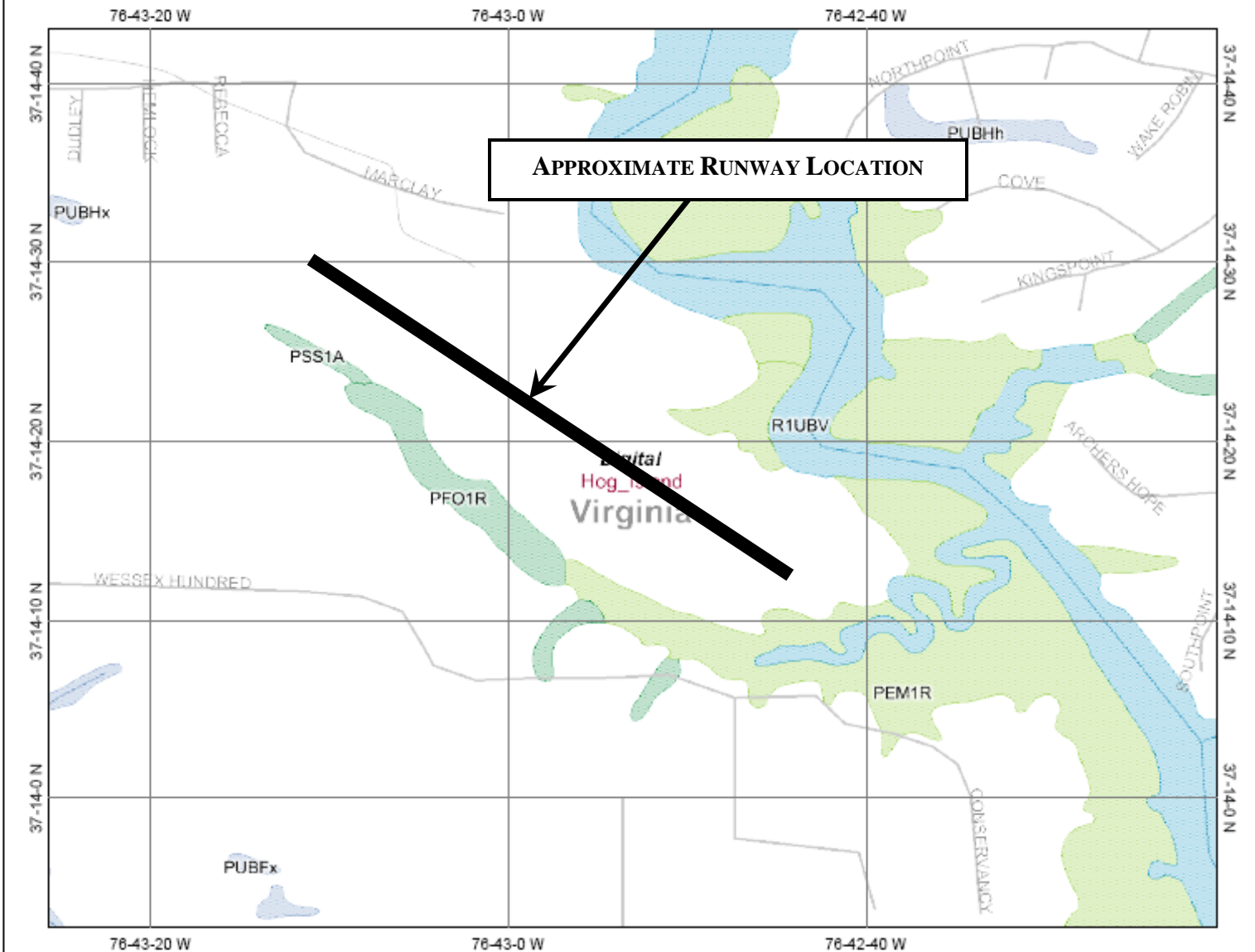
**Figure 4**

**Legend**

-  Fisheries Management Areas
-  State Constructed Oyster Reefs
-  Submerged Aquatic Vegetation (SAV)
-  Seaside SAV Planting Sites
-  Anadromous Fish Use Areas
  -  Confirmed
  -  Potential
-  Threatened & Endangered Species Waters
-  National Wetlands Inventory
  -  Non-Tidal
  -  Tidal
-  Restored Riparian Buffer Sites
-  Conservation Lands
-  Essential Wildlife Habitat
-  Important Bird Areas
-  Migratory Songbird Stopover Habitat
-  Critical Habitat
-  Important Habitat
-  Scenic Rivers
-  Birding & Wildlife Trails
-  Public Access Sites
-  Biotic Stream Assessment (INSTAR) Sites
-  Impediments to Fish Movement



# Williamsburg-Jamestown Airport NWI Map



## Legend

- CONUS\_wet\_scan
- 0
  - 1
  - Out of range
  - Interstate
  - Major Roads
  - Other Road
  - Interstate
  - State highway
  - US highway
  - Roads
  - Cities
  - USGS Quad Index 24K
  - Lower 48 Wetland Polygons
  - Estuarine and Marine Deepwater
  - Estuarine and Marine Wetland
  - Freshwater Emergent Wetland
  - Freshwater Forested/Shrub Wetland
  - Freshwater Pond
  - Lake
  - Other
  - Riverine
  - Lower 48 Available Wetland Data
  - Non-Digital
  - Digital
  - No Data
  - Scan
  - NHD Streams
  - Counties 100K
  - States 100K
  - South America
  - North America



Scale: 1:10,870

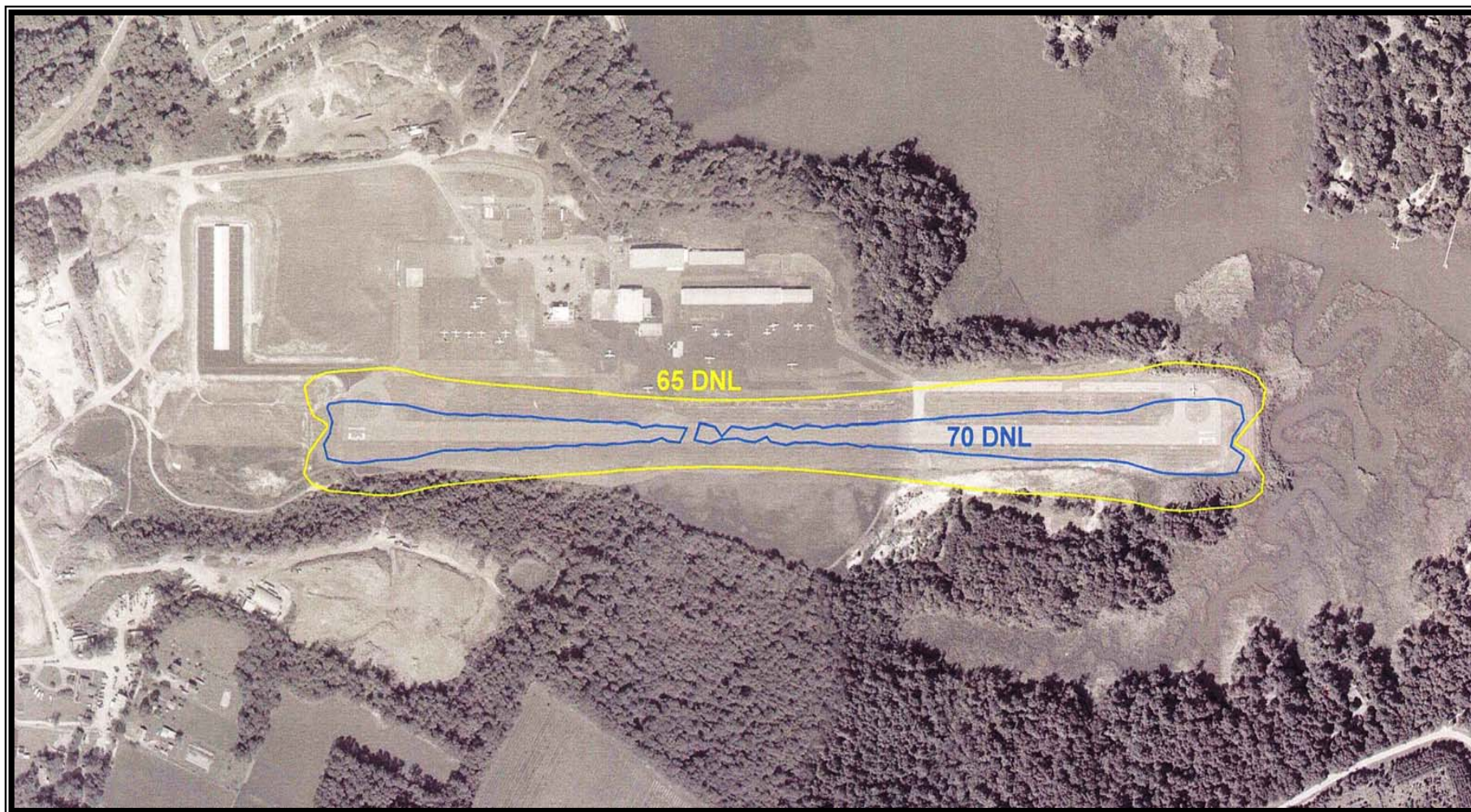
Map center: 37° 14' 18" N, 76° 42' 53" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Figure 5

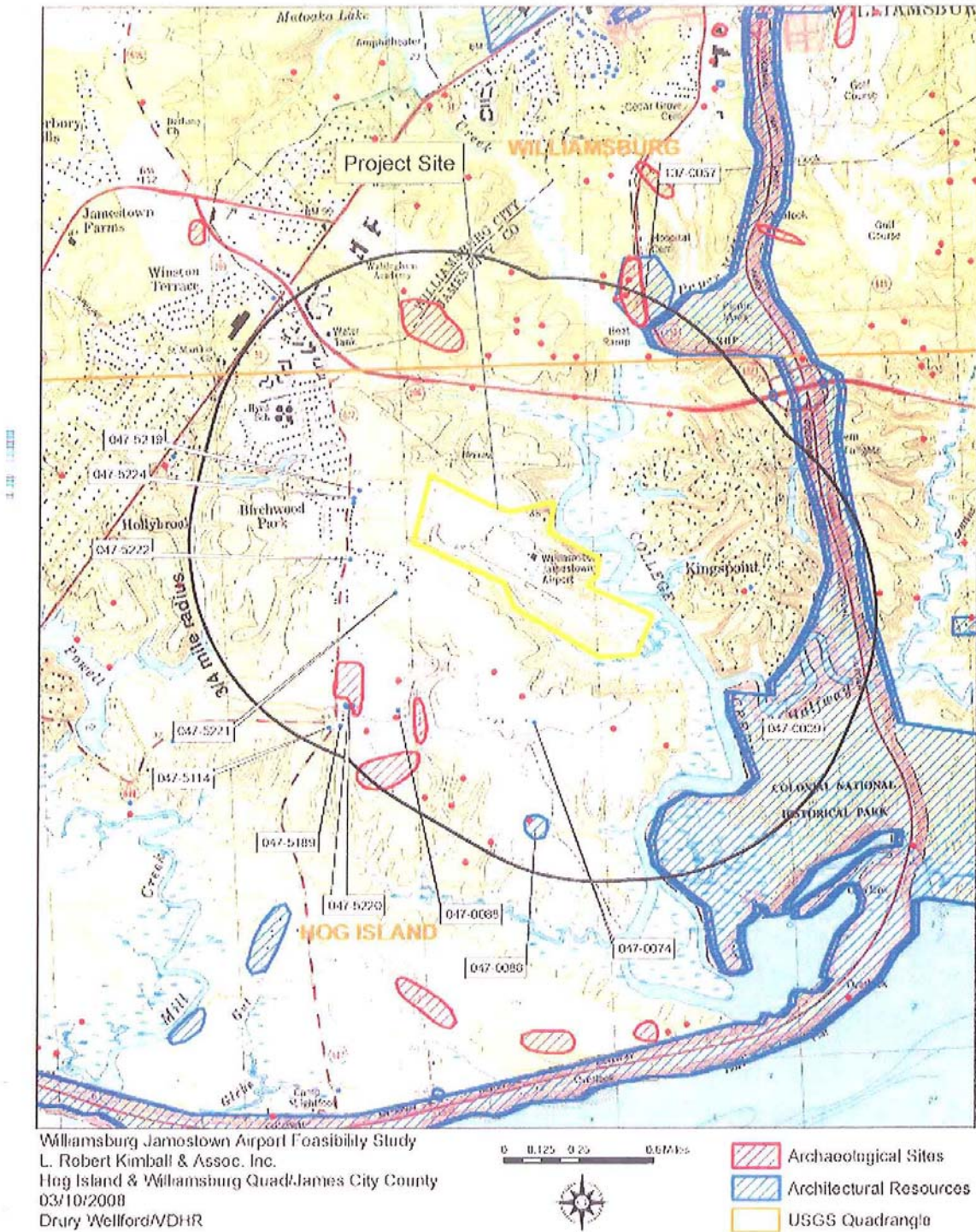


**Figure 6**  
**Noise Contours**





**Figure 7**  
**Historic Resources Map**



**ATTACHMENT 1-D**

**USER SURVEYS**



Williamsburg - Jamestown Airport  
Renter Pilot User Survey

	A	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
3				Aircraft Usage				Operations		If Airport (JGG) were no longer available			Experience any Operational Limitations at JGG			Experience any Physical Limitations at JGG				Anticipated Rate of Increase					
		Type Aircraft Most Often Rented at JGG	Approx. # hours per year JGG rental Aircraft are flown by you	Business	Personal	Instruction	Proficiency	Other (Please Expain)	# Local Operations	# Itinerant Operations	Rent Aircraft at another Airport	Drive (as opposed to flying)	Other	Yes	No	Describe	Yes	No	Describe	What Airport Improvements Would You Recommend to Support Existing Operations	% in 5 Years	% in 10 Years	Are there other aircraft types you intend to operate at JGG?	What Airport Improvements would you recommend to support future operations at JGG	Additional Comments
4																									
5	1	Piper Cherokee 180	so far, 21.5 hrs			50	50		144			I would have to find a job somewhere else and save up to buy my own aircraft. I only want to fly out of JGG; less traffic; really nice			X			X	None	100	100	Cessna 172, Piper Cub, Christenson Eagle II	Maybe a bigger maintenance hangar, separate building for the flight school. Also reasphalt the tarmac or parking area/runup area	Please let this airport remain in business. This place is my second home and the staff like family. It is a low traffic airport for small planes which is good because the other airports are not like that. The airport is very convenient. I plan to work here. Everbody is so nice and the airport is not confusing. The restaurant is #1 to us pilots. It would bring great revenue to the county.	
6	2	Piper Cherokee 180	100			100			150		West Point				X			X		More rental and training aircraft	50	25		More hangar space for private owners to leave their planes	My wife and I use this airport 100% for our training and plan on buying our own Cherokee and basing it here as well. The airport needs to stay where it is for all time.
7	3	Piper Cherokee 180		X	X		X				X				X						50	50	Cherokee 140/160		
8	4																								

Williamsburg - Jamestown Airport  
Based Aircraft User Survey Summary

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1																	
2																	
3				Aircraft Usage					Annual Operations		If Airport (JGG) were no longer available			Experience any operating problems?			
4		Type Aircraft	Approx. # Hrs Flown Annually	% Business	% Personal	% Instruction	% Proficiency	% Other	# Local	# Itinerant	Relocate to another airport	Sell my aircraft	Other	Yes	No	Describe	Other Comments
5	1	Cessna 182	80		80		20		2	20	Newport News				X		Williamsburg needs a general aviation airport. If the community continues to grow, airport access is a certain PLUS
6	2	Symphony SA-160	85	10	90				40	60	Maybe New Kent				X		Wakefield, New Kent, Mid Peninsula: too far to drive; Newport News too expensive, no hangars available and fuel is outrageous. JGG is a great asset to Williamsburg and James City County. I would strongly encourage County ownership and maintenance of this resource. Our small R & B has guests fly in to JGG. I believe they would stay somewhere else if the airport was not available. Other pilots I know from surrounding communities enjoy flying into JGG for the attractions and historic sites. Only suggested upgrades would be: consider more hangars, either enclosed or shade hangars. Also self-service fuel would lower the cost and result in increased sales.
7	3	Piper Archer II	75		80		20		60	90		X			X		
8	4	Symphony SA-160	xx		100				75	25		X			X		JGG is a very popular airport as evidenced by the transient traffic over the lunch hour and on holidays and weekends. It is the most pilot-friendly airport that I have used. I think it is important to James City County to keep the airport open and operational. The only improvement needed is repair of taxiways.
9	5	Cirrus SR22	250	50	50				100		Newport News			X		The airport needs 500 more feet of runway length to safely accommodate some general aviation operations. It would be also greatly benefit from more instrument approaches which would allow entry (landings) during a greater variety of weather conditions.	This is a great airport and is a tremendous asset to the community. It serves the area by facilitating commerce. I hope that it can be maintained and improved at its existing location.
10	6	C182 Skylane	100		90		10		50	200	X				X		
11	7	Piper Archer II	100		60	20	20		240	75	Newport News or Langley AFB				X		Improve access road to airport. Repair taxiways.
12	8	Mooney M20K	100	100					25	25		X			X		
13	9	Bellanca 17-30A Super Viking	200	25	75				4	6			Move. Airport & local houses are reason I'm moving here		X		My family & I recently moved to Hampton Roads area. The Williamsburg area was settled on due to KJGG. If KJGG was close, my family & aircraft would relocate. This may also happen if the IFR approach was removed as it adds to the operational window of my aircraft. I would like to see at least one aligned GPS approach put in.
14	10	Cessna 210	60		X		X		X						X		
15	11	Cessna 172-RG Cutlass	xx		25		10	65-transportation to and from work		100	Newport News				X		

Williamsburg - Jamestown Airport  
Based Aircraft User Survey Summary

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3				Aircraft Usage					Annual Operations		If Airport (JGG) were no longer available			Experience any operating problems?			
4		Type Aircraft	Approx. # Hrs Flown Annually	% Business	% Personal	% Instruction	% Proficiency	% Other	# Local	# Itinerant	Relocate to another airport	Sell my aircraft	Other	Yes	No	Describe	Other Comments
16		12 Mooney 201	100	60	20	10	10		26	24		X			X		Consider lowering personal property taxes on boats and airplanes and market our assets (airport & marinas) to attract more people to James City County. Put up more hangars (for revenue) (dry storage at our marina). More planes / boats = more storage revenue, more fuel bought, more parts & service.
17		13 Zenith Zodiac 601SL	unknown						11		Newport News				X		I believe that we need a publicly-owned airport. Williamsburg is an important tourist/educational destination and would be doing itself a disservice if it lost its airport.
18		14 Mooney M20K	100	75	25				9		Newport News or Chesapeake, if hangar space available				X	If runway were longer it would attract more business opportunities for area and positively influence my Med Equipment Sales business.	I would be interested in supporting continuation of this airport and assist on board capacity in the future.
19	15	Currently have no plane			100						X				X		
20	16	Mooney M20K	40		50		50		45			X			X		
21	17	Piper 235 (Pathfinder)	70		X						X				X		
22	18	Cirrus SR22	125		50					X	Newport News					I could use my twin	
23		19 Piper Cherokee 140	40	10	80		10		50	30		X			X		The airport is an asset to the community& should not be lost. It offers many benefits beyond personal & business use such as medical & emergency needs. I consider an airport to be a basic infrastructure asset to any community.
24	20	Cirrus SR22 / Cirrus SR22 turbo	75	10	80		10		15	50	Newport News				X		Separate comment sheet attached. *part owner
25	21	Cirrus SR22	150	20	60	10	10		55	30	Newport News				X		
26		22 Beechcraft Baron	100	20	40	20	20		12	20		X		X		Would like to have sufficient overruns to have the option of aborting rather than to continue take-off on one engine after VMC. Having sufficient overruns would also be of benefit to single engine airplanes due to loss of engine at a critical time.	I restrict night flying to not any or when absolutely necessary due to deer and other wildlife on airport premises. Complete fencing of perimeter of airfield should be considered for above and security.
27		23 SX 300	130	50	40		10		10	15			Shoot myself. I just moved to Williamsburg, partly because of this outstanding airport and FBO- this is a jewel & a great attraction to Williamsburg. Please keep it in operation.		X		*Just arrived in November
28	24	Commander 114B / Columbia 350	10 20		100				10	20	Newport News				X		JGG needs a wash rack or provisions allowing washing and waxing of aircraft.



Williamsburg - Jamestown Airport  
Based Aircraft User Survey Summary

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3				Aircraft Usage					Annual Operations		If Airport (JGG) were no longer available			Experience any operating problems?			
4		Type Aircraft	Approx. # Hrs Flown Annually	% Business	% Personal	% Instruction	% Proficiency	% Other	# Local	# Itinerant	Relocate to another airport	Sell my aircraft	Other	Yes	No	Describe	Other Comments
29	25	Cessna 172			X				120	15	West Point			X		The airport taxiway needs to be resurfaced and a windsock placed at each end of the runway.	
30	26	Experimental VM-1	200+		90		10		500	50	Wakefield				X		I currently own two aircraft. In the past 15 years, I generally owned three, only one of which is kept at Williamsburg due to lack of hangar space. Besides my hangar at Williamsburg, I also rent hangars at Wakefield and Franklin. My second aircraft is hangared at Franklin. Should the Williamsburg airport close and not be replaced with a new one in James City County, I would sell my James City County home and move to Franklin. Aviation has been my life for over 40 years and will continue to be as long as I can get to an airport.
31	27	Cessna 177 RG	100		75		25		10	50	Newport News				X		This airport needs an instrument approach with lower minimums. When the weather looks like it will be IFR, I go to PHF.
32	28	Ercoupe 415C	100	20	80				90	10	New Kent				X		I was the first student pilot to solo at Williamsburg-Jamestown Airport.
33	29	Mooney M20C											X		X		
34	30	Cessna 150G	200		100				40	160		X			X		JGG is the only airport between Richmond and Newport News International that is small, free of operational restrictions due to airspace, and easily accessible to James City County residents.
35	31	Hughes TH-55 helicopter	100	50	50				5	95	Unknown				X		JGG is always a friendly and efficient aircraft base. It is a real asset to the Williamsburg community.
36	32	Maule MST-180	see comments								X				X		This aircraft is under renovation in Cauldwell, Idaho and I expect to move it to JGG and register it in VA in January or February. I have leased the hangar in anticipation of delivery of the aircraft.
37	33	Cessna 172 XP	80-100	10	80		10		200+*		** see comments				X		* These may be itinerant by your definition. I rarely stay in the pattern at JGG. **I would like (grudgingly) to relocate. However there will be no hangar space available at Newport News, West Point or New Kent. So I would be forced to sell.
38	34	Cessna 182 Skylane	25		100				10	6	Newport News				X		This is a fine airport that could be even better. The restaurant could be expanded; other aviation businesses could be brought in with incentives, more pilot services offered. Many possibilities- plus the attractions of all Williamsburg has to offer makes JGG a very attractive stop.
39	35	Piper J3 Cub	40		100				50	50	New Kent			X		I bring in other aircraft that cannot operate at JGG during the summer due to the short runway.	I'd like the runway to be longer to improve safety.
40	36	Cessna 172	125	90	10				10	70	Middle Pennisula or New Kent County				X		Runways with markings (that can be seen) & taxiways; tiedowns without grass growing 1 1/2 feet in the asphalt cracks; would be nice to have self-service fuel. (This is the only one in the area that doesn't); A real paved road into the airport!

Williamsburg - Jamestown Airport  
Based Aircraft User Survey Summary

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3				Aircraft Usage					Annual Operations		If Airport (JGG) were no longer available			Experience any operating problems?			
4		Type Aircraft	Approx. # Hrs Flown Annually	% Business	% Personal	% Instruction	% Proficiency	% Other	# Local	# Itinerant	Relocate to another airport	Sell my aircraft	Other	Yes	No	Describe	Other Comments
41	37	Yak-52TW	50	70			30		see comment #1		West Point or Newport News				X		1). Aircraft has been down for equipment installation since June 2006. 2). A GPS instrument approach with lower weather minimums is desirable. In the past some nearby residents objected to a more straight-in final approach course which would have allowed this.
42	38	Cessna 172	50		100				35	10			Not sure		X		
43	39	Lancair MKII 360	10		100				10			X			X		
44	40	Zenith Zodiac 601SL	200		75		25		200	50			Have not studied the options		X		I understand that the decision taken by the County with regard to purchasing the airport will be driven by a business model. I would hope however that the other non-profit community services provided by our airport are not ignored in your final decision. For example our airport offers young citizens with an interest in aviation an opportunity to get up close and personal with aircraft and those that fly and maintain them. Such contact is the life blood of our country and even has a national security implication. There is also a social dimension to our airport. Many groups and individuals use the meeting rooms and restaurant at the airport to add value to our community. It's a stretch, but our airport provides many of the same services you are now providing in our libraries and museums i.e. a place to broaden your interest and knowledge. Thanks for the opportunity to comment in your survey.
45	41	Cessna 172R	100 to 125	20	70		10		40	40	Newport News				X		Approach with lower minimums would be useful.
46	42	Piper Malibu Mirage/ Super Decathlon	75 / 35	X	X			recreation	6 30	25 6	Newport News or West Point				X		Repair pavement on taxiways; VASI's for night landings; Improved GPS approach (straight-in); access road to new hangars; seal pavement at old hangars; repair work to 2 or 3 old hangars.
47	43	Piper Cherokee 180	100		100				200	100	Uncertain				X		I have been flying for over 40 years in the state of Virginia and I consider JGG one of the best facilities. I have owned my aircraft for 33 years, having been previously based at Woodbridge Airport (now gone), then Shannon Airport until 1999 when I came to JGG. This airport and County were big draws for our relocation from northern Virginia upon my 1999 retirement. I had been flying into JGG since the mid-1970's often for visits and shopping. JGG is home to us, and just as important as our home in Settler's Mill. Also, I believe that the airport is essential for economic development and benefit for the county and the City of Williamsburg. JGG provides compassionate benefits in the form of Angel (and Mercy) flights, organ donor flights, etc., and also serves the U.S. Government in many significant ways.
48	44	Liberty XL2	45+	10	70		20		27	30	West Point or New Kent				X		GPS approach from west; glide slope approach lights (VASI)

Williamsburg - Jamestown Airport  
Based Aircraft User Survey Summary

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
3				Aircraft Usage					Annual Operations		If Airport (JGG) were no longer available			Experience any operating problems?			
4		Type Aircraft	Approx. # Hrs Flown Annually	% Business	% Personal	% Instruction	% Proficiency	% Other	# Local	# Itinerant	Relocate to another airport	Sell my aircraft	Other	Yes	No	Describe	Other Comments
49	45	Piper Saratoga	150	10	85		5		10	75	Newport News				X		1) Straight-in GPS approach, with or without vertical guidance would greatly benefit IFR pilots, especially in IFR conditions. The FAA designed an approach (GPS 13), but it was never implemented. 2) I am strongly in favor of this airport continuing under local gov't ownership.
50	46	Mooney M20K	150	20	70	5	5		60	10	Newport News, West Point or out of the area		May move out of the area as the airport is one of the main reasons I live here.	X		Lack of a good straight-in instrument approach	The S-J Airport is one of only a few remaining small town airports in the area and it serves a very important economic and quality-of-life function for the area that must be preserved. If the county is not interested in purchasing and operating the facility, I know a number of private individuals (including myself) who would be. The airport is a unique and valuable community and commercial asset.
51	47	Cessna 177RG	200		50		50		100	100	Newport News or Middle Peninsula			X		Lack of a precision approach and/or non-circling non precision approach limits airport utility. Winds are very treacherous at JGG. It can be scary. I think this is because of the trees.	
52	48																It is a good airport with a friendly staff.

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	Williamsburg - Jamestown Airport	V	W	X	Y	Z	AC	AD	AE	AF	AG	
2	3				Aircraft Usage									# of times you use JGG annually	If Airport (JGG) were no longer available				Experience any operating limitations at JGG?			Experience any physical limitations at JGG?			What Airport improvements would you recommend	Anticipated % of increase		Are there other aircraft types you intend to operate at JGG? Identify	Comments
4		Type Aircraft	Where did your flight originate?	Business	Personal	Vacation	Instruction	Military	Air Taxi-Cargo	Air Taxi-Pasenger	Proficiency	Other	Number of Persons on Board		Fly to another airport	Drive (as opposed to flying	Not come here at all	Other	Yes	No	Describe	Yes	No	Describe		% in 5 Years	% in 10 Years		
5	1	King Air 300	Savannah, GA									Passenger drop off-corporate flight dept.	4	20-30	Norfolk				X		add an RNAV and ILS approach	X		need minimum of 4,000' runway for night instrument conditions	See previous	0-2	0-5	Piaggio 180	Great airport to fly in for lunch and also for weekend getaways
6	2	Piper Archer	Culpepper		X	X							2	20			X			X			X		none	10	10	C-172	This is a great executive airport. I really enjoy flying in here
7	3	Beechcraft Bonanza	Norfolk									Lunch	2	8 to 10	Suffolk/Hampton Roads International					X		X	a longer, wider runway	new runway				Good service-no complaints at all	
8	4	Cessna 172	Leesburg		X							drop off at W&M	2	10						X			X	Cheaper fuel (would generate more traffic); courtesy car	10	0		Please don't ever close the restaurant; the food is great. This is really a great little airport.	
9	5	Cirrus SR22	Norfolk		X								2	30			X						X		Instrument approach	2			
10	6	Maule M-4 220C	Stafford	X									2	8 to 10	XX					X			X		New pavement on taxiway; cut back the treeline on south side of the runway; shuttle service to Market Square	10	10	various general aviation and light sport aircraft	Keep the restaurant; expand it if possible
11	7	Mooney M20T 201	Fredericksburg		X							drop off son at W&M	2	6														Excellent airport with valuable insturment approach, tremendous asset to the community	
12	8	Cessna 182 Skylane	Roanoke										1	4			X	Be very upset		X			X	None. Very well run	0				
13	9	Mooney M20J	Burlington, VT		X								1 in;3 out	10	Newport News					X			X	A remote communications outlet (RCO) to obtain clearances	5	5	no, but could always change		
14	10	Cessna 310R	Indianapolis, IN		X								2	1		X			X		Runway length; no ILS		see previous	See previous	0	0			
15	11	King Air 200	Greensboro, NC		X								2	6			X			X			X						
16	12	T-34	Virginia Beach					X					2	4			X			X			X						
17	13	T-34	Virginia Beach										2	1	XX					X			X						
18	14	T-34	Virginia Beach		X								2	1			X						X						
19	15	T-34	Virginia Beach					X			X		2	1			X			X			X	None. Great staff, resources; keep up the good work	50				
20	16	Piper Archer	Fredericksburg		X								1	4 to 5			X			X			X		0				
21	17	King Air B90	St. Petersburg, FL		X								5	1	Newport News				X		Field too short		X		10		Citation I		
22	18	Pitts S-2A	Hanover County		X								2	15			X			X			X						
23	19	Grumman Tiger	Hanover County		X								2	12 to 16			X			X			X		same				
24	20	Cessna 172	Hanover County	X								Wildlife Survey for Center for Conservation Biology at W & M	3	25	Newport News					X			X	Fix deterioration of pavement on ramp and taxiway	10		Beech King Air		
25	21	Cirrus SR20			X								2	4 to 5			X			X			X					Excellent service; very friendly	
26	22	PA-44	Richmond	X			X			X			2	20						X			X		1	20	Cessna 172		
27	23	Glastar	Beaver Dam Airpark		X						X		1	2 to 3			X			X			X	Self-serve fuel	20			It is also great that there is a restaurant here	
28	24	Cherokee II	Florence, SC		X								4	1	Newport News		X			X			X	Longer runway			Falcon 50		
29	25	Robinson R44 Helicopter	Hampton Roads									Lunch	3	10 to 50			X			X			X		10			We use JGG for our monthly meetings for our helicopter club	
30	26	Diamond DA-40	Norfolk		X								5				X	Fly in for lunch		X			X		10		Cessna 182, Cirrus SR22	I hope that the airport remains along with the superb restaurant	
31	27	Cessna 172	Newport News		X							First visit here. Would like to hangar a plane here at some point	1				x			X			X						
32	28		Franklin																										
33	29		Chesapeake Regional																										
34	30		New Kent County																										
35	31		New Quarter Farm																										
36	32		New Quarter Farm																										
37	33		New Quarter Farm																										
38	34		Leesburg																										
39	35		Hanover County																										
40	36		Lincoln Park, NJ																										
41	37																											I am currently the President of the Virginia Aeronautical Historical Society, Williamsburg Chapter. We do not, by in large, fly aircraft today--we are the "history" of aviation. We have 100+ WWII, Korea, Vietnam era military pilots, as well as retired NASA test pilots and airline crew members. We have flown more than 500 different aircraft and have logged more than 500,000 hours in the air. This airport is now our home at least one time each month. It is home to many of our members for more frequent visits. As I mentioned, we are aviation "history" (more accurate, a part of aviation history). So too is the W/JCC airport! In a way, kill the airport and you kill us. You can't have history without people doing memorable things. Our VAHS and airports such as WJCC have created a piece of history.	
42	38	Cherokee Six		X									2	1	X					X			X	Longer runway					
43	39	Cessna 172 SP	Sanford, NC				X						3	1	Newport News						X		X		100		Mooney M20J; Piper Warrior	taxiway paving	
44	40	Cessna 182		X	X		X	X	X	X	X	The airport hangar is used for research & developmental purposes		5			The airport is important for both commercial and private uses		X		Airport need to be extended and it need thicker surface for heavier aircraft to land there	X		Increase the runway and upgrade air traffic control equipment	Runway needs to be extended and the surface need to be thicker to meet larger aircraft that needs to land there. The airport is important to residents, visitors and business personnel because of its location and because it has the potential to to increase revenue in the area.	100			The (JGG) airport is located in a strategic area for both military and commercial aircraft. There are no other airports nearby or close enough to land thahn the Williamsburg-Jamestown Airport. It is also located to many historical monuments which makes it easier to land by visitors. Please save the airport because it is important to the citizens and businesses in the area.
45	41	Maule M5 235	Annapolis, MD		X								2	2			X												
46	42	Cessna 182	Fredericksburg, MD		X								1	20			X			X			X	Eliminate dump site at end of 31 on account of birds	15			The airport is great	
47	43	Cessna 172	Newport News		X								3	28			X			X			X	More hangars. Restaurant is wonderful	20		C-182; C-205		
48	44	Skylane 182	Newport News		X								3	25			X			X			X	All is OK	25				
49	45	C-206	Richmond	X									2	10+	Newport News				X		Short runway		X	Longer runway					
50	46	Cirrus SR22	Pottstown, PA		X	X							2	not often			X			X			X	None	10				
51	47	U.S. Army Blackhawk UH60 helicopter	Miami, FL	X					X				3	?	Newport News		X										Other military aircraft	Purchased 151.6 gallons of fuel	
52	48	C 172	Leesburg		X							Lunch	4	4			X			X			X	Good as is; instrument approach	100			Nice airport, folks and food	
53	49	Tiger AG5B	Northeast Philadelphia, PA		X								2	2			X			X			X		20			Please keep it open	
54	50	Pilatus	Warrenton	X									7	1	Richmond					X			X	ILS				Nice place -glad it is here	
55	51	C172 Skyhawk	Newport News		X								2	3						X			X	Unknown-flight school		50		Extend runway	

	A	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	Williamsburg - Jamestown Airport	V	W	X	Y	Z	AC	AD	AE	AF	AG	
4		Type Aircraft	Where did your flight originate?	Business	Personal	Vacation	Instruction	Military	Air Taxi-Cargo	Air Taxi-Pasenger	Proficiency	Other	Number of Persons on Board	# of times you use JGG annually	Fly to another airport	Drive (as opposed to flying	Not come here at all	Other	Yes	No	Describe	Yes	No	Describe	What Airport improvements would you recommend	% in 5 Years	% in 10 Years	Are there other aircraft types you intend to operate at JGG? Identify	Comments
56	52	Robinson R44 Helicopter	Hampton Roads		X								4	25+			X			X		X			0	5	Small fixed wing		
57	53	Robinson R44 Helicopter	Hampton Roads		X								3	12 to 15			X			X		X		None	20		Cherokee Six	Keep airport open	
58	54	Robinson R44 Helicopter	Hampton Roads	X	X		X				X		4	10 to 15			X										Multi-engine fixed wing		
59	55	C-182R	Hanover County		X								3	15+			X		X		JGG would benefit from upgraded instrument approach (like localizer,ILS)	X		Longer & wider runway	10		BE-99		
60	56	Cessna 152	Hampton Roads		X								2	10 to 15			X			X		X			same		Piper Warrior, Cessna 172	This airport is well known up and down the east coast as a great place to stop for fuel and excellent food. Employees are always helpful and courteous	
61	57	Piper Aztec	Oxford, MS		X								2	1 to 2	Newport News Franklin Municipal					X		X		GPS WAAS type approach; deice/preheat for winter operations				We have been flying into JGG since the late 60's & hope to continue for several more years. The airport is a great asset to this area.	
62	58	Bonanza 36	Newport News		X								3	15						X		X							
63	59	Cessna 172	Manassa		X								1	1			X			X		X		Resurface runway; repair VASI	50		Single engine & light twin	I bring the aircraft to be worked on	
64	60	Mooney M20E	Hampton Roads		X								4	3						X		X		None-like it how it is	0	20	Citabria	Wonderful airport. Keep up the good work	
65	61	Cessna 172	Centreville		X								2	12		X				X		X		Lengthen the runway; repave runway and taxiway	100			The County needs to pave the road leading into the airport.	
66	62	Mooney M20C	Saluda									Lunch	2	10			X			X		X		More T-hangars	25		Cessna 172RG, Piper Arrow, Beech Bonanza A 36	A sign at run-up area advising traffic pattern	
67	63	Piper Arrow	Brandywine, PA		X								2	10			X			X		X					Piper Saratoga, PA 32R 300	Longer Runway	
68	64	Skylane 182	Linden, NJ	X	X	X	X						2 to 4	6 to 8	Newport News				X		Precision ILS or WAAS GPS approach procedure would make arrivals more reliable in low ceiling weather.		X		Car rental on field	25	12	Pilatus, TBM-850 (turbo-props single engine)	More T-hangars for locals, improved approaches, great restaurant on the field. We love this airport - so close to Colonial Williamsburg without the hassles of Newport News.
69	65	Piper Arrow	Frederick, MD		X								4	2 to 4	Patrick Henry		X			X		X		None-great staff, very friendly	100 (if daughter accepted at W & M)				You have a hidden gem with JGG. Sometimes I come to Williamsburg just for the day due to location and ease with which I can rent a car and get to town. Ditto for day trips to Busch Gardens (go 2X a year on just day trips. The large hill at departure end of Rwy 31 is a bit worrisome for night landing. Sometimes I stop in for fuel and a bite to eat on a return trip from Florida.
70	66																												
71	67																												

# ATTACHMENT 1-E

## PUBLIC PARTICIPATION





**JAMES CITY COUNTY  
AIRPORT FEASIBILITY STUDY**

**COMMUNITY AIRPORT COMMITTEE**

**SUMMARY – MEETING #1  
OCTOBER 31, 2007**

The first Community Airport Committee meeting for the Airport Feasibility Study was held on Wednesday, October 31, 2007, at 3 PM in the Board Work Session Room of Building F, James City County Government Center. A copy of the Sign-In sheet and agenda is attached.

After some brief opening remarks from Mr. Bill Porter, Assistant County Administrator, the meeting was turned over to Mr. Ron Deck, the Study's Project Manager from L. Robert Kimball & Associates. Using a PowerPoint presentation, Mr. Deck gave a brief overview of the Kimball organization, and then turned the discussion over to Mr. Glenn Kay, also from L. Robert Kimball & Associates. The presentation was informal so that questions could be asked at any time. The following is a summary of each slide presented by Mr. Kay and some of the related discussion items:

➔ Scope of Services, Task 1.3, "Public Participation"

- Three mechanisms for public participation have been developed:
  - The establishment of a Community Airport Committee
  - The establishment of a web page on the County's web site
  - Continuing public coordination including a public workshop to occur at a key point during the Study.
- This was discussed again later during the presentation

➔ Scope of Services, Task 2.1, "Inventory of Existing Conditions"

- The first step is to conduct an inventory, to include:
  - Visiting the existing Airport and inspecting such things as building and pavement conditions, etc.
  - Visiting other airports in the area, e.g. Newport News, New Kent County, and Middle Peninsula Airport.
  - Meeting with the current owners of the Williamsburg-Jamestown Airport.
- Another part of the inventory task involves developing a series of questionnaires designed to gather information from aircraft operators who use the Airport. This was discussed in more detail later in the presentation.
- Additionally, an environmental overview is also to be conducted as a part of this task. The overview is a very brief evaluation of some of the

environmental categories contained in the National Environmental Policy Act (NEPA), as related to land use compatibility and potential environmental impacts.

➔ Scope of Services, Task 2.2, “Determine Aviation Demand”

- One of the primary purposes of this Study is to determine the demand for aviation in the historic triangle area. This will be done by evaluating data contained in the Virginia Statewide Airport System Plan and also by evaluating data learned from the questionnaires.
  - Things such as the types of aircraft and frequency of use will be evaluated.
- Forecasts will be developed for a 5, 10, and 20 year period.

➔ Scope of Services, Task 2.3, “Conduct Economic Value Evaluation”

- Using the expertise of the Economic Development Research Group (EDRG), a subconsultant to Kimball, a short discussion of qualitative and quantitative benefits common among general aviation airports will be developed. The EDRG will also perform a Financial Feasibility Assessment for the Airport considering such factors as operating expenses, revenue generation, etc.

➔ Scope of Services, “Develop Summary Report”

- All of the information developed to date will be put in the form of a Summary Report and circulated for review and comment.

➔ Scope of Services, Task 2.4, “Define Airport Requirements”

- Once the aviation demand has been established and agreed upon, the next step is to determine the airport facilities needed to meet that demand. This is done primarily by using FAA design standards (as presented in a series of Advisory Circulars) and the Virginia Department of Aviation criteria.

➔ Scope of Services, Task 2.5, “Alternatives Development”

- Once the aviation demand and requirements have been established, a series of alternatives will be developed. They include:
  - Status quo (the existing airport continues to be owned and operated by a private entity).
  - Local public acquisition of the existing Williamsburg-Jamestown Airport (this could be the County or some type of multi-jurisdictional Authority).
  - Utilize other existing facilities (e.g. Newport News, New Kent County, Middle Peninsula Airport).

- Develop a new airport (Green Field Site). Note: no attempt will be made to identify a specific site.
- Criteria for a matrix will be developed that will depict the advantages and disadvantages of each alternative.

➔ Scope of Services, “Develop Summary Report”

- All of the information developed to date will be put in the form of a Summary Report and circulated for review and comment.

➔ Scope of Services, Task 2.6, “Conduct Alternatives Evaluation”

- Once the criteria for the matrix have been determined and agreed upon, Kimball will populate the matrix. This matrix should be the primary tool to be used for making future decisions regarding aviation in the area.

➔ After the alternatives have been evaluated, a series of draft reports, as well as a final report will be developed.

➔ Draft Table of Contents

- Mr. Kay then presented a draft Table of Contents for the Airport Feasibility Study and briefly discussed the intent of each section.

➔ Project Schedule

- Mr. Deck then discussed the proposed project schedule.
- A copy of the schedule was provided to those present.
- The schedule has been specifically formulated to ensure adequate review periods have been built into it for review of deliverables by the County, DOAV, and the FAA.
- The next Committee meeting, according to the schedule, will be held sometime next March.

➔ Draft Airport Surveys

- Three different survey forms have been developed to assist in gathering information from existing Airport users:
  - Based Aircraft Owner Survey
  - Visiting Aircraft Pilot Survey
  - Renter Pilot Survey.
- These draft surveys were discussed at the meeting, and the Community Airport Committee provided the Consultant with recommended changes and additions to the survey forms.

- The Consultant promised to incorporate the changes and provide a quick turn around so the surveys can be distributed.
- In addition, the Airport owner suggested that the survey forms be placed on the Airport's web site to increase there exposure to Airport users.

**Additional discussion:**

- ➔ Discussion continued regarding the make-up of the Community Airport Committee. One citizen in attendance asked if any of the local committee members come from a "non aviation" background. It was discussed that one of the members does, in fact, come from a "non aviation background." It was suggested that possibly additional similar members should be added to the committee. It was agreed that this will be looked into. It was also discussed that the Committee should select a chairperson. It was agreed that a chairperson would be selected by the Committee in the near future.
- ➔ Additional discussion also continued regarding the Study's Public Participation Program. The Consultant indicated that in addition to the elements discussed earlier, the Community Airport Committee is composed of members who reside in the primary communities surrounding the Airport. It is intended that the Committee Members will bring the questions, issues, and concerns of their respective communities to the Study so they can be addressed. The Consultant was asked why the Public Workshop was not scheduled to occur at the beginning of the Study. The Consultant indicated that the Workshop has been scheduled to occur at a key point in the Study when inventory and other pertinent research information is assembled and can be presented to the public, but before the analysis / evaluation process is completed. This timing is intended to enhance effective workshop communications and understanding between the public and the Study participants at this key point in the Study.
- ➔ A representative from the Virginia Department of Aviation was also in attendance at the meeting, and reviewed the results of a separate Obstruction Analysis Study conducted for the Airport, and funded in part by the current owner. It was discussed that, with regard to Virginia Public Use Airport Standards, the Airport is not considered to have numerous / significant airspace penetrations. A copy of the Obstruction Study will be provided to the Consultant after it has been reviewed and approved by the Waltrip's.
- ➔ The meeting was adjourned at approximately 5:00 PM.

**AGENDA**

**JAMES CITY COUNTY  
AIRPORT FEASIBILITY STUDY**

**COMMUNITY AIRPORT COMMITTEE**

**MEETING #1**

**OCTOBER 31, 2007**

- ➔ INTRODUCTIONS**
- ➔ OVERVIEW OF SCOPE OF SERVICES**
- ➔ PROJECT SCHEDULE**
- ➔ COMMUNICATIONS PLAN**
- ➔ DRAFT AIRPORT SURVEYS**
- ➔ COMMITTEE - ORGANIZATION**



**COMMUNITY AIRPORT COMMITTEE  
AIRPORT FEASIBILITY STUDY**



**MEETING #1**

October 31, 2007

NAME (PLEASE PRINT)	EMAIL ADDRESS	TELEPHONE	ORGANIZATION
1. Bill Borer	billborer@jones-co.org	571-253-6664	JCC
2. Digby Solomon	digby.solo@cox.net	757-247-4612	se committee
3. Ruth Riches	riches@jonesco.org	253-6864	Communications
4. T.C. Caviness	—	229-20135	Kings point Newsletters Assoc
5. N.S. Wallis	adwallis@evergreen.net	220-3341	E A A Secretary & Newsletter Editor
6. C. Voegelin	—	220-2424	Ret VAHS
7. Bob Johnson	MO AND BOB'S @MSN.com	564-5874	VIRGINIA AERONAUTICAL VAHS HISTORICAL SOCIETY
8. Glen Wallace	jwall@powj.com	229-9256	WASBG-Jamestown Airport

**COMMUNITY AIRPORT COMMITTEE  
AIRPORT FEASIBILITY STUDY**



**MEETING #1**

**October 31, 2007**

NAME (PLEASE PRINT)	EMAIL ADDRESS	TELEPHONE	ORGANIZATION
9. <i>Larry T. Waltrip</i>	<i>Larry@waltriprecycling.com</i>	<i>757-229-0434 cell 876-8655</i>	<i>Williamsbury James Town Airport Inc</i>
10. <i>Richard W. Coakley</i>	<i>coakleyrwnh@aol.com</i>	<i>228-4080</i>	<i>Birchwood Oak Assoc</i>
11. <i>Ron Deek</i>	<i>RONDECK@LRKIMBALL.COM</i>	<i>814 867.4566</i>	<i>L. Robert Kimball &amp; Associates</i>
12. <i>Glenn Kay</i>	<i>KAYGLE01@LRKIMBALL.COM</i>	<i>815.459.9907</i>	<i>L. Robert Kimball &amp; Associates</i>
13.			
14.			
15.			
16.			

# Community Airport Committee

## Obstruction Analysis User Survey Summary

January 9, 2008

# Obstruction Analysis

## → Surfaces evaluated

- DOAV – Visual Approach
- FAA Runway End Siting - Instrument Night Circling (FAA Advisory Circular 150/5300-13, *Airport Design*, Appendix 2)- Surface #4
- FAA Part 77 - Non-precision Instrument
- FAA Runway End Siting – Instrument Night Straight In (FAA Advisory Circular 150/5300-13, *Airport Design*, Appendix 2)- Surface #5
- FAA Runway End Siting – Approach end of runways expected to serve small airplanes with approach speeds of 50 knots or more. Visual runways only day/night. (FAA Advisory Circular 150/5300-13, *Airport Design*, Appendix 2)- Surface #5

# DOAV Approach (Visual/Non Precision)

## → Surface Dimensions

- Surface starts 100 feet from end of runway
- Inner width is 200 feet
- Length is 5,000 feet
- Outer width is 1,200 feet (visual); 2,000 feet (non precision)
- Slope is 15:1
- Primary surface 200 feet wide
  - 5:1 side slope



# DOAV – Runway 13 Approach Surface





# DOAV – Runway 31 Approach Surface





# DOAV –Primary Surface



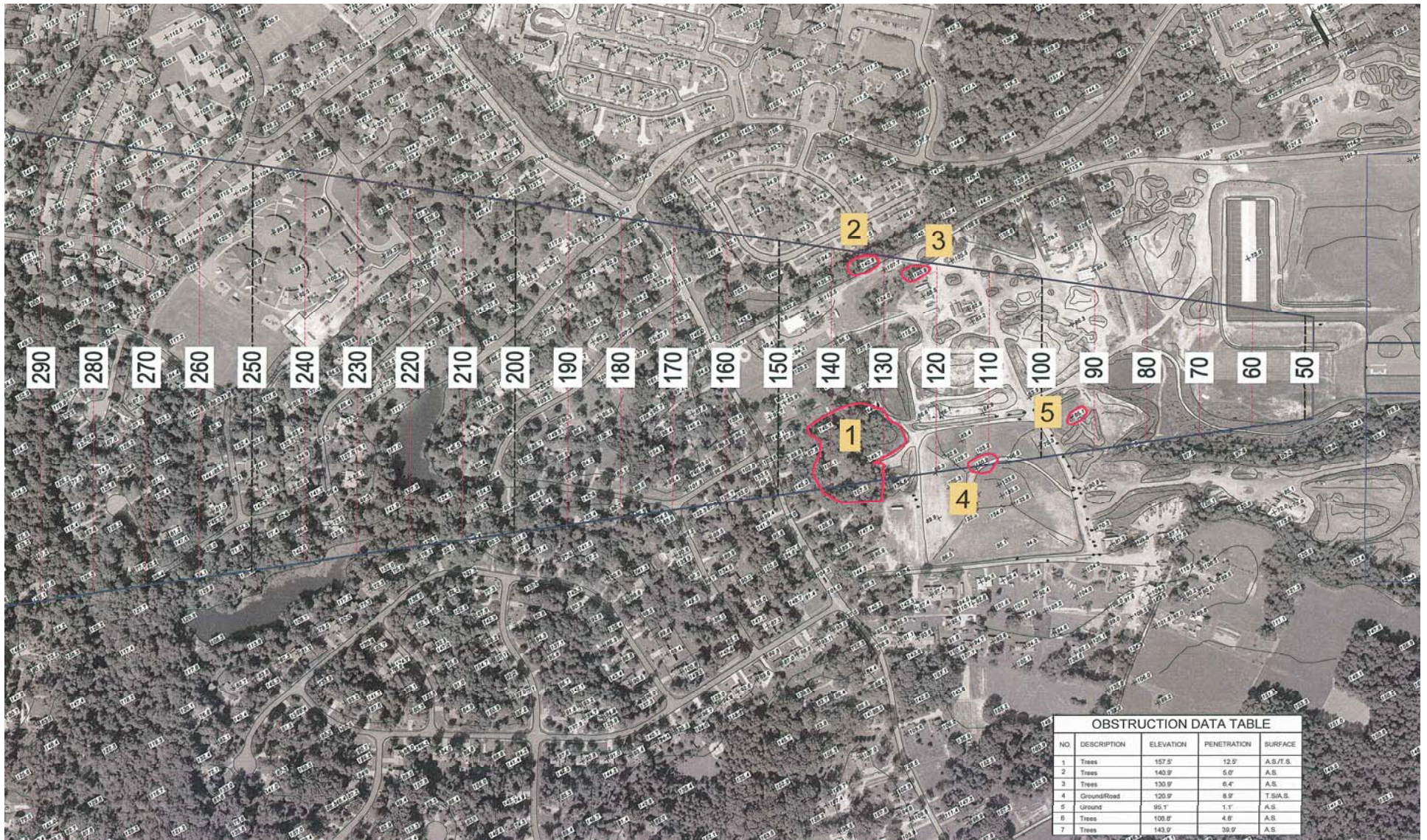
# FAA – Runway End Siting Instrument Night Circling (Surface #4)

## → Surface Dimensions

- Surface starts 200 feet from end of runway
- Inner width is 400 feet
- Length is 10,000 feet
- Outer width is 3,400 feet
- Slope is 20:1
- Primary surface: none
- Transitional surface side slope: none



# FAA – Runway End Siting Instrument Night Circling – Runway 13





# FAA – Runway End Siting

## Instrument Night Circling – Runway 31



# FAA – Part 77 Non Precision

## → Surface Dimensions

- Surface starts 200 feet from end of runway
- Inner width is 500 feet
- Length is 5,000 feet
- Outer width is 2,000 feet
- Slope is 20:1
- Primary surface 500 feet wide
- Transitional surface side slope 7:1

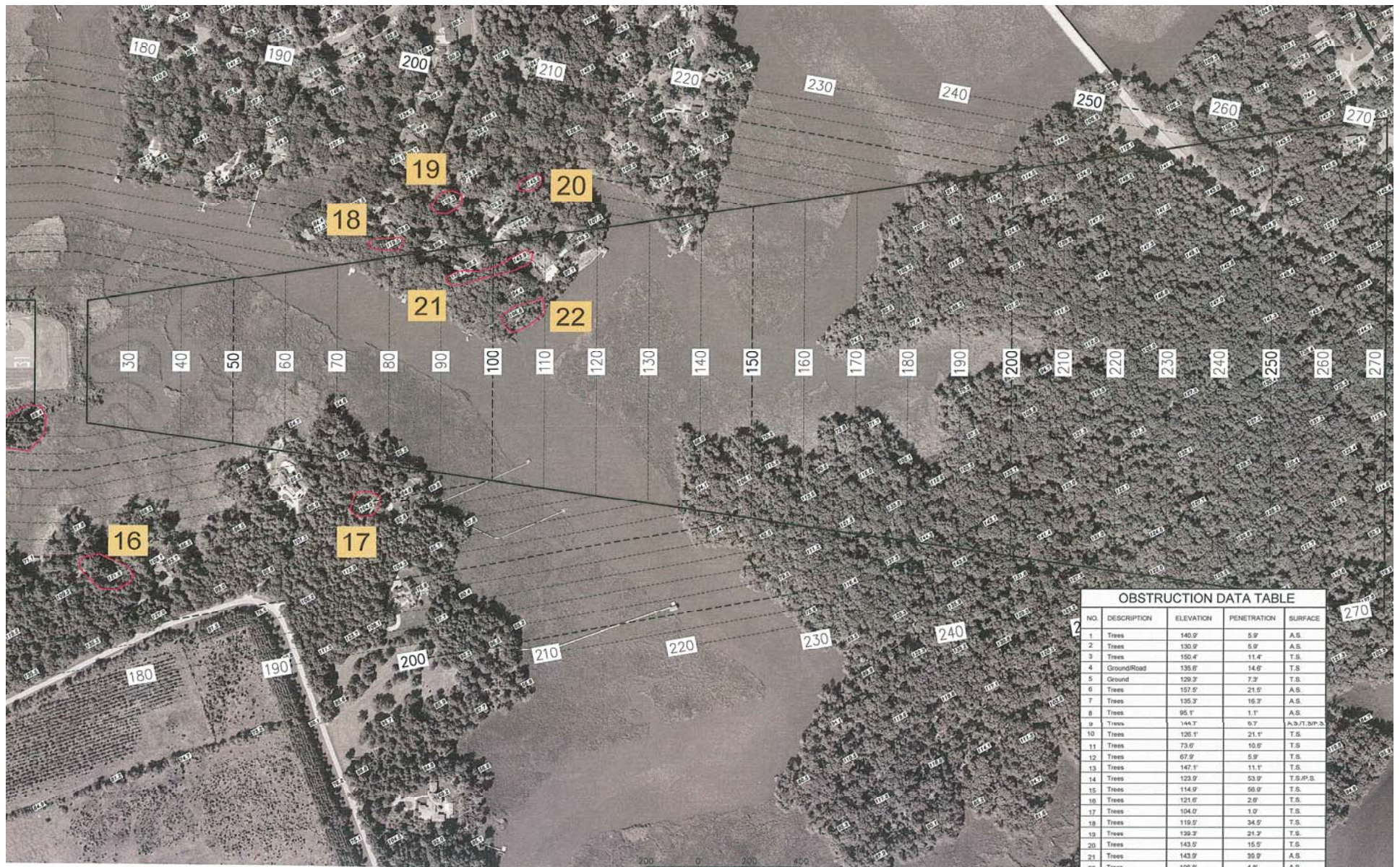


# FAA – Part 77 Non Precision – Runway 13



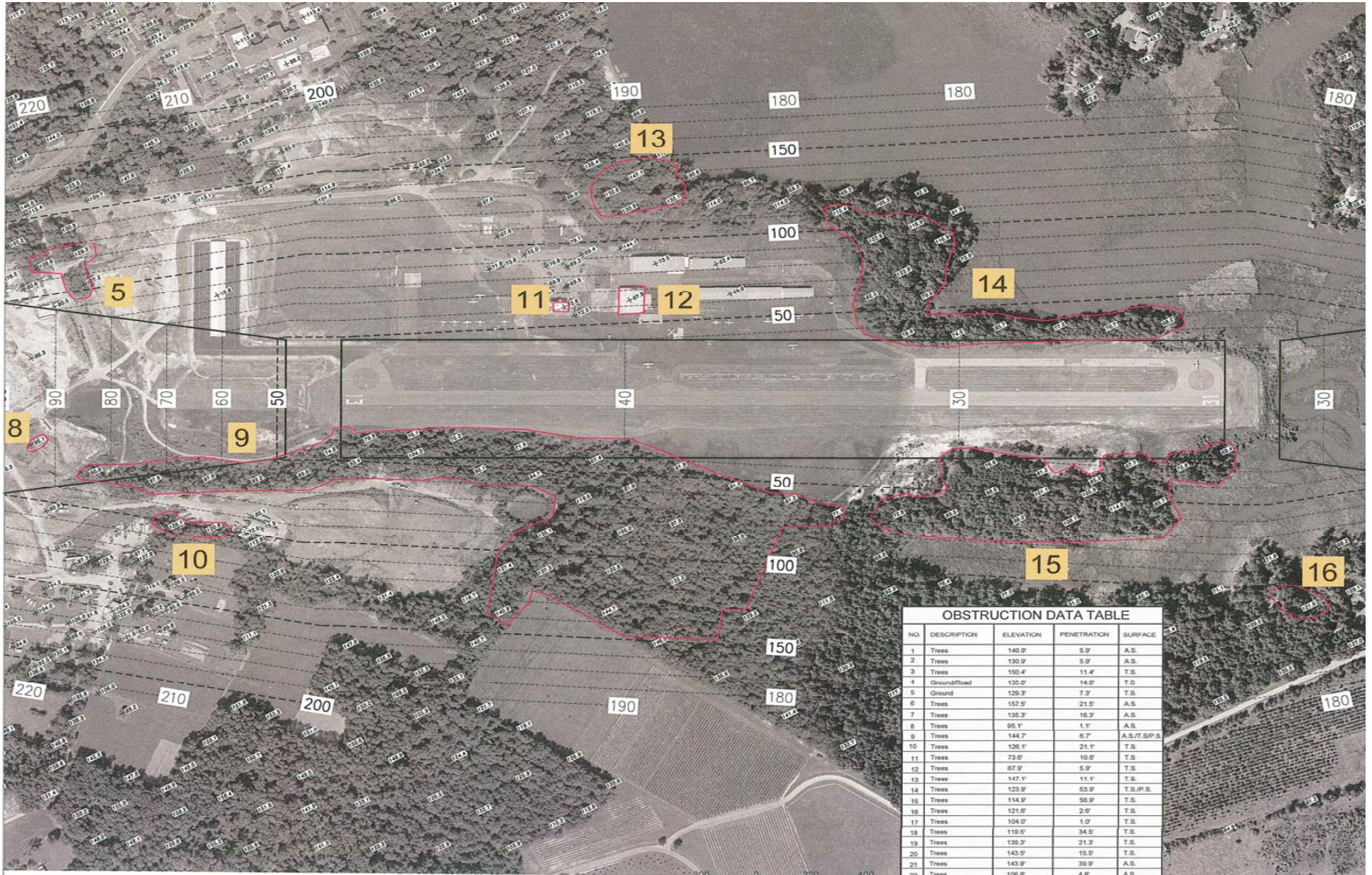


# FAA – Part 77 Non Precision – Runway 31





# FAA – Part 77 Non Precision – Primary/Transition Surface



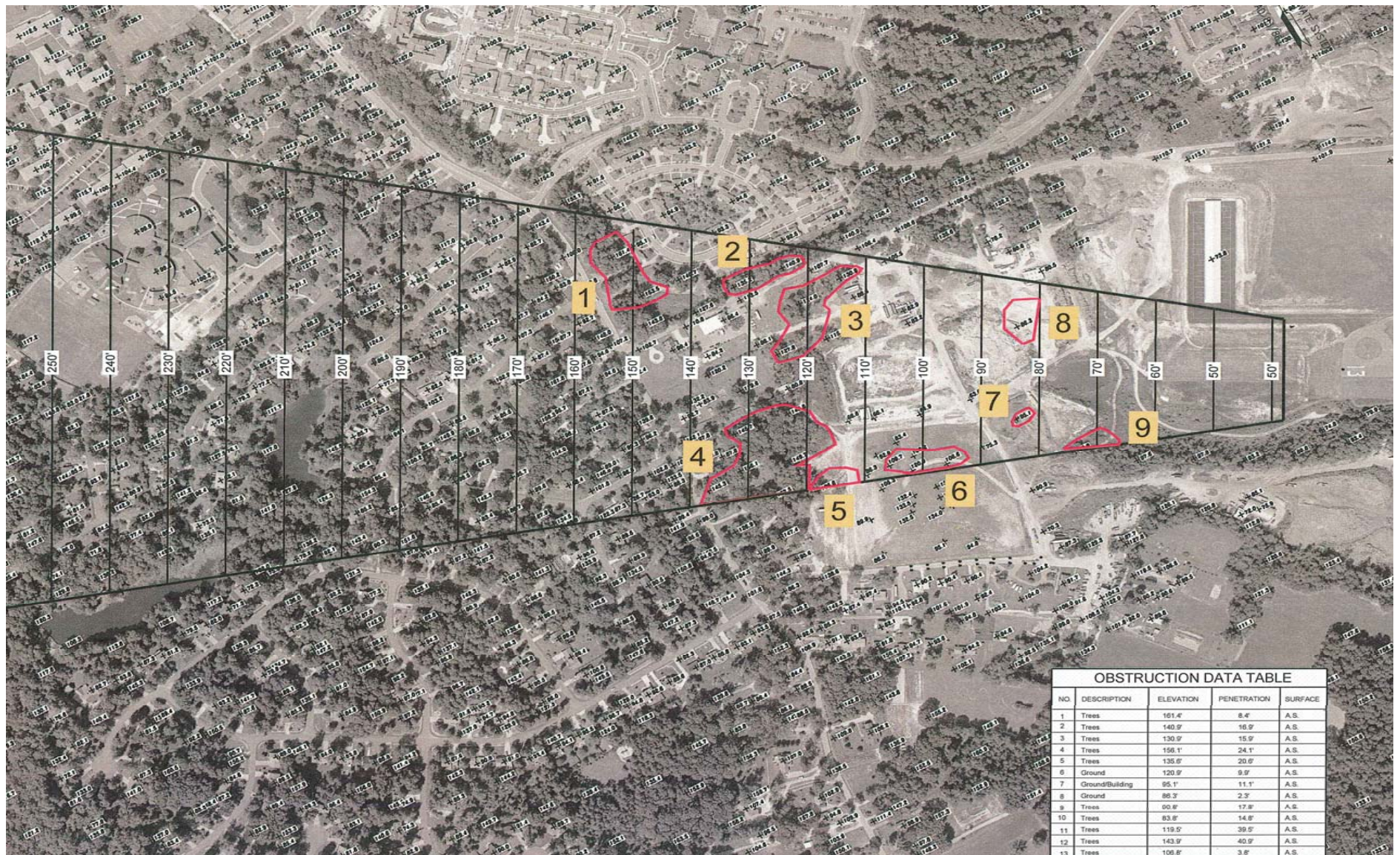
# FAA – Runway End Siting Instrument Straight In (Surface 5)

## → Surface Dimensions

- Surface starts 200 feet from end of runway
- Inner width is 400 feet
- Length is 10,000 feet
- Outer width is 3,800 feet
- Slope is 20:1
- Primary surface: none
- Transitional surface side slope: none

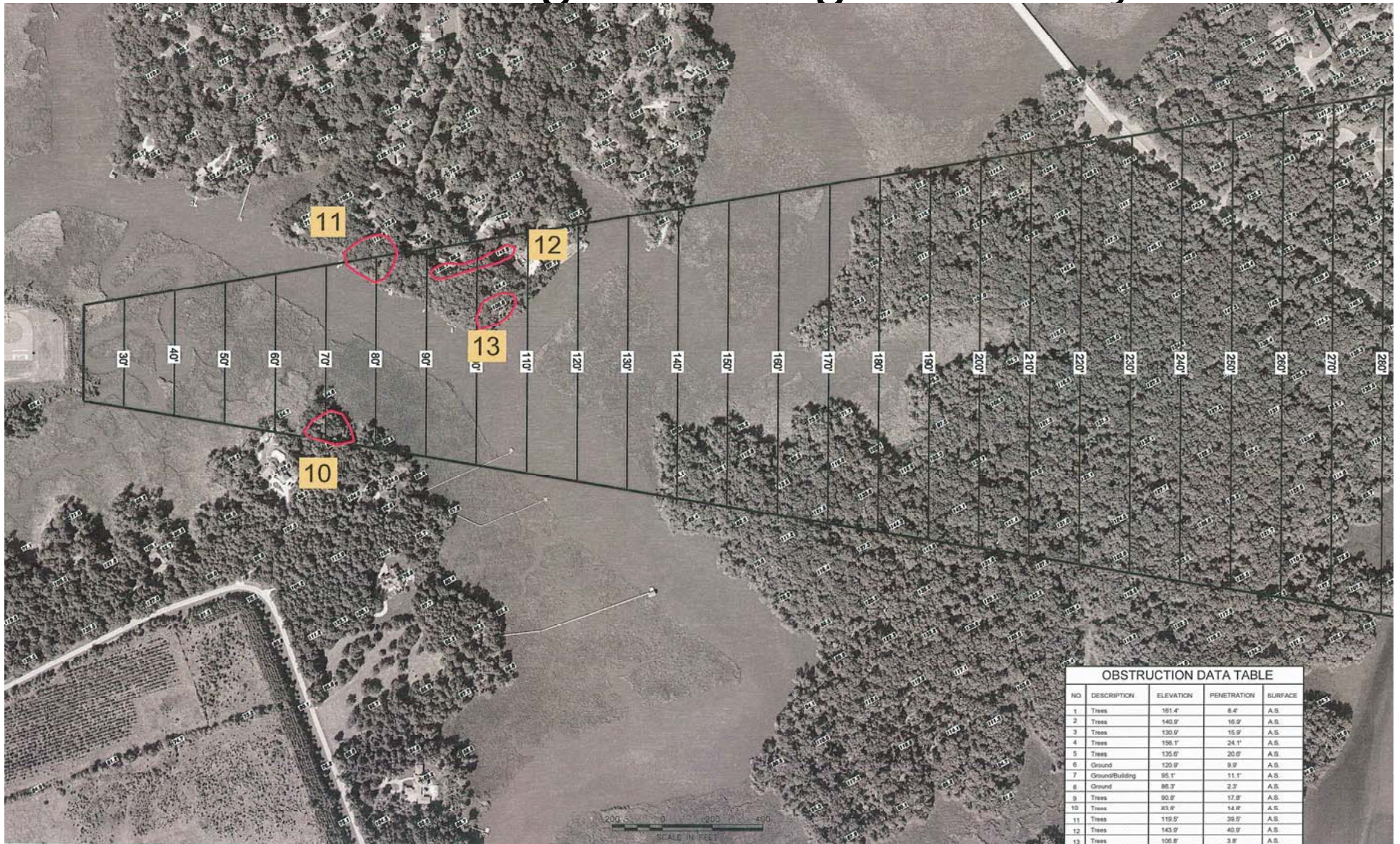


# FAA – Runway End Siting Instrument Night Circling – Runway 13





# FAA – Runway End Siting Instrument Night Circling – Runway 31



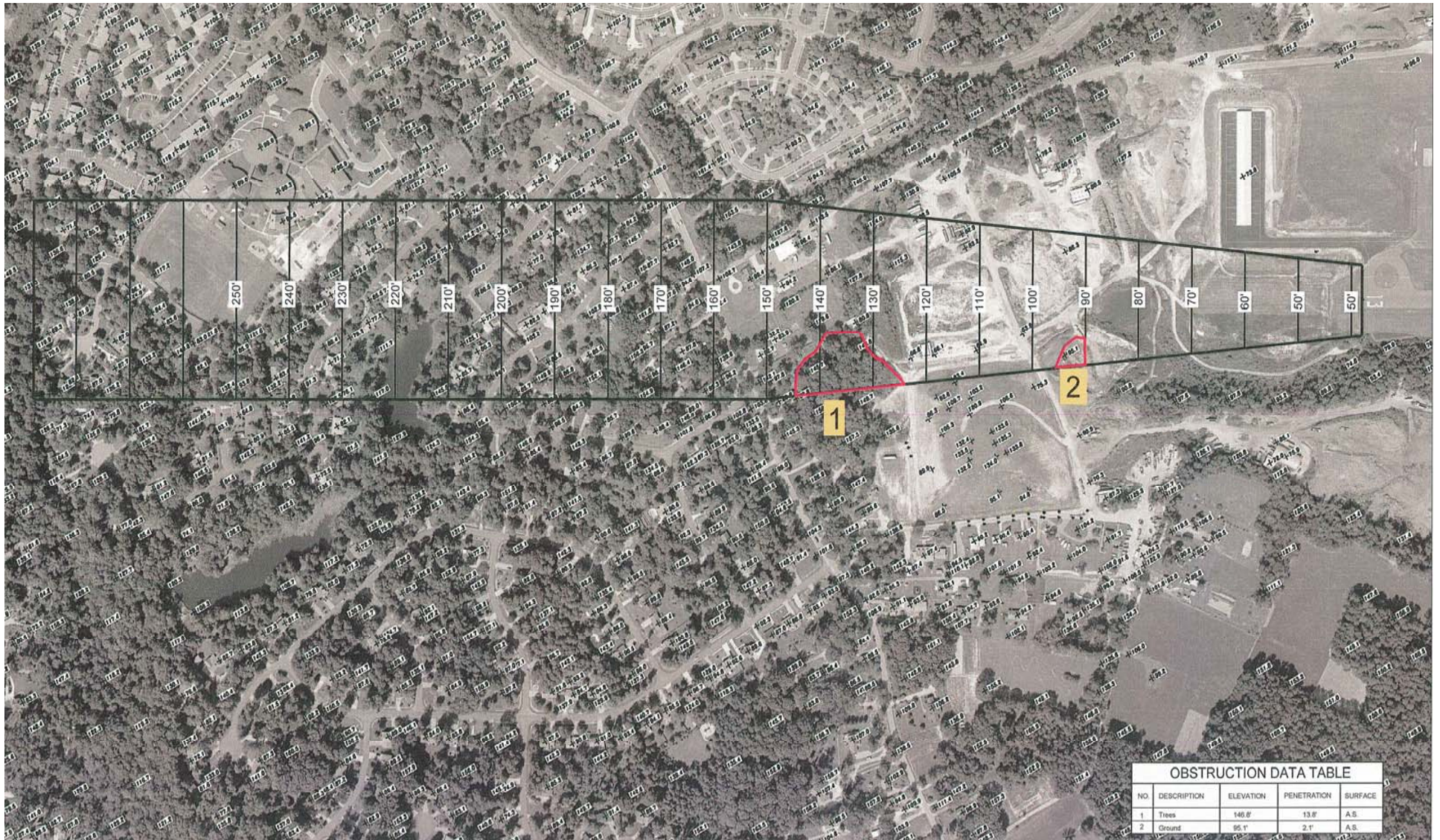
# FAA – Runway End Siting Visual Day/Night (Surface 5)

## → Surface Dimensions

- Surface starts 0 feet from end of runway
- Inner width is 250 feet
- Length is 5,000 feet
- Outer width is 700 feet
- Slope is 20:1
- Primary surface: none
- Transitional surface side slope: none



# FAA – Runway End Siting Visual Day/Night – Runway 13





# FAA – Runway End Siting

## Visual Day/Night – Runway 31



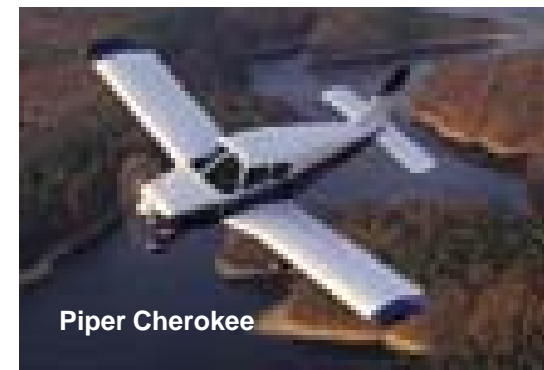
# Possible Actions

- ➔ When a penetration to a threshold siting surface exists, one or more of the following actions are required:
  - The object is removed or lowered to preclude penetration of the applicable threshold siting surface
  - The threshold is displaced to preclude object penetration of applicable threshold siting surfaces, with a resulting shorter landing distance
  - Visibility minimums are raised
  - Night operations are prohibited unless the obstruction is lighted or an approved Visual Glide Slope Indicator (VGSI) is used



# User Survey Summary

- As of 1/4/2008, 33 surveys from based aircraft owners
- 41 Visitor Aircraft surveys received



# Based Aircraft User Survey

## ➔ Highlights

- 45% indicate some business usage
- If airport (JGG) were no longer available:
  - Relocate to another airport
    - **Newport News – 11**
    - **New Kent - 2**
    - **Wakefield - 1**
  - Sell my aircraft - 8
  - Other – Shoot myself. I just moved to Williamsburg, partly because of this outstanding airport and FBO-this is a jewel & a great attraction to Williamsburg. Please keep it in operation

# Based Aircraft User Survey

- ➔ Do you experience any operating problems at JGG?
  - No – 26
  - Yes – 2 – would like to see longer runway (500 feet); longer safety areas



# Visitor Aircraft User Survey

- 41 responses received as of 1/7/08
- Flights originated from:

# Presentation to

## The Community Airport Committee



*for the*

## *Airport Feasibility Study*

*MAY 14, 2008*



© 2008



# Purpose of Study

- The overall purpose of the Study is to determine the demand for aviation services and the alternatives available to serve this demand in the James City County area.
- The first part of the Study involves evaluating existing conditions; developing aviation forecasts; analyzing financial feasibility and public value; and developing a draft report.

# Existing Conditions

- ➔ Geographic Study Area
- ➔ Area Aviation Facilities
- ➔ Area of Influence
- ➔ Williamsburg-Jamestown Aviation Service Area
- ➔ Area Airspace Structure
- ➔ Traffic Patterns and Noise Abatement Procedures
- ➔ Existing Facilities
- ➔ Socioeconomic Data
- ➔ Environmental
- ➔ User Surveys



# Geographic Study Area



# Area Aviation Facilities





# Area of Influence



# Williamsburg-Jamestown Aviation Service Area



# Williamsburg-Jamestown Aviation Service Area

- A 30-minute drive time is an important factor when considering a general aviation service area.
- Other factors considered include:
  - Location of competing airports
  - Facilities offered at competing airports
  - Congestion at competing airports
  - Access constraints



# Williamsburg-Jamestown Aviation Service Area

- This Study determined that the category of airport within the Williamsburg-Jamestown Aviation Service Area required to serve anticipated aviation demand is that of a General Aviation Community (GC) facility.
- These findings coincide with the recommendations of the 2003 Virginia Air Transportation System Plan (VATSP).
- GC airports provide general aviation facilities and services to business and recreational users.

# Existing Facilities

Runway: 3,204' long and 60' wide  
– Overall surface condition: fair to good



# Existing Facilities

➔ Taxiways: Access to/from the runway is provided by a full length parallel taxiway with 4 connector taxiways



# Existing Facilities

→ Aprons: There are two (2) main aircraft parking aprons. Most of the surfaces are in fair condition.





# Existing Facilities

- ➔ Terminal Building: The Terminal Building is in excellent condition. It contains flight planning facilities, a pilot shop, and a restaurant.



# Existing Facilities

- ➔ There are both T-hangars and unit hangars on the Airport. They appear to be in good to excellent condition.



# Existing Facilities

- ➔ Fuel Storage Facilities: Both Jet A and 100LL fuels are available. Storage is provided in two 12,000-gallon above ground fuel tanks.



# Socioeconomic Data

→ Data reviewed included:

- Population
- Per Capita Personal Income
- Employment

Table 1-2		
Per Capita Personal Income, 1995- 2005 <sup>3</sup>		
County or City, State	2005	Growth Rate 1995-2005 (PCPI)
James City County and Williamsburg, VA	\$41,401	5.3%
York County and Poquoson, VA	\$36,964	4.6%
Charles City County, VA	\$28,578	5.0%
Gloucester County, VA	\$29,271	4.2%
Hampton, VA	\$30,389	4.8%
King and Queen County, VA	\$27,720	4.6%
New Kent County, VA	\$30,189	3.5%
Newport News, VA	\$28,436	4.3%
Surry County, VA	\$25,101	3.1%
West Virginia	\$26,435	4.1%
North Carolina	\$30,785	3.8%
Virginia	\$37,974	4.7%



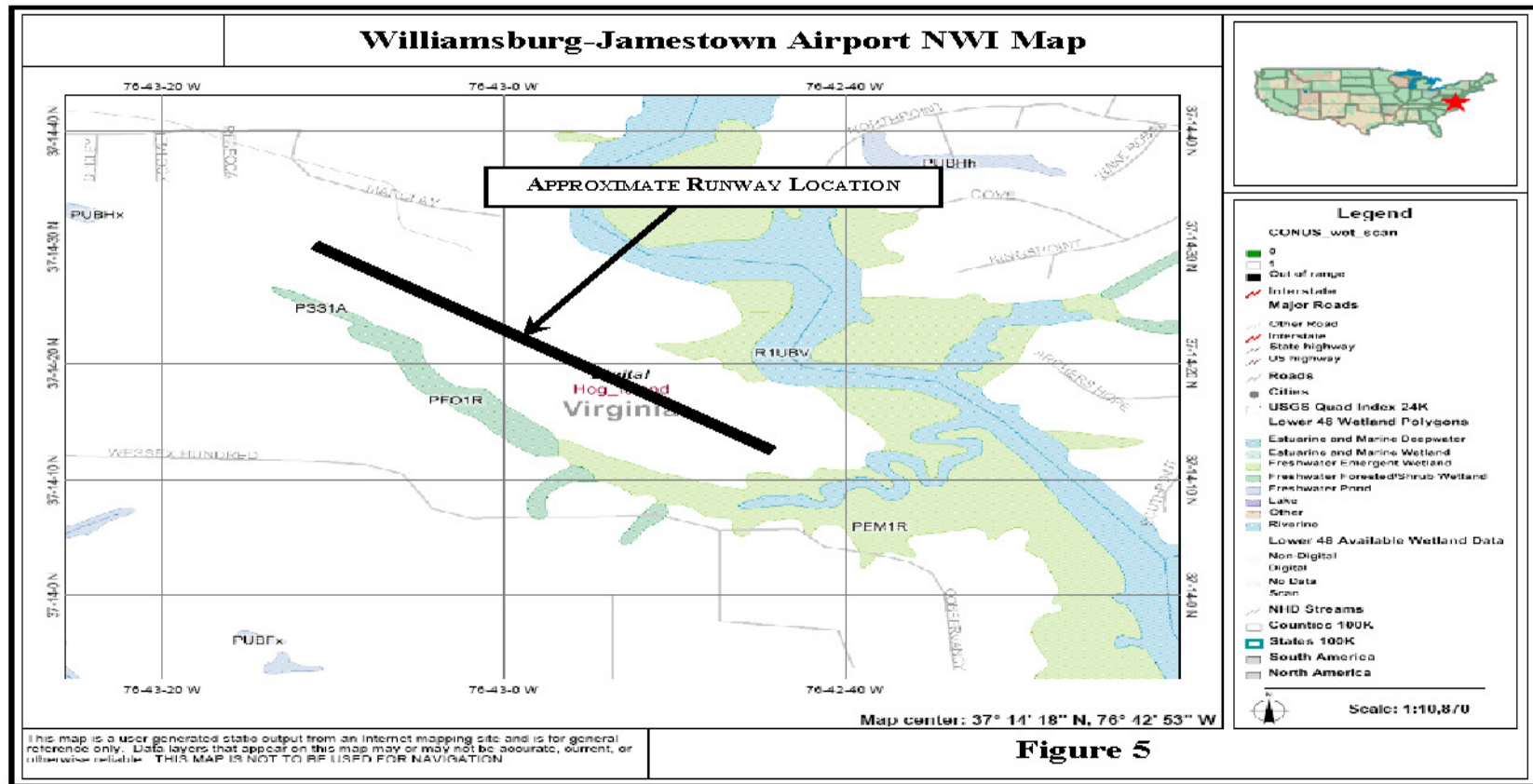
# Environmental Overview

→ Because of future potential public ownership of the existing airport and corresponding eligibility for Federal funding under the FAA Airport Improvement Program (AIP), compliance with the National Environmental Policy Act of 1969 will be necessary.

# Environmental Overview

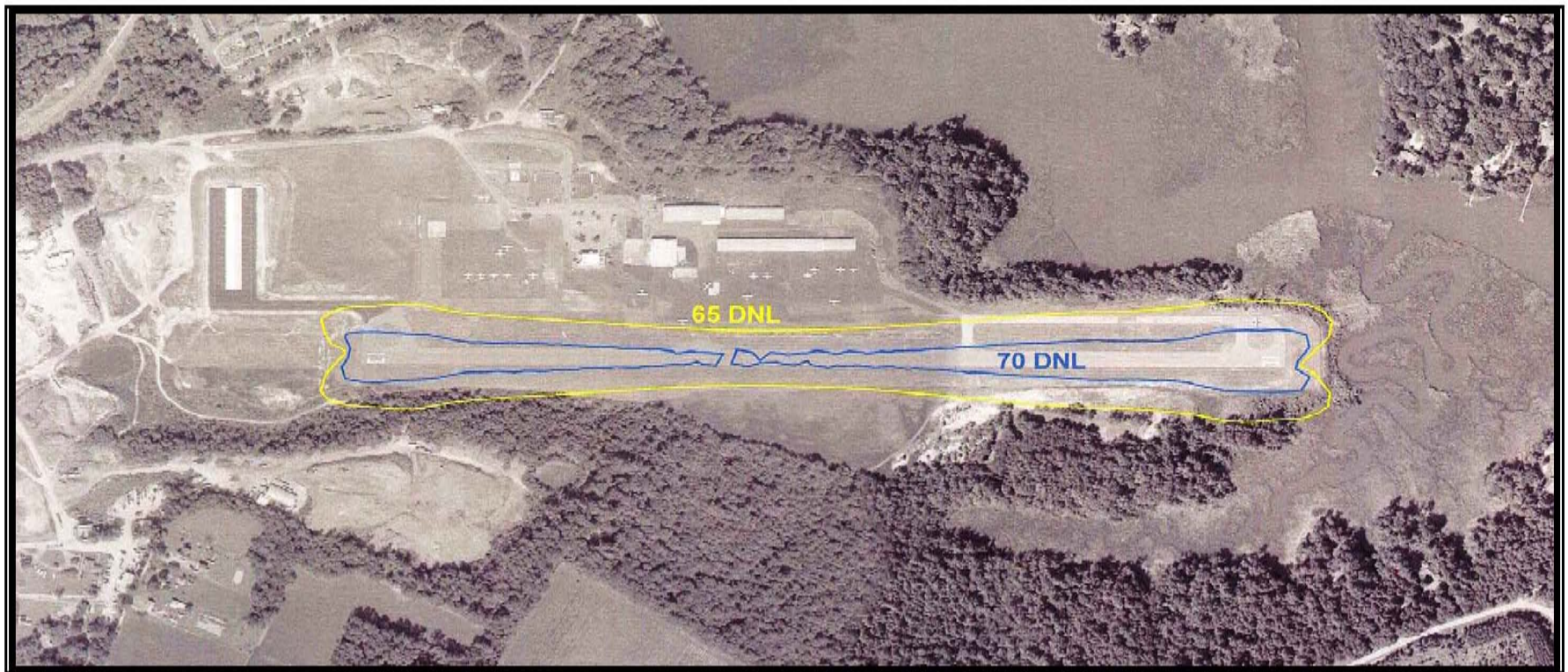
- Some of the environmental categories evaluated include:
- Fish, Wildlife and Plants
  - Hazardous Materials
  - Floodplains
  - Wetlands
  - Noise

# Environmental Overview



# Environmental Overview

Figure 6  
Noise Contours





# User Surveys

- Three different survey forms were developed:
- Based aircraft
  - Visitor
  - Renter

# User Survey Summary

→ As of 5/1/2008:

- 33 surveys from based aircraft owners
- 67 Visitor Aircraft surveys received
- 7 Renter Pilot surveys received

# Visitor Aircraft User Survey

→ 67 responses received as of 5/1/08

→ Flights originated from place such as:

- Burlington, VT
- Indianapolis, IN
- Greensboro, NC
- St Petersburg, FL
- Lincoln Park, NJ
- Annapolis, MD
- Pottstown, PA
- Fredericksburg, MD
- Sanford, NC
- NE Philadelphia, PA
- Linden, NJ
- Various VA airports

# Aviation Forecasts

- ➔ The purpose was to establish forecasts of aviation demand for the Williamsburg-Jamestown area.
- ➔ Forecasts were developed at 5-year intervals.



# Aviation Forecasts

Table 2-2					
ADJUSTED FORECASTS OF BASED AIRCRAFT AND NEW SCENARIO PROJECTIONS					
Year	Previous Master Plan	2006 ALP Update/2003 VATSP	National Market Share	Population Correlation	Hangar Stimulation
<u>Actual</u> 2007	77	77	77	77	77
<u>Forecast</u> 2010	79	82	81	83	82
2015	82	88	87	92	100
2020	84	95	91	102	107
2025	86	102	95	111	114

# Aviation Forecasts

Table 2-3							
PROJECTED BASED AIRCRAFT BY TYPE							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Actual</u> 2007	74	1	2	0	0	0	77
<u>Forecast</u> 2010	77	1	3	1	0	0	82
2015	90	2	3	2	2	1	100
2020	94	3	3	3	3	1	107
2025	97	4	3	4	4	2	114

# Aviation Forecasts

Table 2-4							
BASED AIRCRAFT ITINERANT OPERATIONS							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Estimate</u> 2007	8,500	240	200	0	0	0	8,940
<u>Forecast</u> 2010	8,860	250	310	280	0	0	9,700
2015	10,350	500	320	560	500	110	12,340
2020	10,810	750	330	840	750	130	13,610
2025	11,150	1,000	340	1,120	1,000	260	14,870

Table 2-5							
TRANSIENT AIRCRAFT ITINERANT OPERATIONS							
	Single Engine		Multi-Engine				
Year	Piston	Turboprop	Piston	Turboprop	Jet	Rotor	Total
<u>Estimate</u> 2007	4,760	130	800	370	30	150	6,240
<u>Forecast</u> 2010	4,880	140	810	380	40	160	6,410
2015	5,000	160	820	400	70	180	6,630
2020	5,130	190	830	430	120	200	6,900
2025	5,250	220	840	460	190	220	7,180

# Aviation Forecasts

Table 2-8				
FORECAST SUMMARY TABLE				
	2010	2015	2020	2025
<b>Based Aircraft</b>	82	100	107	114
<b>Based Aircraft Itinerant Operations</b>	9,700	12,340	13,610	14,870
<b>Transient Aircraft Itinerant Operations</b>	6,410	6,630	6,900	7,180
<b>Local Aircraft Operations</b>	7,200	7,500	7,800	8,100
<b>Total Aircraft Operations</b>	23,310	26,470	28,310	30,150

# Aviation Forecasts

## ➔ Projected Critical Design Airplane

- Design standards for any given airport are based on the more demanding, or “critical to airport design” airplane, or family grouping of airplanes, anticipated to use the airport on a regular basis.
- For the Williamsburg-Jamestown Aviation Service Area, the current family grouping of critical airplane types is composed of various models of twin-engine turboprop airplanes and jet airplanes as currently use the airport today.



# Aviation Forecasts

→ Representative of that type of aircraft is the Beechcraft King Air B200GT. This airplane has a wingspan of 54.5 feet, a height of 14.8 feet and a gross weight of 12,500 pounds.



# Aviation Forecasts

➔ Currently, there is some jet activity at the airport.



# Airport Design

- ➔ FAA Advisory Circular (AC) 150/5300-13, *Airport Design*, establishes standards and recommendations to promote the development and maintenance of a national system of safe, delay-free, and cost-effective airports.
- ➔ To that end, a coding system called the Airport Reference Code (ARC) is used to relate airport design criteria to operational and physical characteristics of airplanes anticipated to operate at any given airport.

# Airport Design

→ The ARC is made up of:

- 1) Aircraft Approach Category, which is based on the maximum landing weight approach speed; and
- 2) Airplane Design Group, which is based on both wing span and tail height.

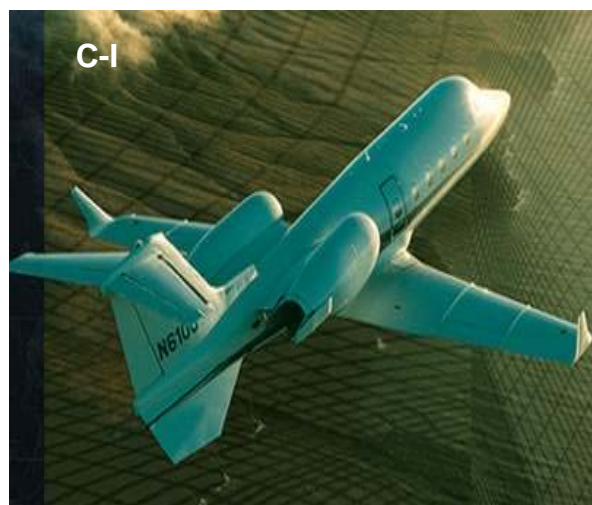
# Airport Design

Table 2-9	
AIRCRAFT APPROACH CATEGORY	
Category	Speed
A	<91 knots
B	91 knots - <121 knots
C	121 knots - <141 knots
D	141 knots - <166 knots
E	166 knots or more

Table 2-10		
AIRPLANE DESIGN GROUP		
Group #	Tail Height	Wingspan (feet)
I	<20	<49
II	20 - <30	49 - <79
III	30 - <45	79 - <118
IV	45 - <60	118 - <171
V	60 - <66	171 - <214
VI	66 - <80	214 - <262



# SAMPLE AIRCRAFT BY ARC



# Airport Design

- ➔ As indicated in the VATSP, GC airports should be developed to an ARC-B design category.
- ➔ Larger aircraft, such as those requiring an ARC-C design criteria, will be served by Middle Peninsula and Newport News.

# Financial Feasibility and Public Value Assessment

→ GA airports typically provide numerous “value added” qualitative benefits to host communities and regions in Virginia

Exhibit 3-1 Range of Qualitative Features at GC Airports		
Recreational flying	Aerial Inspections	Museums on airport
Recreational parachuting	Advertising/banner towing	Police/other law enforcement/ fire protection on airport
Recreational ballooning	Agricultural spraying	Use of facilities for community events
Flight training	Traffic/news reporting	Visits to community/ region from VIPs
Search & rescue services	Environmental patrol	Career training/education
Emergency medical evacuation	Aerial photography/ surveying	Preservation of open space & wetlands
Staging area for community events	Providing on site office/ business park space & amenities for non –aviation businesses in community	

# Financial Feasibility and Public Value Assessment

→ The 2004 Commonwealth of Virginia Economic Impact Study lists the following qualitative features for JGG:

- |  |   |
|--|---|
| → Aerial Inspections                                 | → Search & rescue services                        |
| → Advertising/banner towing                          | → Aerial photography/ surveying                   |
| → Law enforcement/ fire protection on airport        | → Preservation of open space & wetlands           |
| → Flight training                                    | → Career training/education                       |
| → Facilitating Visits to community/ region from VIPs | → Staging area for community events               |
|  | → Providing on site office/ business in community |

# Financial Feasibility and Public Value Assessment

- GC Airports can provide a wide range of important services to local economies.
- Total economic impacts are derived from the sum of:
  - On-airport direct impacts – represented by on-airport businesses
  - Off-airport direct impacts – represented primarily by visitor spending
  - Spin-Off impacts – represented in the form of additional business sales (suppliers for direct business) and consumer spending (spending of workers from direct and indirect business) to reflect the recycling of dollars through the economy.



# Financial Feasibility and Public Value Assessment

- According to the Economic Impact Study, the GC airports in Virginia generated nearly \$13 million in direct on-airport impacts and through direct visitor spending.
- At slightly more than \$2 million, JGG returned the third highest total of direct impacts among these airports.

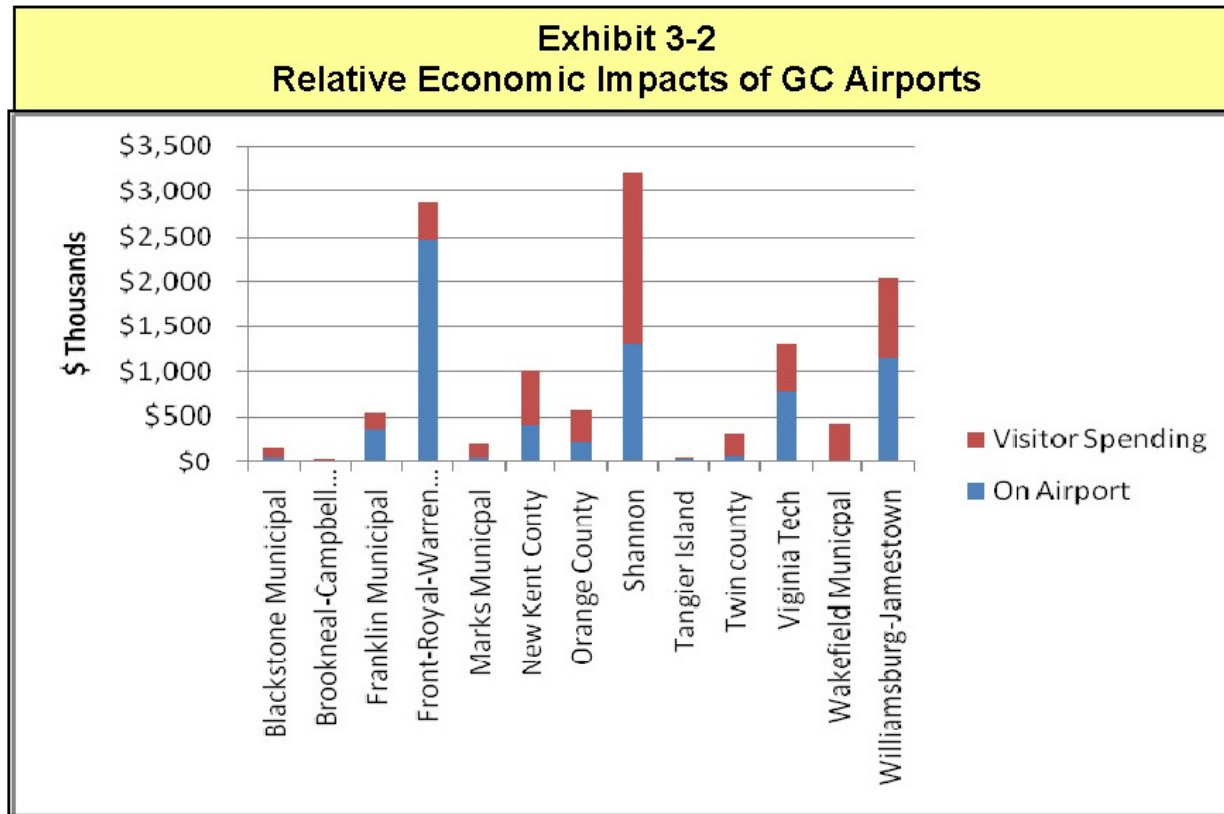
# Financial Feasibility and Public Value Assessment

→ The direct economic contribution of JGG was more than twice the mean average of all GC airports

Table 3-1			
Economic Contribution of JGG Compared to all GC Airports (in \$1,000s)			
	Direct On Airport	Direct Visitor Spending	Total Direct Contribution
Mean Average	\$531	\$454	\$985
Median	\$234	\$337	\$535
Williamsburg-Jamestown	\$1,147	\$887	\$2,034
Totals of Recommended GC Airports	\$6,898	\$5,903	\$12,801

*Sources: 2004 Virginia Airport System Economic Impact Study and 2003 Virginia Air Transportation System Plan Update. Lee County Airport is not included because it was opened after data were collected for the Economic Impact study.*

# Financial Feasibility and Public Value Assessment



Source: 2004 Virginia Airport System Economic Impact Study Lee County Airport is not included because it was opened after data were collected for the study

# Financial Feasibility and Public Value Assessment

→ The combined estimated total contribution of JGG to the regional economy in 2007 was:

Table 3-5	
Total Economic Contribution of Williamsburg-Jamestown Airport to the Region in 2007	
Jobs - Direct	30
Jobs - Spin-off	9
<b>Jobs - Total</b>	<b>39</b>
Wages - Direct (\$1,000's)	\$680
Wages - Spin-off (\$1,000's)	\$256
<b>Wages - Total (\$1,000's)</b>	<b>\$936</b>
Sales - Direct (\$1,000's)	\$1,858
Sales - Spin-off (\$1,000's)	\$971
<b>Sales - Total (\$1,000's)</b>	<b>\$2,829</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group

# Financial Feasibility and Public Value Assessment

→ The economic impacts were also estimated for the future

Table 3-11					
Total Projected Economic Impacts of Williamsburg-Jamestown Airport, 2007-2025					
<i>Dollars are Presented in Constant \$2007</i>					
Total Impacts (2007\$)	2007	2010	2015	2020	2025
Jobs - Direct	30	31	33	35	36
Jobs - Spin-off	9	9	10	10	11
<b>Jobs - Total</b>	<b>39</b>	<b>40</b>	<b>43</b>	<b>45</b>	<b>47</b>
Wages - Direct (\$1,000's)	\$680	\$707	\$764	\$805	\$846
Wages - Spin-off (\$1,000's)	\$256	\$266	\$284	\$299	\$315
<b>Wages - Total (\$1,000's)</b>	<b>\$936</b>	<b>\$973</b>	<b>\$1,048</b>	<b>\$1,104</b>	<b>\$1,161</b>
Sales - Direct (\$1,000's)	\$1,858	\$1,925	\$2,055	\$2,159	\$2,265
Sales - Spin-off (\$1,000's)	\$971	\$1,006	\$1,074	\$1,128	\$1,184
<b>Sales - Total (\$1,000's)</b>	<b>\$2,829</b>	<b>\$2,931</b>	<b>\$3,129</b>	<b>\$3,287</b>	<b>\$3,449</b>

Source: US Department of Commerce data assembled by IMPLAN, calculations by EDR Group



# What's Next

- Address review comments.
- Define airport requirements
- Develop alternatives
  - Status quo alternative
  - Local acquisition of the existing Williamsburg-Jamestown Airport
  - Utilize other existing facilities
  - Develop a new airport (Green Field site)
  - Develop a decision matrix

# What's Next

## → Matrix

- A matrix with a related scoring and rating system will be developed to assist in the alternative evaluation process.
- Criteria to be considered for the matrix:
  - Known environmental factors
  - Engineering factors
  - Surface transportation/access factors
  - Operational factors
  - Economic factors
  - Public support factors

# What's Next

→ Develop a Second Summary Report to include:

- Airport requirements
- Alternatives, and criteria to be used
- Draft decision matrix

(It should be noted that the alternatives evaluation will not be conducted until the matrix and related criteria have been reviewed and approved).

# What's Next

→ Conduct alternatives evaluation

(Note: the alternatives evaluation effort will not result in a final recommendation for a future course of action, but will provide guidance for future decision makers by addressing advantages and disadvantages of each alternative evaluated.

# QUESTIONS & COMMENTS



# JAMES CITY COUNTY

## AIRPORT FEASIBILITY STUDY

### PUBLIC WORKSHOP SIGN-IN

OCTOBER 27, 2008

NAME (PLEASE PRINT)	ADDRESS
1. B. R. COOPER	117 CEDAR ROCK W BURG, VA 23188
2. STEVE MARTINI	3404 DARDEN PL WILLIAMSBURG 23188
3. Reed Bitney	3608 Bradinton WISBG VA 23188
4. M LEVINE	5548 BRXTON RD 23185
5. D. HAAK	502 NEZK-O-LAND 23185
6. DON BROAD, JR	4708 CAPTAIN John Smith
7. KARL POLIFKA	120 JOHN FOWLER WMBG 23185
8. RYAN OLTMAN	125 DANGERFIELD DR. WMBG 23185
9. CORNEY LANGLEY	VIRGINIA GAZETTE 216 Ironbound WMBG 23188.
10. Gng Dna	5800 Hawthorn Lane Williamsburg 23185
11. Rich Williams	81 Flightline Dr College of war Fredericksburg, VA 22405 student
12. John Williams	2497 Marion Dr. Umco
13. FRANK MCGEE	4905 WHITEHAVEN CIR WILLIAMSBURG, VA 23188
14. JCS. D. BROWN, III	10261 onward Dr Williamsburg

**JAMES CITY COUNTY**  
**AIRPORT FEASIBILITY STUDY**  
**PUBLIC WORKSHOP SIGN-IN**

OCTOBER 27, 2008

NAME (PLEASE PRINT)	ADDRESS
15. JIM HAMER	Wm BKG, VA 132 REFFINGHAM'S WAY 23185
16. Chris Savage	48 Hidalgo Dr Hampton VA
17. STAN Stout	100 Bowstring Drive Williamsburg VA 23185
18. BRETT TRIMBATH	2054 JAMESTOWN RD WILLIAMSBURG VA 23185
19. GEORGE FERRELL	806 SALAD DR NEWPORT NEWS, VA 23602
20. DAVID BOWDITCH	112 MEADOWVIEW CT 23185 Kingspoint
21. JEAN LARRY	
22. Cayay Adams	217 Southpoint Dr. 23185 K'pt
23. Michael Hoot	102 Brookwood Drive
24. PAUL VAK	2032 HORNES LAKE RD., 23185
25. MARK PETERS	109 Strawberry Lane 23602
26. Dennis W. Wilt	5500 Swan Rd 23188
27. Phil Brown	114 Walnut Hills Dr. Williamsburg, VA 23185
28. Duke Dugg	1781 JAMESTOWN RD 23185

JAMES CITY COUNTY

AIRPORT FEASIBILITY STUDY

PUBLIC WORKSHOP SIGN-IN

OCTOBER 27, 2008

NAME (PLEASE PRINT)	ADDRESS
29. DONNA WILT	5500 SWAN RD WILLIAMSBURG VA
30. Vickie Nasc	4700 Hickory Saw Post Rd Wmsbg VA 23185
31. RALPH SIMMONS	129 EWELL PL. WMSBG 23108
32. Leverett Lureford	214 Rolfe Road Williamsburg, VA 23185
33. Brandon Lapetina	2635 Lake Powell Rd. WMSBG, VA 23185
34. PAUL MILLER	2804 STARLING DR WMSBG 23185
35. Tyra Vaughn	Daily Press
36. Linda Carriens	110A Archers Hope Rd. Wmsbg, VA
37. AL AUBRIGHT	3016 S. FREEMAN ROAD WILLIAMSBURG, VA 23185
38. John Mc Donald	105 Holdsworth Rd WMSBG VA
39. Michael Sim	206 Rolfe Rd Williamsburg, VA 23185
40. Sandy Wanner	5546 Riverview Rd Wmsbg VA 23188
41. Ann Milliman	124 Northpoint Dr. Williamsburg VA 23188
42. John Milliman	124 Northpoint Dr. Williamsburg VA 23186

**JAMES CITY COUNTY**

**AIRPORT FEASIBILITY STUDY**

**PUBLIC WORKSHOP SIGN-IN**

**OCTOBER 27, 2008**

NAME (PLEASE PRINT)	ADDRESS
43. Jason Lapetina	2635 Lake Powell Road
44. Troy Lapetina	2635 Lake Powell Road
45. CHARLEY ROGERS	106 POWHATAN SPRINGS RD -
46. BRUCE KNOWLES	140 KINGSPONT DR (23185)
47. Tim MURPHY	Kingspoint
48. Chris Williamson	142 Kingspoint Drive
49. Scott Denny	DOAN - 5702 GOLFSTREAM RD. Richmond VA. 23608
50. STEVEN HICKS	James City County
51. Carl Gerhold	Community Airport Committee
52. Digby Solomon	Community Airport Committee
53. Tim Caviness	Community Airport Committee
54. Mark Willis	Community Airport Committee
55. Steve Montgomery	Community Airport Committee
56. Tucker Edmonds	Community Airport Committee

**JAMES CITY COUNTY**  
**AIRPORT FEASIBILITY STUDY**  
**PUBLIC WORKSHOP SIGN-IN**

**OCTOBER 27, 2008**

NAME (PLEASE PRINT)	ADDRESS
57. Glenn Kay	L. Robert Kimball & Assoc.
58. Ron Deek	L. Robert Kimball & Assoc.
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**I have been a pilot for almost 40 years. I have owned my own aircraft for 28 years and have been a tenant at the Williamsburg-Jamestown Airport for 12 years.**

**I first discovered the Williamsburg airport while flying out of Langley Air Force Base in 1973. At that time, the terminal was housed in a temporary trailer-like building. There were almost no homes in the vicinity of the airport. My guess is that 90% of the homes in the so-called "airport envelope" have been built since the airport was there. To the anti-airport group, my question is "what did you think took place on airports"? If you did your "assumed" research, you bought your home accepting the airport's presence and the activities that obviously take place there.**

**In my flying career, I have landed at approximately 150-200 airports all over the nation. This includes both large and small airports. I would rate the Williamsburg Airport in the top 10 of all those airports.**

**It is a very well-managed airport with excellent staff and facilities. It is a definite asset to Williamsburg and the surrounding area. There have been many airport studies conducted all over the nation and they all conclude that an airport brings in business, tourists, employment and revenue to the area it serves.**

**Jean and Larry Waltrip have built and maintained an excellent facility. They have a fine second story conference room that they make available to civic groups usually at no costs. They host a variety of fairs, festivals and fund-raisers each year on their airport property. They are two of the most civic minded people that I know and have been recognized for their leadership and contributions.**

**If the James City County leadership allows this asset to slip away it would seem to be a "head in the sand" approach. It is my hope that forward-thinking leaders will prevail.**

*B.R. Cooper*  
**Billy R. Cooper**  
**Colonel, USAF (Ret.)**  
**117 Cedar Rock**  
**Williamsburg, VA 23188**

**RECEIVED**  
**OCT 30 2008**  
**COUNTY ADMINISTRATION**

**Kingspoint Neighborhood Association  
Williamsburg, Virginia**

November 03, 2008

Dear Mr. Hicks,

The Kingspoint Neighborhood Association asks you to submit the following questions to the James City County – Williamsburg Community Airport Committee.

1. Could James City County acquire and operate the airport as it is today with no changes to the facility?
2. What changes to the existing facility and operating rules would be required to FAA funding as a class B-II airport?
3. What is a **NPIAS** facility?
4. What would be required to become a **NPIAS** facility?

Thank you.

Tim Murphy, President

Forrest Williamson, Vice President

## Steven W. Hicks

---

**From:** pvolk [pvolk@cox.net]  
**Sent:** Thursday, October 30, 2008 10:22 AM  
**To:** Steven W. Hicks  
**Subject:** Airport study open house materials

Can you tell me when/if the materials presented at the recent open house will be posted on the website? Some of the posted materials look similar, but there seemed to be some more recent information presented, such as the FAA's response to the airport's eligibility status for funding and the estimated costs for the airport to comply with FAA guidelines.

Thanks, Paul Volk

**Steven W. Hicks**

---

**From:** Liz Elder on behalf of JCC Board  
**Sent:** Thursday, October 30, 2008 8:06 AM  
**To:** Board Only  
**Subject:** FW: Budget Shortfall

---

**From:** Paul Tegler [mailto:pt67usa1@cox.net]  
**Sent:** Wednesday, October 29, 2008 5:12 PM  
**To:** JCC Board  
**Subject:** Budget Shortfall

Dear Board Members: - I live in Lake Powell Point, and just wanted to give my opinion regard the budget shortfall for this year and next year. I believe it is irresponsible for the board to even to be considering buying the Williamsburg Airport during these tight budget times. In addition to the added expense for the county (I seriously doubt that the county would make any money from it either directly or indirectly with an airport only 15 miles away). Also, the added safety and noise issues would be a great burden to us residents that live nearby. I would much rather see the monies for this purchase go to a number of other causes, possibly re-instating raises for staff and teachers.

Sincerely

Paul Tegler

## COMMENTS

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IF YOU WISH TO COMMENT LATER, PLEASE MAIL YOUR COMMENTS TO THE ADDRESS LISTED BELOW. MAILED COMMENTS MUST BE POSTMARKED NO LATER THAN NOVEMBER 5, 2008 TO BE CONSIDERED.

As a general aviation pilot, understanding that JGG may be in a state of flux, I encourage you to continue its' operation - You have an amazing facility that serves a population of pilots that prefer not to use PHF - I have been regularly flying to JGG from FRR for about 10 years now - It is one of my favorite destinations in the state - You have a real <sup>asset</sup> ~~asset~~ in this airport -

I would also like to express my condolences - Jeannie was a dynamo! *Myrtle J. [Signature]*

## THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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COUNTY ADMINISTRATION

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>



## COMMENTS

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I think our present Airport Serves the local community and economy thru revenues from lodging, Food services, fuel sales and taxes. There is also a great value in recreational activities from the local and Transient Pilots.

I of course would like to see it upgraded to meet FAA requirements but not to allow use by larger aircraft.

William Conkling - 707 Monumental Ave Wmbsg, VA 23185

THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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JAMES CITY COUNTY

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## COMMENTS

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ALTHOUGH IT REMAINS TO <sup>BE</sup> ~~SEE~~ WHAT THE COUNTY WILL DECIDE ABOUT PURCHASING THE AIRPORT, OR IF THERE WILL BE ANOTHER BUYER WHO WANTS TO OPERATE IT, IT IS CLEAR THAT AIRPORT OPPONENTS WILL SEIZE THIS OPPORTUNITY TO PUSH THEIR AGENDA TO CLOSE THE FIELD. THEIR PRIMARY ARGUMENTS HAVE BEEN A CONCERN OVER THE AIRPORT'S SAFETY, AND THE POTENTIAL OF COMMERCIAL AIR SERVICE. THE AIRPORT COMMITTEE HAS DONE A GOOD JOB WITH ITS IMPARTIAL ANALYSIS OF THE AIRPORT'S SUITABILITY (OR LACK THEREOF) FOR THE LATTER. HOWEVER, THE DATA PRESENTED THUS FAR HAS NOT DIRECTLY ADDRESSED THE ISSUE OF SAFETY. GIVEN THE HISTORICAL IMPORTANCE OF THIS ISSUE TO ALL CONCERNED, SHOULD IT NOT BE ADDRESSED IN THE FINAL RECOMMENDATIONS TO THE SUPERVISORS? ALTHOUGH I AM IN FAVOR OF THE AIRPORT CONTINUING TO OPERATE, I WOULD ALSO REGRET THIS COMMITTEE MISSING AN OPPORTUNITY TO PROVIDE AN IMPARTIAL ASSESSMENT OF WHETHER THERE IS A CREDIBLE SAFETY HAZARD TO THE SURROUNDING COMMUNITY. PERHAPS THIS WOULD HELP

THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

TO DEFUSE THE LESS-THAN-PARTIAL AND UNKNOWLEDGEABLE RHETORIC THAT HAS ACCOMPANIED THIS ASPECT OF THE DEBATE.

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>

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COUNTY ADMINISTRATION

PAUL VOLK  
PVOLK@COX.NET



## COMMENTS

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The Williamsburg-Jamestown Airport (JGG) provides this community with ~~a~~ a level of economic diversity and services only found in areas with general aviation airports. Just as important, JGG adds character and flair to our community. It ~~truly~~ truly is a diamond in the rough among many small airports. It provides direct access to Williamsburg for dignitaries and visitors alike, even parents of William + Mary students fly in to visit the college. The airport adds economic support to our community both in tax revenue and tourist dollar. Please consider making JGG one of the finest publically-owned airports in the country.

Matthew Inman — Airline Pilot

## THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>

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COUNTY ADMINISTRATION



## COMMENTS

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The Williamsburg-Jamestown Airport is, to me, the essence of freedom. It embodies some of the greatest things about being an American. There is the metaphor of the flying of small airplanes - the liberty and thrill of flying, inexorably coupled with the unyielding responsibility it requires - along with the camaraderie and strong sense of community among the people who you'll find there. The location of the airport is a good one - being near to all of Williamsburg, yet on the edge, <sup>where</sup> the water allows flight paths away from congested areas. I believe the airport's potential has been underutilized, being an ideal location for a more vibrant flight school and as a better location for the hangaring of airplanes that are currently stored elsewhere. The airport is a vital part of our community and has tremendous potential to become even more so in the future!

THANK YOU

Sincerely,

Jennifer A. Inman, Ph.D.

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

p.s. We owe the Waltrips and the airport's head mechanic great thanks for allowing us to have a tremendously fun and memorable wedding reception in the airport's maintenance hangar a few years ago!

Note: The Draft Study may be found at: <http://www.jccgov.com/government/airport-study.html>

NOV 06 2008

COUNTY ADMINISTRATION

9 | Page

due to the affluence of the surrounding community and the proximity to the College of William & Mary and TNC.



## COMMENTS

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MR. Hicks,

The benefit of the airport to the local community  
and economy far outweighs the handful of  
citizens against JCC ownership. The JCC  
government currently uses the terminal  
for meetings. The JCC Fire Dept. use the  
field for training. Most people do not know  
how often JCC uses the property now. It  
would be a valuable asset to JCC and put  
it on the map as a center for business  
and growth in the future.

Dow Broady Jr 4708 Captain John Smith

THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>

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9 | Page



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**OCT 30 2008**

**COUNTY ADMINISTRATION**

214 Kingswood Drive  
Williamsburg, VA 23185  
October 29, 2008

Mr. Steven Hicks, James City County  
P. O. Box 8784  
Williamsburg, VA 23187

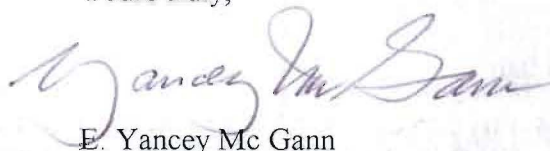
Dear Mr. Hicks:

This is another in a series of letters I have written over the years objecting to the present Williamsburg Jamestown Airport location beginning even before the airport was built. We have lived at this address since June 10, 1964 and the airport continues to be a noise aggravation and a continuing threat, as far as accidents are concerned, to the school and neighborhoods that the aircraft fly over. Before the airport was built, I complained not only to the County but also to the Federal Aviation Administration as well. After it was built, the FAA even came to our home to spend the better part of a day watching aircraft coming and going to the airport. I am well acquainted with the non-standard left hand pattern approved for the airport that is supposed to keep aircraft from flying over the neighborhoods on the northwest side of Jamestown Road. However, that is negated by pilot judgment which allows them to fly wherever they want to. Even if they follow the approved flight pattern, that does not keep them from posing a hazard to Rawls Byrd School and neighborhoods on the southeast side of Jamestown Road.

I imagine you will get only a small number of letters concerning the airport, namely from people like us living in the affected neighborhoods and from the aircraft owners/pilots who want to use the airport. The majority of County residents are not affected, have no interest, and will not comment one way or another. However, I hope you will not base any conclusions on numbers but instead will evaluate the current location on a number of factors such as safety, constraints on future growth, aggravation to neighborhoods and absolutely no benefits to the general population.

Finally, I sure hate the thoughts of my tax dollars going to a facility that will benefit only a fraction of one percent of the County residents. Frankly, I do not see how any of our Supervisors can, in good conscience, support a proposal to purchase this airport.

Yours truly,



E. Yancey Mc Gann

## COMMENTS

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Aviation and the Williamsburg Jamestown Airport is very important to the growth in James City County and surrounding areas. The Williamsburg Jamestown Airport is utilized by numerous business owners, associates, government officials, etc that need to avoid commercial traffic at the other airports. The airport would be a great investment for James City County a valuable asset for too many reasons to name.

## THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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COUNTY ADMINISTRATION

Note: The Draft Study may be found at: <http://www.jccgov.com/government/airport-study.html>



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The county owns many parks, boat landings and other miscellaneous areas. An airport is a valuable asset to a community. In many years past valuable community functions were held there. "Fire Fest" was a large event that was widely visited.

We need to stop building more homes and focus on the existing community. Peleg's Point 3<sup>rd</sup> phase is empty, new center housing in Kingswood, All the Newtown housing.

The Airport can be a money maker for JCC. The people who seem to complain moved here after the Airport. Big business helps communities to prosper. Maybe we could build one less

THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

Shopping Store. And focus on family events. The airport houses many programs teaching children about respect and business.

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>

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COUNTY ADMINISTRATION

Michelle Broady  
4708 Captain John Smith  
Wmshg VA 23185

## COMMENTS

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Sir:

Jamestown-Williamsburg airport is a huge asset to both the local aviation community and the economic life of Williamsburg and James City County.

Please give favorable consideration to purchasing the current airport and continuing to operate it as a public-owned facility.

Sincerely,



Charles J. Whitechurch

Colonel, USAF (ret)

Flight Instructor

THANK YOU

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SUBMIT WRITTEN COMMENTS TO:

NOV 03 2008

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

COUNTY ADMINISTRATION

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>



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AS A WILLIAMSBURG RESIDENT, I SUPPORT STRONGLY

COUNTY/PUBLIC OPERATION OF WILLIAMSBURG AIRPORT

O 22,090 TAKEOFFS/LANDINGS IN 2007 EQUATE TO UP TO

50,000 PEOPLE ARRIVING BY AIR TO SPEND MONEY HERE

O THE AIRPORT SUPPORTS TOURISM, BUSINESS, AND PUBLIC

EVENTS AND ADDS AN IRREPLACEABLE DIMENSION TO WMBG.

O THE REPUTATION OF WILLIAMSBURG AS DESTINATION ACCESSIBLE

BY AVIATION IS WELL KNOWN IN CORPORATE AND GENERAL AVIATION

O RECENT CAPITAL IMPROVEMENTS IN HANGARS HAVE SERVED TO

INCREASE THE VIABILITY AS SHOWN BY 100% OCCUPANCY RATES

O MY DECISION TO BUY A HOME IN WMBG WAS INFLUENCED

STRONGLY BY THE WMBG AIRPORT

## THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

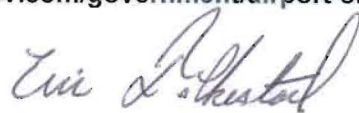
FROM:

ERIC FOLKESTAD  
408 SURI DR  
WMBG, VA 23185

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>

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Yes I would love to see this  
Airport (Gannettown Wmshg) remain  
and Airport It is a great landmark  
The Waltrip family has love in this Airport.  
I surely would hate to see it close.  
I came here in 1947 & lived where  
Conway gardens are now & were close  
friends with The Waltrips. Things have  
changed alot in 61 yrs. I don't want to see the  
Airport close Please less think of all the people  
that use that airport.

THANK YOU

Lorrie Hooker

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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COUNTY ADMINISTRATION

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Not only does the airport provide a mode of transportation to affluent visitors, it provides recreational facilities for a broader range of incomes, residential and itinerant. ~~the~~ Allowing the airport to close would reduce revenue from property tax. In addition, General Aviation users forced to travel to Newport News would be more likely to spend their shopping money out of our county. I support upgrading the facility to meet FAA standards without lengthening the published runway length of 3200'.  
John M. Trindle 105 Parrish Ct, Williamsburg, VA

THANK YOU

SUBMIT WRITTEN COMMENTS TO:

Mr. Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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NOV 05 2008

COUNTY ADMINISTRATION

Note: The Draft Study may be found at: <http://www.jccegov.com/government/airport-study.html>



120 John Fowler  
Williamsburg, VA 23185  
[Jfowler120@verizon.net](mailto:Jfowler120@verizon.net)  
220-1003  
28 October 2008

Steven Hicks  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187

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OCT 29 2008

COUNTY ADMINISTRATION

Dear Mr. Hicks,


After attending the meeting last night I have the following comments.

I believe that individuals not familiar with airports and/or aviation need less information that is not really germane to this particular situation. One individual that I spoke to after the meeting thought that there was an alternative 5000'x100' airport being considered at the existing site. He is probably not alone in this confusion, unwarranted as it may be. While that may be the "ideal" GA airport, it really isn't very pertinent to the question that is central to all this – disposition of the current airport – despite the need for a broad evaluation of alternatives.

Cutting off a couple of hundred feet at the 31 end and adding it back at the 13 end is a very expensive option. I would suggest that it would add credibility to the study to compute the effect of shortening the runway to 3000' on take-off and landing for the Beech King Air B200GT and Citation CJ2 that you cite. No one is going to spend the kind of money cited unless it is somehow critical, which I do not believe is the case.

Most federally funded airports probably have exemptions granted for deviations from FAA "ideal" standards. That reality needs to be mentioned, and actively explored with FAA since it is a critical factor in the on-going selection process. No decision made without this exploration with FAA is truly valid. Whether intended or not, study presentations appear to project a take-it-or-leave-it situation suggesting that JGG cannot receive federal funding. I am sure you see where this may lead.

Thank you for your consideration.



Karl Polifka

JAMES CITY COUNTY  
AIRPORT FEASIBILITY STUDY  
**PUBLIC WORKSHOP COMMENTS AND RESPONSES**

**SUMMARY**

A public workshop in support of the Airport Feasibility Study was held on October 27, 2008. The workshop, which consisted of a series of displays and an associated handout that explained each of the displays, was attended by well over 50 area residents. All attendees were encouraged to submit written comments. The following is a summary of comments received (note: for the purposes of this analysis, the comments will be categorized as: 1) comments indicating support; 2) comments indicating concern; and 3) miscellaneous comments).

- ➔ Number of comments received: 20
- ➔ Number of comments indicating support: 15
- ➔ Number of comments indicating concern: 2
- ➔ Number of miscellaneous comments: 3

A copy of each completed comment form will be appended to the final Airport Feasibility Study.

**Comments Indicating Support**

Comment:

- ➔ Asset to Williamsburg and James City County region (7)<sup>1</sup>

Response:

Yes, and many of the assets have been quantified in the 2004 Virginia Airport System Economic Impact Study, as referenced in the Feasibility Study.

Comment:

- ➔ County should not let this asset slip away

---

<sup>1</sup> Many of the completed comment forms contained more than one comment. The number in parentheses indicates the number of times a similar comment was presented in various responses.

Response:

Yes, as discussed in the Feasibility Study, the Airport is an employer, and serves visitors traveling to the local area for various reasons such as business, recreation, and tourism. Without the Airport, an element of this activity would be compromised.

Comment:

- ➔ Aviation and this Airport are very important to the economic growth in James City County area (7)

Response:

Yes, and many of the economic growth factors have been quantified in the 2004 Virginia Airport System Economic Impact Study, as referenced in the Feasibility Study.

Comment:

- ➔ Airport is utilized by many businesses (2)

Response:

Yes, businesses using their own aircraft for efficient transportation utilize the Airport on a continuing basis. Also, FAA data indicates that, on an annual basis, the Airport serves some 500 air taxi/aircraft charter operations.

Comment:

- ➔ Support public ownership of the Airport (2)

Response:

Yes, public ownership of the Airport would enhance the stability of the facility, and increase the chance for inclusion in NPIAS with the potential for funding from the FAA Aviation Trust Fund.

Comment:

- ➔ Reason for purchasing a home in the area was influenced by the presence of the Airport



Response:

Yes, both aircraft owners and aircraft renters have a desire to live / work close to their chosen airport, as a long drive time to the airport decreases the efficiency and utility of the aircraft. Businesses also consider local airport availability when considering site location.

Comment:

- ➔ If Airport would close, any economic benefits currently generated for the County would be lost (2)

Response:

Yes, should the Airport close, much of the aeronautical activity would be transferred to other existing airports in the region. Much of the economic benefit associated with the aeronautical activity would also transfer out of the Williamsburg / Jamestown area.

Comment:

- ➔ The Airport provides direct access to Williamsburg, as well as William & Mary College, to a broad range of people

Response:

Yes, a review of Airport user surveys completed during the Feasibility Study show that numerous respondents indicated convenient location as an important reason for their use of the Airport.

**Comments Indicating Concern**

Comment

- ➔ Irresponsible for Board to consider buying the Airport

Response:

Should a future economic / business plan show that the Airport can be operated on a viable and self-sustaining financial basis, County sponsorship of the Airport to retain the benefits produced by the airport might be considered a responsible action.

Comment:

- Doubt that the County would make any money

Response:

The objective is not necessarily to make money through Airport sponsorship, but to ensure that the Airport can be operated as a financially viable entity supporting itself, thereby preserving its value to the community.

Comment:

- Money used for the purchase of the Airport could be better used elsewhere

Response:

Further study to occur before potential airport purchase would be conducted to ensure that benefits produced through Airport sponsorship would outweigh the monetary investment in the Airport. Additionally, Federal & state grant funds may be available to offset costs of acquisition.

Comment:

- Concerns about safety, constraints on future growth, aggravation to neighborhoods, and absolutely no benefit to the general population

Response:

Concerns about safety, etc. would be addressed as a result of further study, and a new Airport Master Plan initiated by the potential airport sponsor (County). Such further study can be used to enhance compatibility between the Airport and community.

Airport related benefits and assets are discussed in the 2004 Virginia Airport System Economic Impact Study, as referenced in the Feasibility Study.

## **Miscellaneous Comments**

### **Comment:**

- ➔ Question asking if the workshop materials will be posted on the County's website.

### **Response:**

All project information is to be posted on the County's website, including the FAA's response to the Airport's eligibility status for funding.

### **Comment:**

- ➔ Letter received from the Kingspoint Neighborhood Association asking the Community Airport Committee to respond to specific questions.

### **Response:**

Community Airport Committee will prepare a response letter.

### **Comment:**

- ➔ Letter to Mr. Hicks regarding compliance with various FAA design standards and potential modification to those standards.

### **Response:**

Issues regarding compliance with FAA design standards and possible modifications would be further addressed in an Airport Master Plan developed as directed by a new airport owner.

# ATTACHMENT 1-F

## AGENCY REVIEWS





**From:** William Porter <billport@james-city.va.us>  
**To:** 'RONALD DECK' <DECKRO@lrkimball.com>, 'GLENN KAY' <KAYGLE01@lrkimball.com>  
**CC:** "'Denny, Scott S.'" <Scott.Denny@doav.virginia.gov>, "'Gerhold, Carl H. (...>  
**Date:** 4/6/2008 10:04 AM  
**Subject:** Community Airport Committee Comments on "First Draft Report Airport Feasibility Study"

Ron & Glen, the Community Airport Committee met Friday afternoon to consolidate the members review comments on the First Draft Report. Below are general comments (Committee members please jump in if I have left something out or misstated a comment):

- \* There needs to be an "executive summary": does not need to be long (perhaps 2 pages) that presents any conclusions , any show stoppers, and what was not included. For example the Williamsburg Jamestown Airport is not eligible for FAA funding and the Airport will probably not be able to get any bigger
- \* How do you balance the operations shown page 1-26 with operations on 1-3
- \* Need to put a time period on the surveys (show the time period over which the surveys were collected) and perhaps put the surveys sheets in an addendum in the back of the book (make the book a lot easier to use)
- \* Figure 6 Noise Contours - what are the parameters, what went into the model, and what is the L10. Some discussion of what the 30% increase in jets will do the noise contours
- \* Summary of Williamsburg Jamestown Airport growth - maybe in the index
- \* Is there a validation tool (non aviation) we can use for checking the financial reality of an airport
- \* Clear statement of the aviation benefits of the Airport
- \* Shouldn't there be some discussion of the SUP on the Airport in this document - it has tremendous impacts on the Airport
- \* On the Airport financial information - deprecation is not address (big impact) and we need a balance sheet - what is the value of investments and what is the debt on investments (identify the source documents)
- \* There needs to some discussion on the funding history of airports - do they received subsidies from local governments can the survive on State, FAA, and airport revenues

I will overnight you my draft that is marked up with what could be considered as typos. Also, the base map you use (Exhibit 1-1) in several places is incorrect in its depiction of the City of Williamsburg and Exhibit 1-2 shows "Williamsburg County" there is no such place.

We need to arrange for the meeting to discuss the revised document. We had talked about Wednesday, April 16. Do you still want to do that given FAA e-mail? Appears that the Committee members can meet then.

Just an FYI. I will be out April 8 to probably April 14. I am having some surgery and am not sure if the Dr. will let me come back to work Friday, April 11. I am going to try to get back by then. You will be able to reach me at home Thursday so call me if you want 757 564-7875.

Bill Porter  
Assistant County Administrator  
James City County  
P.O. Box 8784  
Williamsburg, VA 23187  
Phone: 757-253-6671  
Cell: 757-869-7894

**Airport Feasibility Study  
James City County  
Response to CAC Comments dated April 6, 2008**

CAC Comment	Response
1. There needs to be an "executive summary": does not need to be long (perhaps 2 pages) that presents any conclusions, any show stoppers, and what was not included. For example the Williamsburg Jamestown Airport is not eligible for FAA funding and the Airport will probably not be able to get any bigger	It is our intent to provide an Executive Summary as a product associated with the final draft. This is a normal procedure as validated conclusions will only be available once all the Study analysis findings are available for consideration toward the end of the Study.
2. How do you balance the operations shown page 1-26 with operations on 1-3	Operations discussed on page 1-26 represents only those operations indicated by users that actually provided completed survey forms. It does not represent operations conducted by all users. Operations on page 1-3 represent an estimate of annual operations conducted by <u>all</u> users of the Airport.
3. Need to put a time period on the surveys (show the time period over which the surveys were collected) and perhaps put the surveys sheets in an addendum in the back of the book (make the book a lot easier to use)	The report now indicates the time period during which the surveys were collected. It was agreed that the actual survey forms would not be published in the report for privacy reasons, given that individual names, phone numbers and other restricted information can be found on the forms.
4. Figure 6 Noise Contours - what are the parameters, what went into the model, and what is the L10. Some discussion of what the 30% increase in jets will do the noise contours	The LDN methodology used (as apposed to the L10 methodology) is the current methodology acceptable to both the FAA and DOAV and the method proposed in the Scope of Work. The main parameters that go into the model are: 1) average daily by type grouping, 2) night operations, 3) touch and go operations, if applicable, and 4) traffic patterns. The future noise counters (reflecting an increase in jet traffic etc.) may be discussed in Chapter 6 (Alternatives Evaluation), as necessary, to evaluate land use compatibility.
5. Summary of Williamsburg Jamestown Airport growth - maybe in the index	Various historic and potential activity growth trends in accordance with our Scope of Work are presented in Chapter 2.
6. Is there a validation tool (non aviation)	We have not determined the existence of

CAC Comment	Response
we can use for checking the financial reality of an airport	any such tool, however financial viability will be considered in the Alternatives Evaluation effort (Chapter 6).
7. Clear statement of the aviation benefits of the Airport	This will be discussed in Chapter 6, "Alternatives Evaluation"
8. Shouldn't there be some discussion of the SUP on the Airport in this document - it has tremendous impacts on the Airport	The SUP is now discussed in Chapter 1.
9. On the Airport financial information - depreciation is not address (big impact) and we need a balance sheet - what is the value of investments and what is the debt on investments (identify the source documents)	Depreciation has been addressed in Chapter 3 (page 3-12). We did not have sufficient documentation to elaborate on this.
10. There needs to some discussion on the funding history of airports - do they received subsidies from local governments can the survive on State, FAA, and airport revenues	This will be discussed in Chapter 6, "Alternatives Evaluation," e.g. FAA funding potential, financial viability potential.



# COMMONWEALTH of VIRGINIA

Randall P. Burdette  
Director

*Department of Aviation*  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

May 2, 2008

Mr. Bill Porter, Assistant County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187

RE: CF0086-1, James City County Airport Feasibility Study

Dear Mr. Porter:

The Virginia Department of Aviation has reviewed the first deliverable of the James City County Airport Feasibility Study. Please address these comments and those offered by the Federal Aviation Administration, Washington Airports District Office.

## Comments

1. Page 1-4. Middle Peninsula Regional Airport is classified as a (GR), General Aviation Regional Airport in the 2003 Virginia Air Transportation System Plan (VATSP). Page 1-4 identifies it as a Reliever. This is incorrect. Please revise the text.
2. Page 1-5. The narrative identifies two of the three military installations on the Peninsula, Felker Airfield and Camp Perry. If you wish to include the military facilities then Langley Air Force Base should be included. If aircraft from these facilities account for operations that are currently conducted at Williamsburg-Jamestown Airport then it should be noted. If not, Page 1-5 should specifically state the distance that these facilities are from the center of James City County and that due to the fact that the facilities are military, the number of operations anticipated at any proposed airport would be limited.
3. Page 1-4. You have stated that the Middle Peninsula Regional Airport's future runway length will be 5,300 linear feet. Although Table 3 on Page 83 of the 2003 VATSP Update identifies 5,300 as a recommended runway length, the Middle Peninsula Regional Airport Layout Plan, last updated in March 2006, does not show any increase to the existing 5,000 linear feet of runway within the 20 year planning period. This mistaken runway length of 5,300 was also noted on Page 2-12. Please revise the text accordingly.





Mr. Bill Porter  
May 2, 2008  
Page 2

4. There is currently no discussion of the special use permit and the restrictions it imposes on the Williamsburg-Jamestown Airport. Please provide information on the SUP and the impacts it presently has on the airport.
5. Page 1-12. The last paragraph states "The results of the surface evaluations were provided to the Community Airport Committee in a separate series of drawings. It should be noted that, while there were some obstructions identified, none were considered to be limiting or significant relative to the existing airport." To the Department's knowledge, the results of the survey were not forwarded to the Federal Aviation Administration. The results may be of interest to the FAA and prior to the completion of this study, the Washington Airports District Office should be provided a copy of the obstruction analysis. Perhaps the Sponsor should address the obstructions and specific standards, both State and Federal, in an appendix.
6. The survey results were very thorough for the Williamsburg-Jamestown Airport. Section 2.2.4 of the scope of work states that other airports in the region were to be evaluated. Have the general aviation and corporate users of Middle Peninsula, New Kent and Newport News-Williamsburg been asked if their needs are currently being met?
7. Page 2-6 identifies several alternatives considered in the development of the forecast. The report indicates that the Hangar Stimulation Projection was selected as the preferred methodology in the development of the forecast. This method is based on; 1) a review of the stimulation effect that recent hangar development has had on based aircraft levels, 2) information received regarding the current hangar waiting list, and 3) considerations of pending plans for additional hangar development.

The Department believes that if a methodology is based on the criteria identified above, several factors may provide misleading forecast figures. The methodology above would indicate that an increase in based aircraft would occur based on the recent hangar construction that attracted several new aircraft. The problem with his methodology is that it assumes that this increase in the number of based aircraft would continue at the same rate as new hangars were constructed. Additionally it assumes that as long as there is a waiting list for hangars additional based aircraft will base at that airport. It has been the experience of the Department that aircraft owners will place themselves on hangar waiting lists at multiple airports in a region. The aircraft owner may indeed rent the first available hangar. However, if an airport closer to the business or residence of the aircraft owner constructs new hangars or offers a hangar space at a lower cost, the aircraft owner will relocate.

The Department believes the preferred methodology selected to develop the forecast should be based on identification of the needs in the region presently and in 20-30 years.

Mr. Bill Porter  
May 2, 2008  
Page 3

The forecast should be a service area forecast or a "regional" methodology. The methodology currently proposed is "local" in nature. In other words, it would be better suited for a master plan study.

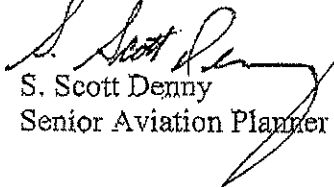
The forecast should look at identifying the future demand in the region. By doing so the next phase of the study could then look at the facilities needed to meet that demand (i.e. 3,000 foot runway vs. 5,000 foot runway).

8. Page 3-12. The final sentence in the second to last paragraph under Section 3.5 is misleading. Under the Commonwealth's program an airport is only eligible for state entitlement funds if that airport is an air carrier airport.
9. Page 2-12. The second paragraph states that the family grouping of critical aircraft types is not anticipated to change in the future. This would be the case if the status quo continues. However, the purpose of this study is to determine the aviation needs in the region. If James City County determines there is an aviation need in the region and opts to pursue the development of a facility to meet that need, the facility should support both general aviation and corporate traffic. This should include both B and C category aircraft.
10. Page 2-12. The fifth and seventh paragraphs state that midsize and larger corporate traffic are within an adequate driving time/distance from the Newport News-Williamsburg Airport and the Middle Peninsula Regional Airport. The text goes on to state that with the improvements at those other facilities the medium and larger corporate traffic will continue to prefer use those facilities. Isn't the purpose to determine if there is a need in the region to meet the demand by the general aviation and corporate traffic? The text on this draft infers the outcome of the study. No conclusion should be derived at this point in the study. Additionally, if the aircraft owners were not questions at the other surrounding airports, how was the level of their satisfaction determined?
11. Section 3.4 The Commonwealth of Virginia has participated in a significant amount of funding in support of the Williamsburg-Jamestown Airport's capital development. This investment (approximately 1.5 million in grants since 1998) is not reflected in the text or the financial analysis. Please revise the text to reflect the states participation as indicated on the attached documentation.

Mr. Bill Porter  
May 2, 2008  
Page 4

If you have any questions regarding these comments, please contact me at (804) 236-3632.

Sincerely,



S. Scott Denny  
Senior Aviation Planner

c: Terry Page, FAA/WADO  
Ron Deck, Kimball & Associates

**Airport Feasibility Study**  
**James City County**  
**Draft 1**  
**Response to DOAV Comments dated May 2, 2008**

DOAV Comment	Response
1. Page 1-4. Middle Peninsula Regional Airport is classified as a (GR), General Aviation Regional Airport in the 2003 Virginia Air Transportation System Plan (VATSP. Page 1-4 identifies it as a Reliever. This is incorrect. Please revise the text.	The text has been revised.
2. Page 1-5. The narrative identifies two of the three military installations on the Peninsula, Felker Airfield and Camp Perry. If you wish to include the military facilities, then Langley Air Force Base should be included. If aircraft from these facilities account for operations that are currently conducted at Williamsburg-Jamestown Airport then it should be noted. If not, Page 1-5 should specifically state the distance these facilities are from the center of James City County and that due to the fact that the facilities are military, the number of operations anticipated at any proposed airport would be limited.	A brief discussion regarding Langley Air Force Base has been added on Page 1-6.  No correlation has been found regarding the three military facilities and operations at Williamsburg – Jamestown Airport
3. Page 1-4. You have stated that the Middle Peninsula Regional Airport’s future runway length will be 5,300 linear feet. Although Table 3 on Page 83 of the 2003 VATSP Update identifies 5,300 as a recommended runway length, the Middle Peninsula Regional Airport Layout Plan, last updated in March 2006, does not show any increase to the existing 5,000 linear feet of runway within the 20 year planning period. This mistaken runway length of 5,300 was also noted on Page 2-12. Please revise the text accordingly.	The text has been revised.
4. There is currently no discussion of the special use permit and the restrictions it imposes on the Williamsburg-Jamestown Airport. Please provide information on the SUP and the impacts it presently has on the airport.	A discussion of the SUP has been added on Page 1-14.

DOAV Comment	Response
<p>5. Page 1-12. The last paragraph states “The results of the surface evaluation were provided to the Community Airport Committee in a separate series of drawings. It should be noted that, while there were some obstructions identified, none were considered to be limiting or significant relative to the existing airport.” To the Department’s knowledge, the results of the survey were not forwarded to the Federal Aviation Administration. The results may be of interest to the FAA and prior to the completion of this Study, the Washington Airports District Office should be provided a copy of the obstruction analysis. Perhaps the Sponsor should address the obstructions and specific standards, both State and Federal, in an Appendix.</p>	<p>Copies of the drawings have now been forwarded to Terry Page, WADO. Also, The Report now indicates that while there were some obstructions identified, none were considered to be limiting or significant relative to the existing airport.</p> <p>Additional information regarding obstructions will be/ is contained in Chapter 4 (Airport Requirements Analysis). It is suggested that the relevance and disposition of these further defined obstructions be discussed in Chapter 6 (Alternatives Evaluation).</p>
<p>6. The survey results were very thorough for the Williamsburg-Jamestown Airport. Section 2.2.4 of the scope of work states that other airports in the region were to be evaluated. Have the general aviation and corporate uses of Middle Peninsula, New Kent, and Newport News-Williamsburg been asked if their needs are currently being met?</p>	<p>Representatives of the respective airports were visited and appropriate information relative to this Study was gathered in a timely manner from these individuals. The scope of work does not provide for the use of written surveys at the other airports, and the additional time it would take to receive survey results from responders.</p>
<p>7. Page 2-6 identifies several alternatives considered in the development of the forecast. The report indicates that the Hangar Stimulation Projection was selected as the preferred methodology of the forecast. This method is based on: 1) a review of the stimulation effect that recent hangar development has had on based aircraft levels, 2) information received regarding the current hangar waiting list, and 3) considerations of pending plans for additional hangar development.</p> <p>The Department believes that if a methodology is based on the criteria above, several factors may provide misleading forecast figures. The methodology above would indicate that an increase in based aircraft would occur based on the recent hangar construction that attracted several new aircraft. The problem with this methodology is that it assumes that this increase in the number of based aircraft would continue at the same rate as new hangars were constructed. Additionally, it assumes that as</p>	<p>As a result of recent coordination efforts with the DOAV and the Community Airport Committee, the <u>Population Correlation Projection</u> has now been officially selected as the preferred based aircraft forecast. The draft report has now been revised to reflect this change. The change required only minor revisions to the based aircraft and operations forecasts, which have been made.</p>



DOAV Comment	Response
<p>long as there is a waiting list for hangars additional based aircraft will base at that airport. It has been the experience of the Department that aircraft owners will place themselves on hangar waiting lists at multiple airports in a region. The aircraft owner may indeed rent the first available hangar. However, if an airport closer to the business or residence of the aircraft owner constructs new hangars or offers a hangar space at a lower cost, the aircraft owner will relocate.</p> <p>The Department believes the preferred methodology selected to develop the forecast should be based on identification of the needs in the region presently and in 20-30 years. The forecast should be a service area forecast or a “regional” methodology. The methodology currently proposed is “local” in nature. In other words it would be better suited for a Master Plan study. The forecast should look at identifying the future demand in the region. By doing so the next phase of the study could then look at the facilities needed to meet that demand (i.e. 3,000 foot runway vs. 5,000 foot runway).</p>	
<p>8. Page 3-12. The final sentence in the second to last paragraph under Section 3.5 is misleading. Under the Commonwealth’s program, an airport is only eligible for state entitlement funds if that airport is an air carrier airport.</p>	<p>The reference to the Commonwealth Airport Fund has been removed from the document.</p>
<p>9. Page 2-12. The second paragraph states that the family grouping of critical aircraft types is not anticipated to change in the future. This would be the case if the status quo continues. However, the purpose of this study is to determine the aviation needs in the region. If James City County determines there is an aviation need in the region and opts to pursue the development of a facility to meet that need, the facility should support both general aviation and corporate traffic. This should include both B and C category aircraft.</p>	<p>Both B and C Category aircraft will be evaluated in Chapter 4 (Airport Requirements Analysis).</p>
<p>10. Page 2-12. The fifth and seventh paragraphs state that midsize and larger corporate traffic are within an adequate driving time/distance from the Newport News-Williamsburg Airport and the Middle</p>	<p>We have revised the text to clarify that some mid-size and large cabin jet operators may continue to use the Newport News-Williamsburg Airport because of the superior facilities located at New Port</p>

DOAV Comment	Response
<p>Peninsula airport. The text goes on to state that with the improvements at those other facilities the medium and larger corporate traffic will continue to prefer to use those facilities. Isn't the purpose to determine if there is a need in the region to meet the demand by the general aviation and corporate traffic? The text on this draft infers the outcome of the study. No conclusion should be derived at this point in the study. Additionally, if the aircraft owners were not questions at the other surrounding airports, how was the level of their satisfaction determined?</p>	<p>News to accommodate these types of large aircraft. This change is intended to recognize the existence of the Newport News airport, but not to prejudge the Airport Feasibility Study regarding possible service opportunities within the defined Williamsburg - Jamestown Primary General Aviation Service Area.</p>
<p>11. Section 3.4. The Commonwealth of Virginia has participated in a significant amount of funding in support of the Williamsburg-Jamestown Airport's capital development. This investment (approximately 1.5 million in grants since 1998) is not reflected in the text or the financial analysis. Please revise the text to reflect the states participation as indicated on the attached documentation.</p>	<p>A summary of funds provided to the Airport by the Commonwealth has been received and has been incorporated into Chapter 3.</p>



U. S. Department  
of Transportation

Federal Aviation  
Administration

**WASHINGTON AIRPORTS DISTRICT OFFICE**

23723 Air Freight Lane, Suite 210

Dulles, VA. 20166

Telephone: (703) 661-1354

Fax: (703) 661-1370

April 16, 2008

Sanford B. Wanner  
County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

Re: James City County, Airport Feasibility Study  
AIP 3-51-0086-001-2007

Dear Mr. Wanner:

We have received and reviewed the first draft of the subject Airport Feasibility Study. This document was submitted on March 12, 2008, by your consultant, L. Robert Kimball and Associates.

We have included our comments on the enclosed sheets. Please do not hesitate to call if you have any questions, or require additional information.

Sincerely,

*for*  
Luis Loarte, Airport Planner  
Washington Airports District Office

Enclosure

cc: DOAV, Mr. Denny  
L. R. Kimball, Mr. Deck

## FAA Comments on First Draft Report, James City County, Airport Feasibility Study

### Scope of Work comments

1. According to the Scope of Work, the first deliverable includes work through Section 2.3.2. We have reviewed this draft against the approved Scope. Please be sure to address any comments from the Virginia Department of Aviation.
2. Please note how the FAA and DOAV comments were addressed in the next draft document (to save the time searching for how the issue was addressed). If the items we have noted below as 'not addressed' are included in the document, please direct us to the applicable section.
3. Scope item 1.3.1 requires the establishment of a Community Airport Committee (by the County), with materials to be prepared by the consultant. At this point in the scope at least one and possibly two Community meetings should have been held. Were these meetings held? If so, the results including attendees and minutes should be included in the draft document.
4. Scope Task 2.0, Methodology states discussions will be held with the airport owner, DOAV, FAA, local planning agencies, airport tenants and other interested parties concerning airport activity and its relationship to the airport service area. Were these discussions held? If so, the information (dates, persons involved and results) should be included in the draft document.
5. Scope item 2.1.2 requires a meeting with the airport owner to determine certain critical issues listed. The Scope states the result of the meeting will be documented for inclusion in the study. These items were identified as critical for the County's decision whether to continue the study. Was the meeting held, and what were the results? (This is important because of the specific questions raised in the Scope).
6. Scope item 2.1.2 requires "other input" to identify land interest of the existing property and what is available for transfer, current owner's willingness to provide information and transfer equipment, and willingness to distribute the survey. This meeting and information should be included in the documentation with the comment above.
7. Scope item 2.1.3, Inventory, C. Airport Facilities and Land Use, requires a discussion of many factors of the existing airport that were not included in the draft report. This includes location and condition of: airport lighting, maintenance facilities, runway protection zones and approach zones, obstructions, wind coverage, auto parking, vehicular traffic circulation, FBO areas, building inventory, utilities, etc. Please review this section of the Scope and include the information.

8. Scope item 2.1.3, Inventory, D. Airspace and Air Traffic, 6., requires a discussion of meteorological conditions and the resulting effect on air traffic operations for the area.
9. Scope item 2.1.4 states the airport questionnaire will be provided to the DOAV, FAA and sponsor for review prior to implementation. Was this accomplished?

Study Comments:

10. Study Section 1.4, last paragraph states “there is limited land area for additional (smaller) general aviation facility development...” at Newport News-Williamsburg International Airport (PHF). Please note, according to the approved PHF ALP, there is significant land available for GA development. The land is planned to be developed as the general aviation demand grows.
11. Section 2.3.1 has a very concise and accurate explanation of the various types of aircraft operations (based, transient, itinerant, and local) that are often confused. Thank you for including this information.
12. Section 2.4 (Page 2-12) states the Middle Peninsula Regional Airport runway will be extended to 5300 feet. Please check this number. We believe the maximum planned length is 5000 feet. (This is a minor issue, which does not affect the point being made in the paragraph.)



**Airport Feasibility Study**  
**James City County**  
**Draft 1 Report (Chapters 1, 2, &3)**  
**Response to FAA Comments dated April 16, 2008**

FAA Comment	Response
1. According to the Scope of Work, the first deliverable includes work through Section 2.3.2. We have reviewed this draft against the approved Scope. Please be sure to address any comments from the Virginia Department of Aviation.	Review comments from the DOAV, as well as the Community Airport Committee will be addressed.
2. Please note how the FAA and DOAV comments were addressed in the next draft document (to save time searching for how the issue was addressed). If the items we have noted below as 'not addressed' are included in the document, please direct us to the applicable section.	All changes will be annotated with a line in the margin. Where appropriate, specific page numbers will be provided in our response.
3. Scope item 1.3.1 requires the establishment of a Community Airport Committee (by the County), with materials to be prepared by the consultant. At this point in the scope at least one and possibly two Community meetings should have been held. Were these meetings held? If so, the results including attendees and minutes should be included in the draft document.	As required, the Community Airport Committee (CAC) has been established. The CAC meets regularly, and the Consultant attends CAC meetings as specified in the work scope, or when needed to address special issues. To date, the Consultant has attended and presented information at three CAC meetings. The first was a specified meeting occurring on 9-31-07. The second was a special meeting held on 1-9-08. The third was a specified meeting occurring on 5-14-08. A meeting summary and attendees list for these meetings will be provided in the next draft report.
4. Scope Task 2.0, Methodology states discussions will be held with the airport owner, DOAV, FAA, local planning agencies, airport tenants and other interested parties concerning airport activity and its relationship to the airport service area. Were these discussions held? If so, the information (dates, persons involved and results) should be included in the draft document.	During the week of October 29, 2007, the Consultant traveled to the Study Area to accomplish these meetings. In addition, all identified personnel, agencies, and the media were invited to the first CAC meeting held on 9-31-07. Airport activity was among the topics discussed. In addition, the consultant met with the current Airport Owners on several occasions and solicited tenant comments using surveys. The Consultant also personally visited other area airports to discuss activity at those airports, as well as JGG. Documentation will be provided in the next draft report.

FAA Comment	Response
<p>5. Scope item 2.1.2 requires a meeting with the airport owner to determine certain critical issues listed. The Scope states the result of the meeting will be documented for inclusion in the study. These items were identified as critical for the County's decision whether to continue the study. Was the meeting held, and what were the results, especially considering the specific questions raised in the Scope?</p>	<p>The first specific meeting with the Owner occurred during the early stages of the Study in October 2007. The Owner provided important information, and indicated a willingness to fully accommodate all critical issues discussed. It was realized however, that a final commitment by the Owner is dependent on a future definition of comprehensive Airport Requirements, to be determined by the Consultant in concert with the Study schedule. Therefore, these discussions with the Owner will be ongoing.</p>
<p>6. Scope item 2.1.2 requires "other input" to identify land interest of the existing property and what is available for transfer, current owner's willingness to provide information and transfer equipment, and willingness to distribute the survey. This meeting and information should be included in the documentation with the comment above.</p>	<p>As also discussed above, current discussions with the Owner regarding these items are very positive, and ongoing. Once the Consultant has identified comprehensive Airport Requirements as provided for in this Study, discussions with the Owner can be finalized. When this occurs, documentation will be provided.</p>
<p>7. Scope item 2.1.3, Inventory, C. Airport Facilities and Land Use, requires a discussion of many factors of the existing airport that were not included in the draft report. This includes location and condition of: airport lighting, maintenance facilities, runway protection zones and approach zones, obstructions, wind coverage, auto parking, vehicular traffic circulation, FBO areas, building inventory, utilities, etc. Please review this section of the Scope.</p>	<p>Section 1.8 of our first draft report titled "Existing Facilities" will be expanded to include the items indicated, and will be made available in the next draft report.</p>
<p>8. Scope item 2.1.3, Inventory, D. Airspace and Air Traffic, 6. requires a discussion of meteorological conditions and the resulting effect on air traffic operations for the area.</p>	<p>A discussion of meteorological conditions and the resulting effect on air traffic will be included in the next draft report.</p>
<p>9. Scope item 2.1.4 states the airport questionnaire will be provided to the DOAV, FAA and sponsor for review prior to implementation. Was this accomplished?</p>	<p>Yes, this did occur. The draft questionnaires were provided to the Sponsor, the CAC, DOAV and FAA with ample time for comments. Comments were received were incorporated into the questionnaires before distribution.</p>
Study Comments	
<p>Study Section 1.4, last paragraph states "there is limited land area for additional (smaller) general aviation facility development..." at Newport News-Williamsburg International Airport (PHF). Please note, according to the approved PHF ALP, there is significant land available for</p>	<p>This paragraph will be restructured to recognize the airport property area planned for additional general aviation facility development, as shown in the current ALP</p>

FAA Comment	Response
GA development. The land is planned to be developed as the general aviation demand grows.	.
Section 2.3.1 has a very concise and accurate explanation of the various types of aircraft operations (based, transient, itinerant, local) that are often confused. Thank you for including this information.	Thank you for your comment.
Section 2.4 (Page 2-12) states the Middle Peninsula Regional Airport runway will be extended to 5300 feet. Please check this number. We believe the maximum planned length is 5000 feet. (Minor issue, that does not affect the point being made in the paragraph.)	The Runway at FYJ has been most recently extended from 3,750 feet to 5,000 feet, and we understand that this now is the final planned length. A future length of 5,300 feet (as shown on page 78 of the 2003 System Plan VATSP Report) is no longer being considered. The draft report will be modified to reflect the new and ultimate runway length of 5,000 feet.



# COMMONWEALTH of VIRGINIA

Randall P Burdette  
Director

**Department of Aviation**  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

September 12, 2008

Mr. Steven Hicks, Acting Assistant County Administrator  
James City County  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187

RE: James City County Airport Feasibility Study

Dear Mr. Hicks:

The Virginia Department of Aviation has received the revisions to Chapters 1-3 and the additional Chapters 4 & 5. Following our review, staff has the following questions and comments:

## Comments

1. Page 3-14. The narrative states that the Williamsburg-Jamestown Airport is eligible for funding through the one of the Commonwealth's Aviation Special Fund. While this is correct, the funding the Williamsburg-Jamestown Airport receives through this fund are maintenance, equipment and security related. All capital improvement projects are funded through the Commonwealth Airport Fund. Please revise the text accordingly.
2. Page 3-12 states that the existing Williamsburg-Jamestown Airport would be eligible for federal funding if the airport is designated as a NPIAS (National Plan of Integrated Airport Systems) facility. The text should also note that inclusion into the NPIAS is not a foregone conclusion. Lack of federal participation in capital improvement projects can greatly increase the local cost.
3. Pages 4-15, 4-17 and 4-18 recommend modifications to standards (MOS) for runway/taxiway separation, runway object free area width and the taxiway safety area width respectively. If these modifications to standards are necessary to meet federal requirements, it would seem that an attempt to convince the Federal Aviation Administration to include the existing airport into the NPIAS would be a difficult task. If, at the conclusion of this study, the County opts to pursue becoming an airport sponsor, they must also ask themselves if they would be willing to do so if federal inclusion into



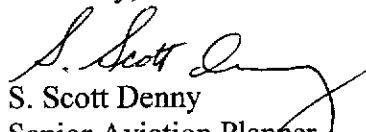
Mr. Steven Hicks  
September 12, 2008  
Page 2

the NPIAS is not feasible. Alternative B on Page 5-1 implies that local acquisition is only feasible if there is federal participation.

4. Page 5-13. Although the Citizen Airport Committee will be making the final recommendation to the James City County Board of Supervisors, the Virginia Department of Aviation would like a detailed narrative summary of the results of the matrix. This summary should include a description of the ranking of the alternatives based on the score/rating and an interpretation of what that really means. An example would be, if the study resulted in Alternative B or Alternative C scoring/ranking highest, the localities next step would be a site selection study.
5. An additional attachment should be included in the study. Once the final report is prepared for the Citizen Airport Committee (CAC) a copy of the final written recommendation to the Board of Supervisors should be included. This should subsequently be followed by the minutes of the Board of Supervisors meeting in which the CAC's recommendation was made. These attachments are necessary in order to finalize the study as a usable unit of work.

Please address these comments, and those of the Federal Aviation Administration, prior to resubmission of the draft study for review. If you have any questions, please contact me at (804) 236-3632.

Sincerely,

  
S. Scott Denny  
Senior Aviation Planner

c: Terry Page, FAA/WADO  
Ron Deck, Kimball



**Airport Feasibility Study**  
**James City County**  
**Response to September 12, 2008 DOAV Comments on Draft 2**

DOAV Comment	Response
<p>1. Page 3-14. The narrative states that the Williamsburg-Jamestown Airport is eligible for funding through one of the Commonwealth' Aviation Special Fund. While this is correct, the funding the Williamsburg-Jamestown Airport receives through this fund are maintenance, equipment and security related. All capital improvement projects are funded through the Commonwealth Airport Fund. Please revise the text accordingly.</p>	<p>1. The text in the Study will be revised.</p>
<p>2. Page 3-12 states that the existing Williamsburg-Jamestown Airport would be eligible for federal funding if the airport is designated as a NPIAS (National Plan of Integrated Airport Systems) facility. The text should also note that inclusion into the NPIAS is not a foregone conclusion. Lack of federal participation in capital improvement projects can greatly increase local costs.</p>	<p>2. The text in the Study will be revised.</p>
<p>3. Pages 4-15, 4-17 and 4-18 recommend modifications to standards (MOS) for runway/taxiway separation, runway object free area width and the taxiway safety area width respectively. If these modifications to standards are necessary to meet federal requirements, it would seem that an attempt to convince the Federal Aviation Administration to include the existing airport in the NPIAS would be a difficult task. If, at the conclusion of this study, the County opts to pursue becoming an airport sponsor, they must also ask themselves if they would be willing to do so if federal inclusion into the NPIAS is not feasible. Alternative B on Page 5-1 implies that local acquisition is only feasible if there is federal participation.</p>	<p>3. As shown on Table 4-17 (page 4-24) of the Study, there were only two modification of standards recommended, and they both related to the small section of the parallel taxiway at the approach end of Runway 31. In subsequent discussions with the FAA, it was indicated that it would also be acceptable to them to close that section of the taxiway. That is a viable option since a full parallel taxiway is not required by the FAA. Further, a full length parallel taxiway at the proper separation distance could be evaluated as a part of a full Master Plan update.</p>

DOAV Comment	Response
<p>4. Page 5-13. Although the Citizen Airport Committee will be making the final recommendation to the James City County Board of Supervisors, the Virginia Department of Aviation would like a detailed narrative summary of the results of the matrix. This summary should include a description of the ranking of the alternatives based on the score/rating and an interpretation of what that really means. An example would be, if the study resulted in Alternative B or Alternative C scoring/ ranking the highest, the localities next step would be a site selection study.</p>	<p>4. A brief summary will be developed.</p>
<p>5. An additional attachment should be included in the Study. Once the final report is prepared for the Citizen Airport Committee (CAC) a copy of the final written recommendation to the Board of Supervisors should be included.</p>	<p>5. "Attachment 1-E – Community Airport Committee (CAC) Recommendations" will be added to the Table of Contents. A separate tab for this Attachment will be included in the Final Study.</p>



# COMMONWEALTH of VIRGINIA

Randall P Burdette  
Director

**Department of Aviation**  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

December 23, 2008

Mr. Steven Hicks, Acting Assistant County Administrator  
101- C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

RE: James City County Airport Feasibility Study, CF0086-01

Dear Mr. Hicks:

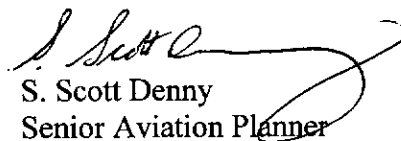
Thank you for providing Chapter Six, Alternatives Evaluation Results. The text addresses the results of the matrix used to rate the three alternatives; Development of a Greenfield Site, Local Acquisition of the Existing Airport, and the Status Quo. The Department has no objections to the results of the matrix as presented in the November 26, 2008 draft text.

The conclusion of this project occurs when James City County determines if they are to become an airport sponsor and continue to the next step in the process, a site selection study. In order to conclude the feasibility study and close state grant CF0086-01, a final draft of the report, an executive summary and an electronic copy of the report on CD must be submitted to the Department.

Prior to the release of the funds for the final reimbursement request, staff must receive an appendix to the report that includes the record of decision by the James City County Board of Supervisors that conclusively states whether the County will seek to become an airport sponsor and will continue to the site selection phase. As a part of this appendix, the Department would also like a copy of the Citizen's Airport Committee's recommendation to the James City County Board of Supervisors.

Please address any questions or comments offered by the Federal Aviation Administration prior to resubmittal for final acceptance. If you have any questions regarding this matter, please contact me at 804-236-3632.

Sincerely,

  
S. Scott Denny  
Senior Aviation Planner

c: Terry Page, FAA/WADO  
Ron Deck, Kimball & Associates



RECEIVED

OCT 23 2008

COUNTY ADMINISTRATION



U. S. Department  
of Transportation

Federal Aviation  
Administration

**WASHINGTON AIRPORTS DISTRICT OFFICE**

23723 Air Freight Lane, Suite 210

Dulles, VA. 20166

Telephone: (703) 661-1354

Fax: (703) 661-1370

October 21, 2008

Steven Hicks, Acting Assistant  
County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

*Liz,  
Pls scan and  
email to me.  
Thanks, J*

Re: James City County, Airport Feasibility Study  
AIP 3-51-0086-001-2007

Dear Mr. Hicks:

We have received and reviewed the second draft of the subject Airport Feasibility Study. This document was submitted on August 8, 2008, by your consultant, L. Robert Kimball and Associates.

We have included our comments on the enclosed sheets. Please do not hesitate to call if you have any questions, or require additional information.

Sincerely,

A handwritten signature in black ink, appearing to read "Terry J. Page".

Terry J. Page, Manager  
Washington Airports District Office

Enclosure

cc: DOAV, Mr. Denny  
L. R. Kimball, Mr. Deck

## FAA Comments on Second Draft Report, James City County, Airport Feasibility Study

In addition to the comments of the Virginia Department of Aviation comments, dated September 12, 2008.

1. We concur with the runway and airport options outlined for an 'optimum' airport for James City County, as presented in Chapter 4.
2. Regarding the Standards Selected for Williamsburg-Jamestown option, we have the following comments and questions.
  - a. Section 404. B. lists the preferred runway length to remain 3204. However, a later section requires a threshold relocation of 221 feet on the Runway 31 end and extending the Runway 13 end to meet RSA standards. We concur that in order to meet RSA standards and not shorten the existing length, this runway 'shift' is a viable option. However, the remaining standards (RPZ, OFZ, ROFA, approach clearance, obstructions, etc.) should be evaluated assuming this runway shift.
  - b. Section 404. H. shows the runway to parallel taxiway separation cannot meet standards. There are other non-standard conditions associated with this section of taxiway (hold line location, taxiway safety area width, etc.) It is doubtful that FAA would consider approving a modification of standards for this condition. More likely, we would require this section of taxiway to be closed and removed.
  - c. Of course, if a 'status quo' option or other option that does not involve any federal funding is selected, then there is no requirement to meet FAA design standards.
3. The threshold end siting standards and Part 77 surfaces should be evaluated against the proposed shifted runway, as noted in comment 2. a. above, not the existing runway ends.
4. Regarding the proposed evaluation matrix. The proximity to landfills and wildlife hazards could present an insurmountable problem. (If the existing airport or a proposed site does not meet the required separation from a landfill, then it is highly unlikely FAA would invest any funds such an airport.)



**Airport Feasibility Study**  
**James City County**  
**Response to October 21, 2008 FAA Comments on Draft 2**

FAA Comment	Response
1. We concur with the runway and airport options outlined for an 'optimum' airport for James City County, as presented in Chapter 4.	No response required
<p>2. Regarding the Standards Selected for Williamsburg-Jamestown option, we have the following comments and questions.</p> <p>a. Section 404.B. lists the preferred runway length to remain at 3204. However, a later section requires a threshold relocation of 221 feet on the Runway 31 end and extending the Runway 13 end to meet RSA standards. We concur that in order to meet RSA standards and not shorten the existing length, this runway 'shift' is a viable option. However, the remaining standards (RPZ, OFZ, ROFA, approach clearance, obstructions, etc.) should be evaluated assuming this runway shift.</p> <p>b. Section 404.H. shows the runway to parallel taxiway separation cannot meet standards. There are other non-standard conditions associated with this section of taxiway (holdline location, taxiway safety area width, etc.). It is doubtful the FAA would consider approving a modification of standards for this condition. More likely, we would require this section of taxiway to be closed and removed.</p> <p>c. Of course, if a 'status quo' option or other option that does not involve federal funding is selected, then there is no requirement to meet FAA design standards.</p>	<p>2.a. An evaluation of the impact of the runway shift relative to the runway end siting criteria is presented on pages 4-18 through 4-21 of the Study. A review of the impact of shifting the runway on the OFZ, ROFA, and RPZ indicates there would be no change (i.e. there would still be tree penetrations to the ROFA [reference Exhibit 4-5]). The impact of shifting the runway on Part 77 surfaces would be that the amount of obstruction penetration on the RW 31 approach area would be reduced and/or eliminated; the amount of tree obstruction penetration on the RW 13 approach would increase slightly; a second building may be impacted.</p> <p>b. In further discussions with FAA with regard to this comment, while it is doubtful that an MOS would be approved, the closure of that portion of the taxiway would be acceptable to the FAA since a full parallel taxiway is not an FAA requirement. Further, a full length parallel taxiway at the proper separation distance could be evaluated as a part of a full Master Plan update.</p> <p>c. We agree, no response required.</p>
3. The threshold end siting standards and Part 77 surfaces should be evaluated against the proposed shifted runway, as noted in comment 2.a. above, not the	3. See comment 2.a, above

FAA Comment	Response
<p>existing runway ends.</p> <p>4. Regarding the proposed evaluation matrix. The proximity to landfills and wildlife hazards could present an insurmountable problem. (If the existing airport or a proposed site does not meet the required separation from a landfill, then it is highly unlikely FAA would invest any funds such an airport.</p>	<p>4. As clarified with the FAA, the existing landfill is a capped facility established for construction, demolition, and similar type waste and is not an issue regarding wildlife hazards. FAA's review comment refers to FAA Advisory Circular 150/5200-33B, <i>Hazardous Wildlife Attractants on or Near Airports</i>, which establishes separation distances within which wildlife attractants should be avoided, eliminated, or mitigated. For airports serving piston-powered aircraft, hazardous wildlife attractants must be 5,000 feet from the nearest air operations area; for airports serving turbine-powered aircraft, hazardous wildlife attractants must be 10,000 feet from the nearest air operations area. There is also a 5 statute mile range to protect approach, departure and circling airspace. An evaluation of facilities in the Study area indicates that the closest landfill to the existing airport is the James City County landfill, 1204 Jolly Pond Road. It is approximately 6.5 statute miles from the Williamsburg-Jamestown Airport.</p>



U. S. Department  
of Transportation

Federal Aviation  
Administration

**WASHINGTON AIRPORTS DISTRICT OFFICE**

23723 Air Freight Lane, Suite 210

Dulles, VA. 20166

Telephone: (703) 661-1354

Fax: (703) 661-1370

January 20, 2009

Mr. Steven Hicks, Acting Assistant County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

**Re: James City County, Airport Feasibility Study**

Dear Mr. Hicks:

We are in receipt of the Revised Airport Layout Plan Set submitted on your behalf by your consultant, R. Robert Kimball, requesting our review and comments for Chapter 6 of the James City County Airport Feasibility Study dated November 26, 2008. We have provided our comments on the attached separate pages. We are also in receipt of comments from the Virginia Department of Aviation dated December 23, 2008. Please ensure that these comments are addressed as well.

The letter from the Virginia Department of Aviation provides a nice summary of what is needed to close out this grant and move to the next step of the process.

Should you have any questions or require additional information, please feel free to contact me at (703) 661-1365.

Sincerely,

**Original Signed By**  
**Jeffrey W. Breeden**

Jeffrey W. Breeden, AICP  
Airport Planner  
Washington Airports District Office

cc: Scott Denny, DOAV  
Ron Deck, R. Robert Kimball & Associates

**Comments on the James City County Feasibility Study**  
**Chapter 6, Alternatives Evaluation Results – November 11-26-2008**  
**Date: January 20, 2009**

*Chapter 6 Alternatives Evaluation Results*

*General Comments*

We concur with the comments from Mr. Denny with the Virginia Department of Aviation dated December 23, 2008.

Exhibit 6-1

Environmental

1. Is it safe to assume that there will be no environmental impacts with Alternative B for potential recreation, wildlife, historic, wetlands or floodplains if the existing airport is brought up to standards (i.e. runway safety areas, widen runway, tree clearing, remove top of landfill, aircraft parking apron relocation etc). It would appear that some of the projects would have some environmental impacts associated with them. Please clarify.

2. Land Acquisition – The chart shows that a total of 106 acres would be acquired from the existing airport versus 416 acres for the new greenfield site. Does the existing airport have sufficient land in fee simple or easements to protect the airspace surrounding the facility? If not, additional land, preferably in fee simple, would be needed to bring the airport up to FAA standards. Please quantify the amount of land required and update table accordingly.

Engineering

3. Exhibit 6-1 states that the non-sanitary land fill cap may need to be lowered for the existing airport under special airport needs. The new airport site states that only minor special engineering needs will be required. Is this an “apples to apples” comparison? Would be better to state that special engineering needs will be considered during the site selection process?

Operational

4. Exhibit 6-1 states that the existing site may require some modifications to FAA standards. Previous correspondence and communication to the study indicated that no modification to FAA standards would be considered for the existing airport site. Please update exhibit and narrative.

5. Exhibit 6-1 addresses obstruction removal. Are existing obstructions located on airport property? If not, how much additional land would be required to remove the existing obstructions?

6. Both airport sites are evaluated on the ability to meet user needs. The existing site is listed as “would” meet needs to a high degree versus “could” meet needs to a very high degree with the Greenfield site. It would be helpful to reword this section to provide a bit more clarity to better compare the two sites.

6A. It might be helpful to include another major category called Support of Aviation Demand or something similar. There is a risk of the possibility of the current facility closing to aviation traffic. If this were to happen, then the residents of James City County would be required to drive outside of the immediate area to have access to a general aviation facility. This might be an important point to consider in the evaluation

#### Economic

7. The total estimated cost for each alternative is a bit misleading. Our office recently held a teleconference with the study team to discuss how the costs for each alternative were derived. It is our understanding that the cost for the existing airport includes only the costs for bringing the airport up to FAA standards and does not include acquisition costs. These acquisition costs of the existing airport site could easily double the figure from 3.2 million to 6.4 million dollars or greater. The costs for the greenfield site were derived from recently completed new greenfield airports in Virginia. The costs were then factored up to include potential higher land costs in James City County. This office would suggest adding some additional documentation to describe the assumptions made for the cost estimates in the narrative report. Would it be reasonable to either obtain the current assessment by James City County of the current airport facility or have some discussions with the current owner to provide a potential range of costs to acquire the facility. While this office understands a detailed appraisal of the current facility is outside of the current scope of services, a potential range of the possible acquisition costs should be obtainable.

8. Under the economic benefits. It is highly unlikely that a new airport would be constructed outside of the service area evaluated as part of this study. Please update narrative in the table.

9. The FAA concurs with the recommendation of Alternative “C” as the preferred option with the caveat that the local government must first review and adopt the findings of the report. Similar to the request by the Virginia Department of Aviation, please provide this office with a copy of the resolution of the adoption of this report by the James City County Board of Supervisors.

10. If James City County elects to move forward with the site selection study, the following is a summary of the major items that need to be accomplished:



- Adoption of resolution to continue with a site selection study within the boundaries established with this study.
- James City must then agree to become the sponsor of the Airport. A copy of the grant assurances that are required to be signed are available on the FAA website. This office would suggest having the County's legal staff review the grant assurances for FAA AIP grants early in the process and our office would be happy to answer any questions that you may have.
- While there is no current commitment of FAA funding for the project, the soonest a grant could be offered to continue to advance the planning effort would be next fiscal year (around March 2010). Before funding can be completed, the County must go through the selection process of hiring a consultant for this effort unless the previous advertisement covered this scope of services.
- Our office has enjoyed working with your staff on this project and would be happy to assist in the development of a draft scope of services and preliminary budget for the project prior to Federal funds being requested.

**Airport Feasibility Study**  
**James City County**  
**Chapter 6, Alternatives Evaluation Results**  
**Response to FAA Comments dated January 20, 2009**

FAA Comment	Response
<p>Exhibit 6-1: <u>Environmental</u></p> <p>1. Is it safe to assume that there will be no environmental impacts with Alternative B for potential recreation, wildlife, historic, wetlands or flood plains if the existing airport is brought up to standards (i.e. runway safety areas, widen runway, tree clearing, remove top of landfill, aircraft parking apron relocation, etc.). It would appear that some projects would have some environmental impacts associated with them.</p>	<p>The text in the matrix has been changed to more clearly reflect the findings of our Environmental Overview, which indicates that there are some potential endangered species, floodplain, and wetland issues, and that further environmental study is required to determine potential impacts. This change in text does not impact the related scoring in the matrix.</p>
<p>2. Land Acquisition-The chart shows that a total of 106 acres would be acquired from the existing airport versus 416 acres for the new Greenfield site. Does the existing airport have sufficient land in fee simple or easements to protect the airspace surrounding the facility? If not, additional land, preferably in fee simple, would be needed to bring the airport up to FAA standards. Please quantify the amount of land required and update table accordingly.</p>	<p>The 107 acres we present on Exhibit 6-1 is the acreage documented in the current Airport Master Record. In the Narrative Report that accompanied the latest approved Airport Layout Plan, there was a lengthy discussion regarding various properties owned by the Waltrip family, including the airport. The Report indicated the need for various easements and land transfers between the airport and Waltrip Recycling, to accommodate proposed development, as well as to address identified access road issues. No total acreage needed for the Airport was presented. Further, during the course of developing the Study, it was determined that, if public acquisition of the existing facility was the preferred alternative, a new Airport Master Plan would be in order at which time a more accurate determination of required acreage could be developed taking all proposed development and associated airspace requirements into consideration. Based on our evaluation of the improvements necessary to meet FAA design standards, we estimated a need for approximately 46 acres of aviation easements at various locations and included them in the cost estimates. We have added that acreage to Exhibit 6-1. It should also be noted that, according to James City County GIS records, the airport property is listed as 126.63 acres. This change in text does not impact the scoring matrix.</p>

FAA Comment	Response
<p><u>Engineering</u></p> <p>3. Exhibit 6-1 states that the non-sanitary landfill cap may need to be lowered for the existing airport under special airport needs. The new airport site states that only minor special engineering needs will be required. Is this an “apples to apples” comparison? Would be better to state that special engineering needs will be considered during the site selection process?</p>	<p>The text in Exhibit 6-1 has been changed as you have suggested.</p>
<p><u>Operational</u></p> <p>4. Exhibit 6-1 states that the existing site may require some modification to FAA standards. Previous correspondence and communication to the study indicated that no modification to FAA standards would be considered for the existing airport site. Please update the exhibit and narrative.</p>	<p>The exhibit and the appropriate sections of Chapter 4 have been changed.</p>
<p>5. Exhibit 6-1 addresses obstruction removal. Are existing obstructions located on airport property? If not, how much additional land would be required to remove the existing obstructions?</p>	<p>In Chapter 4 of the Study, specifically Exhibits 4-12 through 4-16, we have depicted the obstructions to various runway end siting and Part 77 surfaces. Some obstructions are on airport property and some are not on airport property. As indicated in our response to Item 2, above, we identified the need for approximately 46 acres of various aviation easements to address those obstructions.</p>
<p>6. Both airport sites are evaluated on the ability to meet user needs. The existing site is listed as “would” meet needs to a high degree versus “could” meet needs to a very high degree with the Greenfield site. It would be helpful to reword this section to provide a bit more clarity to better compare the two sites.</p>	<p>Both statements have been changed to provide additional clarity.</p>
<p>6A. It might be helpful to include another major category called Support of Aviation Demand or something similar. There is a risk of the possibility of the current facility closing to aviation traffic. If this were to happen, then the residents of James City County would be required to drive outside of the immediate area to have access to a general aviation facility. This might be an important point to consider in the evaluation.</p>	<p>The potential impact regarding the closure of the existing airport was originally included in the scope of work, however it was subsequently removed.</p>

<p>7. The total estimated cost for each alternative is a bit misleading. Our office recently held a teleconference with the study team to discuss how the costs for each alternative were derived. It is our understanding that the cost for the existing airport includes only the costs for bringing the airport up to FAA standards and does not include acquisition costs. These acquisition costs of the existing airport site could easily double the figure from 3.2 million to 6.4 million dollars or greater. The costs for the Greenfield site were derived from recently completed new Greenfield airports in Virginia. The costs were then factored up to include potentially higher land costs in James City County. This office would suggest adding some additional documentation to describe the assumptions made for the cost estimates in the narrative report. Would it be reasonable to either obtain the current assessment by James City County of the current airport facility or have some discussions with the owner to provide a potential range of costs to acquire the facility? While this office understands a detailed appraisal of the current facility is outside of the current scope of services, a potential range of possible acquisition costs should be obtainable.</p>	<p>We will contact James City County to determine if they are in discussions with the present airport owner regarding the asking price of the facility, and the appropriateness of publishing an estimated value/cost range at this time.</p>
<p>8. Under the economic benefits. It is highly unlikely that a new airport would be constructed outside of the service area evaluated as part of this study. Please update the narrative in the table.</p>	<p>The narrative has been revised.</p>
<p>9. The FAA concurs with the recommendation of Alternative “C” as the preferred option with the caveat that the local government must first review and adopt the findings of the report. Similar to the request by the Virginia Department of Aviation, please provide this office with a copy of the resolution of the adoption of this report by the James City County Board of Supervisors.</p>	<p>Your request is noted.</p>
<p>10.</p>	<p>Thank you for your helpful comments.</p>



U. S. Department  
of Transportation

Federal Aviation  
Administration

WASHINGTON AIRPORTS DISTRICT OFFICE  
23723 Air Freight Lane, Suite 210  
Dulles, VA. 20166  
Telephone: (703) 661-1354  
Fax: (703) 661-1370

March 9, 2009

Mr. Steven Hicks, Acting Assistant County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

**Re: James City County, Airport Feasibility Study**

Dear Mr. Hicks:

We are in receipt of the final comprehensive draft of the James City County Airport Feasibility Study submitted on your behalf by your consultant, R. Robert Kimball, requesting our review and comments and received by our office on February 05, 2009.

Our comments are attached on a separate page. Please also make sure any comments received from the Virginia Department of Aviation are incorporated as well. The requested changes can be made prior to final printing of the document. We are nearing the completion of the study. Please notify our office when the study is on the agenda to be heard by the James City County Board of Supervisors.

In the meantime, should you have any questions or require additional information, please feel free to contact me at (703) 661-1365.

Sincerely,  
**Original Signed By**  
**Jeffrey W. Breeden**

Jeffrey W. Breeden, AICP  
Airport Planner  
Washington Airports District Office

Enclosure

Via E-mail: Scott Denny, DOAV  
Ron Deck, R. Robert Kimball & Associates



**Comments on the James City County Feasibility Study**  
**Final Comprehensive Draft**  
**Date: March 9, 2009**

*Final Comprehensive Draft*

General Comments

1. The study and final product is well detailed and nicely assembled.
2. The study has incorporated all comments to date and our office finds the revisions to be satisfactory with the following additional comments

Executive Summary

3. Page ES-8 First paragraph. Please also note the length of the existing runway at the Williamsburg Jamestown Airport.
4. Please add two additional brief sections to the end of the executive summary. Please add a summary of the decision of the James City County Board of Supervisors. In addition, please add a brief section describing the next major steps in the process to advance the project depending on the final decision of the James City County Board of Supervisors.

Chapter 6 Alternatives Results

5. Page 6-1 Third Paragraph- This paragraph will need to be revised after the decision made by the James City County Board of Supervisors
6. Please add two additional brief sections to the end of the executive summary. Please add a summary of the decision of the James City County Board of Supervisors. In addition, please add a brief section describing the next major steps in the process to advance the project depending on the final decision of the James City County Board of Supervisors.



# COMMONWEALTH of VIRGINIA

Randall P Burdette  
Director

*Department of Aviation*  
5702 Gulfstream Road  
Richmond, Virginia 23250-2422

V/TDD • (804) 236-3624  
FAX • (804) 236-3635

March 18, 2009

Mr. Steven Hicks, Acting Assistant County Administrator  
101-C Mounts Bay Road  
P.O. Box 8784  
Williamsburg, Virginia 23187-8784

RE: James City County, Airport Feasibility Study

Dear Mr. Hicks:


The Virginia Department of Aviation has reviewed the final draft of the James City County Airport Feasibility Study received by staff on February 6, 2009. Staff recommends only one revision to the text.

Page 3-20 indicates that the Special Funds Programs are suspended due to lack of revenue. This is no longer the case. Staff suggests the text be revised to state, "Special Fund Programs are available pending sufficient funds exist at the time an eligible project is sought."

Please make this revision and incorporate comments from the Federal Aviation Administration's March 9, 2009 letter into the final report. No additional draft is necessary.

If you have any questions regarding this matter please contact me at (804) 236-3632.

Sincerely,

  
S. Scott Denny  
Senior Aviation Planner

c: Jeff Breeden, FAA/WADO  
Ron Deck, Kimball and Associates



# ATTACHMENT 1-G

## COMMUNITY AIRPORT COMMITTEE RECOMMENDATION

**ATTACHMENT 1-H**

**JAMES CITY COUNTY**  
**BOARD OF**  
**SUPERVISORS**

**RECORD OF**  
**DECISION**