



## 6

# ENVIRONMENTAL REVIEW

## INTRODUCTION

This Environmental Review has been prepared pursuant to Section 102 (2) of the *National Environmental Policy Act (NEPA)* of 1969, as well as Title V of the Airport and Airway Improvement Act of 1982, as amended. The subject matter contained herein and environmental audits performed within the body of the narrative text are completed in accordance with FAA Order 5050.4A, *Airport Environmental Handbook*. In addition, an environmental review prepared in accordance with the provisions of the Washington State Environmental Policy Act (SEPA) was prepared at the programmatic non-project level. Further environmental review will be conducted as necessary, prior to use of this Master Plan as a foundation for a JCIA Subarea Plan to be incorporated into the Jefferson County Comprehensive Plan. Because the basic improvement plan at JCIA includes primarily projects that are termed “categorical exclusions” per FAA, a full environmental assessment is not required and will not be conducted. Any subsequent development proposals that would revise the main provisions of this plan would be subject to further environmental analysis per applicable FAA/SEPA/NEPA requirements.

This ER is being prepared pursuant to the completion of the Jefferson County International Airport Master Plan Update. The JCIA Layout Plan Update depicts the extension of the primary Runway 9-27 (3,000' x 75'), as depicted in **Exhibit 6.1**, to accommodate primarily small to medium sized piston and turbine powered aircraft in a safe and efficient manner. The overall purpose for this ER is to assemble, determine, and document environmental considerations and potential impacts associated with runway extension at JCIA. In addition, the secondary purpose of this ER is to further provide for the formal coordination for the review of any potential significant environmental impacts to be reviewed by pertinent local, state, and Federal agencies involved with airport development.

Overall, the current environmental audit process contains four basic elements:

- To provide a determination of the numerous categories of environmental compliance that need to be addressed throughout the audit process;
- To review and highlight the applicable environmental regulations in order to determine compliance requirements;
- To develop and ascertain the level of environmental compliance of the proposed airport development; and
- To submit to applicable regulatory agencies a formal report of the findings of the environmental overview.

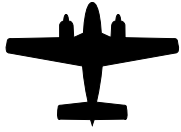


# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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**Airport Master Plan Update  
Port of Port Townsend, Washington**

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# ***JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)***

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Airport Master Plan Update  
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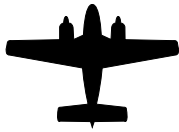
## **EXHIBIT 6.1 AIRPORT LAYOUT DRAWING- JEFFERSON COUNTY INTERNATIONAL AIRPORT**



# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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Airport Master Plan Update  
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## PROJECT BACKGROUND

Since the early 1970s, multiple studies (1973, 1975, and 1982) have been conducted to determine the feasibility of relocating and expanding the Airport. Due to economic considerations and environmental impacts, however, each time the community's decision has been to retain and further develop the existing site. In 1987, the Port of Port Townsend proposed upgrading the JCIA to current FAA airport design standards and criteria, and in 1990, a new 3,000' x 60' paved runway was constructed along a new alignment 450 feet south of the abandoned turf runway. The assessment conducted during this Master Planning process indicates the future aviation demand at JCIA is expected to include a variety of more sophisticated twin-engine piston and turbine powered aircraft, as well as light to medium business jet aircraft activity. In order to safely and efficiently accommodate this aviation activity, a non-precision instrument approach procedure to the runway is necessary and will allow for the sustained long-term viability of the airport. This anticipated aviation demand in the Quimper Peninsula Region of Jefferson County, primarily within the Port Townsend area, coupled with the existing need for Runway 9-27 to gain an additional 200 feet in length to adequately support instrument approach operations, necessitates the initiation of this ER towards the ultimate goal of expanding the primary Runway 9-27 to a ultimate dimension of 3,200' x 75'.

## PROJECT NEED

The planned runway improvements and expansion to take place at the JCIA are to ensure safety and efficiency from an operational standpoint, to enable the Airport to meet the demands of future aviation demand activity, and to ensure compliance and compatibility with respect to environmental aspects and concerns.

## AIRPORT ACTIVITY

### BASED AIRCRAFT FORECAST/ ACTIVITY

**Table 6.1** summarizes the various forecasts of based aircraft prepared for the JCIA throughout the 20-year planning period. Forecasts of based aircraft were developed using multiple methodologies such as regression, linear trend line/trend extension, market share, time-series, as well as FAA annual growth rates per the *FAA Aerospace Forecasts (2001-2012)*. Judgmental or professional analysis was utilized in formulating the preferred forecasts as well. Overall, the forecast methods resulted in a range of 117 to 177 based aircraft by the end of the planning period (2022), representing a 0.6% to 3.6% annual growth rate, respectively.

**Table 6.1** provides a detailed breakdown, by category, of the preferred mix forecast of based aircraft. The projected based aircraft estimate at the completion of the 20-year planning period represents a 42 percent overall growth rate which further accounts for an annual growth rate of two (2) percent. This growth rate is representative of growth at small general aviation airports throughout the U.S. that are similar in size and activity to JCIA.



<p align="center"><i>Table 6.1 Based Aircraft Forecast(s)/ Activity Jefferson County International Airport Environmental Review</i></p>						
Year	Single-Engine Aircraft (A-I)	Multi-Engine Piston (A-I to B-I)	Multi-Engine Turbine (B-II)	Business Jets (B-I to B-II)	Helicopters	Total Based Fixed-Wing Aircraft
2002	96	6	0	0	0	102
2007	100	9	0	0	0	109
2012	117	11	0	0	0	128
2017	138	13	0	0	0	151
2022	160	15	1	1	2	177

Note: Forecasts have not been prepared for other aircraft; ultralights, rotorcraft, sailplanes/ gliders, or non-airworthy aircraft.

Source: BWR, Based Aircraft Forecast/ Activity, January 2002.

**AIRCRAFT/ AIRPORT OPERATIONS FORECAST AND ACTIVITY**

**Table 6.2** summarizes the forecast of annual aircraft operations at the JCIA forecast phase. The forecast of operations was projected in reference to the forecast of based aircraft, as well as JCIA’s utilization rate. The utilization rate, as specific to individual airports, is a common means to extrapolate future total traffic levels in using based aircraft figures.

The forecasts of operations, similar to the based aircraft forecast, is a reasonable expectation of activity demand throughout the planning period. The additional 18,050 annual operations represent a 1.3% growth per year, an increase consistent with state and national projections for general aviation airports.

**COMMERCIAL SERVICE FORECASTS/ ACTIVITY**

**Table 6.3** summarizes the forecast of annual commercial service operational activity at the JCIA throughout the 20-year planning and forecast phase. The forecast of commercial service operational activity was projected by determining the seating capacity of aircraft anticipated to utilize the Airport, passenger load factor, aircraft departures per day, as well as the catchment area retention rate.



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**Table 6.2**  
*Aircraft/Airport General Aviation Operations Forecast & Activity*  
*Jefferson County International Airport Environmental Review*

Year	Total Based Aircraft	Utilization Rate	Total Local Operations	Total Itinerant Operations			Total Forecast Operations
				Military	Air Taxi	Other Itinerant	
2002	102	466	14,280 (30%)	50	1,500	31,700	47,600
2007	109	466	15,240 (30%)	50	1,600	33,900	50,800
2012	128	466	17,910 (30%)	50	1,700	40,000	59,700
2017	151	466	21,120 (30%)	50	1,800	47,400	70,400
2022	177	466	24,750 (30%)	50	1,900	55,800	82,500

Note: *Other* itinerant operations include transient general aviation operations.  
 Note: 2002 level of based aircraft – BWR airport inspection and survey responses, October 2001- February 2002.  
 Note: Forecast operations were rounded to the nearest hundred for simplicity and planning purposes.  
 Note: Annual forecast operations *do not* include potential commercial air service operations.

Source: BWR, Aircraft/ Airport Operations Forecast and Activity, May 2002.

**Table 6.3**  
*Commercial Service/Passenger Enplanement Retention Forecast*  
*Jefferson County International Airport Environmental Review*

Year	Seating	Load Factor	Departures per Day	Catchment Area Retention Rate	Total Annual Passenger Enplanements	Peak Month	Design Day	Peak Hour
2002	-	-	-	6.8%	1,041	125	4	2
2007	6	70%	One (1)	7.6%	1,300	156	5	2
2012	6	70%	Two (2)	13.6%	2,600	312	10	5
2017	8	70%	Two (2)	16.0%	3,500	420	14	6
2022	8	70%	Three (3)	21.3%	5,200	624	21	9

Peak Month = 12% of the total passenger enplanements  
 Design Day = Peak month / 30 days  
 Peak Hour = Design day x 45%

Note: 2000 and 2001 passenger activity utilized as 2002 baseline of passenger enplanement activity at the airport. Annual passenger enplanements are rounded to the nearest hundred.

Source: BWR, JCIA Commercial Service/ Passenger Enplanement Retention Forecast, May 2002.



**COMMERCIAL SERVICE FLEET UTILIZATION ACTIVITY**

**Table 6.4** depicts the forecast of the commercial fleet mix for JCIA throughout the 20-year forecast period. The commercial service fleet utilization typically identifies a number of pertinent parameters in airport planning. At JCIA, this is primarily related to terminal area design features including ramp size, strength and geometry, passenger processing areas and servicing equipment needs, and public circulation areas. Airfield factors include an assessment of runway lengths based on maximum aircraft stage length capabilities (average distance traveled by an aircraft in order to determine its operating parameters at an airport), taxiway systems, and lighting and approach capabilities associated with the commercial aircraft design family.

<i>Table 6.4 Commercial Service Fleet Utilization/ Activity Jefferson County International Airport Environmental Review</i>				
Year	Aircraft Categories/ Annual Operations			Annual Commercial Service Operations
	Six (6) Passenger Seat Twin-Piston	Eight (8) Passenger Seat Twin-Piston	Nine (9-12) Passenger Seat Single and Twin-Engines	
2002	-	-	-	-
2007	600	-	-	600
2012	1,200	-	-	1,200
2017	200	1,300	-	1,500
2022	100	1,700	100	1,900

**Source:** BWR, Commercial Service Fleet Utilization/ Activity, May 2002.

**ANNUAL INSTRUMENT APPROACH (AIA) FORECAST/ ACTIVITY**

**Table 6.5** summarizes the forecast of annual civilian instrument approaches for JCIA during the 20-year planning period. The forecast of annual instrument approaches (AIA's) provides further guidance in determining requirements for the type, extent, and timing of future navigational (NAVAID) equipment.



**Table 6.5**  
**Annual Instrument Approach (AIA) Forecast/ Activity**  
**Jefferson County International Airport Environmental Review**

Year	Total Itinerant Operations- Transient/ Flight Training	Air-Taxi/ Commercial Service Operations	Percent IFR Rated Pilots	Percent IMC	Itinerant AIA Operations	Actual Itinerant AIA Operations (% of Total Operations)
<b>Annual Instrument Approach (AIA) Forecast EXCLUDING Commercial Service Operational Activity</b>						
2002	31,700	1,500	48.6%	3.9%	659	330 (0.69%)
2007	33,900	1,600	48.6%	3.9%	705	352 (0.69%)
2012	40,000	1,700	48.6%	3.9%	824	412 (0.69%)
2017	47,400	1,800	48.6%	3.9%	969	484 (0.69%)
2022	55,800	1,900	48.6%	3.9%	1,132	566 (0.69%)
<b>Annual Instrument Approach (AIA) Forecast INCLUDING Commercial Service Operational Activity</b>						
2002	31,700	1,500	48.6%	3.9%	660	330 (0.69%)
2007	33,900	2,200	48.6%	3.9%	729	364 (0.71%)
2012	40,000	2,900	48.6%	3.9%	871	436 (0.73%)
2017	47,400	3,300	48.6%	3.9%	1,027	514 (0.74%)
2022	55,800	3,800	48.6%	3.9%	1,206	603 (0.75%)

Note: The percent of IFR Rated Pilots is based on FAA Forecasts (200-2012), and trend line (2013-2022). The increase in the percent of IFR-rated pilots is extrapolated from FAA forecasts, indicating 1.3 percent growth in IFR training during the next 12 years. The percent of IFR Rated Pilots is based on FAA Forecasts (2001-2012), and linear trend line (2013-2022).

Note: Forecast based on unconstrained condition – IFR flight plans are completed and canceled after executing the full approach. Military operations are *not* included in the AIA forecast.

Note: An instrument approach is defined as an approach to an airport, with intent to land in accordance with an instrument flight rule (IFR), when visibility is less than three nautical miles and/ or the cloud ceiling is at or below the minimum initial approach altitude.

**Source:** BWR, Annual Instrument Approach (AIA) Forecast/ Activity, May 2002.  
NOAA, International Station Meteorological Climate Summary (Version 4.0, September 1996).



**AIRCRAFT FLEET MIX FORECAST/ ACTIVITY**

Table 6.6 presents the aircraft fleet mix forecast at JCIA for each phase throughout the 20-year planning period.

<p align="center"><i>Table 6.6 Aircraft Fleet Mix Forecast/ Activity Jefferson County International Airport Environmental Review</i></p>				
<p><i>Aircraft Approach Category (AAC) - This grouping is based on 1.3 times the stall speed of the aircraft at the maximum certified landing weight in the landing configuration (knots).</i></p>				
Aircraft Approach Category	Existing (2002)	Phase 1 Short-Term (2002-2007)	Phase 2 Mid-Term (2008-2012)	Phase 3 Long-Term (2013-2022)
Category A (Less 91 knots)	42,600 (89.5%)	44,700 (88.0%)	51,900 (87.0%)	71,400 (86.5%)
Category B (92 to 120 knots)	5,000 (10.5%)	6,100 (12.0%)	7,800 (13.0%)	11,100 (13.5%)
Category C (121 to 141 knots)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Category D (142 to 165 knots)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Category E (166 knots or more)	(0.0%)	(0.0%)	(0.0%)	(0.0%)
<p><i>Airplane Design Group (ADG) - A grouping of aircraft based on wingspan dimension (feet).</i></p>				
Airplane Design Group	Existing (2002)	Phase 1 Short-Term (2002-2007)	Phase 2 Mid-Term (2008-2012)	Phase 3 Long-Term (2013-2022)
Group I (Less than 49')	47,400 (99.5%)	50,550 (99.5%)	59,350 (99.25%)	81,800 (99.25%)
Group II (49' to 78')	200 (0.5%)	250 (0.5%)	450 (0.75%)	700 (0.75%)
Group III (79' to 117')	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Group IV (118' to 170')	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Group V (171' to 212')	(0.0%)	(0.0%)	(0.0%)	(0.0%)
Group VI (213' to 261')	(0.0%)	(0.0%)	(0.0%)	(0.0%)
<p>Note: The aircraft approach category (AAC) is classified from A to E, and the airplane design group (ADG) is classified from I to IV. Combined, the two classifications produce an Airport Reference Code (ARC) which yields specific characteristics about the type of airplane that the airport is designed to accommodate.</p> <p>Note: Fleet mix estimates are rounded to the nearest hundredth (00); fleet mix estimates indicating 0% denotes total operations for the period are less than one (1) percent of total annual operations.</p>				

Source: FAA Advisory Circular 150/5300-13 (Change #6), Airport Design, BWR, Aircraft Fleet Mix Forecast/ Activity, May 2002.



**ULTIMATE CRITICAL AIRCRAFT/FAMILY OF AIRCRAFT**

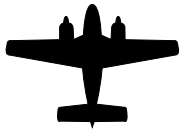
**Table 6.7** provides information about the ultimate critical aircraft for JCIA. The critical aircraft is the largest airplane within a composite family or category of aircraft conducting at least 500 itinerant operations (combination of 250 takeoffs and landings) per year at JCIA. The future critical aircraft is evaluated with respect to size, speed and weight, and is important for determining airport design, structural, and equipment needs for the airfield and terminal area facilities. A common business turbo-prop representative of the ARC B-II fleet is the Raytheon/Beechcraft King Air C90, a six to twelve passenger pressurized cabin aircraft commonly used for executive travel and limited cargo and air ambulance transport.

<p align="center"><i>Table 6.7 Critical Aircraft Information – Future Aircraft Jefferson County International Airport Environmental Review</i></p>							
Aircraft Type & (ARC)	Wing Span	Aircraft Length	Aircraft Height	Seating	Max. Gross Takeoff Weight	Ground Roll Distance*	Approach Speed**
Raytheon/ Beechcraft King Air C90B (ARC B-II)	50' 3"	35' 6"	14' 3"	6-12	10,100 pounds	2,710'	101 knots

Note : Takeoff distance for JCIA computations are based on aircraft manufacturers' specification and conditions.  
 Note: (\*) Takeoff distance over 50' obstacle at 10,100 pounds with flaps up; (\*\*) Landing at 9,600 pounds, flaps down (without reversing), ISA, sea level, landing distance over 50' obstacle is 2,290 feet.

**Source:** BWR, Aircraft Performance File, 2002; Raytheon Aircraft, Wichita, Kansas, 2001.





## AIRPORT DEVELOPMENT ALTERNATIVES

The following discussion highlights the range of alternatives considered for the proposed airport development at the Jefferson County International Airport. The range of proposed development alternatives at JCIA considers the current and future role of the Airport, estimated aviation demand activity and facility needs to accommodate the anticipated demand, the potential environmental impacts of runway and terminal area development, economic resources of the airport sponsor to appropriately accommodate required financial obligations of airport expansion, and public issues and/or public opinion, positive or otherwise, regarding expansion of the Airport. Lastly, the proposed airside and landside alternatives will concentrate on preserving the safety and efficiency of JCIA, preserving the overall infrastructure of the facility, addressing environmental concerns, while at the same time remaining compliant according to applicable current and future airport design criteria and federal standards.

The airport development alternatives under consideration for the JCIA include the following:

- **Preferred Airfield Alternative (Alternative B)** - Extend the Runway 9 threshold 200' to the west, bringing the runway dimensions to 3,200' x 75' (ARC B-I). This option includes extending the MIRL an additional 200' as well and remarking the runway for NPI approach activity.

Extend Taxiway A an additional 200' to the west while retaining the width of 25' the entire length of the taxiway to adhere to ARB B-I design criteria. In addition, this option requires maintaining the alignment of Taxiway A so that there is 225' centerline separation between the runway and taxiway. Lastly, removal of the reflective markers and installation of Medium Intensity Taxiway Lighting (MITL) along the entire length of Taxiway A (3,200') is recommended.

- **Preferred Landside/ Terminal Area Alternative (Terminal Area Alternative A)** - Terminal area Alternative A involves developing additional hangar space to JCIA's ever growing demand for hangar storage area, as well as construction of terminal building facilities to host specific public amenities. This alternative proposes clear span/common hangar development to the immediate north of eastern tie-down area extension. In addition, maintenance/aerospace museum facilities and accompanying automobile parking area are proposed to be located northeast of the eastern tie-down extension.

With regard to T-hangar development, the ideal location for this development would be to the east of the main airport apron area to include the property south and east of the eastern tie-down extension adjacent to Taxiway 'B.' To fulfill the demand for T-hangar space in the future, six T-hangars totaling 75,000 square feet of space would be needed. The additional four clear span/common hangars are to provide approximately 20,000 square feet of hangar space for additional single-engine and twin-engine based aircraft.



## **SPECIFIC ENVIRONMENTAL IMPACT CATEGORIES**

The purpose of this section of the ER chapter is to examine the potential environmental impacts of the proposed runway development and implementation of the Preferred Airfield and Terminal Area Alternatives at the JCIA. The following discussion(s) address each of the specifically identified impact categories as outline in FAA Order 5050.4A, *Airport Environmental Handbook*.

### **AIRCRAFT/ AIRPORT NOISE**

Noise can be broadly defined as any sound that is unwanted. Accurately identifying particular noise that is unwanted or intrusive is difficult due to the subjective nature of judgment on the part of the listener. Moreover, it may be just as difficult to measure the intrusiveness of the sound effects. In most cases, individual attitudes regarding airports are more important in determining reactions to airport noise rather than actual noise exposure. Regarding most modern day airports, aircraft arrivals and departures are generally considered intrusive and unwanted noise in the opinion of some listeners. These facts alone constitute aircraft and airport sound emissions as the most notable environmental impact to the local community.

The prime methodology for objectively determining aircraft noise emissions at airports includes combining single event noise measures into a cumulative noise profile to objectively measure and analyze the effects of aircraft noise. The most common technique for determining and forecasting cumulative noise exposure at airports is the Day-Night Average Sound Level (DNL).

DNL is based on noise averaging rather than relying on loud single events that characterize normal aircraft operation. DNL's method of calculating a predictable correlation to human response characteristics involves establishing an A-weighted sound pressure level in decibels (dBA) to account for single event noise measurements. The A-weighted decibel accounts for the relative efficiency of the human ear at high, middle, and low frequencies providing a reliable relationship of noise exposure to reactions to such noise.

DNL combines all sounds levels in A-weighted decibels and averages the sound levels over a period of 24-hours from midnight to midnight. For noise occurring after the hours of 10 p.m. and 7 a.m., a 10 decibel penalty is added to noise events occurring at night. This dBA penalty is to account for the perceived aircraft noise disturbance during the night time and early morning hours. To obtain a daily DNL exposure reading, aircraft noise is measured in one second intervals and recorded for a 24-hour period. The cumulative aircraft noise exposure compiles all noise measurements during the specified period of time and is averaged over an hourly and then daily basis. The resulting Noise Exposure Map (NEM) is a compilation of defined or identified specific categories of aircraft operating at the airport, identified and specific aircraft flight tracks (arrival, departure, touch-and-go), runway use percentages, types of engines installed on aircraft, and average day, evening, and night use percentage by aircraft.



The Integrated Noise Model (INM) Version 6.0c was utilized to develop the contour internal noise map to depict the areas affected by varying levels of noise emissions in the vicinity of the Jefferson County International Airport. The INM utilized to generate an NEM is a detailed and complex procedure that depicts the noise contours for a specified fleet mix of aircraft relative to the airport's existing and ultimate runway configuration. In assisting with identifying compatible land uses in the vicinity of airports, the INM is also the standard noise prediction and depiction model utilized for airports nation wide.

In plotting noise contours, INM depicts only those noise contours with the most significance, including those affected areas where levels of noise exposure approaches significant to severe exposure which are unacceptable from an environmental aspect. These levels of noise exposure include the 65 and 75 DNL, respectively. In addition, the majority of noise exposure determinations include other noise contour intervals such as the 50, 55, 60, 70, 80, 85, and 90 DNL. These supplemental noise contour intervals depict specific noise exposure areas and assist all relevant parties associated with airport development in determining relative (minimal to severe) noise exposure, potential incompatible land uses, and providing guidance for potential development adjacent to the airport. According to federal guidelines, land uses adjacent to airports are considered to be compatible in areas where the noise exposure level is less than 65 DNL. Sensitive land uses such as Residential and Public Use zones are generally incompatible with noise exposure levels greater than 65 DNL. Refer to **Exhibit 6.2** which notes the general compatibility between airports and particular land uses commonly experienced near airports as they relate to aircraft and airport noise exposure, under federal law.

However, the federal guidelines further provide that responsibility for the interpretation of the effects of noise contours upon subadjacent land uses, including the relationship between noise contours and specific properties, rests with the sponsor or state and local government. The 1998 Jefferson County Comprehensive Plan required the adoption of a noise overlay zone and noise ordinance to ensure address compatibility issues and ensure the continuation of the airport as a safe and efficient essential public facility, which has not yet occurred. In addition, Washington State Department of Transportation land use compatibility guidelines contain recommendations on compatible uses within identified zones based on safety considerations.

Although under state growth management law, residential development surrounding an airport is potentially considered incompatible (for reasons such as noise and safety), the rural-level (1:5 and 1:10) densities surrounding the airport, as well as the limited noise impacts of a rural-scale airport, help to alleviate this concern. However, the broad range of uses allowed by the County in rural density zones does raise an issue of compatibility. See Inventory, page 2-36. Further, the Port and County should consider whether additional measures can be taken to protect the future of the airport as an essential public facility, given the surrounding existing residential development and current zoning.

The Port is working with Jefferson County to establish regulations addressing noise and safety issues that will discourage the siting of new incompatible uses in the vicinity of the airport and ensure the continued viability of the airport. Further common sense measures being considered include maps to be published to show safety zones and noise contours, revisiting the uses allowed at the airport based on the DOT guidelines, and requiring an acknowledgment of airport impacts for all development other than rural-scale single-family residential. These are increasingly standard operating procedures around the county, and will serve to perpetuate the



airport's mission as an essential public facility and a benefit to all County residents. These issues must be addressed by Jefferson County, which has the local land use authority to protect the airport essential public facility. It is recommended that the Port work with the County to further consider and review these issues during a Jefferson County Comprehensive Plan/Unified Development Code amendment process, and/or during a subsequent subarea planning process for the JCIA.

## ***Results of Aircraft/Airport Noise Exposure Analysis***

For purposes of determining airport noise exposure, JCIA Master Plan Update aviation demand forecasts were utilized to generate an ultimate baseline of activity of approximately 84,400 annual operations for the year 2022. The baseline condition for 2022 was generated based on anticipated aircraft activity including categories of aircraft expected to be operating at the airport, as well as different types of aircraft operations being conducted. The anticipated aircraft activity at the Airport is slightly below the threshold of 90,000 annual operations and/or 700 annual jet operations justifying the need for the creation of a NEM. However, due to potential airport and aircraft noise impacts upon the local community, the decision was made to conduct an airport noise analysis for existing, as well as ultimate airport operating conditions.



# JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)

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## EXHIBIT 6.2

LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUND LEVELS AT A SITE FOR BUILDINGS AS COMMONLY CONSTRUCTED						
LAND USE	YEARLY DAY-NIGHT AVERAGE SOUND LEVEL (DNL) IN DECIBEL					
	55	60	65	70	75	80
<i>Residential</i>						
Residential-Single Family, Duplex, Mobile Home	Y	Y	N	N	N	N
Apartments and Two Units	Y	Y	N	N	N	N
Residential-Multi Family	Y	Y	N	N	N	N
Transient Lodgings	Y	Y		N	N	N
<i>Public Use</i>						
Schools, Hospitals and Nursing Homes	Y	Y			N	N
Churches, Auditoriums, and Concert Halls	Y	Y			N	N
Government Services	Y	Y	Y			N
Transportation (Railroad/Airport/Motor Vehicle/Maritime)	Y	Y	Y			N
Public Right-of-Way	Y	Y	Y			N
Parking	Y	Y	Y			N
<i>Commercial Use</i>						
Offices, Business, Professional	Y	Y	Y			N
Wholesale & Retail Building Materials	Y	Y	Y			N
Hardware and Farm Equipment						N
Retail Trade (General)	Y	Y	Y		N	N
Utilities	Y	Y	Y			N
Communication	Y	Y	Y			N
<i>Manufacturing and Production</i>						
Manufacturing (General)	Y	Y	Y			N
Photographic and Optical	Y	Y	Y		N	N
Agriculture (Except for Livestock) and Forestry	Y	Y				
Livestock Farming and Breeding	Y	Y			N	N
Mining and Fishing, Resource Production and Extraction	Y	Y	Y	Y	Y	Y
<i>Recreational</i>						
Outdoor Sports Arena and Spectator Sports	Y	Y			N	N
Outdoor Music Shells and Amphitheaters	Y	Y	N	N	N	N
Nature Exhibits and Zoos	Y	Y	Y	N	N	N
Amusements, Parks, Resorts, and Camps	Y	Y	Y	Y	N	N
Golf Courses, Riding Stables, Water Recreation and Cemeteries	Y	Y	Y			N
Land use and related structures compatible without restrictions						Y
Land use and related structures compatible with restrictions						
Land use and related structures not compatible						N

**Source:** FAA Advisory Circular 150/5020-1, Noise Control and Compatibility Planning For Airports (August 5, 1983).

Note: The designations contained in this table do not constitute a Federal determination that any use of land covered by the program is acceptable under Federal, State or local law.

The responsibility for determining the acceptable and permissible land uses and the relationship between specific properties and specific noise contours rests with the authorities.

FAA determinations under Part 150 are not intended to substitute federally determined land uses for those determined to be appropriated by local authorities in response to locally determined needs and values in achieving noise compatibility land uses.



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# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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## **EXHIBIT 6.3 EXISTING (2002) INM 6.0c NEM- JEFFERSON COUNTY INTERNATIONAL AIRPORT**



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Port of Port Townsend, Washington**

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The current operating conditions at JCIA include approximately 48,000 annual aircraft operations. INM Version 6.0c was utilized to create existing noise contours at the Airport to provide a visual depiction of noise output generated at the Airport during an annual one year timeframe. Additionally, the existing NEM is utilized as a baseline of noise exposure from which the ultimate noise contours of the Airport can be compared in order to arrive at a good faith judgment of the overall noise impact of the JCIA.

- *Current Airport Operating Conditions-* A NEM utilizing INM 6.0c was generated according to the existing operating conditions at JCIA. It was determined that the apparent cumulative noise affect at the JCIA in the year 2002 amounts to overall minimal and acceptable noise exposure to the adjacent community with the entire 65 DNL noise contour being well confined within the airport property boundary. This noise impact to the surrounding area is clearly acceptable from a federal guideline standpoint and will require no special considerations to control airport/aircraft noise. However, see the discussion at p 6-14 which addresses for the action that may be taken by Jefferson County to address noise and safety issues. Refer to **Exhibit 6.3** depicting the existing (2002) cumulative noise impact of the Jefferson County International Airport.
  
- *Preferred Airfield Alternative-* A NEM utilizing INM 6.0c was generated according to the above demand forecast conditions. Simply stated, the cumulative noise affect of the proposed airport and airfield development at JCIA will not significantly impact the quality of life in those areas potentially impacted by airport and aircraft noise. As with the current airport operating conditions, the 65 DNL is confined within the airport property boundary and does not pose an undue hardship on inhabitants residing within the immediate vicinity of JCIA. In addition, as discussed with the existing airport noise affect on the surrounding community, the ultimate 50 DNL does reach to both coasts to the east and west of the Quimper Peninsula. As with the existing airport conditions and noise exposure, the future cumulative noise affect in these areas are acceptable from a planning and quality of life standpoint. Refer to **Exhibit 6.4** depicting the ultimate (2022) cumulative noise impact of the JCIA.



# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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**Airport Master Plan Update  
Port of Port Townsend, Washington**

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# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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Airport Master Plan Update  
Port of Port Townsend, Washington

## **EXHIBIT 6.4**

### **ULTIMATE (2022) INM 6.0c NEM- JEFFERSON COUNTY INTERNATIONAL AIRPORT**



# **JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)**

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**Airport Master Plan Update  
Port of Port Townsend, Washington**

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## ***Aircraft/Airport Noise Mitigation***

Airport/aircraft noise mitigation measures will not be required for implementation of the Preferred Airfield Alternative for runway development to take place on Runway 9-27.

## ***Conclusions of Aircraft/Airport Noise Exposure Analysis***

Land uses located within the immediate vicinity of the JCIA are considered compatible with projected airport/aircraft cumulative noise levels that will potentially be generated as a result of the proposed Preferred Airfield Alternative.

## **COMPATIBLE LAND USES**

With regard to existing and future land uses adjacent to the JCIA, the surrounding land use(s) in the vicinity include low density single family residences, an abandoned quarry, a commercial sand and gravel operation, a fire district facility, and vacant land. The land use(s) to the west and northeast of the Airport are zoned RR 1:5 meaning that one single family residence is permitted for every five acres of land. Land use(s) to the north, southeast, and south of the Airport are zoned RR 1:10 which limit the residential development to one unit per ten acres.

The land use designations described are expected to remain the same and be used primarily as rural residential and agricultural activity throughout the phased planning periods, and will not be significantly impacted by normal daily airport operation.

## **SOCIAL IMPACTS**

Assessment of potential social impacts related to airport development and expansion generally include relocation of utility infrastructure that potentially affects the Airport and outlying areas, community disruptions in the form of housing and business structure acquisition and relocation, and changes in land use designations related to property acquisition, and alteration of surface transportation patterns related to road closure and/or realignment.

The Preferred Airfield and Terminal Area Alternatives involve airport capital development within the confines of the exiting airport property and will not require the relocation of existing utility infrastructure. Additionally, due to the logistics involved with the proposed airport development alternatives, structure acquisition and relocation, as well as changes to existing land use designations will not be required. Finally, the proposed airfield development does not involve any road relocation or realignment except for a dedicated airport access road transecting the Runway 9 approach due to safety and operational efficiency concerns.

Regarding utility, land use, housing and surface transportation infrastructure, the Preferred Airfield and Terminal Area Alternatives will not contribute any significant social impacts to the surrounding Jefferson County/ Port Townsend community.



## **INDUCED SOCIOECONOMIC IMPACTS**

FAA Order 5050.4A addressed induced socioeconomic impacts by stating, “Induced impacts will normally not be significant except where there are also significant impacts in other categories, especially noise, land use, or direct social impacts.” Induced socioeconomic impacts address those secondary impacts on the local and surrounding communities that relate to the proposed airport development including overall population increases or fluctuations, increased public service demands, and influenced changes to the local business, political, or economic conditions to the extent brought about by airport/runway development.

Two indicators that measure the airport’s importance to a community are its economic impacts within the community, as well as the transportation benefits it provides. The overall impacts that are attributed to an airport include the direct, indirect, and induced benefits derived from the airport in the form of airport employee payroll, goods and services purchased by airport businesses, capital improvements, as well as the tax base provided by airport activity. Indirect benefits of an airport are a measurement of the dollars spent within the local community by patrons who utilize the airport’s services. The induced benefit of airport operation measures the multiplier affect of the successive turnover or recycling of dollars throughout the community that eventually generate additional revenue.

The second benefit of the airport is the transportation benefit provided to airport users, as well as non-users alike. Although intangible, transportation benefits are measured in terms of the value individual travelers and users place on benefits. These benefits include economic infusion through attracting outside business interests, time saved and costs avoided by using air rather than another form of transit, ability to provide emergency medical air transport, providing support to existing business at the airport and within the community, and instilling or boosting a sense of community pride. Overall, transportation benefits are those benefits a community hopes to obtain by maintaining and expanding their local airport.

With regard to population impacts, the proposed runway and terminal area development at JCIA, although hypothesized to increase the overall service area population as to enhanced aviation services provided to an increased number of airport users, will not have an appreciable affect on the local area population as a whole. Nor will it adversely affect or increase public service demand within the immediate Jefferson County/Port Townsend region. Lastly, although immeasurable in this case, the total economic benefit afforded by sustained growth of the Airport will certainly have a positive affect on the Jefferson County/Port Townsend economic activity, as well as the surrounding area economies in other portions of the region as a whole. This economic stimulation might involve attracting businesses from abroad, while at the same time, ensuring future economic stability. At the same time, expansion of the JCIA will provide additional important aviation transportation benefits and services to northwestern Washington.



## AIR QUALITY

The Clean Air Act of 1970 (CAA) was enacted to protect the nation's air quality, as well as the public health. Amendments in 1970, 1977, and 1990 established federal standards to control air pollution emissions and to delegate the implementation of such standards to the states. The CAA Amendments of 1977 stated that any federally-funded project shall conform to all State Implementation Plan (SIP) criteria in order to assure that airport development projects conform to state Plans for controlling potential regional air pollution impacts. The SIP is a federally mandated measure to assist in combating air pollution within states, as well as meeting federal air quality standards. Once approved, the SIP has the force and effect of federal statute. If the proposed action or project involves runway development, an air quality analysis is required to determine air quality compliance.

According to FAA Order 5050.4A, *Airport Environmental Handbook*, as well as FAA Handbook entitled, "Air Quality Procedures for Civilian Airports and Air Force Bases," Report No. FAA EE 82-21, no air quality analysis is required for general aviation airports if the level of forecast demand activity at the airport is less than 180,000 annual operations. The forecasted aviation demand activity at JCIA Airport of 84,400 annual operations is far below the required number of annual operations to warrant an air quality analysis; therefore, no further investigation into this matter is necessary from an environmental standpoint. In addition, should the State of Washington require an indirect resource review (ISR) for runway development projects, an ISR determination is not required for the Proposed Action alternative due to the Airport not exceeding the threshold level of forecast operational activity required for an air quality analysis.

## WATER QUALITY

The Federal Water Pollution Control Act of 1972 (FWPCA) sought to restore the nation's navigable waterways and lakes so that they provide safe conditions to humans and wildlife. The FWPCA, as amended by the Clean Water Act of 1977 (CWA), provided for the establishment of water quality standards, control of discharges into surface and subsurface waters, development of waste treatment management plans and practices, as well as issuing permits for discharges and for dredged or fill material. The purpose of this ER is to ensure that the design, mitigation measures, and construction controls applicable to the Preferred Airfield and Terminal Area Alternatives demonstrate that state, local and federal water quality standards can and will be achieved.

The following subject matter and issues are most often related to concerns which address sustained water quality during and after airport expansion and runway development projects:

- Water Supply;
- Solid Waste and Sewage Disposal;
- Surface Runoff and Soil Erosion; and
- Handling and Storage of Petroleum Products.



## **Water Supply**

Potable water supply is provided through the Public Utility District #1 water system. This system provides city water supply to the Airport via a public utility infrastructure. Although the proposed airport development alternatives will likely increase the overall operational activity at JCIA, the increased water supply demands at the Airport are not anticipated to attain a high level of consumption and, therefore, will not have a significant or adverse impact on the community's water supply.

## **Solid Waste and Sewage System**

JCIA is currently served by a self-contained septic system and tile field rather than a City or County maintained sanitary sewer collection system. Currently, there are no plans to extend City/ County sanitary sewage infrastructure to the Airport for wastewater collection purposes. Wastewater produced by the Airport will continue to be collected and sustained by the current septic tank system. Future development at the Airport will be limited to those activities that can be adequately served with septic systems and, as a result, there will not be a need to extend urban sewer service to this rural portion of the County.

## **Surface Runoff and Soil Erosion**

Surface runoff and soil erosion resulting from airport development projects is primarily due to the creation of additional impermeable surfaces. Examples of impermeable surfaces include those that allow liquids to flow off of the surface in large quantities or *sheets*, including paved surfaces such as runways, taxiways, and automobile parking areas. Surface water runoff from a paved surface is classified as a non-point source (NPS) pollution resulting from precipitation, atmospheric deposition, or drainage and seepage into a body of water, rather than from a specific point or source. Petroleum products such as oil, grease, fuel, and other chemicals that have accumulated on paved surfaces are carried over into the surrounding soils by storm water runoff and are capable of carrying sediment and other contaminants into surface and subsurface waters. Preconstruction and post-construction water quality protection practices such as detention/retention basins and other techniques can minimize affects of storm water runoff and NPS pollution.

The general topography of the area immediately affected by the Preferred Airfield and Terminal Area Alternatives is contained within relatively broad swale with moderately sloping hilly terrain to the north and south of the site. Drainage occurs naturally to the east and southeast, but is principally concentrated to the east. The surface runoff and storm water contributed by JCIA flow into an unidentified tributary of the lower Chimacum Creek. Additional drainage from the northern portion of the airport site is directed into drainage basins that are situated parallel to the Runway 9-27. Storm water contained within these basins then drain into a detention pond located to the eastern portion of the airport property. The detention pond water in turn flows beneath State Highway 19 into a narrow low lying swale that eventually empties into the Chimacum Creek.



In preventing storm water runoff and soil erosion during construction of the Preferred Airfield and Terminal Area Alternatives, exercise of *Best Management Practices (BMP)* is encouraged to reduce erosion, minimize sedimentation, and control non-storm water discharges in order to maintain water quality on and off the Airport premises. BMPs are structural and non-structural practices that provide the maximum efficient means of preventing erosion and pollution of storm water runoff. BMPs are based on site specific characteristics and are also based on those issues that are within the airport sponsor's and general contractor's control. The following BMP categories are examples of preventive measures to be utilized during construction of the proposed airfield and terminal area alternative:

- **SCHEDULING:** Steps to be taken to reduce the likelihood of erosion and storm water runoff pollution include areas of exposed earth or those void of vegetation which should be minimized to the extent possible and period of time that exposure occurs; construction of permanent storm water control facilities should be completed in a timely and orderly manner to avoid sedimentation and erosion; avoid construction activities during months of above average inclement weather such as rainy and snowy months and conditions; and perform landscaping tasks in a timely and efficient manner.
- **EXPOSED EARTH:** Construction activities, to the extent possible, should avoid pooling of large amounts of water in areas of exposed earth void of vegetation; ensure grading and sloping contours occur at a rate of less than 2 percent; replace native vegetation when affected or removed due to construction activities; and storm water runoff should be monitored to minimize or prevent a high rate of storm water dispersal.
- **REDUCTION OF STORM WATER RUNOFF:** Construction of dams or banks to dissipate runoff velocity allow sediment settlement; sloping terrain is recommended to be limited to 2:1 and 3:1; strengthen slopes by providing soil stabilization; and erect barriers to intercept storm water runoff from reaching area of excessively sloping terrain.
- **REDUCTION OF SEDIMENT ACTION:** During construction, utilize temporary sediment barriers such as silt fences, straw hay bales, sand bags, gravel barriers or buffers, and sediment traps for runoff rich in sediment.
- **INSPECTION PRACTICES:** Regularly scheduled inspections of storm water runoff and sediment control devices are encouraged to prevent water quality degradation, and make improvements and repairs to water quality sustainment system as necessary.

Construction of the Preferred Airfield and Terminal Area Alternatives will result in relatively minor impacts in the immediate area while the above mentioned resulting impacts are expected to be short-term in nature. Water quality in the vicinity of the proposed airport development alternative can be preserved should the recommended preventive measure be instituted and



practiced on a regular and proficient basis. Accordingly, the Preferred Airfield and Terminal Area Alternatives will not have a significant or adverse impact on the contribution of surface runoff and soil erosion in the immediate area of the planned airport development project.

## ***Handling and Storage of Petroleum Products***

The current fuel storage capacity at the JCIA consists of a 10,000 gallon fuel storage tank. The method by which fuel is dispensed at the Airport is through the use of a fuel meter/pump being located immediately adjacent to the underground fuel storage facility. In addition, during the aviation demand forecast and airport facility requirement phases of the JCIA Airport Master Plan it was determined that future anticipated aviation demand at the airport may possibly require the installation of additional above ground or below ground fuel storage facilities to accommodate Jet A fueling operations at the Airport. The fuel storage capacity of the future Jet A demand has been determined to be 1,000 gallons. The total fuel storage capacity throughout the airport development planning period will not exceed 20,000 gallons of fuel capacity.

In storing and dispensing of petroleum products and other chemical solvents at the JCIA, the airport sponsor (Port) assumes various responsibilities with regard to maintaining acceptable water quality standards mandated by Federal and state statutes. The following permits and countermeasure initiatives are recommended for sustained water quality in the immediate area of the Preferred Airfield and Terminal Area Alternatives, as well as the outlying area from the JCIA.

- *National Pollution Discharge Elimination System (NPDES) Permit:* As authorized by the Clean Water Act (CWA), NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Point sources are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal system, use a septic system, or do not have a surface discharge do not need an NPDES permit. However, industrial, municipal, and other facilities, such as airports, must obtain permits if their operations, facilities, or construction activities potentially impact the water quality environment.
- *Spill Prevention Control, and Countermeasure (SPCC) Program:* The SPCC Program are comprehensive written plans required by the Environmental Protection Agency (EPA) and made applicable by the CWA. The SPCC program must address spill prevention, facility inspections, spill release reporting requirements, facility equipment and operations, security, as well as personnel and training requirements.
- *FAA Advisory Circular (AC) 150/5230-4 Aircraft Fuel Storage, Handling, and Dispensing On Airports (8-27-82):* Provides advisory or recommended information on aviation fuel deliveries to airports, storage and the handling of fuel, as well as dispensing fuel at airports.



From the standpoint of water quality at the JCIA, the Preferred Airfield and Terminal Area Alternatives may result in some less than significant environmental impacts, but none that would adversely impact the local area's water quality as a whole. By utilizing of *Best Management Practices (BMP)*, as well as compliance with all federal, state, and local statutes and permitting requirements, the Preferred Airfield and Terminal Area Alternatives will not have an adverse or significant impact on water quality and will not require further mitigation measures or studies.

## **SECTION 4(f) LANDS**

With regards to Section 4(f), FAA Order 5050.4A states that:

*(7) The Department of Transportation Act of 1966, Section 4(f), (codified at 49 USC Subtitle I, Section 303)*

*(a) Section 4(f) of the DOT Act provides that the Secretary (of Transportation) shall not approve any program or project which requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance 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 from the use....*

Following an investigation into the likelihood of the Preferred Airfield and Terminal Area Alternatives potentially affecting Section 4(f) land adjacent to JCIA, it was determined that Section 4(f) lands do not exist within the vicinity of the proposed runway and terminal area development area(s) and, therefore, no further investigation is warranted with regard to Section 4(f).

## **HISTORIC, ARCHITECTURAL, ARCHEOLOGICAL, AND CULTURAL RESOURCES**

The National Historic Preservation Act of 1966 purports to determine if any properties in or eligible for inclusion into the National Register of Historic Places are within the area of the proposed action's potential environmental impact, and if so, what impacts, direct and indirect, could be expected to affect the cultural, historic, archeological or architectural qualities of the property. Another piece of legislation, the Archeological and Historic Preservation Act of 1974, provides for the recovery, survey, and preservation of scientific, prehistorical, historical, archeological, and paleontological data where the data may be adversely affected by a federal, federally funded, or federally licensed project.

In this matter, the Washington Office of Community Development, Office of Archeology and Historic Preservation was contacted advising the agency of the Preferred Airfield and terminal Area Alternatives being considered for the Jefferson County International Airport. The State Archeologist advised that the proposed airport development would not have an effect on cultural



properties included in the National and State Registers of Historic Places and the Washington State Archeological and Historic Sites inventories, thus no historic properties will be affected.

## **BIOTIC COMMUNITIES AND ENDANGERED OR THREATENED SPECIES**

The Endangered Species Act of 1973 provides for the preservation of threatened and endangered species of fish, wildlife and plants in their respective biotic communities which refers to the flora and fauna habitats (vegetation and wildlife) that might be present in the locality of proposed construction projects. The Act attempts to ensure that proposed project development is not likely to jeopardize the existence of any endangered or threatened specie or result in the destruction or adverse modification of specie habitat. In addition, should a construction project affect water resources including wetlands, groundwater, impoundment, diversion, deepening, controlling, modifying, polluting, dredging, or filling of any stream or other body of water, provisions of the Endangered Species Act make the Fish and Wildlife Coordination Act, as amended, applicable as well.

With regard to threatened or endangered species, the U.S. Department of the Interior, U.S. Fish and Wildlife Service - Pacific Region, Western Washington Office was contacted to provide an assessment of regulatory compliance with regard to protecting biotic communities. The U.S. Fish and Wildlife Service reviewed the airport development proposal and consulted the list of Endangered or Threatened Wildlife and Plants and determined that no federally listed species or endangered critical habitat occurs within the area of the Preferred Airfield and Terminal Area Alternatives and, therefore, no further analysis is necessary.

With regard to biotic communities, the Preferred Airfield and Terminal Area Alternatives will impact only man-dominated areas including existing airport property and unpopulated areas. Therefore, it is assumed that the proposed runway and terminal area development will have no significant impact on biotic communities in the area.

## **WETLANDS**

The importance of wetlands is emphasized in Executive Order (EO) 11990, issued May 24, 1977. E.O. 11990 is implemented by DOT Order 5660.1A, *Preservation of the Nation's Wetlands*. Wetlands are defined in E.O. 11990, *Protection of Wetlands*, as:

*"...those areas that are inundated by surface or ground water with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetative or aquatic life that requires saturated or seasonally saturated soil conditions for growth and reproduction. Wetlands generally include swamps, marshes, bogs, or similar areas..."*

The intent of the Clean Water Act, Section 404, as well as E.O. 11990, is to avoid short and long-term adverse impacts associated with damaging or modifying wetlands area, as well as to avoid construction in wetlands where there is a reasonable alternative. In addition, federal legislation sought to avoid wetlands impacts unless that is not a feasible or practical alternative.



With regards to existing wetlands areas within the property boundary of JCIA, Landau Associates located in Edmonds, Washington conducted a wetlands delineation study to identify wetlands areas on airport property and to assist in determining the potential impact of airport capital development on local wetlands areas. The study completed by Landau Associates determined that there are currently 10 identified and confirmed wetlands within the airport property. The wetlands area are located primarily to the west of Runway 9-27, south of the western T-hangar area, west of the airport entrance road, east of the main terminal area complex, as well as east and southeast of Runway 9-27. According to Landau Associates, the Preferred Airfield and Terminal Area Alternatives will impact approximately 0.08 to 0.10 acre of wetlands area.

The Department of the Army, Corp of Engineers (CoE), Seattle District Office, Regulatory Branch, as well as the Washington State Department of Ecology, Shorelands and Environmental Assistance Program (Ecology) was contacted to determine the potential permitting and compliance requirements for implementation and development of the Preferred Airfield and Terminal Area Alternatives at JCIA. Ecology offered that following contact with CoE regarding permitting requirements under Section 404 of the Clean Water Act, the Port would need to contact Ecology regarding approval, or certification, of a Corp permit. Ecology also offered that the most expedient course of action would be for the Port to complete a Joint Aquatic Resources Permit Application (JARPA) and submit it simultaneously to the CoE, Ecology, Jefferson County Community Development and, if appropriate, the Washington State Department of Fish and Wildlife. Refer to **Appendix F** for a copy of the CoE JARPA, as well as corresponding instructions for completing and instructions on how to submit the form to state and Federal agencies.

Furthermore, prior to issuance of a certification or administrative order from Ecology, the Port would need to present a satisfactory wetland mitigation plan. Ecology states, "Wetland mitigation should be provided according to a sequence, beginning with the avoidance of a wetland impact to the extent possible, minimization or rectification of wetland impacts over the life of the project, and ending with compensation of unavoidable wetlands impacts. Compensation typical [sic] requires the restoration, creation, or enhancement of additional wetlands in the general vicinity of the project impacts."

The CoE offered that it appears that the Preferred Airfield and Terminal Area Alternatives at the Jefferson County International Airport will impact waters of the United States, to include delineated wetlands areas on airport property. Furthermore, the CoE offered that prior to any construction activities or runway development, the Port is suggested to seek required authorization from the CoE under Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States.

## **FLOODPLAINS**

Floodplains are characterized as low lying flatlands adjoining inland and coastal waters where the possibility of flooding on any given year is approximately one percent or greater. These



inland and coastal waters susceptible to flooding are most likely within the 100-year floodplain. Knowledge of floodplains in the vicinity of an airport is important in reducing the risk of flood loss, restoration and preservation of natural beneficial values of floodplains including groundwater recharge to aquaculture and forestry, and protection of human health and welfare.

## **COASTAL ZONE MANAGEMENT PROGRAM**

Based on initial analysis (as required for the Environmental review), the exact locations of the 100-year and 500-year floodplains could not be identified; therefore, the impact from the JCIA development program on these areas has not been identified. To ensure that floodplains are not affected, it is recommended that additional analyses be conducted prior to construction.

The Coastal Zone Management Program (CZMP) was authorized by the Coastal Zone Management Act of 1972 and administered at the federal level by the Coastal Programs Division (CPD) within the National Oceanographic and Atmospheric Administration's Office of Ocean and Coastal Resource Management (OCRM). The CPD is responsible for advancing national coastal management objectives, as well as maintaining and strengthening state and territorial coastal management capabilities. The resources of the CPD are not applicable to the current airport and airport development proposal and, thus do not warrant further consideration or investigation.

## **COASTAL BARRIER RESOURCE SYSTEM**

The U.S. Fish and Wildlife Service Coastal Barrier Resource System is a collection of undeveloped units of land and associated aquatic environments that serve as barriers protecting the Atlantic, Gulf, and Great Lakes coasts from full force waves, winds and tidal energy. The resources and scope of the Coastal Barrier Resource Program are not applicable to the current airport and airport development project, thus they do not warrant further consideration or investigation.

## **WILD AND SCENIC RIVERS**

The National Wild and Scenic Rivers System is a classification of certain selected rivers of the U.S. which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. Currently, the national inventory for the Wild and Scenic Rivers System does not list any rivers of this classification within the vicinity of the Preferred Airfield and Terminal Area Alternatives and, therefore, will not warrant further consideration or investigation regarding the proposed runway development project.



## **PRIME AND UNIQUE FARMLAND**

The Farmland Protection Policy Act (FPPA) of 1984 authorizes the U.S. Department of Agriculture (USDA) to develop criteria for evaluating the potential affects of federally funded transportation projects on the conversion of farmland to nonagricultural uses. This evaluation includes determining the adverse impacts to prime farmland, mitigation or minimizing adverse effects, and ensuring that transportation projects are compatible with local, state, and private programs aimed at preserving farmland areas.

The USDA, Natural Resource Conservation Service (NRCS) was notified of the proposed airport development alternatives potentially taking place at the Jefferson County International Airport. Generally for airport development projects that involve acquisition of property, the NRCS completes Form AD-1006, *Farmland Conversion Impact Rating*, based on a scoring of relative value of the site development alternative in terms of preservation of farmlands. However, due to the fact that the proposed airport development and improvements at JCIA do not involve property acquisition at this time, no further review is necessary and it is assumed that the Preferred Airfield and Terminal Area Alternatives will not significantly impact prime or unique farmland in the vicinity of the Airport.

## **ENERGY SUPPLY AND NATURAL RESOURCES**

For purposes of this ER, the Preferred Airfield and Terminal Area Alternatives will be evaluated to determine any significant impacts on stationary facilities that would affect local energy supplies and natural resources including construction of additional buildings or aviation related facilities such as a terminal building, numerous hangars, and airfield and terminal area lighting. In addition, those airport operations functions that include the movement of air and ground vehicles which will result in increased fuel consumption, change of flight traffic patterns, increased ground maneuvering activity by automobiles, as well as aircraft, will be evaluated to determine any potential significant environmental impact.

Regarding changing demand for adding additional or relocating stationary facilities, the Preferred Airfield and Terminal Area Alternatives likely will not involve any known utility relocation or removal to include above ground or buried power lines. However, an underground gas main is located to the north, south, and west of the proposed development and is not expected to be impacted by potential construction activities. Due to the logistics involved with the Preferred Airfield and Terminal Area Alternatives, local energy supplies will not be overly burdened by runway development at the Jefferson County International Airport.

Regarding increased ground and air traffic at the Airport, air and ground demand activity is anticipated to increase in their respective activity levels. Consumption of additional aviation fuel will be a result of additional demand at the Airport brought about by the increased capacity of the new expanded primary runway. Although more fuel consumption will take place, expected demand levels will not exceed supplies in the region. Additionally, the expansion of the new runway will likely create a longer departure, arrival and crosswind traffic pattern to the Runway 9 end. However, following the noise analysis completed during the initial phases of this ER, it was

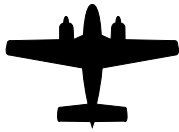


determined that the proposed runway development would not create any adverse social impacts associated with airport and aircraft noise within the immediate area, nor will the proposed runway expansion place a burden on arriving and departing aircraft from an operational or safety standpoint. Finally, the Preferred Airfield and Terminal Area Alternatives will not adversely affect automobile fuel consumption due to the additional terminal area expansion likely to provide additional access time for ingress or egress purposes, nor will the proposed development result in a substantial change to surface transportation movement patterns for airport service or other vehicles due to the fact that increased airport access needs will only serve to expedite vehicle traffic activity and traffic flow by providing direct access to and from the Airport in a number of locations around the Airport.

## LIGHT EMISSIONS

Light emissions created by the Preferred Airfield Alternative requires consideration to determine whether or not runway lighting would create an annoyance to the population residing in the vicinity of JCIA. Ultimate capital expansion at JCIA associated with runway development will include the installation of the following runway lighting systems:

- *Medium Intensity Runway Lighting (MIRL)*: MIRL is a steady burning lighting system classified by the system's intensity or brightness. The brightness of the system is classified by a series of "steps" varying from low (15 watts) to medium (40 watts) intensity depending on the visibility conditions, as well as 10, 30, and 100 percent of the required level of brightness. MIRL is currently installed on Runway 9-27.
- *Threshold Lighting and Runway End Indicator Lights (REILs)*: This low to medium intensity, pole mounted, frangible, and steady burning lighting system marks the end of the runway by utilizing colored split lens. Arriving aircraft see green lighting to indicate the start of the usable runway, while departing aircraft see red lights indicating the end of the usable paved surface. The REIL lighting system provides rapid and positive identification of the runway approach end, consisting of a pair of white synchronized high-intensity (200 watt) photo-strobe lights located laterally along the runway threshold and angled 15 degrees from the extended runway centerline. Threshold lighting and REILs are currently installed to serve Runway 9-27.
- *Precision Approach Path Indicator (PAPI)*: This visual guidance system consists of a two or four-unit lamp apparatus that emits red and white colored light beams providing continuous visual descent guidance information along the final approach path (normally at 3 degrees for 3 nautical miles during daytime, and up to 5 nautical miles at night) to the desired runway touchdown point. The system is installed in a row perpendicular to the runway being located 600' to 800' down the runway and offset 50' to the left or right side. PAPIs are currently installed to serve Runway 9-27.



Given the alignment and siting of the ultimate expansion and development projects associated with Runway 9-27, as well as the proposed lighting systems to be utilized for the runway, the Preferred Airfield Alternative will not contribute significant or adverse light emissions to warrant further investigation and, therefore, will not require a more detailed examination within the scope of this ER.

## **SOLID WASTE**

FAA Order 5200.5, *FAA Guidance Concerning Sanitary Landfills On or Near Airports*, provides guidance with respect to the establishment, elimination, or monitoring of sanitary landfills, transfer facilities, and solid waste facilities on or in the vicinity of airports. Assessing the potential impacts of the Proposed Action alternative on the generation of solid waste is necessary to determine potential available disposal capability and capacity of waste facilities in the region. Additionally, assessing potential impacts of solid waste disposal facilities on the operational viability and safety of the JCIA is a necessary step in determining environmental compliance.

The Washington State Department of Ecology, Office of Permits, Licenses, and Certifications was contacted to determine the location of the nearest sanitary landfills and transfer station facilities to Jefferson County International Airport. It was found that solid waste generated at the JCIA is stored in solid waste facilities in either Port Angeles or Roosevelt, Washington located within Clallam County. The nearest solid waste facility was found to be located in the City of Port Angeles. During this investigation, it was also determined that there are no additional demolition landfill, infectious waste, special waste landfill, utility waste, closed, or planned facilities in the vicinity of Jefferson County International.

With regard to wildlife strikes by aircraft, adverse environmental impacts associated with these incidences is relatively low in terms of potential bird strikes and other wildlife species.

## **CONSTRUCTION IMPACTS**

Potential environmental impacts as a result of the Preferred Airfield and Terminal Area Alternatives include noise of construction equipment on the site, noise and dust from delivery of materials through public roadways, creation of burrow pits and disposal of soil, air pollution from burning debris, and water pollution from erosion and storm water runoff. Impacts associated with construction are of a lesser magnitude than long term impacts and shall be temporarily confined to the construction site during the period of development and construction of the proposed airfield and terminal area alternatives.

During construction activities at the JCIA, during the development and construction phase of the Preferred Airfield and Terminal Area Alternatives, all parties associated with the construction of the proposed airfield and terminal area development, either directly or indirectly, shall employ measures and abide by specific standards as recommended in FAA Advisory Circular (AC) 150/5370-10, *Standards for Specifying Construction of Airports* in a coordinated effort to minimize potential temporary adverse environmental impacts in the local community. Additionally, all



parties associated with the construction of the Preferred Airfield and Terminal Area Alternatives, either directly or indirectly, shall abide by, as well as procure, all required permits, licenses, pay all fees, charges, and taxes, and conduct business in accordance with local, state, and federal statutes and regulations, as well as abide by all federal grant assurances and agreements.

## HAZARDOUS WASTE

Regulatory law affecting airports includes the Resource Conservation and Recover Act of 1976 (RCRA). Through this legislation, the U.S Congress directed the Environmental Protection Agency (EPA) to develop and implement programs meant to protect human health and welfare, as well as the environment from improper hazardous waste management practices. The RCRA is applicable to any party who transports or generates hazardous waste, as well as those parties who own or operate a facility for the storage, treatment, or disposal of hazardous wastes. Procedures made applicable by the RCRA include comprehensive record keeping practices, placement of hazardous wastes into proper containers bearing appropriate warning labels and placards, and creation of transport manifests. Other pertinent legislation regarding this matter includes legislation that was a national campaign aimed at toxic waste cleanup efforts which included The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), a.k.a. Superfund Act, as well as The Superfund Amendments and Reauthorization Act of 1986 (SARA).

Waste is defined as a solid, liquid, or contains gaseous materials that are no longer used, and is either recycled, thrown away, or stored until enough is accumulated to be treated or to be disposed of in another way. Hazardous wastes are those materials that can cause injury or death, or that can damage or pollute the air, land and water. Material waste might also be considered hazardous if the material exhibits any one or all of the following characteristics including ignitibility (flammable or combustible), reactivity (rapid, violent chemical reaction with H<sub>2</sub>O or other element), toxicity (high concentrations of heavy metals or pesticides), or corrosiveness (burns or dissolves other elements or various materials).

Hazardous wastes and materials are not anticipated to be produced or stored at the JCIA during the development and construction phase of the Preferred Airfield and Terminal Area Alternatives. The following contacts are national assistance numbers necessary for use by the airport manager (sponsor) in the event of a release of hazardous substances into the environment.

- *Chemical Transportation Emergency Center (CHEMTREC ®)* 1 (800) 424-9300
- *CHEM-TEL, Inc.* 1 (800) 255-3924
- *National Response Center (NRC)* 1 (800) 424-8802
- *U.S. Army Operations Center* 1 (800) 851-8061

The overall responsibility of the airport manager (sponsor-Port) with regard to potential hazardous substances according to the SARA, requires the manager to provide and have posted in all work areas material safety data sheets (MSDS) where hazardous material and substances might exist. MSDS are technical bulletins that describe how to use, handle, or



dispose of potentially hazardous materials and substances. In addition, the Department of Transportation (DOT) requires that any hazardous materials, substances, or dangerous goods be readily identified by standard placards that use symbology, numerals, or a combination of both to identify hazardous materials.

## **ENVIRONMENTAL JUSTICE**

In accordance with Executive Order (E.O.) 12988, *Federal Action to Address Environmental Justice in Minority Populations and Low Income Population (1994)*, an overview to determine potential disproportional impact of the Preferred Airfield and Terminal Area Alternatives on low income or minority communities will be considered as part of this ER.

According to the Washington State Office of Financial Management in 2000, the total population of Jefferson County was approximately 25,953, of which approximately 92.2 percent (23,929) of the residents are of White/Caucasian origin. Citizens of African American, American Indian, Hispanic or Latino, Asian, or other ancestry comprise approximately 7.8 percent (2,024) of the population of Jefferson County. Additionally, at \$19,788, the Jefferson County PCI( spell out) is approximately 83 percent of the State's (\$23,834) and 88 percent of that of the United States (\$22,373) while at the same time nearly 35 percent of the county population earns greater than \$35,000 annually.

Given the population of the Proposed Action alternative study area as compared to the remaining county minority and low income population, it is apparent that minorities and low income residents residing in Jefferson County do not represent a higher than average demographic group impacted, directly or indirectly, by the proposed runway development project to occur at Jefferson County International Airport.

## **ENVIRONMENTAL CONSEQUENCES (OTHER CONSIDERATIONS)**

The Preferred Airfield and Terminal Area Alternatives are consistent with the policies, objectives, and goals of local, state, and regional transportation planning authorities. In addition, the Preferred Airfield and Terminal Area Alternatives are consistent with the National Plan of Integrated Airport Systems (NPIAS), as well as the Washington State Aviation System Plan (WSASP).



Refer to **Table 6.8** for summarization of the environmental determinations considered within each of the 22 environmental consequence categories evaluated within the narrative of this ER audit.

<i>Table 6.8 Summary of Environmental Consequence Determinations Jefferson County International Airport Environmental Review</i>		
<b>Environmental Consequence Category</b>	<b>Proposed Action Alternative</b>	
	<b>Impacts</b>	<b>Mitigation</b>
Aircraft/ Airport Noise	Not Significant	No further actions Required
Compatible Land Uses	Not Significant	UDC and CP Amendments Monitor/ Update Airport Zoning/ Ordinance(s) as Necessary
Social Impacts	None	None Required
Induced Socioeconomic Impacts	None	None Required
Air Quality	None	None Required
Water Quality	Not Significant	NPDES, SPCC
Section 4(f) Lands	None	None Required
Historic, Architectural, Archeological, and Cultural Resources	None	None Required
Wetlands	Not Significant/ Evident	DA Section 404 Permit
Biotic Communities and Endangered or Threatened Species	None	None Required
Floodplains	None	None Required
Coastal Zone Management Program	None	None Required
Coastal Barrier Resource System	None	None Required
Wild and Scenic Rivers	None	None Required
Prime and Unique Farmland	None	None Required
Energy Supply and Natural Resources	None	None Required
Light Emissions	None	None Required
Solid Waste Impacts	None	None Required
Construction Impacts	Not Significant	None Required
Hazardous Waste	Not Significant	Abide by CERCLA and SARA Guidelines
Environmental Justice	None	None Required
Environmental Consequences (Other Considerations)	None	None Required

**Source:** BWR; Jefferson County International Airport Environmental Review, January 2003.



**Table 6.9** lists those state and Federal agencies contacted during the completion of the Environmental Review for the Jefferson County International Airport.

<i>Table 6.9 Agency Coordination Roster Jefferson County International Airport Environmental Review</i>	
<b>Individual Contact/ Title</b>	<b>Agency Contact</b>
Mr. Thomas Mueller	Seattle District Corp of Engineers Regulatory Branch, CENWS-OD-RG P.O. Box 3755 Seattle, Washington 98124-3755
Dr. Robert G. Whitlam State Archeologist	Washington State Office of Archeology & Historic Preservation 420 Golf Club Rd # 201 P.O. Box 48343 Olympia, Washington 98504-8343
Mr. Tom Tebb	Washington State Department of Ecology Water Quality Division P. O. Box 276 Twisp, Washington 98856-0276
Mr. Raymond "Gus" Hughbanks State Conservationist	U.S.D.A. Natural Resource Conservation Service (NRCS) Western Region 316 W. Boone Ave., Suite 450 Spokane, Washington 99201-2348
Ms. Ann Boeholt Wetland Specialist	Washington State Department of Ecology Shorelands and Environmental Assistance Program P.O. Box 47775 Olympia, WA 98504
Ms. Dee Caputo	Washington State Office of Community Development Growth Management 3 <sup>rd</sup> Floor, Davis-Williams Building 906 Columbia Street SW Olympia, Washington 98504-8300
Mr. Al Scalf Director of Community Development	Jefferson County, Washington 621 Sheridan Street Port Townsend, Washington 98368
Mr. Frank Gifford Director of Public Works	Jefferson County, Washington P.O. Box 2070 Port Townsend, Washington 98368
Ms. Yvonne Dettlaff U.S.F.W. Biologist	U. S. Fish and Wildlife Service- Pacific Region Western Washington Office 510 Desmond Drive SE, Suite 102 Lacey, Washington 98503
Mr. Dave Doan	Washington State Department of Natural Resources Resource Protection Division 1111 Washington St. SE PO Box 47037 Olympia, Washington 98504-7037
Mr. Raymond Maldonado	Bureau of Indian Affairs Olympic Peninsula Agency P.O. Box 120 Hoquiam, Washington 98550
Mr. Bill Jolly	Washington State Parks and Recreation Commission P.O. Box 42668 Olympia, Washington 98504-2668

**Source:** BWR; Jefferson County International Airport Environmental Review, January 2003.



# JEFFERSON COUNTY INTERNATIONAL AIRPORT (JCIA)

Airport Master Plan Update  
Port of Port Townsend, Washington

**Table 6.10** lists those individuals responsible for preparation and completion of the Environmental Review for the JCIA. Qualifications and experience of the involved parties involved are also identified for supporting background purposes.

<i>Table 6.10 List of Environmental Review (ER) Preparers Jefferson County International Airport Environmental Review</i>		
<b>Name of Individual</b>	<b>Expertise</b>	<b>Professional Experience</b>
Mr. Michael A. Waller, C.M. Airport Planner Bucher, Willis & Ratliff Corporation 7920 Ward Parkway Kansas City, Missouri, 64114-2021	Airport Master Planning Airport Layout Planning/ Design Environmental Documentation	M.S., Aviation Safety; Four Years Experience
Mr. Derek "Rick" Bowen, AICP Principal Vice President, Airport Planning Bucher, Willis & Ratliff Corporation 7920 Ward Parkway Kansas City, Missouri, 64114-2021	Airport Master Planning Airport Layout Planning/ Design Aviation Demand Forecasting Environmental Documentation	B.S., Geography/ History; 27 Years Experience