



Chapter 2

Existing Conditions



Introduction

The Existing Conditions Analysis documents existing airfield facilities and conditions that affect the operation and development of the Quillayute Airport (UIL) within the context of the regional setting, landside, airside, and administrative functions. The findings documented in this chapter will be used to support subsequent studies and recommendations throughout the development of the master plan. The 2003 Quillayute Airport Master Plan¹ and other subsequent work products serve as primary source documents for the master plan update. In addition, numerous meetings with City staff were conducted to support the effort.

Regional Setting

The Regional Setting section provides an overview of conditions and activities affecting the Airport, including local and regional socio-economic conditions. The section also summarizes several airport-specific items: history, functional role, definition of service area, current activity, recent development, local surface transportation, land use, environmental conditions, and recent relevant studies.

LOCATION & VICINITY

Quillayute Airport is located in unincorporated Clallam County, west of the City of Forks city limits and urban growth area (UGA) boundary. Clallam County is located in the Northwestern corner of Washington, on the northern section of the Olympic Peninsula, bordering Jefferson County to the south and east. Quillayute Airport is located about 10 driving miles west of Forks and 10 miles east of LaPush via State Highway 110 and secondary roads. Airport elevation is 193 feet above mean sea level (MSL). **Figure 2-1** depicts a location and vicinity map.

Forks is located on U.S. Highway 101, 56 miles west of Port Angeles, the county seat and largest population center in Clallam County. Highway 101 is the primary surface route through the county, connecting numerous small communities with its three incorporated cities (Forks, Port Angeles, and Sequim). Highway 101 travels south to Hoquiam (104 miles), and continues to Los Angeles; it travels east of Forks before heading south along Hood Canal to Tumwater. State Highway 110 connects to Highway 101 near Forks, and extends 14 miles to LaPush.

¹ Quillayute Airport Master Plan (Barnard Dunkelberg & Co., May 2003)



FIGURE 2-1: LOCATION & VICINITY MAP





COMMUNITY SOCIO-ECONOMIC DATA

The information presented in **Tables 2-1 to 2-3** summarize historical population and demographic data that may affect Quillayute Airport. Forecast economic and population data will be presented in Chapter 3: Aviation Activity Forecasts to supplement the updated projections of future aviation activity.

Population

Data obtained from the State of Washington Office of Financial Management (OFM) (**Table 2-1**) show that Clallam County population growth over the past decade was about just above half the statewide growth rate. The county’s average annual growth rate (AGR) during the 10-year period was 0.86%. compared to 1.46% for Washington. The net increase in county population during the period was 5,750 (8.0%). The data indicate the population of Forks (incorporated area only) declined by 210 residents between 2012 and 2021 (-5.92%; -0.67% AGR). However, the year-over-year decline (-300) between 2019 and 2020 significantly skews the overall trend.

TABLE 2-1: HISTORICAL POPULATION

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Washington	6,817,770	6,882,400	6,968,170	7,061,410	7,183,700	7,310,300	7,427,570	7,546,410	7,707,047	7,766,975
	Average AGR:									1.46%
Clallam County	72,000	72,350	72,500	72,650	73,410	74,240	75,130	76,010	77,155	77,750
	Average AGR:									0.86%
Forks	3,545	3,545	3,565	3,565	3,580	3,595	3,615	3,635	3,335	3,335
	Average AGR:									-0.67%

Source: State of Washington Office of Financial Management Postcensal Estimates of Population (2012-2020); April 1 Official Population Estimates Revised November 30, 2021 (2021)

Table 2-2 summarizes population from 1990 to 2021, including both U.S. Census data and OFM annual estimates. The 6% decline in Forks’ population between the 2010 and 2020 Censuses was not portended by the OFM annual population estimates generated (see **Table 2-1**) between the two censuses. Local officials indicate that several factors contributed to the population decline contained in the 2020 Census. These include documented closures of three local employers resulting the loss of more than 150 jobs. A second factor is the potential undercounting of the Latino population, which is partly attributed to 2020 Census methodology, language barriers, and limited digital access in rural communities. Despite potential limitations, the 2020 Census and 2021 OFM annual estimate are accepted as the current measure of local and county population used in this study.

Over the last 30 years, the portion of county population located in unincorporated areas (including local urban growth areas) has remained steady at about 60%. The data indicates that Forks consistently accounted for 4 to 5% of Clallam County population, while Port Angeles’s share has declined by 6 percentage points and Sequim’s share increased by 5 percentage points. During this period, Sequim’s population more than doubled, although it continues to represent less than 10% of Clallam County’s overall population. Based on potential limitations with data, coupled with the uncertainty created by the COVID-19 pandemic, the use of county-wide population data and long-term forecasts is recommended for this project.

TABLE 2-2: HISTORICAL POPULATION – LOCAL AREA DISTRIBUTION

	1990	2000	2010	2015	2021
Clallam County	56,454 (100%)	64,525 (100%)	71,404 (100%)	72,650 (100%)	77,750 (100%)
Forks	2,862 (5%)	3,120 (5%)	3,532 (5%)	3,565 (5%)	3,335 (4%)
Port Angeles	17,710 (31%)	18,397 (29%)	19,038 (27%)	19,140 (26%)	20,120 (26%)
Sequim	3,616 (6%)	4,334 (7%)	6,606 (9%)	6,915 (10%)	8,125 (11%)
Unincorporated	32,266 (57%)	38,674 (60%)	42,228 (59%)	43,030 (59%)	46,170 (59%)

Source: US Decennial Census (1990,2000,2010). Washington Office of Financial Management (OFM) annual estimates (2015,2021). Distribution percentages rounded, may not sum.



Area Demographics

Clallam County has a diverse blend of private and government employment. **Table 2-3** notes the unemployment rate for the county often runs above the statewide average. The county-wide median household income is approximately 27% lower than the state and the percentage of residents 65 and over is nearly double the statewide average.

TABLE 2-3: CLALLAM COUNTY DEMOGRAPHICS¹

Demographic	Data
Population (2020)	77,155 (2020 Census) ¹
Ethnicity (2019)	Caucasian (87.1%); Hispanic or Latino (6.6%); American Indian and Alaska Native (5.6%); Asian, Native Hawaiian, other Pacific Islander (2.1%) (Clallam County)
Median Household Income (2019)	\$52,192 (Clallam County); \$73,775 (Washington)
Persons in Poverty (%) (2019)	13.3% (Clallam County); 12.6% (Washington)
Persons Under 18 (%)	16.7% (Clallam County); 21.8% (Washington)
Persons 65 and Over (%)	30.5% (Clallam County); 15.9% (Washington)
Total Employment (2020) ²	22,290 (Clallam County) <ul style="list-style-type: none"> • Private Sector: 66% • Government Sector: 34%
Leading Employment Sectors by Industry ³	<ul style="list-style-type: none"> • Government (33.8%) • Trade, Transportation, and Utilities (17.3%) • Retail Trade (14.4%) • Education and Health Services (13.0%) • Leisure and Hospitality (11.8%)
Unemployment Rate (%) ⁴	Clallam County/Washington 4.5%/4.5% (December 2021) 20.4%/16.3% (April 2020) 9.2%/6.3% (February 2015)

¹ U.S. Census Bureau QuickFacts State of Washington, Clallam County (2020 Census); other data and distributions are 2019.

² Total NonFarm Employment

³ Washington State Employment Security Department (ESD).

⁴ Washington ESD. Not seasonally Adjusted

Olympic Experimental State Forest (OESF)

The Olympic Experimental State Forest (OESF) was established by the U.S. Forest Service as part of the agency’s National Experimental Forest and Range Network. Although the OESF is established to support scientific research and long-term forest management, several communities are located within its boundaries, including Forks and the service area defined for Quillayute Airport.

The OESF boundary provides a unique perspective for the western sections of Clallam and Jefferson Counties, which includes several small communities located within about 1.3 million acres of federal, tribal, state, and private lands. The following descriptive section was provided by the City of Forks, sourced from several State of Washington Department of Natural Resources documents, U.S. Census data, and other sources related to the OESF. The overview of population and economic data for the communities within the OESF highlights the underlying conditions affecting the local community and planning at Quillayute Airport:

“A Brief Overview of the OESF

The OESF is located in the Northwest corner of the Olympic Peninsula and consists of approximately 1.3m acres or 2,031 sq. miles which would make it the 14th largest county in the state.¹ The OESF region has approximately 10,000 residents living within one of three tribes, two counties, or one city (Hoh, Quileute, and Makah; Clallam and Jefferson; and, Forks).² With such a population, the OESF has more people than four existing counties in the state (Columbia, Ferry, Garfield, and Wahkiakum).³

The OESF includes a matrix of federal, tribal, state, and private lands. Federal, non-tribal, ownership/ management consists of 39% of the OESF geographic area. National Park Service manages 27% of the



OESF having 355,815 acres or 556 sq. miles. The United States Forest Service manages 12% of the OESF having 158,017 acres or 247 sq. miles. The three tribal nations of the Hoh, Quileute and Makah have a combined ownership of 124,023 acres or 194 sq. miles. The remaining 385,521 acres, or 602 sq. miles, is in private ownerships that range from individual home owners in Forks to large timber lands owned by private corporations.

Five census tracts, identified by the US Department of Treasury as low income communities, account for most of the OESF. The following table provides a 2017 snap shot of the economic status of these:

Location Census Tract	Population	Median Income as % of State	Poverty Rate % of tract pop.	Unemployment % of tract pop
Makah 5300994000	1,489	53.87	19.30	17.00
Clallam Bay/Sekiu 53009000200	938	79.79	28.00	4.20
La Push/Sol Duc 53009000400	1,540	71.28	14.90	6.80
Forks 53009000300	4,657	62.06	23.70	10.90
Hoh/JeffCo ⁴ 53031950702	1,656	62.12	23.60	16.80
	Total Population 10,280	Ave. Median Inc. 65.86	Ave. % in Poverty 21.9	Unemployment 11.14

The major economic sectors within the region include natural resources, retail & services, and government. Each of these sectors have components that cover a wide range of activities. Natural Resources includes timber extraction, private timber management, milling, commercial & recreational fisheries (tribal & non-tribal), etc. Retail & Services incorporates such activities as restaurants and groceries stores, as well as lodging, outdoor guiding, private medical, etc. The latter is a continually growing element of the region and is being singled out for further evaluation as part of this effort. Government in the OESF can range from tribal governments to the US Coast Guard at the federal level; Clallam County District Court staff to County road crews to sheriffs at the county level; to the hundreds of employees associated with established special purpose districts such as the Forks Community Hospital and its clinics, to the schools, libraries, etc.

1. See Olympic Experimental State Forest Revised Draft Environmental Impact Statement, DNR at ES-7 and 8; and, the county list provided at <http://www.wa-list.com/?p=436>
2. See US Treasury Department’s Community Development Financial Institutions Fund mapping of opportunity zones found at <https://www.cdfifund.gov/pages/opportunity-zones.aspx>
3. See the OFM 2017 April 1 Population Estimated for Washington State at https://www.ofm.wa.gov/sites/default/files/public/legacy/pop/april1/ofm_april1_population_final.pdf
4. This census tract actually stretches the Hoh Reservation to Brinnon on the east side of the Peninsula. The entire data set is used herein.”

The Washington Employment Security Department (ESD) current Clallam County profile provides the following overview on its economic growth “In summary, over the past 20 years, the economy in Clallam County has experienced slow but steady growth. This economic growth has been shaped by a vibrant port district in the county’s major coastal city of Port Angeles. New in-migration is also on the rise as many retirees are attracted to Sequim’s “sunbelt” climate.” This assessment appears to recognize the unique economic challenges within the county are largely consistent with the historical population trends described earlier.

Efforts to grow and diversify the local economy are well established, and currently include the Emerald Coast Opportunity Zone (ECOZ), created in 2018. The current ESD Clallam County profile characterizes the ECOZ “This Opportunity Zone is a unique collaboration of five Tribal Nations, four cities, two counties (Clallam and Jefferson) and two port authorities that spans 14 federally designated Opportunity Zone census tracts. Together, the partners of the Emerald Coast Opportunity Zone are building a deal “engine” of community driven projects that both present good investments but also create good jobs, construct affordable and high-end housing, and support innovative entrepreneurs.” Opportunity zones were created at the federal government level to provide capital gains tax relief for developments in underserved communities. The City of Forks is one of three cities in Clallam County collaborating in the ECOZ.



Area Tourism

Despite relatively flat population growth and declines in traditional industry sectors (logging, fisheries, etc.), Forks and Clallam County have seen significant growth in visitor activity associated with both outdoor-themed and event driven tourism. Visitor activity related to the Twilight Saga series of books and films reached peak levels several years ago, but continues to generate interest in the local community.

A variety of recreational segments contribute to a growing year-round visitor activity, including camping, beachcombing, hiking, and water sports. The National Park Service (NPS) reports that nearby Olympic National Park is consistently among the top ten most visited national parks (2.5 million visitors in 2020). Forks provides prime access to the western section of the Park, campsites and trails in the adjacent Olympic National Forest, and the rugged north coast area that includes tribal lands, the Olympic Peninsula National Marine Sanctuary, and other federally-protected wildlife refuges and wilderness areas. The Quileute Oceanside Resort in LaPush, and the Kalaloch Lodge at Olympic National Park are popular facilities near Forks offering year-round access to Pacific Ocean beaches.

AIRPORT ROLE (NATIONAL, STATE, AND LOCAL)

The role of an airport may vary slightly within the context of the national, state, or local perspective. Understanding the existing roles of the Quillayute Airport is key to establishing the long-term vision and development of the facility. As noted earlier, Quillayute is one of two public use airports located in Forks that are owned and operated by the City of Forks. These airports accommodate 100% of the fixed wing air traffic activity in the local area and a portion of helicopter activity.

National Role

The Federal Aviation Administration (FAA) is responsible for oversight of the national airport system, which currently includes 3,304 public use airports, heliports, and seaplane bases in the National Plan of Integrated Airport Systems (NPIAS). *The National Plan of Integrated Airport Systems (2021-2025), Report to Congress provides the following summary “The FAA’s responsibility is to work with State and local units of government, as well as other stakeholders, to ensure effective planning of a safe and efficient system of airports to support the needs of the civil aviation industry... Accordingly, this NPIAS identifies the airports included in the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for Federal funding under the Airport Improvement Program (AIP) over the next 5 years. The FAA has been publishing a Federal airport plan since the 1940s and the NPIAS since 1984.”*

Quillayute Airport is classified as a **Basic** airport in the NPIAS, within the larger category of Nonprimary (general aviation) airports. The NPIAS provides the following definition of Basic airports: *“Basic airports fulfill the principal role of a community airport providing a means for private general aviation flying, linking the community with the national airport system, and making other unique contributions. In some instances, the airport is the only way to access the community and provides emergency response access, such as emergency medical or firefighting and mail delivery. These airports have moderate levels of activity with an average of nine propeller-driven aircraft and no jets. Many of these airports are located in rural areas.”*

Quillayute and William Fairchild International Airport, in Port Angeles, are the only NPIAS airports in Clallam County. Forks Municipal Airport is not included in the NPIAS and does not receive FAA funding.

State Role

The Washington Department of Transportation – Aviation Division (WSDOT Aviation) has developed and regularly updates the Washington Aviation System Plan (WASP) to provide guidance on preserving the State’s system of airports. The WASP presents a framework for improving the system for continued support of communities and economic development. The 2017 update to the WASP classifies Quillayute Airport as a Local airport. Local airports support primarily single-engine and smaller multi-engine aircraft. Primary activities at Local airports include GA-Personal Transportation/Recreation, Pilot Training, and Agriculture. Local airports are typically outside larger metro areas, have a paved runway, and have less than 15 based aircraft. Forks Municipal Airport is also categorized as a Local airport by WSDOT.



AIRPORT HISTORY

Ownership

Quillayute Airport was commissioned as Quillayute Naval Auxiliary Station in February, 1944. The 2003 airport master plan noted that *“In 1962, the Federal Government transferred approximately 750 acres of the facility to the State of Washington (i.e., the airfield, etc.), with the remaining 450 acres being deeded and/or sold to between the Quillayute Valley School District and private parties.”*

Upon its transfer, the facility was operated as Quillayute State Airport until 1999, when ownership was transferred to the City of Forks. The 2003 Exhibit ‘A’ Airport Property Map lists airport acreage as 753.4 acres.² No known changes in airport property ownership have occurred since the 2003 Exhibit A drawing was prepared.

As part of accepting airport ownership, the City of Forks also transferred the community’s NPIAS designation from Forks Municipal Airport to Quillayute Airport. This action was based on the challenges in meeting FAA design standards at the Forks Municipal Airport site. As noted earlier, a primary assumption in the 2003 Quillayute Airport Master Plan was the planned closure of Forks Municipal Airport and the relocation of locally-based aircraft to Quillayute.

Airfield Development

The original airfield pavements were constructed in 1943 with Portland Cement Concrete (PCC). The pavements remain largely intact, although several sections (second runway, taxiways, revetments, etc.) have been decommissioned and are not maintained. The pavement reductions have been accomplished through changes in markings (e.g., narrowing runway 4/22 with edge stripes, “X” old runways and taxiways, etc.). The reduction in the Airport’s maintained pavement area reflects general aviation aircraft use and provides a more cost-effective pavement maintenance obligation for the City.

The active airfield pavements currently total over 1 million square feet, down from more than 2.5 million in 1943.

Table 2-4 summarizes the reduction in actively used airfield pavement areas through the Airport’s history. **Figure 2-2** depicts the gradual reduction of actively used airfield pavements from original construction to current use.

TABLE 2-4: QUILLAYUTE AIRFIELD ACTIVE PAVEMENT AREA (SQUARE FEET)

Facilities	Original Configuration (1943)	2003 ALP	2021 Existing Conditions
Runways	1,680,000	750,000	436,945
Taxiways	349,550	349,550	342,335
Apron	484,688	484,688	273,402
All Pavements	2,514,238 (57.7 Acres)	1,584,988 (36.4 Acres)	1,052,682 (24.1 Acres)

FIGURE 2-2: QUILLAYUTE AIRPORT – ACTIVE AIRFIELD PAVEMENTS



² Quillayute Airport – Airport Layout Plan (Barnard Dunkelberg, 2003); 2018 WSDOT IDEA Database; Historical USN Documents (1943).



Table 2-5 summarizes the configuration of major airfield facilities based on their active use: when constructed (1943), as depicted on the 2003 Airport Layout Plan, and currently.

TABLE 2-5: QUILLAYUTE AIRPORT – HISTORICAL AIRFIELD FACILITIES CONFIGURATION SUMMARY

Facility	1943 Original Configuration	2003 ALP	2021 Existing Conditions	Actions
Runway 4/22	4,980' x 200'	4,980' x 150'	4,210' x 100'	Runway narrowed twice from original construction. Runway 22 threshold relocated 770 feet west after 2003 AMP. No removal of original PCC pavement sections. All changes in useable pavement accomplished through markings and subsequent maintenance.
Runway 12/30	4,700' x 200'	Closed	Closed	Runway closed around 1995 to 1997, prior to City of Forks ownership.
Main Apron	1,175' x 412'	Same	Same*	*WSDOT IDEA Airfield Pavement Database depicts only the eastern section of the apron – approximately 550' x 412'. This area appears to be consistent with recent pavement maintenance but there are no markings or signs indicating that a portion of the apron is closed.
Access Taxiways	Taxiways to both ends of Runway 4/22. Taxiways to both ends of Runway 12/30. Extensive taxiway network serving aircraft revetments or other facilities.	Original taxiways depicted, including for areas no longer part of airport property.	New access taxiway for east section of Runway 4/22. Off airport taxiways converted to roads or abandoned.	South end of closed runway (12/30) converted to taxiway to access Runway 4/22. East taxiway used to access former Runway 22 end is decommissioned.

FAA Funding

Quillayute Airport’s history of FAA funding began in 2000, with a congressional appropriation for a runway rehabilitation project. **Table 2-6** summarizes recent FAA funding for the rehabilitation of Runway 4/22 and the addition of perimeter fencing (south airport frontage).

TABLE 2-6: QUILLAYUTE AIRPORT – FAA PROJECT SUMMARY

Project Description	Fiscal Year	AIP
Install Perimeter Fencing	2005	\$89,300
Install Perimeter Fencing, Rehabilitate Runway 4/22	2008	\$249,867
Runway 4/22 Rehabilitation	2017	\$450,000
Runway 4/22 Rehabilitation	2019	\$271,917
Update Airport Master Plan Study, AGIS	2021	\$458,726
Total		\$1,519,810

Source: FAA AIP Grant Database



AREA AIRPORTS CONTEXTUAL ANALYSIS

Quillayute Airport is unusual in that the facility has two distinctly different functional roles:

- The first is the same as any general aviation airport—the Airport supports aviation activity related to the local community, and this activity is directly affected by the facilities and services available at competing airports.
- The second is of major importance to both the local community and the region—Quillayute Airport is uniquely capable (non-duplicated facilities and geographic proximity) of supporting a wide range of natural or maritime disaster response needs for the Olympic Peninsula in Washington state. Providing for extreme public safety needs requires a uniquely long-term strategy that is not diminished by an ongoing absence of catastrophe.

These functional roles are discussed below in order of their uniqueness.

Regional Significance

Quillayute Airport's location, elevation (relative to nearby coastal areas), and built airfield facilities provide the region with a major operational asset that can support critical emergency responses for a wide range of natural disasters. At approximately 193 feet above mean sea level (MSL), the Airport sits outside the common tsunami zone defined for nearby coastal areas, and the area of prime exposure for a Cascadia Subduction Zone event. Scientists estimate that waves could reach heights of 80 to 100 feet in a major event, accompanied by subsidence of coastal terrain and a rise in sea level within the zone. Even a less severe offshore event with significantly lower wave heights and less geological disturbance would be expected to cause major damage and extended disruption to low-lying communities, infrastructure, and road systems. The remote western section of the Olympic Peninsula is also at risk for wildfires, high wind events, and other natural disasters which could trigger the need for similar, focused responses. For example, Quillayute Airport has been designated as a critical facility for aircraft access and operational support in the event of a major coast oil spill.

Quillayute Airport, as it currently exists, is the only airport in the western section of the Olympic Peninsula capable of supporting a sustained forward response effort associated with a major natural or maritime disaster. While master plan-recommended improvements will enhance current capabilities, the WWII era airfield, constructed entirely of Portland cement concrete, remains intact and serviceable with only minimal preparation required to support emergency military-grade aircraft operations. In addition to its aeronautical capabilities, the Airport has adequate land area to accommodate a wide range of logistical and support roles, including temporary shelter and the distribution of food, water, and medical supplies for the region.

These considerations are reflected in the City of Forks decision to operate and maintain Quillayute Airport, in addition to Forks Municipal Airport, as part of a regional response that extends beyond its role in providing basic general aviation airport facilities. The Federal Aviation Administration (FAA) recognizes these unique conditions in its ongoing support of the Quillayute Airport as the local airport included in the federal airport system.

General Aviation Activity

The airport service area refers to the geographic area surrounding an airport that is directly affected by the activities at that airport. Normally a 30 or 60-minute surface travel time is used to approximate the boundaries of general aviation airport service areas. Airports located beyond these travel times have less impact on local airport activity due largely to the redundancy provided by closer facilities.

An airport service area represents several significant geographic elements:

- The primary residential or work locations for local users.
- The majority of business or recreational destinations for transient users.
- The number of airports competing for aeronautical activity and the range of services/capabilities available.

It is not uncommon to have several competing airports located within an airport's service area. Although the availability of facilities and services will vary (hangar space, fuel, aircraft maintenance, instrument approach, etc.), basic market dynamics (cost, convenience, and quality) tend to drive private investment in facilities, and overall activity. It is also recognized that smaller general aviation airports often have limited facilities or services available, such as fuel, aircraft maintenance, or hangar rentals. Although this may often be an indication of underlying market demand, the absence of services or facilities can also contribute to lower activity levels at an airport.



For Quillayute Airport, only Forks Municipal Airport (S18), located 1 mile southwest of city center is within a 30-minute drive. Based on the significant travel distances to other communities, the two airports in Forks accommodate virtually all fixed wing aircraft activity for the local community. Helicopter traffic is accommodated at the airports, a local helipad located at Forks Community Hospital, and in a variety of off-airport settings. These conditions focus the competitive impacts in the local area and reduces the impact of the other airports in the service area.

Quillayute Airport, Forks Municipal Airport, and Sekiu Airport are the only public use airports located within a 60-minute driving time from Quillayute Airport. These airports are the only public use airports in western Clallam County. This area is sparsely populated, with several small communities located along the highway and secondary road system. The next closest airport is William R. Fairchild International Airport in Port Angeles (70-minute drive).

A review of the FAA aircraft registration data (FAA Registry 3/15/22) lists of a total of 214 registered aircraft with Clallam County addresses. Seven aircraft (3%) are registered with a Forks address; one aircraft is registered with a Clallam Bay address, and the majority (95%) are registered with Port Angeles, Sequim, or Carlsborg addresses. While the address of an aircraft owner does not always correspond to their home airport location, the geographic distribution of Clallam County registered aircraft closely correlates to the number of aircraft based at Quillayute Airport and Forks Municipal Airport. The aircraft ownership data suggests that most local users of Quillayute Airport will live or work within 30 minutes of the Airport.

The 4,210-foot runway length available at Quillayute Airport allows the Airport to accommodate a larger segment of general aviation activity than nearby Forks Municipal Airport with its 2,400-foot-long runway. Based on the Airport's elevation and moderate temperatures, the runway can accommodate a wide range of multi-engine piston and turbine aircraft, including business jets. The potential addition of instrument capabilities at Quillayute Airport also differentiates the two airports. Despite this, most of the locally generated aviation activity appears to be currently generated at Forks Municipal Airport. The primary factors appear to be convenience and the availability of hangar space. Neither airport currently offers aviation fuel for sale. Private aviation fuel storage may be available at Forks Municipal Airport. Previous efforts to establish commercially viable aviation fuel (AVGAS and jet fuel) at Quillayute Airport were not successful and the remaining two aboveground fuel tanks are planned for removal.

As part of the master plan update, area flight schools and air charter operators were contacted about their use of Quillayute Airport. A Port Angeles-based air taxi operator (Rite Brothers Aviation) indicates that their customers frequently use Forks Municipal Airport for charters due to its convenience. The operator did note that the addition of an instrument approach at Quillayute Airport would increase their use significantly, citing unpredictable local and enroute weather as a major factor limiting flights to Forks. Rite Brothers webpage includes a published rate sheet (effective February 2020) listing Quillayute Airport and Forks Municipal Airport with the same on-demand charter rates from Port Angeles: \$270 fee a 5-passenger Cessna 206 and \$220 for a 3-passenger Cessna 172.

OVERVIEW OF AREA AIRPORTS

Figure 2-3 and **Table 2-7** provide an overview of the publicly owned, public-use airports located in the service area for Quillayute Airport, and other airports that just beyond the service area. The most recent FAA Airport Master Record Form (5010-1) data available is presented for these airports to provide common reporting of activity. The 5010-1 data are provided for reference only and are not independently verified.

Forks Municipal Airport (S18)

Forks Municipal Airport is located approximately 11 road miles/6.7 nautical (air) miles west of Quillayute Airport. The Airport has one lighted asphalt runway: 4/22 (2,400'x75'), and supports mostly small single-engine aircraft, ultralights, and helicopters. The current FAA 5010-1 for Forks Municipal lists 13,600 operations for the 12 months ending 12/31/19 and 9 based aircraft. The Airport has 13 small hangars and aviation fuel is not available for purchase. The Airport is owned by the City of Forks; it is not included in the NPIAS and it does not receive FAA funding.



Sekiu Airport (11S)

Sekiu Airport is located approximately 39 road miles/22 nautical (air) miles northeast of Quillayute Airport. The Airport has one lighted asphalt runway: 8/26 (2,997 x 50'). No services are available. The Airport supports mostly small single-engine aircraft and ultralights. The current FAA 5010-1 lists 855 operations and 3 based aircraft for the 12 months ending 12/31/20. Sekiu is owned by the Port of Port Angeles; it is not included in the NPIAS and it does not receive FAA funding. A review of recent Google Earth aerial photography identifies 3 hangars at the Airport.

William Fairchild International Airport (CLM)

Wm. Fairchild Int'l Airport is located approximately 61 road miles/44.1 nautical (air) miles east of Quillayute Airport. The Airport has two lighted asphalt runways: 8/26 (6,347 x 150') and 13/31 (3,255 x 50'), onsite weather observation, and three instrument approaches. The Airport supports a full range of single- and multi-engine aircraft, jets, and helicopters. The Airport has a full-service fixed base operator (FBO) with both 100LL AVGAS and jet fuel available. The current FAA 5010-1 lists 25,158 operations and 66 based aircraft for the 12 months ending 12/31/18. CLM is owned by the Port of Port Angeles; it is included in the NPIAS and it receives FAA funding.

Sequim Valley Airport (W28)

Sequim Valley Airport is located approximately 76 road miles/32 nautical (air) miles east-northeast of Quillayute Airport. The Airport has one asphalt runway: 9/27 (3,876'x60') that is capable of accommodating a wide range of single- and multi-engine general aviation aircraft and helicopters. The Airport has storage hangars, a pilot building, a limited-service fixed base operator (FBO), 24-hour self-service fuel (100LL AVGAS), and serves the adjacent Discovery Farm Airpark. The current FAA 5010-1 lists 8,310 annual operations and 29 based aircraft. Sequim Valley is not included in the NPIAS and does not receive FAA funding.

Jefferson County International Airport (OS9)

Jefferson County Int'l. Airport is located approximately 106 road miles/71 nautical (air) miles east-northeast of Quillayute Airport. The Airport has one paved runway: 09/27 (3,000'x75'). The Airport has a full-service fixed base operator (FBO) with 100LL AVGAS available. The current FAA 5010-1 lists 58,100 annual operations and 53 based aircraft for the 12 months ending 12/31/19. Jefferson County Int'l. is included in the NPIAS and receives FAA funding.

Copalis State Airport (S16)

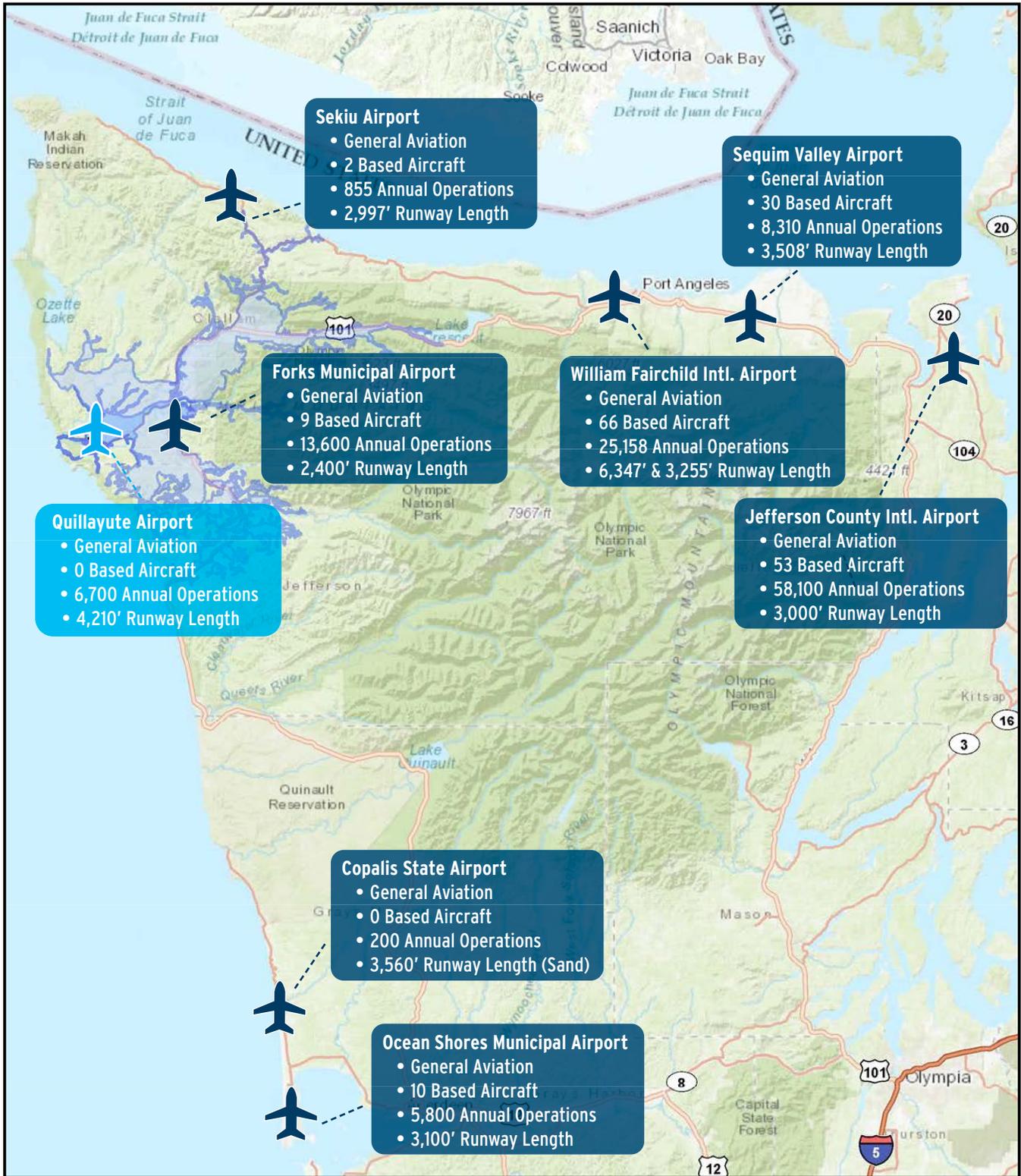
Copalis State Airport is located approximately 111 road miles/50 nautical (air) miles south of Quillayute Airport. The beach airport has one sand runway: 14/32 (3,556'x150') that is frequently submerged during high tides. The Airport has unimproved facilities and no services are offered. Based on its recent airport layout plan report, Copalis has no based aircraft and accommodates approximately 500 to 2,000 annual operations. Copalis State is not included in the NPIAS and does not receive FAA funding.

Ocean Shores Municipal Airport (W04)

Ocean Shores Municipal Airport is located approximately 120 road miles/59 nautical (air) miles south-southwest of Quillayute Airport. The Airport has one paved runway: 15/33 (3,100'x50'). The Airport has no services or fuel available. The current FAA 5010-1 lists 5,800 operations and 10 based aircraft for the 12 months ending 12/31/19. Ocean Shores Municipal is included in the NPIAS and receives FAA funding.



FIGURE 2-3: AREA AIRPORTS



Legend

- 30-Minute Drive Time Boundary
- 60-Minute Drive Time Boundary

Source: AirportIQ 5010, Esri, USGS, NOAA



TABLE 2-7: FAA 5010 DATA*

	Quillayute Airport (JIL)	Forks Muni. Airport (S18)	Wm. Fairchild I'ntl. Airport (CLM)	Sequim Valley Airport (W28)	Jefferson County I'ntl. Airport (OS9)	Ocean Shores Muni. Airport (W04)	Sekiu Airport (11S)
Air Carrier	0	0	0	0	0	0	0
Air Taxi	0	0	4,958	60	1,500	0	45
GA Local	3,198	8,300	10,800	2,700	21,700	800	150
GA Itinerant	3,302	5,250	9,200	5,500	34,800	5,000	660
Military	200	50	200	50	100	0	0
TOTAL OPERATIONS	6,700	13,600	25,158	8,310	58,100	5,800	855
TOTAL BASED AIRCRAFT	0	9	66	30	53	10	2
Single Engine	0	3	60	28	49	10	0
Multi Engine	0	0	3	1	2	0	0
Jet	0	0	1	0	0	0	0
Helicopters	0	3	2	0	0	0	0
Glider	0	0	0	0	2	0	0
Military	0	0	0	0	0	0	0
Ultra-Light	0	3	0	1	0	0	0

Source: <https://www.airportiq5010.com/5010ReportRouter/>
 *Data presented as published by FAA, not independently verified.

QUILLAYUTE AIRPORT ACTIVITY

Table 2-8 summarizes the estimated airport activity listed on the current FAA 5010-1 Airport Record form, which is duplicated in the FAA Terminal Area Forecast, and the base year (2000) from the 2003 Airport Master Plan forecast.

TABLE 2-8: ESTIMATED AIRCRAFT OPERATIONS (QUILLAYUTE)

	2003 Airport Master Plan (2000)	FAA 5010-1 Airport Master Record (2019)	FAA Terminal Area Forecast (2019)
General Aviation (Local)		3,198	3,198
General Aviation (Itinerant)	450	3,302	3,302
Air Taxi	0	0	0
Military	50	200	200
TOTAL OPERATIONS	500	6,700	6,700

Source: 2003 Airport Master Plan Forecast base year; FAA 5010-1 (Operations for 12 Months Ending 12/31/2019); TAF 2019 (base year; TAF issued May 2021)

The FAA 5010 Airport Master Record is the only source for activity estimates currently available for Quillayute Airport. The current 5010 for Quillayute Airport lists 0 based aircraft and 6,700 aircraft operations (takeoffs and landings) for the 12 months ending in December 2019. This level of annual operations equates to an average of 18 per day. The 5010 based aircraft total (0) is consistent with the City of Forks’ most recent validated count reported to FAA in the National Aircraft Inventory database.



With no based aircraft, 100% of air traffic at Quillayute Airport is currently generated by transient general aviation and military aircraft including:

- General Aviation (GA) flight training, personal, and business travel.
- Weather diversions due to local weather conditions (reported by aircraft owners based at Forks Municipal Airport) and area weather affecting flights transiting the Western Olympic Peninsula.
- Medical evacuation flights (fixed wing and helicopter).
- U.S. Coast Guard routine patrol, search and rescue, and training flights (helicopters).
- Military (USAF, Army, Navy, Air National Guard) operations support and flight training (primarily helicopters).
- On-demand air charter flights; and
- State, federal, and tribal government related flights.

An updated estimate of annual aircraft operations for Quillayute Airport is currently being assembled from individual user reports. Based on preliminary activity estimates provided by the defined user groups, current airport operations (takeoffs and landings) at the Airport are estimated to total less than 1,000 annually. The data will serve as the baseline for the updated aviation activity forecasts (Chapter 3); additional details about the individual user groups will be provided in Chapter 3. Once the updated activity forecasts are accepted and approved by FAA, the 5010 for the Airport will be updated for consistency.

The 2003 Airport Master Plan presented a similar estimate of flight activity in its aviation activity forecasts (forecast base year 2000: 500 annual operations). Two based aircraft (antique military jets) were recorded at the Airport in 2000. However, these aircraft were not believed to generate significant flight activity and were subsequently sold and relocated off the Airport.

Quillayute Airport's 4,210-foot runway is the longest available in western Clallam County and can accommodate a wide range of aircraft types including single- and multi-engine piston aircraft, business class turbine aircraft (business jets and turboprops), and helicopters. However, the current level of use appears to reflect the current facility limitations (lighting, instrument approach, available hangar space, etc.) and a preference for Forks Municipal Airport by local aircraft owners. It is reasonable to assume that increased use of Quillayute Airport is possible with improvement in facilities that could attract new tenants and increased use.

RELEVANT STUDIES

2003 Quillayute Airport Master Plan (AMP)

The 2003 Airport Master Plan (AMP) provided a detailed assessment of site-specific airport development needs and recommended facilities intended to guide improvements at Quillayute Airport. As noted in Table 2-6 earlier in the chapter, the projects completed at the Airport in recent years have included pavement rehabilitation work on the runway and installation of fencing along the frontage along Quillayute Road.

The 2003 AMP outlined significant facility upgrades, expansion, and new development that has not occurred. Recommended projects included an extension of Runway 4/22, re-opening the closed crosswind runway, installation of airfield lighting, the addition of a precision instrument approach, and the construction of new hangars. These recommendations will be reviewed in the current master plan update to reassess the need and priorities for future facility improvements at the Airport.

2001 Quillayute Airport Environs Land Use Plan

The 2001 land use plan, prepared in conjunction with the 2003 AMP, provided a two-phase approach to develop an inventory of existing land use and to prepare model ordinances for airport land use and height zoning protections. The work generated in this project was incorporated into the 2003 Airport Layout Plan (ALP) drawing set. The current Clallam County zoning ordinance was updated to include an airport overlay zone based on this work.



Washington Aviation System Plan (WASP)

In 2017, the State of Washington Department of Transportation – Aviation Division, completed the Washington Aviation System Plan (WASP) for the system of 136 public use airports located throughout the state. The WASP study included both commercial service and general aviation airports. The WASP updated previous system plans to provide a current look at how the entire state aviation system performs and how individual airports interact to contribute to the system. Airport classifications generally reflect the type of aircraft and customers the airport serves as well as the characteristics of the airport’s service area.

The WASP establishes a new classification system of five categories for Washington airports to better capture system performance. Quillayute Airport best fits into the WASP Local airport classification. Local airports support GA activities including personal transportation, recreational flying, pilot training, and agricultural activities. Airports classified as Local are located outside of metropolitan areas and regional centers; they have paved primary runways; and 15 or fewer based aircraft. As a Local airport, the WASP has identified certain minimum standards that should ideally be in place. The existing facilities at Quillayute Airport appear to meet most minimum standards, as they pertain to the Airport’s Local role in the WASP. A review of WASP minimum standards compliance will be summarized in the updated facility requirement assessment (Chapter 4).

WASHINGTON AVIATION ECONOMIC IMPACT STUDY

In 2020, Washington State Department of Transportation released the Washington Aviation Economic Impact Study (AEIS).³ The AEIS measured the annual economic impacts that the state’s public-use airports and the state-wide system had on local communities, geographic regions, and the state as a whole.

The study includes summaries of aviation economic impacts by individual airport and their associated city. For Forks, data are provided for Quillayute Airport and Forks Municipal Airport, the two public use airports owned and operated by the City of Forks. **Table 2-9 and 2-10** summarize the economic data for each airport, and combined totals for both airports to gauge the overall economic impacts for the community associated with the airports.

TABLE 2-9: AIRPORT ECONOMIC IMPACTS BY TYPE (TOTAL) – FORKS, WASHINGTON

Airport	Jobs	Labor Income	Value Added	Business Revenues
Quillayute	47	\$2,816,000	\$4,710,000	\$7,498,000
Forks Municipal	4	\$124,000	\$198,000	\$337,000
Combined (Forks)	51	\$2,940,000	\$4,908,000	\$7,835,000

Source: 2020 WSDOT Washington Aviation Economic Impact Study (AEIS).

TABLE 2-10: WASHINGTON TAX REVENUES BY TYPE – FORKS, WASHINGTON

Airport	On-Airport Local/State	Off-Airport (Visitor Spending) Local/State	Total Taxes (On-Airport and Visitor Spending) Local/State
Quillayute	\$4,750/\$38,680	\$200/\$1,070	\$4,950/\$39,750
Forks Municipal	\$400/\$1,590	\$2,140/\$11,650	\$2,540/\$13,240
Combined (Forks)	\$5,150/\$40,270	\$2,340/\$12,720	\$7,490/\$52,990

Source:

According to the study, Quillayute Airport contributes nearly \$7.5 million in annual business revenue to the local and regional economies (based on 2018-2020 surveys and data). The number of jobs related to the Airport was reported at 47, with an estimated payroll of \$2.8 million.

³ Washington Aviation Economic Impact Study (WSDOT Aviation, July 2020)



Environmental Data

PHYSICAL GEOGRAPHY

The western section of Clallam County consists of coastal rainforests, mountainous terrain, valleys, lowlands, river drainages, lakes, bogs, and coastal areas, emerging from the Olympic Mountains to the east. The Quillayute and Forks Prairie Complex is a unique land system that is not forest covered, providing habitat for a wide range of flora and fauna.⁴ The Quillayute Prairie is located between the Dickey and Sol Dud Rivers, beginning about 3 miles east of La Push and the Pacific Ocean at the outlet of the Quillayute River.

Quillayute Airport sits at an elevation of 193 feet above mean sea level (MSL). The gradual rise in elevation from the sea level at the Pacific coast continues to about 300 feet MSL in Forks, before increasing into more mountainous terrain. The varying terrain between the coast and Forks, about 12 miles inland, contributes to variation in climate conditions (cloud cover, precipitation, temperatures, wind, etc.).

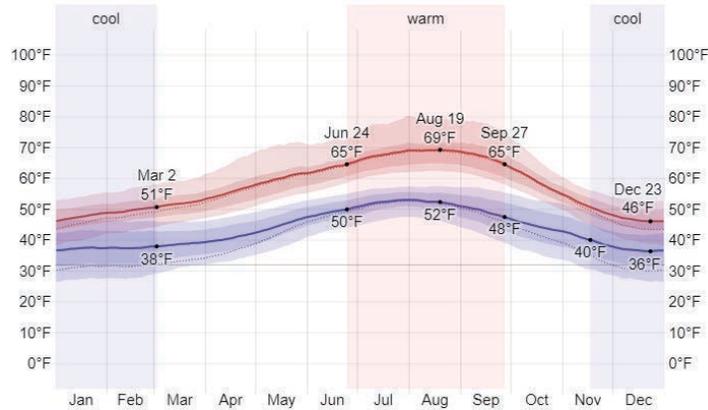
LOCAL CLIMATE ANALYSIS

Fifty years of historical climate data (1966- 2016) for Quillayute Airport (Station No. 456858) was reviewed.⁵ The data indicate that August is normally the hottest month, with an average maximum temperature of 68.8 degrees Fahrenheit (F). December and January are the coldest months with an average low temperature of 46.5 degrees F. Total annual precipitation averaged 102.11 inches, with an average of 13.2 inches of snowfall recorded in the November to April period. Graphics depicting average monthly temperature and precipitation at Quillayute Airport accessed from weatherspark.com are presented in **Figure 2-4**.

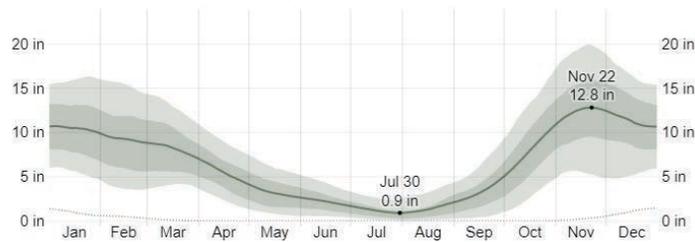
FIGURE 2-4: ANNUAL TEMPERATURES

The following climate data charts were retrieved from weatherspark.com to illustrate the typical temperature and precipitation patterns at the Quillayute Airport. These are based on an analysis of historical weather reports and model reconstructions.

Average Annual Temperature, Quillayute Airport, WA



Average Annual Precipitation, Quillayute Airport, WA



4 Reference: 2021 Sharpe, Olympic Peninsula Prairies.

5 Historical Climate Summary, Western Regional Climatic Center (<https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?wa6858>)



A comparison of climate data for Quillayute Airport (Station 456858) and Forks 1E (Station 456858) in **Table 2-11** highlights some local variations. The data are consistent with local reports that Quillayute Airport often has better weather conditions than experienced in Forks.

TABLE 2-11: HISTORICAL WEATHER OBSERVATIONS – QUILLAYUTE AIRPORT AND FORKS, WASHINGTON STATIONS

Weather Station	Average Total Precipitation (inches) Annual	Average Maximum Temperature (F) Warmest Month	Average Minimum Temperature (F) Coldest Month	Average Total Snowfall (inches) Annual
Quillayute AP (456858)	102.11	68.8	34.7	13.2
Forks 1E (452914)	117.89	72.5	33.4	13.0

Source: Western Regional Climate Center (WRCC) data; Quillayute 1966-2016; Forks 1907-2016

WIND ANALYSIS

The 2003 ALP drawing included all-weather and instrument flight rules (IFR) wind roses based on wind data collected on site between 1986 and 1995. The wind roses are used to evaluate the crosswind coverage provided for runways within direct (90-degree) crosswind components at specific wind speeds (most general aviation aircraft are designed with a maximum direct crosswind component of 10.5 to 13 knots). By FAA standard, a single runway should be able to accommodate at least 95% of all wind conditions. When wind coverage is below 95%, a second (crosswind) runway may be considered to meet the 95% threshold.

The 2003 wind analysis indicated that the primary runway (4/22) had 96.70% wind coverage at 10.5 knots, and 98.18% wind coverage at 13 knots under all-weather conditions. However, the wind rose developed for instrument weather conditions indicated wind coverage below the 95% threshold at 10.5 knots (90.8%) and 13 knots (94.76%). The wind analysis indicated that while Runway 4/22 provides adequate crosswind coverage for both small and large general aviation aircraft in all-weather conditions, coverage during instrument meteorological conditions was below the FAA-recommended threshold of 95% for a single runway configuration.

The IFR wind coverage combined with the planned development of an instrument approach appears to be reflected in the recommendation to re-open and reconfigure Runway 12/30. The evaluation of runway wind coverage and the potential reactivation of the closed runway will be addressed in the facility requirements and alternatives section of the airport master plan. New wind roses will be created for this analysis using more recent onsite wind data.



Environmental Conditions

The Airport Master Plan scope of work includes an overview of existing environmental conditions and a preliminary screening of environmental impact categories defined in the National Environmental Policy Act (NEPA). The purpose of the screening is to identify potential environmental resources that occur at the Quillayute Airport that should be taken into consideration of future improvements identified in the Airport Master Plan Update. A cultural resource assessment was also performed for the site. This section briefly summarizes the screening. The full technical memorandums are provided in **Appendix A and B**. A review of recommended improvements will be provided in Chapter 5 – Alternatives Analysis, when that evaluation is completed.

As noted earlier in the chapter, most of the built items associated with Quillayute Airport were constructed in 1943 by the U.S. Navy. As such, the footprint of previously disturbed areas on the Airport has been established, unchanged for nearly 80 years. The only new construction completed since the 2003 Airport Master Plan beyond the airfield’s hard surfaces is the addition/replacement of fencing and vehicle access gates on the south side of the Airport. An original aircraft hangar was also demolished in place due to its deteriorated condition, although the original building foundation remains.

NEPA REVIEW

The environmental screening⁶ is based on the National Environmental Policy Act (NEPA) Environmental Impact Categories outlined in FAA Order 1050.1F *Environmental Impacts: Policies and Procedures*, and FAA Order 5050.4B *Airports Environmental Handbook* utilizing available data and information. Research was performed for the following environmental impact categories described within the FAA’s Order 1050.1F:

- Air Quality;
- Biological Resources (including fish, wildlife, and plants);
- *Department of Transportation Act*, Section 4(f);
- Hazardous Materials, Solid Waste, and Pollution Prevention;
- Natural Resources and Energy Supply; and
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers).

A brief summary is provided below and **Figure 2-5** depicts the Airport area. See **Appendix A** for additional detail.

Air Quality

The Airport is located in a portion of Clallam County that attains all National Ambient Air Quality Standards (NAAQS). Clallam County currently complies with federal NAAQS.

Biological Resources

The screening identified several resources in the vicinity of Quillayute Airport, although documented sitings on the Airport are limited.

Special Status Species

Federal Endangered Species Act (ESA) and Washington Priority Habitat and Species Critical Habitats (PHS)

A large variety of state- or federally-protected species that may occur in the vicinity of the Airport are identified. The status of individual species ranges from “candidate” to “endangered.” Recorded sightings at the Airport are not documented for majority of the species, although the presence of habitat (natural or buildings) is noted. However, the screening notes “Roosevelt Elk (status Protected game WA) are mapped by PHS using the portion of airport property north of the Dickey River.”

⁶ Quillayute Airport Environmental Screening (ESA, September 2021)



Multiple species of federal and state listed fish have mapped occurrences on airport property and vicinity in nearby rivers and creeks. The Dickey, Quillayute, Sol Duc, and Bogachiel rivers, and Colby and Coal creeks, provide critical habitat for several threatened or protected species of trout and salmon. A portion of the Dickey River is located on the northern section of airport property. The other rivers are located several miles from the Airport, at their nearest points. A portion of Colby Creek is located near the northwest corner of airport property.

Migratory Bird Treaty Act (MBTA)

Birds protected under the Migratory Bird Treaty Act (MBTA) may nest, winter, or migrate throughout the area. Migratory birds are known to occur in the vicinity of the Airport. 185 species are identified as representative of species found in the vicinity, though not necessarily on airport property.

Birds of Conservation Concern (BCC)

The Quillayute Airport falls within the USFWS Birds of Conservation Concern (BCC) Zone 5. Recorded sitings are noted on the Airport, and within 2.5 and 3.5 miles of the Airport. The screening notes “Of the species recorded on airport property, all observations except for one of the varied thrush sightings occurred on the eastern boundary where the property borders Quillayute Prairie.”

Bald And Golden Eagle Protection Act

The bald eagle and golden eagle are protected under the Bald and Golden Eagle Protection Act of 1940, which provides specific guidance for minimizing effects to these species. The screening notes “While there are no recorded observations of golden eagles within the immediate vicinity of the airport, there are recorded observations of bald eagles on the eastern boundary of Quillayute Airport property, where the tree line opens to Quillayute Prairie.”

Environmental Sensitive and Critical Habitats

Designated critical habitat areas are located in the vicinity (3.5 to 9.5 miles) of the Quillayute Airport:

- Bull trout critical habitat is approximately 3.35 miles west of the Airport in the Pacific Ocean and 8 miles south of the Airport in Goodman Creek;
- Marbled murrelet critical habitat is approximately 5.5 miles southeast of the Airport, and approximately 8 miles east of the Airport within and on the outskirts of Olympic National Park; and
- Northern spotted owl critical habitat is approximately 9.5 miles northeast and approximately 11 miles east of the Airport in Olympic National Park.

National Wetland Inventory (NWI) and PHS mapped freshwater emergent wetlands and freshwater forested/shrub wetland are located on airport property (see **Figure 2-5**). On airport property, adjacent and connecting to the northern side of the Dickey River, PHS has mapped a wetland complex named Elkhorn Pond that is not mapped on NWI or NHD resources. This area is documented as a snag rich wetland/pond that is habitat for elk and numerous bird species. This area is also a WDFW enhancement project for creating off-channel habitat for juvenile Coho.

Section 4(f) of the US Department of Transportation Act

Section 4(f) of the Department of Transportation (DOT) Act, provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a historic site, public parks, recreation areas, or waterfowl and wildlife refuges of national, state, regional, or local importance unless there is no feasible and prudent alternative to the use of such land, and the project includes all possible planning to minimize harm resulting from the use.

There are no Section 4(f) resources located within the immediate vicinity of the Airport. The closest Section 4(f) resource is Olympic National Park/Daniel J. Evans Wilderness Area that is approximately one mile southwest of the Airport.



Hazardous Materials, Solid Waste, and Pollution Prevention

Federal, state, and local laws regulate hazardous materials use, storage, transport, and disposal. According to the EPA's EJSCREEN, the closest brownfield site is located approximately 29 miles north of the Quillayute Airport property. The closest superfund site is located at the Makah Reservation Warmhouse Beach Dump in Neah Bay, WA, approximately 30 miles north of the Airport.

According to the Washington Department of Ecology (DOE) "What's in my Neighborhood Map," the Formerly Used Defense Site (FUDS) Quillayute Naval Auxiliary Air Station (NAAS) cleanup site is located on the Airport. The site was initially reported and investigated in 1999 and the affected media and contaminants included:

- Priority pollutant metals in the soil confirmed above cleanup level, and
- Polycyclic aromatic hydrocarbons in the soil confirmed above cleanup level.

The DOE spills map identifies six spills of varying types of oil and fuel that occurred in the town of La Push approximately three miles southwest of the Airport. The recorded spills were all under 50 gallons each and took place between the years of 2015 to 2019.

The EPA Toxics Release Inventory Tool lists one facility within a 10-mile radius of the Quillayute Airport. The mapped TRI facility is the Interfor Pacific Forks Sawmill that was closed in 2014. While in operation, it released a variety of hazardous emissions but followed permitting compliances with the Clean Air Act (CAA), Clean Water Act (CWA) and the Resource Conservation and Recovery ACT (RCRA).

WATER RESOURCES

The screening identified several resources on and in the vicinity of Quillayute Airport.

Wetlands

The U.S. Army Corps of Engineers regulates the discharge of dredged and/or fill material into waters of the United States, including adjacent wetlands, under Section 404 of the Clean Water Act. Wetlands are defined in Executive Order 11990, Protection of Wetlands, as "those areas that are inundated by surface or groundwater with a frequency sufficient to support and under normal circumstances does or would support a prevalence of vegetation or aquatic life that requires saturated or seasonably saturated soil conditions for growth and reproduction." The National Wetland Inventory (NWI) mapping within the vicinity of the Airport is shown on **Figure 2-5** and includes the following resources:

- One freshwater forested/shrub wetland at northernmost point of airport property near Coal Creek. The USGS National Hydrography Dataset (NHD) has mapped a tributary to Coal Creek originating on airport property and flowing east to west through this wetland. Surrounding this tributary, NWI has mapped riverine wetland habitat.
- A tributary to the Dickey River flows through the airport property south of Coal Creek and north of the Dickey River. NWI maps riverine wetland habitat along the banks of this tributary. The NWI also maps a freshwater emergent wetland south of Dickey River that appears to connect to the river. An NHD mapped tributary to the Dickey River flows east to northwest through the airport property south of Dickey River, along the banks of this tributary, there is a NWI mapped riverine wetland habitat. Approximately 400 ft south of the Dickey River there is another freshwater forested/shrub wetland mapped by NWI.
- Two other small tributaries to the Dickey River appear to originate on the western edge of the airport property and have riverine wetlands mapped by NWI along the banks.
- Two freshwater emergent wetlands and one forested/shrub wetland is mapped by NWI at the end of Runway 4. The NWI indicates that the forested/shrub wetland could be a headwater of one of the small tributaries of the Dickey River.

In addition to the NWI mapping, three wetlands are mapped on the Quillayute Airport Layout Plan documented by Barnard Dunkelberg and Company (2003). The source of the data concerning these mapped wetlands is not listed. However, two out of the three wetlands mapped on these plans do not correspond with NWI mapped wetlands. The following wetlands are mapped on the Quillayute Airport Layout Plans and shown on **Figure 2-5**:



- One wetland near the southwest end of the runway protection zone for Runway end 30.
- One wetland near the northeast interior corner of the airport property boundary.
- One wetland at the end of the northern runway protection zone for Runway end 12. This wetland corresponds to an NWI mapped freshwater forested/shrub wetland south of the Dickey River.

Floodplains

Executive Order 11988 directs federal agencies to take action to reduce the risk of flood loss, minimize the impact of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial values served by the floodplains. Based on a review of Federal Emergency Management Agency (FEMA) maps, there are areas of 100-year floodplains on airport property.

Areas that lie within the floodplain on airport property are associated with Coal Creek and Dickey River. All areas within the floodplain are at minimum 600 feet past the end of Runway 12 (which is currently closed). The portion of the airport property that lies in the 100-year flood plane is classified as FEMA Zone A. Zone A areas lie within the floodplain but base flood elevations and flood hazard factors are not determined.

Surface Waters

This airport property is in a watershed defined by the United States Geological Service (USGS). The largest National Hydrography Dataset (NHD) mapped surface water on Quillayute Airport property is the Dickey River. NHD also maps five tributaries to the Dickey River on airport property as well as one tributary to Coal Creek. Coal Creek is a larger tributary to Dickey River that is approximately 30 feet west of the northwestern most point of the airport property. The NHD mapping within the vicinity of the Airport is shown on **Figure 2-5**. NHD maps all surface water resources present on the airport property as streams/rivers with perennial hydrology except for the tributary to Coal Creek in the northernmost portion of the property and the tributary to Dickey River located west of the central portion of the closed runway (formerly Runway 12/30).

The segments of Dickey River and Coal Creek that pass through and near the airport property are classified as an impaired water under Section 303[d] of the Clean Water Act. In addition, the nearest portion of the Sol Duc River approximately 0.85 miles south of the airport property is also classified as an impaired water under section 303[d]. All three waters are listed for water temperatures above criterion. Currently, no Total Daily Maximum Loads (TDMLs) have been established for any of these surface waters.

Although Dickey River is listed as an impaired waterway, the Airport can prevent further degradation of the water quality by adhering to the National Pollutant Discharge Elimination System (NPDES) permit obligations and not further contributing to point-source pollutants.

Groundwater

According to the USGS Principal Aquifers of the 48 Conterminous United States map, the general aquifer type in the vicinity of the Quillayute Airport is Pacific Northwest basin-fill aquifers composed of unconsolidated sand and gravel aquifers. The USGS notes that this type of aquifer is prevalent in stream valleys and lowlands associated with structural or erosional basins. They provide freshwater for domestic, commercial and industrial purposes and are important for providing agricultural irrigation.

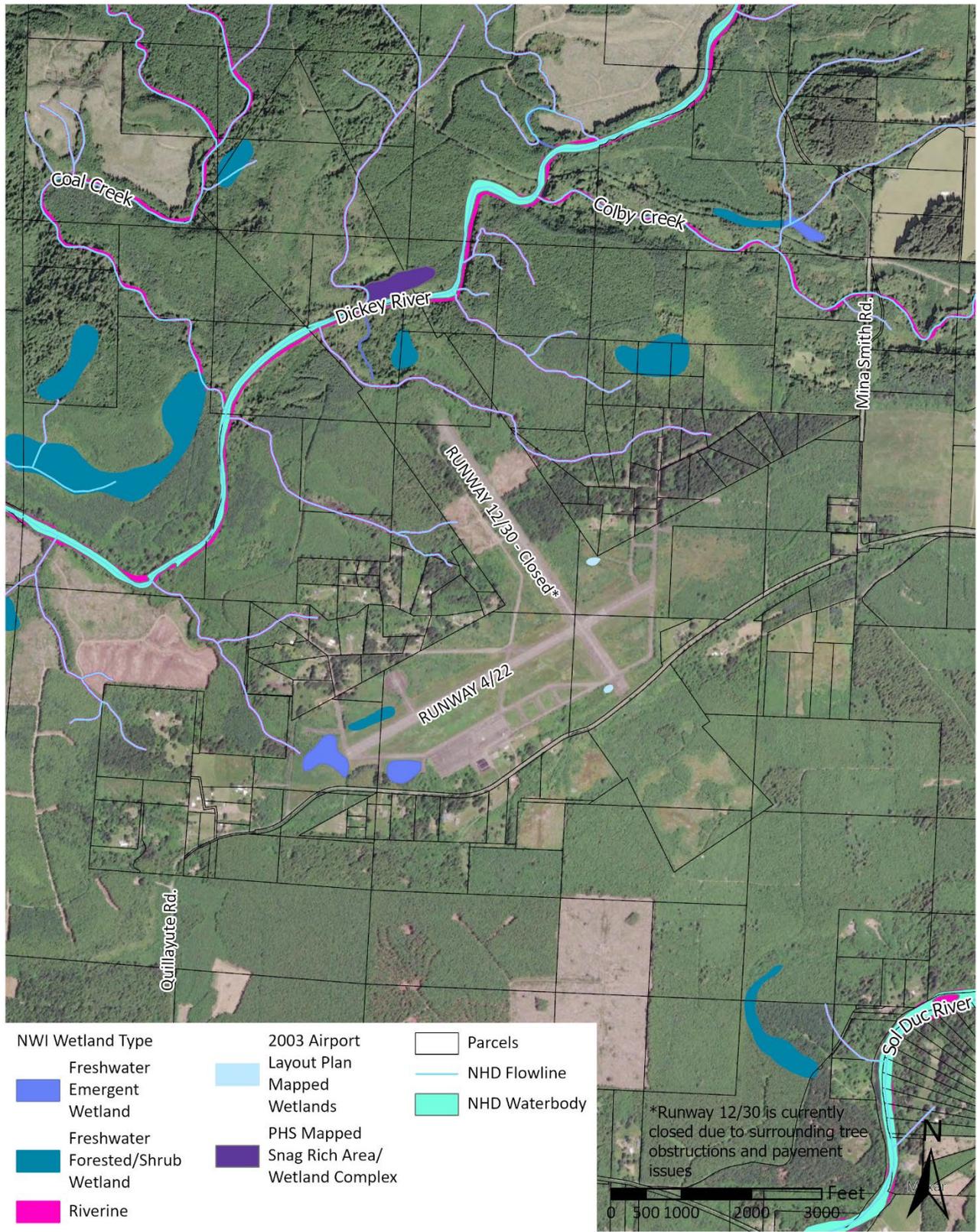
The 2003 Airport Master Plan lists one well, a 6-inch main line running along Quillayute Road, and system of distribution lines (3.5 to 6-inches) to different areas of the Airport and south of Quillayute Road. The well is located southwest of the intersection of the two runways. The functional status (flow rate and active service lines) of this 1940s system was not indicated. Fire hydrants and the structures located in the terminal area were served by this system. Current system capabilities and capacities and future system needs will be addressed in the facility requirements evaluation.

National Wild and Scenic Rivers

The National Wild and Scenic Rivers System was created in 1968 to preserve certain rivers with outstanding natural, cultural, and recreational values. The closest designated segment of a Wild and Scenic River is a portion of the Skagit River, located approximately 115 miles east of the Airport (USFWS 2016).



FIGURE 2-5: PARCELS, WETLANDS AND WATER RESOURCES MAP



Source: ESA Draft Environmental Screening



CULTURAL RESOURCES ANALYSIS

This section briefly summarizes the March 2022 Cultural Resources Documentation for the Quillayute Airport Master Plan prepared by Drayton Archaeology (Drayton). The study consists of a built environment assessment of 5144 Quillayute Rd, Forks, WA 98331, Clallam County. As noted in the study *“The project involves inventory and assessment of historic-aged structures located on the Quillayute Airport property...No archaeological or subsurface testing was initiated per the project’s purpose and scoping. No project or undertaking is currently planned for this property; therefore, no further archaeological or architectural oversight is warranted...The purpose of the historic property survey was to identify potentially eligible buildings located on the property and assess their eligibility for listing to the National Register of Historic Places.”*

The project Area of Potential Effect (APE) consists of approximately 500 acres. The current evaluation involves extant buildings built in conjunction with Naval Auxiliary Air Station Quillayute (Quillayute Airport). The updated inventory of historical structures identifies only three remaining WWII era structures on the property. These include one aircraft hangar and one operational structure (armory and instruments building) located immediately adjacent to the main aircraft apron. Detailed reports are provided for these structures. The third building, a warehouse located east of the main apron, adjacent to Quillayute Road, is not referenced further in the study.

Historic property reports for the two noted structures indicate that both structures appear to be eligible for listing on the National Register of Historic Places (NRHP) based on specific criterion. The reports note that the smaller building remains largely intact and its condition is generally consistent with its original feeling and setting. The hangar has deteriorated significantly and some repairs/restorations are noted as detracting from the original historic feeling and setting of the structure.

- **The Armory and Instruments Building** (currently occupied by the National Oceanic and Atmospheric Administration). The report states: *“The Armory and instruments Building is NRHP-eligible under Criterion A as it possesses an important association with the development and operations of Naval Auxiliary Air Station (NAAS), Quillayute. It thus has a significant connection with World War II military mobilization and operations in the Pacific Northwest. The building is eligible per Criterion C as it is an intact representation of the distinctive type, period, and method of construction. Minimal alterations to the building have resulted in some minor incursions to its integrity of materials. Overall, the building retains quality integrity of design, location, materials, workmanship, and feeling.”*
- **Hangar** (currently unoccupied). The report states: *“In 2009, the north wing was rehabilitated, resulting in the replacement of all original windows and siding. The south elevation remains intact but is in a state of decay. Every window is either missing panes, boarded-up, or collapsed. A large section on its southeast detracts from its overall historical character and feeling. Its large timber hanger doors on its east and west elevation are in varying states of decay. The hanger (sic) is NRHP-eligible under Criterion A as it possesses an important association with the development and operations of Naval Auxiliary Air Station (NAAS), Quillayute. It thus has a significant connection with World War II military mobilization and operations in the Pacific Northwest. While the building has sustained alterations and degradation of its materials, the hanger (sic) is eligible per Criterion C as it represents a distinctive type, period, and method of construction. Alterations to the building have resulted in diminished integrity of materials. Changes to the airport detract from the hangers (sic) integrity of feeling and setting. It retains the integrity of location, workmanship, and design.”*

All federally funded projects require compliance with Section 106 of the National Historic Preservation Act (NHPA) (43 USC 470f, as amended) and its implementing regulations (36 CFR Part 800).



NOISE CONTOURS

A noise analysis is not included in the scope of work for this master planning effort due to the relatively low levels of flight activity at the Airport, which falls below the FAA threshold for analysis. The 2003 AMP did not provide a set of current year noise contours “due to the very low operational counts that are currently estimated to occur at the airport.” One set of future noise contours was generated based on 2021 forecast aircraft operations levels (19,088). Although the operational levels reflected in the 2021 forecasts were not realized, it is worth noting that all mapped noise contours (60-75 DNL)⁷ for this level of activity, which included 620 turbine operations (jets and turboprops), were contained entirely within airport property.⁸

AIRSPACE & NAVIGATIONAL AIDS

Airspace Classifications

Airspace within the United States is classified by the FAA as “controlled” or “uncontrolled” with altitudes extending from the surface upward to 60,000 feet above mean sea level (MSL). Controlled airspace classifications include Class A, B, C, D, and E. Class G airspace is uncontrolled. See **Figure 2-6**.

Aircraft operating within controlled airspace are subject to varying levels of positive air traffic control that are unique to each airspace classification. Requirements to operate within controlled airspace vary, with the most stringent requirements associated with very large commercial airports in high traffic areas. Uncontrolled airspace is typically found in remote areas or is limited to a 700 or 1,200-foot above ground level (AGL) layer above the surface and below controlled airspace.

Local Area Airspace Structure

The Seattle Sectional Aeronautical Chart depicts nearby airports, notable obstructions, special airspace designations, and instrument airways in the vicinity of Quillayute Airport. See **Figure 2-7**.

Quillayute Airport is located in an area of Class G airspace, which extends from the surface to 14,500 feet MSL. Above 14,500 feet MSL is Class E airspace. The current airspace configuration is consistent with the Airport’s visual flight operations capabilities. Any future addition of instrument approach capabilities for the Airport will require the addition Class E airspace to protect the approach and departure routes defined for the procedures. The nearest areas of Class E airspace are located 25 nautical miles north (Neah Bay USCG Helipad) and 32 nautical miles northeast (the western section of airspace defined for Fairchild International Airport, in Port Angeles). These areas of Class E airspace have a floor 700 feet above the surface.

Radio communication is not required for visual flight rules (VFR) operations in Class G or E airspace, although pilots are encouraged to use the common traffic advisory frequency (CTAF) when operating at the Airport. Aircraft are required to obtain an air traffic control (ATC) clearance prior to operating in Class E airspace under instrument flight rules (IFR) flight plans.

Special Use Airspace

Several areas of special use airspace are located in the vicinity of the Quillayute Airport. These are summarized in **Table 2-12**. Pilots are requested to maintain a minimum of 2,000 feet above ground level (AGL) when overflying federal wildlife refuges, national parks, and forest service areas.

⁷ DNL: Day-Night Average Noise Level, which is intended to represent the average noise exposure levels based on a 12-month, 24-hour per day period, including both periods of active aircraft use and quiet.

⁸ 2003 Quillayute AMP, Figure F.8;



TABLE 2-12: ESTIMATED AIRCRAFT OPERATIONS (QUILLAYUTE)

Area	Description	Controlling Agency
Olympic Military Operations Area (MOA)	Located on the Olympic Peninsula, this MOA extends from the Strait of Juan de Fuca south to Hoquiam, and from the Olympic National Park west to the coastline. This area is used for in-flight air refueling training, flight familiarization, and aircraft combat maneuvering. The MOA excludes airspace below 1,200 feet AGL.	FAA Seattle; NAS Whidbey Island Complex
Quillayute Needles National Wildlife Refuge	Protected wildlife habitat for off-shore rocks, reefs, and islands, except those designated as Native American reservations.	U.S. Fish and Wildlife Service (UFWFS)
The Olympic Coast National Marine	The OCMNS is a protected coastal area that extends seaward from to Koitlah Point near Neah Bay, south to the mouth of the Copalis River. The OCNMS directly abuts the Pacific Ocean shoreline, including the section located near LaPush, about 3.5 miles from the Airport.	U.S. National Oceanic and Atmospheric Administration (NOAA).
Olympic National Park	A narrow section of the national park is located along the Pacific Ocean between Kalaloch, Mora and Ozette; the main section of the park is located east of Forks. The Hoh Rain Forest entrance to the Olympic National Park is located about 31 miles south of Forks off U.S. Highway 101.	National Park Service

Source: Century West Engineering; FAA Seattle Sectional Aeronautical Chart, National Park Service Webpage (<https://www.myolympicpark.com/park>)

Controlled & Uncontrolled Airspace

Quillayute Airport is a non-towered airport, meaning that pilots are responsible for all aircraft movements and communications to avoid traffic conflicts, observing common right of way rules, and following all applicable FAA procedures for uncontrolled airports. The airport Unicom/common traffic advisory frequency (CTAF) is used for communications on the ground and in the vicinity of the Airport, although radio communications are not mandatory based on the Airport’s airspace classification.

It is noted that the same CTAF (122.9 MHz) is used for Quillayute Airport and Forks Municipal Airport, located 6.7 nautical miles east. The use of the same frequency at two uncontrolled airports in proximity requires increased pilot awareness and communication to avoid confusion when reporting the location of aircraft in flight or on the ground in the local area.

Navigational Aids and Airways

The nearest electronic navigational aid is the Tatoosh VORTAC⁹ (TOU 112.2 MHz), located 22 nautical miles north of Quillayute Airport. A low altitude instrument airway (Victor 4 - V4) extends 73 miles east from TOU to the JAWBM intersection, located near the Jefferson County International Airport in Port Townsend. V4 has a minimum enroute altitude of 5,800 feet MSL for its entire length and passes immediately north of Fairchild International Airport in Port Angeles.

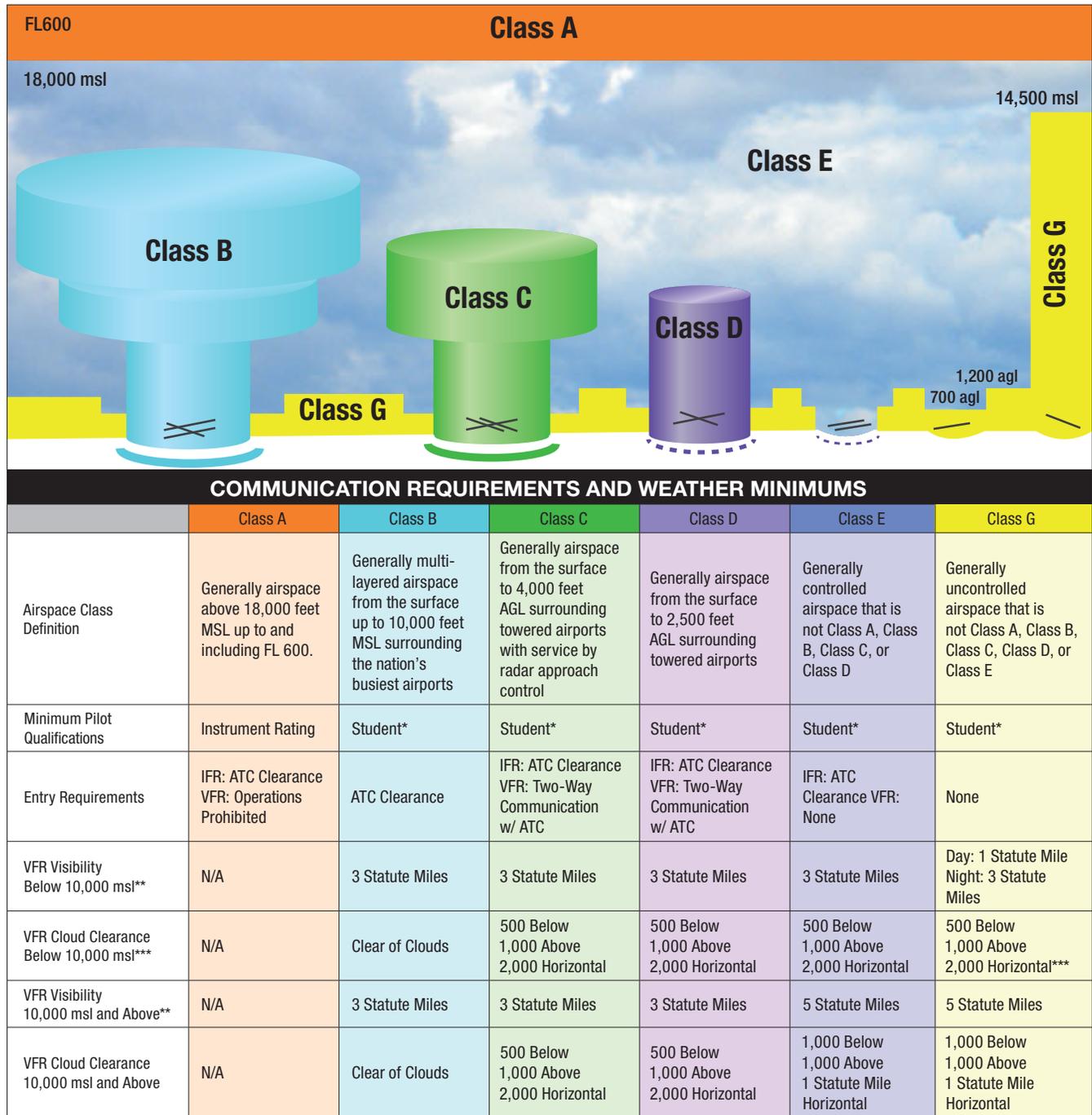
A satellite based (GPS) RNAV instrument airway (T257) was activated by FAA in 2021. T257 extends from Ventura City, California to Tatoosh. The “T-Route” segment extending from Hoquiam to Tatoosh, passes about 3 miles east of Quillayute Airport at its nearest point with a minimum enroute altitude of 3,700 feet MSL (GNSS RNAV required). The ongoing development of T Routes by FAA is designed to increase flexibility in aircraft routing, rather than being limited to a linear fixed course between two ground-based electronic navigational aids.

The ELWHA non-directional beacon (NDB) (Identifier: CL, 515 KHz) is located 38 nautical miles northeast of the Airport, west of Port Angeles. The low-level navigational aid is used for enroute navigation (low transmitting power, range).

⁹ VORTAC: Very high frequency Omni-directional Range with Tactical air navigation



FIGURE 2-6: AIRSPACE CLASSIFICATIONS



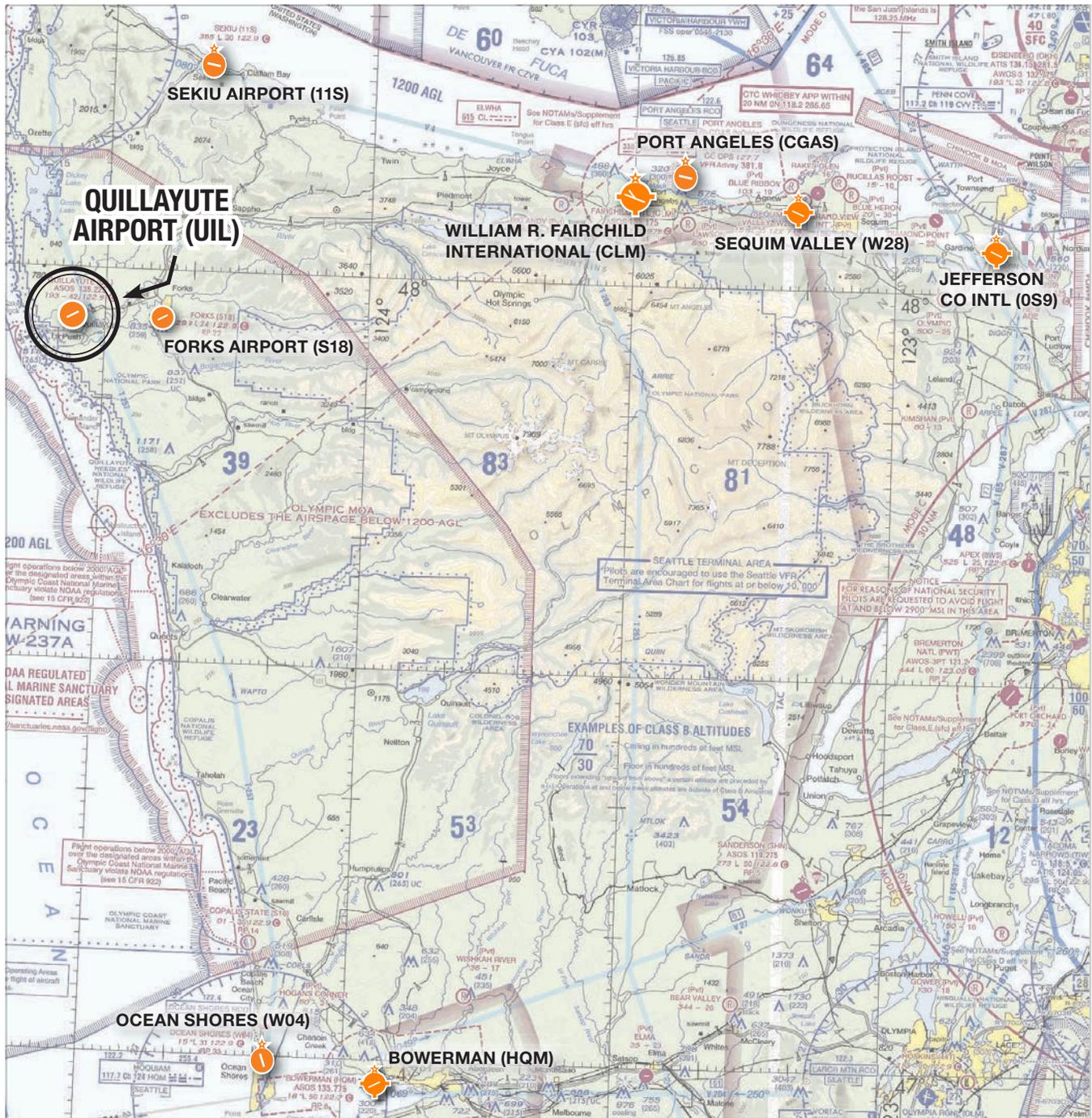
* Prior to operating within Class B, C, or D airspace (or Class E airspace with an operating control tower), student, sport, and recreational pilots must meet the applicable FAR Part 61 training and endorsement requirements. Solo student, sport, and recreational pilot operations are prohibited at those airports listed in FAR Part 91, appendix D, section 4.

** Student pilot operations require at least 3 statute miles visibility during the day and 5 statute miles visibility at night.

*** Class G VFR cloud clearance at 1,200 agl and below (day); clear of clouds.



FIGURE 2-7: AREA AIRSPACE - SEATTLE SECTIONAL CHART



LEGEND			
	Airports with other than hard-surface runways		VOR or RNAV Airways
	Airports with hard-surfaced runways 1,500 ft. to 8,069 ft.		Class E Airspace (surface)
	VOR/ VORTAC		Class E Airspace with floor 700' above surface
	Compass Rose (VOR/DME or VORTAC)		National Wilderness Area

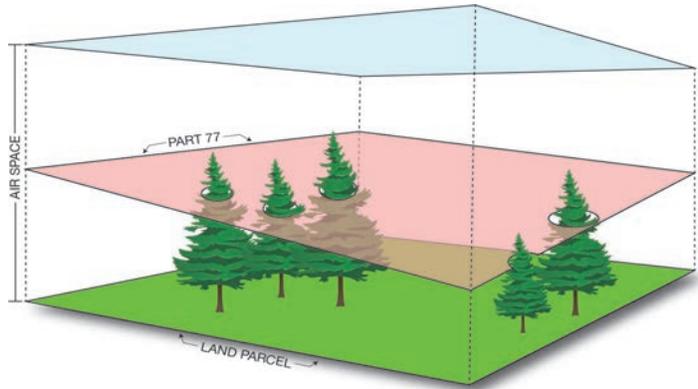


Airspace – FAR Part 77, TERPS, And Runway Threshold Siting Surfaces

A variety of federal regulations and design criteria are used to guide the protection of airspace associated with airports—also referred to as terminal airspace. Airport Cooperative Research Program (ACRP) Report 38 - Understanding Airspace, Objects, and Their Effects on Airports provides a comprehensive description of the regulations, standards, evaluation criteria, and processes designed to protect the airspace surrounding airports. These are briefly summarized below for reference, and they will be addressed further in updated airspace evaluations performed in the Airport Master Plan for Quillayute Airport.

FAR Part 77—Safe, Efficient Use, and Preservation of the Navigable Airspace (see **Figure 2-8**)

14 Code of Federal Regulations (CFR) Part 77¹⁰ is the central regulation governing airspace protection, with cross-references to many other criteria documents. It defines airport “imaginary surfaces” for civil and military airports and heliports. The surfaces are intended to be free of obstacles to the greatest extent feasible to provide for safe environment for aircraft operating in the vicinity of the landing area. For runways, Part 77 surfaces are established based on the approach type (visual, non-precision instrument, or precision instrument) and the size of aircraft. Part 77 also defines requirements for notification of FAA for proposed construction in vicinity of airports, defines obstruction criteria; and describes aeronautical studies required to assess hazard status.



FAA Order 8260.3B – United States Standard for Terminal Instrument Procedures (TERPS)

This Order, along with several derivative orders in the 8260 series and other related orders, define the technical criteria used by FAA flight procedure designers when creating instrument flight procedures. Common procedures include instrument approaches, missed approach and holding procedures, and departure procedures. Although similar to FAR Part 77 airspace, TERPS surfaces are specifically defined to provide a safe operating space for aircraft operating in without the benefit of visual reference to the ground surface during the approach or departure from the airport. TERPS surfaces have defined vertical and lateral obstacle clearance standards relative to the paths defined for aircraft.

The proposed development of instrument approach and departure procedures at the Quillayute Airport will reflect obstruction clearance requirements for the applicable TERPS surfaces defined for Runway 4/22.

FAA AC 150/5300-13A – Airport Design

This Advisory Circular (AC) is the principal document utilized by the FAA, airport sponsors and airport planners when planning and designing new airports or modifications to existing airports. Obstruction clearance and mitigation options for key runway end features are defined for Runway End Siting Surfaces.

This AC is periodically updated and has undergone extensive revision since the last master plan was completed. A comprehensive review of current FAA design standards will be provided in the facility requirements chapter of the master plan update to identify any existing facilities that do not conform to current FAA standard.

FAA AC 150/5070-6B – Airport Master Plans

The purpose of this Advisory Circular (AC) is described by FAA as follows: “provides guidance for the preparation of master plans for airports that range in size and function from small general aviation to large commercial service facilities. The intent of this AC is to foster a flexible approach to master planning that directs attention and resources to critical issues. The scope of each master plan must be tailored to the individual airport under evaluation.” The FAA-approved scope of work for this master plan project is consistent with the AC.

¹⁰ Code of Federal Regulations (CFR) Title 14, Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace



Instrument Flight Procedures

Quillayute Airport is not currently equipped with instrument approach procedures. Instrument approach and departure procedures are developed by the FAA using electronic navigational aids or satellite navigation to guide aircraft through a series of prescribed maneuvers in and out of an airport's terminal airspace. Procedures are designed to enable continued airport operation during instrument meteorological conditions (IMC), but are also used during visual conditions, particularly in conjunction with an instrument flight plan. The capabilities of each instrument approach are defined by the technical performance of the procedure platform (ground-based or satellite navigational aids) and the presence of nearby obstructions, which may affect the cloud ceiling and visibility minimums for the approach, and the routing for both the approach and missed approach procedure segments. The aircraft approach speed and corresponding descent rate may also affect approach minimums for different types of aircraft.

The Airport Master Plan update includes an Airport Geographic Information System (AGIS) survey, which is now required by FAA to develop new instrument procedures. The AGIS field work and aerial photography was conducted in late 2021 and the survey data analysis and mapping are scheduled for completion and FAA approval in 2022. Early in the master planning process, a formal request was submitted to the FAA's technical flight operations team to perform a preliminary assessment of feasibility for development of an instrument approach at the Airport. The findings of this assessment will be incorporated into the airside facility requirements and alternatives analyses.

The 2003 airport master plan recommended development of instrument capabilities for the Airport and depicted ultimate FAR Part 77 airspace consistent with future precision and non-precision GPS instrument approaches. The 2003 Airport Layout Plan and Airspace Plan drawings depict the following future approach types:

- Runway 22 - Precision Instrument. Approach surface 50:1/40:1 slope; 50,000 feet long
- Runway 4 – Non-Precision Instrument. Approach surface 34:1 slope; 10,000 feet long
- Runway 12 – Non-Precision Instrument. Approach surface 20:1 slope; 5,000 feet long
- Runway 30 – Non-Precision Instrument. Approach surface 20:1 slope; 5,000 feet long

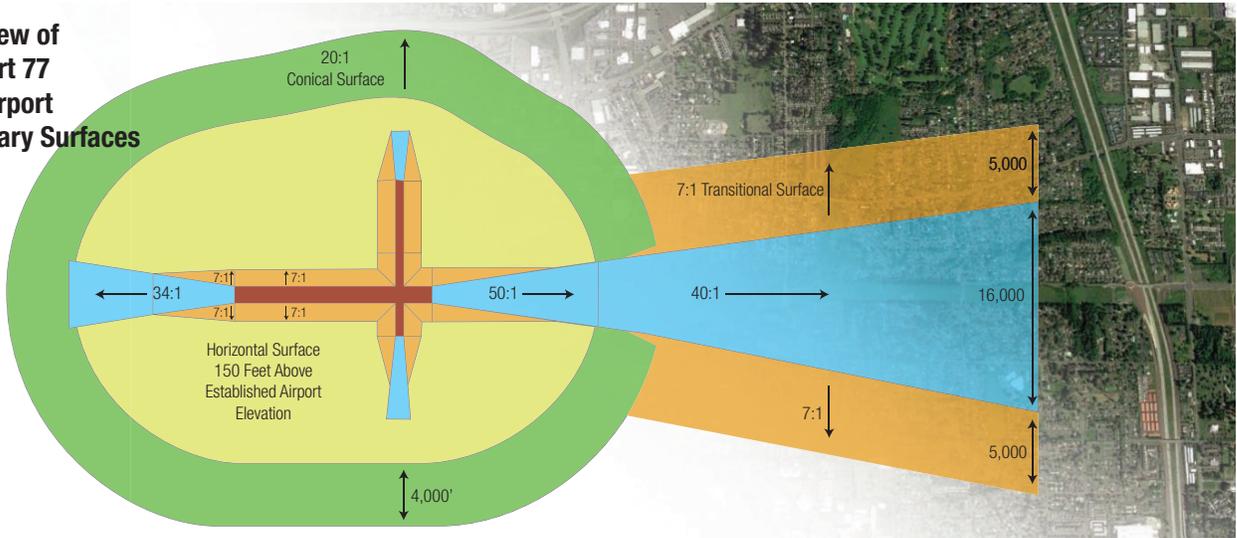
The 2003 airport master plan recommended several runway changes, including an extension for Runway 4/22 and re-opening and reconfiguring Runway 12/30. The plan also recommended the addition of several airfield lighting systems including a rotating beacon, and runway edge lights, runway end identifier lighting, visual guidance indicators for Runway 4/22. Some of the systems are required to support day/night instrument operations. None of these projects have been completed and the previous recommendations will be reviewed in facility requirements and alternatives evaluations.

The addition of instrument capabilities at Quillayute Airport remains a high priority for the City of Forks to support its broad functional role. The limited number of airports with instrument capabilities on the Olympic Peninsula highlights a gap in service for all general aviation segments, but particularly for critical medical evacuations (MEDEVAC) flights and natural disaster response. General aviation and military users contacted during the master plan data collection phase also indicate that the addition of an instrument approach at Quillayute Airport would increase their use of the airport since poor weather conditions on the outer Olympic Peninsula often limits their visual flight activity.



FIGURE 2-8: FAR PART 77 AIRSPACE

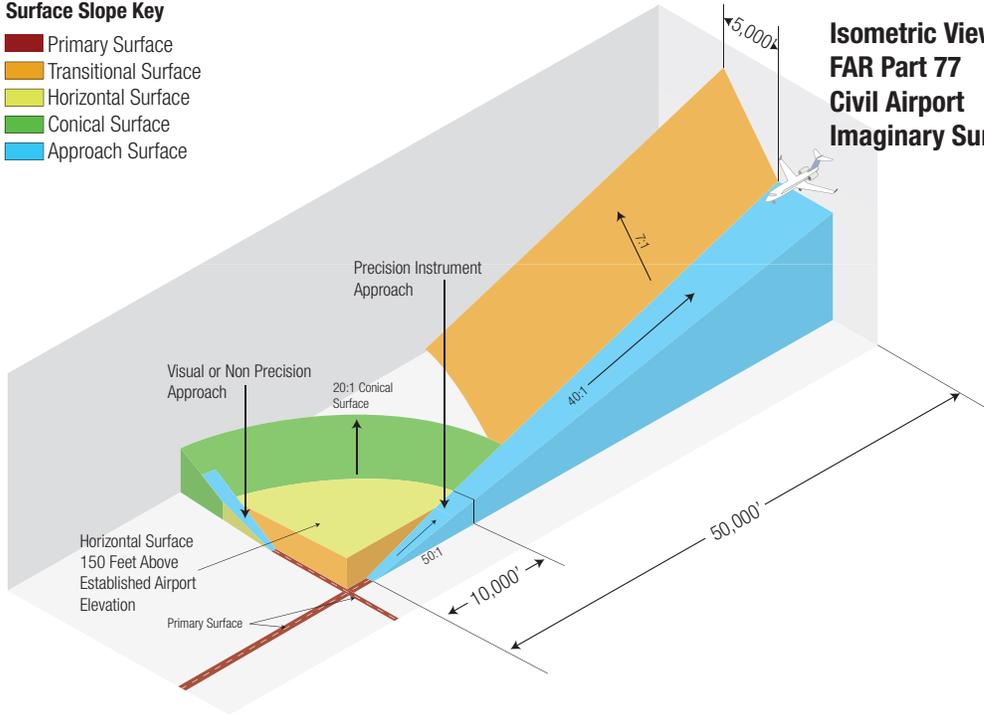
Plan View of FAR Part 77 Civil Airport Imaginary Surfaces



Surface Slope Key

- Primary Surface
- Transitional Surface
- Horizontal Surface
- Conical Surface
- Approach Surface

Isometric View of FAR Part 77 Civil Airport Imaginary Surfaces



For Quillayute Airport, the approach surfaces for the runway extend 5,000 feet beyond each runway (beginning 200 beyond the runway end).



LAND USE & ZONING ANALYSIS

Quillayute Airport is located in unincorporated Clallam County, approximately 7 miles west of the City of Forks urban growth area (UGA) on State Highway 110 (La Push Road). All land use actions related to the airport site, and its immediate surroundings are under Clallam County jurisdiction.

The Clallam County comprehensive plan and zoning ordinance articles associated with the Airport are summarized below and provided in **Appendix C**. The FAR Part 77 airspace surfaces defined for Quillayute Airport on the 2003 ALP extend primarily over areas of Clallam County jurisdiction with the exception of a portion of the future Runway 22 precision instrument approach surface (AMP Figure E3, Runway 22 Extended Approach Surface) that extends over the City of Forks. These airspace surfaces will be reviewed based on the current master plan's preferred airside facility configuration and approach types.

Each jurisdiction is responsible for protection of the FAR Part 77 airspace surfaces for Quillayute Airport that fall within their boundaries. The county and city are also each responsible for compliance with State of Washington airport land use protections within their respective jurisdictions.

Clallam County

Comprehensive Plan

Clallam County Code, Title 31 Comprehensive Plan includes county-wide and subarea comprehensive plan elements. The Western Regional Comprehensive Plan (Chapter 31.06) is the subarea plan that includes Quillayute Airport and the surrounding area that defines the rural character of the area. The comprehensive plan recognizes the “grandfathering” of land uses that predate current zoning and land use controls and states that “existing land uses shall not be rendered invalid nonconforming uses by changes in land use regulation.” The comprehensive plan also notes that public lands make up large areas of the planning area.

Quillayute Airport has a “**Rural Center**” land use designation (**31.06.110 Rural land – Classifications**):

- (1) *Rural Center*. A land use classification intended for areas with a mixture of land uses, including commercial, residential and industrial.
 - (a) *Standards*. Minimum Lot Size – One-half acre.
Maximum Residential Density – Based on health regulations.
Setbacks – Per existing Zoning Code.
 - (b) *Permitted Uses*. See matrix in CCC 31.06.130.
 - (c) *Location*. Proposed for Sappho, Beaver, Three Rivers, **Quillayute Prairie Airport**.

The rural land use matrix (31.06.110) identifies a range of land uses permitted in the Rural Center zone. Airports or airport-related development are not included in the listed land uses. However, staff from the Clallam County planning department indicate that proposed developments at Quillayute Airport are evaluated based on the listed use (commercial, residential, industrial, etc.) most like the airfield since the Airport was established prior to the introduction of land use and zoning codes within the county.

Clallam County also defines Generalized Locations of **Limited Areas of More Intensive Rural Development (LAMIRD)** throughout the county, including an area that includes Quillayute Airport and adjacent lands located along Quillayute Airport (Clallam County Map 31.02.263(A), June 2009).

Clallam County Code Section 31.02.263 provides the following description of LAMIRDs:

“Clallam County, like many Washington counties, is characterized by areas of more intensive rural development such as higher density residential, commercial, industrial, or mixed use development that are located outside of urban areas. These developments may or may not be served by sewer, water, fire, and other public services. The uncontrolled expansion of such areas of intensive, nonrural uses tends to promote sprawl and threaten the rural character. Counties found these existing developments are difficult to reconcile with State growth management goals and requirements for rural areas. At the same time, many of the resource industries that have traditionally



provided jobs and income to rural residents have cut back operations or even disappeared. Many rural residents expressed a need for more employment opportunities and convenient services in rural areas.”

Quillayute Airport is located within the **Western Regional Rural Center (WRC) LAMIRD**, which includes Sappho, Lake Pleasant, Quillayute Airport, and Mora Road/La Push Road Junction (Three Rivers) areas.

Clallam County Code Section 31.02.620 Economic development goals includes a policy focused on LAMIRDS:

(d) Policy 4. Continuously develop and maintain updated land use plans and regulations which encourage business location and retention in appropriately designated areas including urban growth areas, rural centers and villages, existing LAMIRDS, rural commercial areas and other planned business and industrial locations.

Clallam County Code Section 31.02.410 Transportation – Background issues summarizes land use elements related to airport protection as an element of the Washington Growth Management Act (GMA).

“2) The Growth Management Act requires local jurisdictions to designate public use airports as essential public facilities (RCW 36.70A.200). Additionally, local jurisdictions must discourage incompatible land uses adjacent to public use general aviation airports (RCW 36.70A.547). The Washington State Department of Transportation – Aviation Division is charged with providing technical assistance to local governments to develop comprehensive plans and development regulations consistent with these requirements. The intent of the requirements is to protect the safety of people on the ground and in aircraft, the current operations of the airport, and the future viability of the airport.

(3) Title 14, CFR, Part 77 of the Federal Aviation Regulations (FAR) “Objects Affecting Navigable Airspace” (referred to herein as FAR Part 77) establishes standards for determining obstructions in navigable airspace. Part 77 provides horizontal and vertical dimensions for airspace protection surfaces above and around each airport runway. The horizontal size and vertical slope of the airspace protection surfaces are based on the category of the runway. The category of runway is based on the most precise type of approach available or planned for that runway. See Figure 31.02.410(B) for a diagram of airspace protection surfaces.”

Both Quillayute Airport and Forks Municipal Airport are referenced in **31.02.415 Transportation – Inventory**, although some facility and activity data are obsolete.

Clallam County Code Section 31.02.420 Transportation – Goals and policies includes several policies intended to protect airports:

(4) Airport.

(a) Policy 16. Maintain air transportation as a safe, efficient, economical, and environmentally acceptable travel mode serving the needs of County citizens.

(b) Policy 17. Encourage airport managers and sponsors to maintain up-to-date airport master plans, airport layout plans, airport facility plans, or other similar documents meeting Federal Aviation Administration and Washington State Department of Transportation Aviation Division requirements to determine the existing and future air transportation role of airports and provide the needed direction for future development.

(c) Policy 18. Coordinate land use development in and adjacent to public use airports to reduce hazards that may endanger the lives and property of the public and aviation users and to protect the viability of Clallam County’s public use general aviation airports.

(d) Policy 19. Provide adequate surface transportation between airports and urban growth areas and ensure that the existing major arterial streets, roads, and highways serving the airport are adequate.

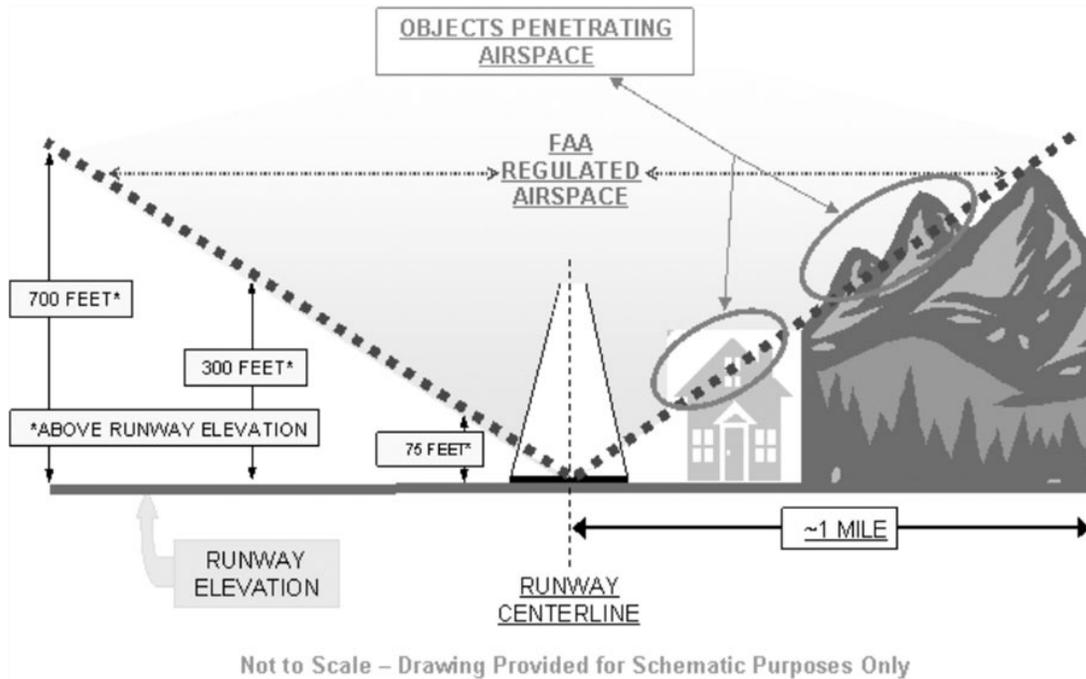
(e) Policy 20. Recognize Seattle-Tacoma International Airport (Sea-Tac) as the major air carrier hub airport for Clallam County. Support efforts to attract a passenger airline carrier with direct flights to Sea-Tac.



(f) Policy 21. Discourage siting of incompatible land uses around public use airports. Pursue a balance between this requirement and other goals of the Growth Management Act including, but not limited to, protection of private property rights, providing adequate housing, and appropriate economic development in rural and urban areas.

(g) Policy 22. Protect navigable airspace, as provided in Code of Federal Regulations Title 14 Federal Aviation Regulation (FAR) Part 77 – Objects Affecting Navigable Airspace, from obstructions that are of sufficient height as to constitute a danger to aircraft flight. See Figure 31.02.420(A) for an illustration of objects penetrating FAR Part 77 airspace.

Clallam County Figure 31.02.420(A). FAR Part 77 Schematic Displaying Objects Penetrating Airspace



(h) Policy 23. Provide notice and disclosure to current, future, and prospective purchasers of lands within the Airport Overlay District of potential hazards and nuisances associated with aircraft operations and the potential for land use and height regulations.

(i) Policy 24. Designate public use, general aviation airports located within Clallam County as essential public facilities.

(j) Policy 25. Enact regulations to preserve open land along the extended runway centerline within the Airport Overlay District.

(k) Policy 26. Discourage airport hazards including, but not limited to, the siting of land uses adjacent to airports that foster an increase in bird or wildlife populations, create visual hazards, discharge emissions of any particulate matter in the air that could impair airport operations, emit electrical transmissions that would interfere with aviation communications and/or instrument landing systems, or otherwise obstruct or conflict with aircraft patterns or result in potential hazards to aviation.

(l) Policy 27. Encourage economic development opportunities and aviation-related land uses within the Airport Overlay District to promote the efficient mobility of goods and services consistent with the economic development element and the regional transportation strategy.

(m) Policy 28. Consult with the Washington State Department of Transportation Aviation Division to provide input into the land use planning efforts around Clallam County’s public use airports.



Clallam County Code Section 31.06.050 - Transportation – Inventory and analysis includes the following section related to airports:

(6) *Airports.*

(a) *Ensure that land uses adjacent to the Quillayute Prairie Airport are compatible with the continued use of the airport for air transportation needs of the region.*

(b) *If developed for commercial use, provide adequate roadway connections between the Quillayute Prairie Airport and the existing major arterial streets, roads and highways serving the airport. Ensure that there are public transportation connections to the Quillayute Prairie Airport.*

ZONING

Clallam County Title 33 – Zoning defines all zoning designations applicable to Quillayute Airport. The ordinance defines base zoning, LAMIRDs, and airport overlay zoning.

Quillayute Airport is zoned **Western Region Rural Center (WRC) in Clallam County Code, Chapter 33.15 - Commercial Zones (Section 33.15.045):**

“The purpose of the Western Region Rural Center zone is a land use classification intended for areas with a mixture of land uses, including commercial, residential and industrial.”

Airports are identified as *Conditional Land Uses* in the WRC zone. Hangars, commercial buildings, and related development would be allowed as a conditional use. Business parks, commercial greenhouses, industrial uses, research facilities, wood manufacturing are also listed among the conditional uses in the WRC zone. Several airport-compatible commercial uses identified as *Allowed Land Uses* in the WRC zone, including timber harvesting and commercial storage.

Clallam County Code, Chapter 33.22 – LAMIRD Standards provides specific guidance for commercial or industrial development that would apply to new or infill development at Quillayute Airport. The guidance is intended “to maintain a more ‘open’ or ‘rural’ atmosphere...” and includes limits on impervious surface and minimum development setbacks for adjacent less intensive rural residential zoning, public roads or highways. Other conditions intended to preserve the underlying rural character of the LAMIRD, such as restrictions on overhead lighting glare with “cut-off” type fixtures are also consistent with protecting airports from incompatible land uses.

AIRPORT OVERLAY ZONING

Clallam County Code Chapter 33.08 - Airport Overlay District applies to all public use airports located in Clallam County, including Quillayute Airport. The overlay consists of two components: 1) Airport Land Use Compatibility Overlay, and 2) FAR Part 77 Surfaces and Height Hazard Overlay.

Section 33.08.050 – Airport Land Use Overlay defines six land use compatibility overlays:

- Runway Protection – **Zone 1**
- Airport Hangar Development – **Zone 2**
- Airport Development – **Zone 3**
- Aviation Related Residential – **Zone 4**
- Extended Runway Centerline Protection – **Zone 5**
- Airport Influence Area – **Zone 6**

The code provides land use guidance and protection standards for each zone. However, specific dimensions for each zone are not provided. References are provided for Map 33.08.020 (1a)) for the five airports listed in Section 33.08.020 – Applicability. However, the maps currently included in the code are for Sequim Valley Airport (submitted by airport owner). The other four public use airports, including Quillayute, are reserved with no additional information provided.



Clallam County Community Development Department staff indicate that the overlay zone ordinance defined in Chapter 33.08 may be applied to each of the “reserved” airports at any time with the submittal and adoption of mapping to depict the referenced zones 1-6.

The land use compatibility overlays contained in Chapter 33.08 were developed based on airport land use compatibility guidance provided by the Washington Department of Transportation – Aviation Division, originally developed in the 1990s. The code indicates the intent to comply with requirements of the Washington State Growth Management Act (GMA), RCW 36.70A.510 and 36.70.54 by discourage siting of incompatible land uses that may impair the future development and operation of public use general aviation airports.

The updated airport land use plan drawing being developed as part of the airport master plan update will depict the geometric footprints with supporting documentation for applicable dimensions based on current WSDOT Aviation guidance. The mapping will satisfy Clallam County’s requirements for application of the code to Quillayute Airport.

Section 33.08.060 - Federal Aviation Regulations (FAR) Part 77, surfaces and height hazard overlay includes protections for the Federal Aviation Regulation (FAR) Part 77 Airspace defined for the referenced airports, including requirements for aeronautical studies of proposed construction in the vicinity of the airports through submittal and review of FAA Form 7460-1 “Notice of Proposed Construction or Alteration” where applicable.

The City of Forks Zoning Ordinance (Title 17) does not include airport overlay zoning, or any other provisions intended to protect the airspace surfaces associated with Quillayute Airport. The 2003 Airport Airspace Drawing (Figure E3) depicts portions of the FAR Part 77 future approach surface and approach transitional surface for Runway 22 that appear to extend over areas of City of Forks land use jurisdiction (north and east of the La Push Road and U.S. 101 connection). A review of airspace requirements for the Airport will be performed in the facility requirements and alternatives analysis to determine the need for city overlay zoning.

AIRPORT VICINITY ZONING

Clallam County zoning in the vicinity of Quillayute Airport is depicted on Figure 2-9 and consists of rural designations consistent with the Western Regional Comprehensive Plan (Chapter 31.06):

Western Region Rural Low (RW5) – *The purpose of the Western Region Rural Low zone is to provide home sites in rural forestry areas with limited encroachment of commercial and industrial activities in the western region of Clallam County. Maximum Residential Density: One dwelling unit per 4.8 acres or 1/128th of a standard section subdivision. Minimum Lot Size: 2.4 acres.*

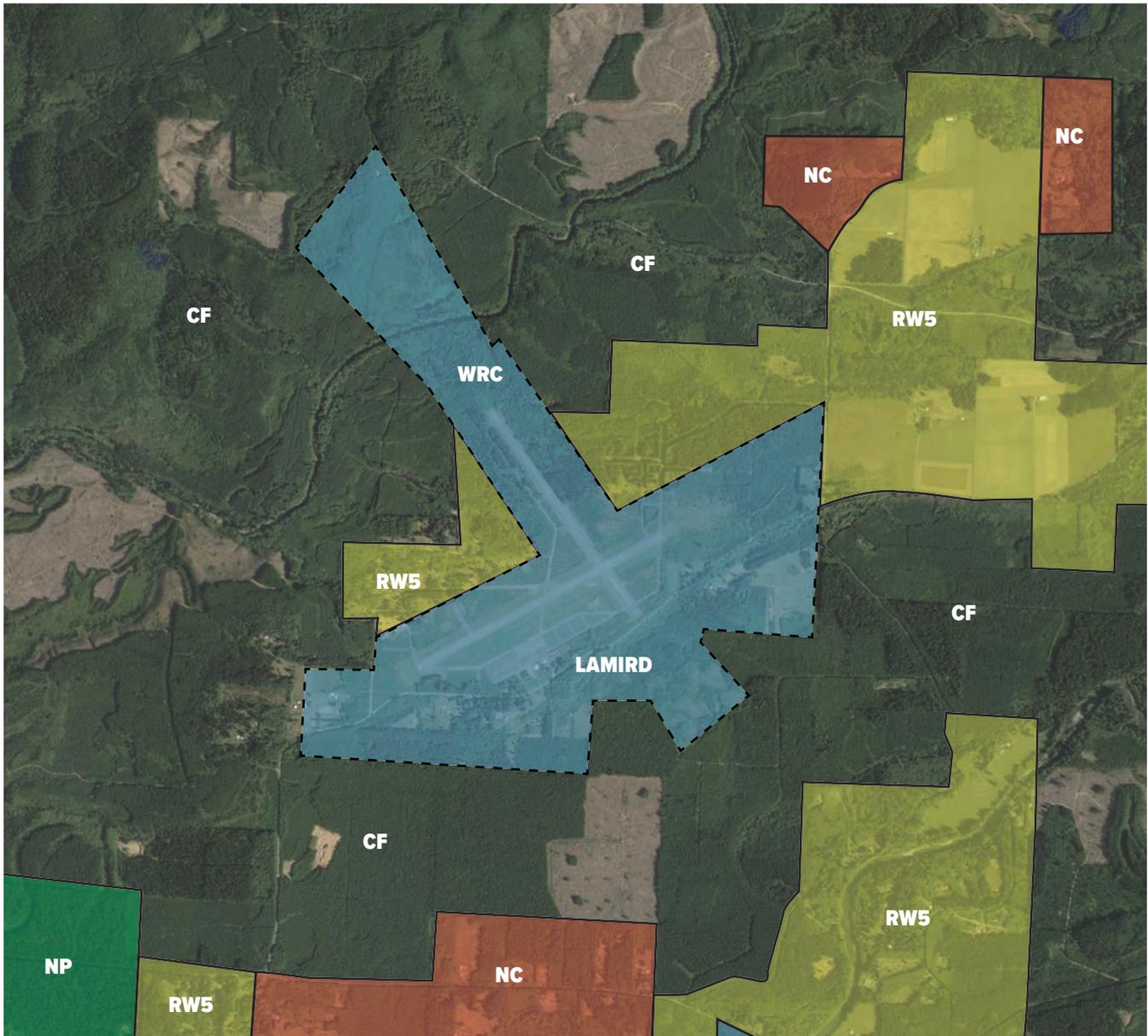
Western Region Rural Moderate (RW2) – *The purpose of the Western Region Rural Moderate zone is to provide areas for persons who desire to live in a low-density rural setting with limited encroachment of commercial and industrial activities. Maximum Residential Density: One dwelling unit per acre. Minimum Lot Size one acre.*

Rural (R1) – *The purpose of the Rural zone is to provide areas having a suburban/rural density setting free from commercial and industrial developments. Maximum Residential Density: One dwelling unit per 2.4 acres. Minimum Lot Size. 2.4 acres.*

Quillayute Residential (QR) – *The Quillayute Residential zone is a land use classification in areas where residential one acre lots in rural areas are either currently the predominant land use or are proposed. Maximum Residential Density: One dwelling unit per one-half acre. Minimum Lot Size one-half acre.*



FIGURE 2-9: AIRPORT & VICINITY ZONING



Zoning Legend

Commercial Forest (CF)

Rural Commercial-Western Region (WRC)

Western Region Rural Low (RW5)

Rural Neighborhood Conservation (NC)

Olympic National Park (NP)

----- Limited Areas of More Intensive Rural Development (LAMIRD)

Source: Clallam County Zoning Ordinance



Airside Elements

Airside facilities are comprised of infrastructure that facilitate the movement and operation of aircraft on the ground and in the air. This section of the existing conditions analysis includes a discussion of the Airport's runway-taxiway system, airfield pavements, and support facilities. Quillayute Airport operates in day and night visual flight rules (VFR) conditions. The Airport does not currently have any instrument procedures or airfield lighting. Existing airfield conditions are depicted in **Figure 2-10**.

The addition of instrument capabilities at the Airport remains a high priority improvement for the City of Forks. The associated facility requirements will be examined, and options will be reviewed in the alternatives analyses in conjunction with AGIS obstruction survey being completed in conjunction with the master plan.

As noted earlier in the chapter, the original runways and taxiways constructed at Quillayute Airport were designed to accommodate larger and heavier aircraft than currently use the facility on a regular basis. The active operational areas (dimensions) for these pavements are listed on the FAA Airport Record Form (5010-1) and in the WSDOT IDEA Airfield Pavement database. All "existing" runway and taxiway information referenced in the airport master plan reflect current published data, unless noted otherwise.

RUNWAY

Quillayute Airport has one paved runway (4/22) that is oriented in a northeast-southwest direction. The runway's magnetic alignment is 043/223 degrees, based current magnetic variation.¹¹ Runway 4/22 is 4,210 x 100 feet with a full-length taxiway (Taxiway A) on its south side. Runway details are summarized in **Table 2-13**.

The runway is not equipped with edge lighting, retro-reflective edge markers, or visual guidance indicators. It is noted that the 1943 construction of the runway included edge lighting (fixtures abandoned, concrete mounts visible).

The runway is constructed of Portland Cement Concrete (PCC). The published weight bearing capacity for the runway is 30,000 pounds for aircraft with single-wheel landing gear, and 50,000 pounds for dual-wheel landing gear configurations. The 1943 concrete panels are original, although the center section of the runway has undergone periodic rehabilitation projects (joint repair, spall repair, crack repair, etc.). The most recent rehabilitation work was completed in 2019.

The Runway 4/22 pavement is in good condition. Minor vegetation growth in panel joints. The runway markings are Basic, consistent with visual approach requirements and runway use. The runway markings are white, consistent with FAA standards. Taxiway lead-in lines (yellow) are located at the west and east exit taxiway connections. Current markings include:

- Runway End Numbers (24' long).
- Centerline Stripe (12" wide).
- Edge Stripes (36" wide); and
- Threshold Bar (10' wide) at the Runway 22 end identifies the northeast end of usable runway.

The runway markings were observed to be in very good condition (Fall 2021), repainted in 2019 as part of a runway rehabilitation project.

¹¹ Magnetic Field Calculator WWM-2020 (<https://www.ngdc.noaa.gov/geomag/magcalc.shtml>). UIL:12/12/21 15° 52' E ± 0° 24' changing by 0° 6' W per year



FIGURE 2-10: EXISTING CONDITIONS



TABLE 2-13: RUNWAY DETAILS

Runway 4/22	
Dimensions	4,210' x 100'
Bearing	N 58° 35' E (True)
Effective Gradient	0.39% estimated (runway end elevations to be verified with AGIS survey)
Surface/Condition	Portland Cement Concrete (PCC)/Good
Weight Bearing Capacity	30,000 pounds - Single Wheel Gear; 50,000 pounds – Dual Wheel Gear
Markings	Visual/Basic; Runway designation numbers, centerline stripe, edge stripe, threshold bar (Rwy 22)
Lighting	None
Signage	None

Source: Quillayute Airport, FAA Airport Master Record (5010), Effective Date 12/31/2019; Quillayute Airport Layout Plan (2003, Dunkelberg)



Other Runway Markings

A closed section of Runway 4/22 (northeast 770 feet) is marked with yellow chevrons, the FAA-recommended marking used for paved runway overruns. The chevrons are in poor condition (faded). The former crosswind runway (12/30) has three large “X” markings to indicate the runway is closed. The X markings are in very good condition (recently repainted).

TAXIWAYS & TAXILINES

All currently developed areas of Quillayute Airport have paved taxiway or taxilane access. Runway 4/22 has three south side taxiway connections with the main apron and adjacent landside development area. The south taxiway system includes both parallel and angled sections. The major taxiways are 35 feet wide (based on edge stripes), although the original taxiways were up to 50 feet wide. The taxiways are unlighted and are not equipped with retroreflective edge markers.

The parallel section of taxiway has a runway-to-taxiway centerline separation of 540 feet. The eastern taxiway section extends along the south section of a closed runway (12/30) with an 85-degree connection to Runway 4/22, approximately 425 feet west of the east end of the runway.

All major taxiways at the Airport have centerline and edge stripes that have significantly faded. The west and east taxiway connections have lead-in lines that extend from the runway centerline to the taxiway centerlines. No aircraft hold line markings were observed on the three taxiway connections to the runway.

The main aircraft apron is accessed directly from the main taxiway. The northeast section of the main apron has received some pavement maintenance and taxilane striping (now faded).

PAVEMENT CONDITION

The Washington State Airport Pavement Management System (APMS) systematically identifies maintenance, repair, and rehabilitation projects needed to sustain functional pavements at Washington airports. The WSDOT “IDEA” database provides a thorough evaluation of current conditions and future projections of condition in terms of pavement condition indices (PCI) for all eligible pavements on all paved airports across the state. For NPIAS airports like Quillayute Airport that receive federal money, this work assists airport sponsors in meeting their FAA grant assurances.

The most recent Pavement Condition Index (PCI) survey for Quillayute Airport was performed in April 2018. The survey was performed using the PCI methodology developed by the U.S. Army Corps of Engineers and outlined in the current edition of *ASTMD-5340, Standard Test Method for Airport Condition Index Surveys*.

The current APMS PCI scale (0-100) identifies three corresponding categories of repair actions (reconstruction, major rehabilitation, preventive maintenance) rather than the range of seven qualitative ratings (Failed to Excellent) that were in use when the last master plan was completed. The 2018 weighted average PCI rating for all airfield pavements was 77, and all pavement sections fall into the “preventive maintenance” category (PCI ≥63). The average PCI for all airport pavements in the 1999 inspection was 66, which then corresponded to a “Good” rating. The PCI ratings are based on visual inspections and do not reflect any subsurface analysis.

Table 2-14 summarizes data from the 2018 PCI inspection for Quillayute Airport. The pavement ratings are consistent with pavement age and use. Airfield pavements included in the IDEA database are Runway 4/22, three taxiway connections to the runway, three taxilane stubs, and the east section of the main apron. **Figure 2-11** depicts the 2018 pavement inspection visual ratings.



TABLE 2-14: 2018 PCI INSPECTION FOR QUILLAYUTE AIRPORT

Pavement Section Identifiers	Facility	2018 PCI	1999 PCI <i>(Inspection Referenced in 2003 AMP)</i>
RO4QU-01	Runway 4/22 – main section	78	67 (*average of 6 sections)
RO4QU-02	Runway 4/22 – section at east access taxiway connection	75	Previously included in RO4QU-01
TO1QU-01	Access Taxiway to Runway 4 end	69	64
TO2QU-01	Mid-Runway Access Taxiway, central / east section of parallel taxiway; hangar taxilane stubs (3)	79	76 (*average of 5 sections)
TO3QU-01	East Access Taxiway. Extends from southeast corner of main apron to the east end of Runway 4/22	76	61
A01QU-01	East Section of Main Apron and the west section of the parallel taxiway	76	73 (including west section of apron)

Source: WSDOT IDEA Pavement Database (2018 Inspection; historical PCI data as noted)

All airfield pavements were constructed in 1943 with Portland Cement Concrete (PCC). The durability of the concrete pavement cannot be overstated. The nearly 80-year-old pavement has remained useable with minimal maintenance due in large part to its original design, the moderate local climate, and relatively low level of accumulated aircraft use since being surplus by the military.

It is noted that several pavement sections have been removed from the IDEA database since the last master plan, although no pavement has been physically removed or altered. These pavement sections are not currently rated:

- Runway 4/22. The outer 25-foot-wide sections on both sides of the original runway.
- Runway 12/30. The center 50-foot-wide section of the former runway, south of Runway 4/22, is retained as part of the east access taxiway (TO3QU-01).
- The western section of the main apron (the northern 50 feet of apron is retained as taxiway).
- The eastern 780 feet of Runway 4/22 eliminated with Runway 22 threshold relocation: and
- A section of the east access taxiway (TO3QU-01), north/east of Runway 13/31, that connected to Runway 22.

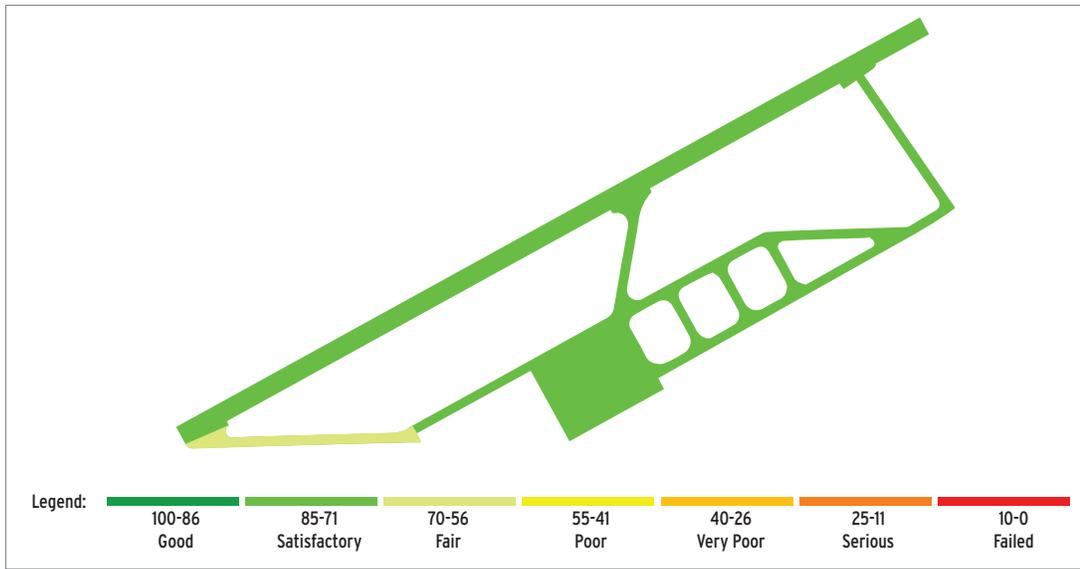
Other changes include the branch/section inventory of pavement for Runway 4/22 (formerly three 50-foot-wide sections, now reduced to one 100-foot section) and the addition of a taxiway section (converted) at the south end of the closed runway.

Pavement-related airfield projects completed since the last master plan include narrowing and shortening Runway 4/22 (from 4,980 x 150 feet to 4,210 x 100 feet). The change in runway configuration was accomplished with pavement markings and no pavement was removed. The change in runway length was the result of the 780-foot relocation of the Runway 22 threshold. The former runway pavement area is marked with yellow chevrons. The section of access taxiway that connected to the former Runway 22 threshold was closed and a section of the closed runway (12/30) was converted to taxiway to access Runway 4/22, near the relocated Runway 22 threshold.

The most recent pavement work was completed in 2019 which included general pavement rehabilitation for Runway 4/22. Since this rehabilitation work occurred after the 2018 inspection, the PCIs for Runway 4/22 may not accurately reflect current conditions. The next WSDOT Aviation APMS inspection at the Airport is expected in 2022 or 2023.



FIGURE 2-11: PAVEMENT CONDITIONS (2018 INSPECTION)



Source: WSDOT Aviation, Applied Pavement

AIRSIDE SUPPORT FACILITIES

Support facilities generally include airside support facilities such as airfield lighting, signage, weather reporting equipment and visual aids. Quillayute Airport accommodates day and night operations in visual meteorological conditions (VMC) and the corresponding visual flight rules (VFR) for aircraft. All airside support facilities were inspected during site visits conducted in Fall 2021.

Airport Lighting

Quillayute Airport is not currently equipped with airfield lighting. Potential airfield lighting improvements including a rotating beacon, runway edge lights, visual guidance indicators, lighted wind cone, and airfield signs will be assessed in the facility requirements evaluation, particularly in conjunction with any planned development of instrument approach capabilities at the Airport.

The Airport has one unlighted wind cone and segmented circle on the south side of Runway 4/22, near mid-runway and the northeast diagonal access taxiway from the apron to the runway.

Airfield Signage

Quillayute Airport has no airfield signage. Signage needs will be assessed in the facility requirements evaluation.

Weather Reporting

Quillayute Airport has an automated onsite weather observation providing 24-hour onsite weather information. The Automated Surface Observing System (ASOS) is owned and maintained by the National Weather Service:

ASOS detects significant changes and provides hourly and special observations via the networks. Additionally, ASOS routinely and automatically provides computer-generated voice observations directly to aircraft in the vicinity of airports (135.225MHz) and via telephone (360) 374-9731. Common weather element reporting includes:

- Sky condition: cloud height and amount (clear, scattered, broken, overcast) up to 12,000 feet.
- Visibility (to at least 10 statute miles).
- Basic present weather information: type and intensity for rain, snow, and freezing rain.
- Obstructions to vision: fog, haze.
- Pressure: sea-level pressure, altimeter setting.
- Ambient temperature, dew point temperature.
- Density altitude.
- Wind: direction, speed, and character (gusts, squalls).
- Precipitation accumulation.
- Selected significant remarks.



Landside Elements

The landside elements section includes the facilities designed to support airport operations. This section of the existing conditions analysis includes a discussion of aircraft aprons/ tiedown areas, hangars, utilities, fencing, surface roads, and vehicle parking.

APRONS & TIEDOWN AREAS

Quillayute Airport has one main apron area that accommodates aircraft parking and fueling. The apron features are summarized in **Table 2-15**.

TABLE 2-15: APRON DETAILS

Runway 4/22	
Dimensions	1,175' x 412' (484,688 square feet) Approximately 540' x 450' (273,402 square feet) WSDOT IDEA Pavement Database Area includes 50'x 660' remnant of west section of apron used as taxiway
Surface/Condition	Portland Cement Concrete (PCC)/Good or Fair
Markings	Tiedown and taxilane centerline striping (poor condition)
Tiedowns	15 small airplane tiedowns
Other Facilities	<u>Aboveground Fuel Storage Tanks and Dispensing</u> <ul style="list-style-type: none"> • Aircraft AVGAS and jet fuel storage tanks (2) – Inactive (to be removed) • USGG jet fuel storage tank (1)

Source: Quillayute Airport, FAA Airport Master Record (5010), Effective Date 12/31/2019; Quillayute Airport Layout Plan (2003, Dunkelberg)

AIRPORT PERIMETER FENCING

The perimeter of Quillayute Airport has areas of fencing including range fencing and chain link. A 2008 project added 2,500 feet of 7-foot chain link fencing along the south edge of the Airport bordering Quillayute Prairie Road. The fence was designed to encourage elk to migrate through the area diverting past Runway 4/22 and avoiding the adjacent road. Two manual swing gates were installed in the new fence section. The main airport gate is located at the entrance to the main apron; additional gates are located on the entrance to the NOAA weather station and near the south end of the closed runway (12/30).

AIRPORT SURFACE ROAD ACCESS

Vehicle access to the Airport is provided from a direct paved entrance road (240 feet) that connects Quillayute Road to the main apron and hangar. A second road paved road, located about 250 feet east on Quillayute Road, provides access to the NOAA weather station and vehicle parking area.

VEHICLE PARKING

Designated automobile parking areas are located adjacent to the hangar and main apron, at the main airport entrance and adjacent to the NOAA weather station.

AIRCRAFT FUEL

Quillayute Airport currently has no aviation fuel available for sale. Two above ground fuel storage tanks (<5,000 gallons each) are located on the main apron. The tanks were previously used for aviation gasoline (AVGAS) and jet fuel storage and dispensing, with 24-hour self-serve access. The tanks are now inactive and planned for removal. The City of Forks reports that financial viability could not be achieved based on low fuel sales volumes when the system was operational.



The U.S. Coast Guard (USCG) is currently working with the City of Forks to establish a jet fuel storage tank to support helicopter operations in the area. The new aboveground tank will be installed adjacent to the existing aviation fuel tanks to access existing electrical power. The jet fuel cache will not be available for public use.

HANGARS

Quillayute Airport currently has one existing hangar (1944 conventional hangar) located along the south edge of the main apron. A detailed report on the hangar is included in **Appendix B** (Historic/Cultural Report). The hangar is not currently in aeronautical use due to its condition. Some renovation of the hangar was completed in 2009 with the intent of returning the structure to aeronautical use. An adjacent air traffic control structure was destroyed by fire in 2008 and was demolished.

The condition of the hangar was documented in the 2003 Airport Master Plan and remains largely accurate, except for the subsequent renovation (north wing) and the adjacent structural fire noted above:

“The hangar/office is located on the central portion of the apron and consists of approximately 8,100 sq. ft. Due to a state of disrepair, rehabilitation to this building would include re-roofing, installation of new windows and doors, replacing and upgrading existing electrical, installation of a new septic tank, plumbing repairs, and heating of the building. Additional exterior work will need to be undertaken to replace rotting siding with new concrete-based siding that would match the original siding used on the building. Total estimated cost for pursuing such a project is estimated to be \$190,000. The facility is currently occupied by WACO.” (Dunkelberg, 2003)

In addition to the overall historical significance of the hangar, it is recognized as one of only a few remaining from the era with the unique roof design (Quonset style convexed roofline for the main hangar bay).

As noted earlier in the chapter, only two other buildings on the Airport remain from the original World War II airfield construction. These include armory and instruments building (currently housing the NOAA weather station) located immediately adjacent to the main aircraft apron and a warehouse located east of the main apron, adjacent to Quillayute Road.

The NOAA building supports operations and launch facilities for high altitude weather observation balloons. The balloon launch facility and a 250-foot radius critical area are identified on the 2003 ALP and Terminal Area Plan drawings. The warehouse is currently unoccupied. The building was previously recommended for rehabilitation and use to accommodate potential non-aeronautical tenants.

POWER

The Clallam County Public Utility District (PUD) provides electric service throughout the county. A main service line extends west of Forks to serve the Quillayute area, a portion of the Olympic National Park, and the Quileute Indian Reservation. The electrical service to the Airport is provided by two direct overhead single-phase drop lines that connect to the service line traveling along Quillayute Road. Existing electrical service is provided to the NOAA facilities, including the ASOS unit on the airfield, and to the existing hangar. Other portions of the airfield, including the runway-taxiway system and previously planned hangar areas, are not served by electrical power.



WATER

The Airport is served by an on-site water system that includes one well and distribution lines (previously reported as wood stave pipes) that were constructed in during WWII.

The 2003 Airport Master Plan provided the following system description:

“A six (6) inch main line runs along Quillayute Road, with the following extensions:

- A six inch line in the access driveway, which loops around the maintenance hangar, ending at the warming apron.*
- A four inch line running directly to the mooring circle.*
- A six inch line looping through the living areas, south of Quillayute Road.*
- A three and a half inch line looping around the recreation field.”*

The plan noted that the existing system was designed for approximately 500 people. Information on the well flow rate and the condition of service lines was not obtained during the data collection, although the rest rooms on the NOAA building and the hangar appear to be functional. It is also unknown if the lines extending south of Quillayute Road are currently in service.

SANITARY SEWER

Quillayute Airport has an on-site septic tank system constructed during WWII. It appears that the system was designed to serve facilities on both sides of Quillayute Road. The three remaining structures located on the north side of the road are connected to the system. The condition of tank system and service lines was not determined during the data collection, although the rest rooms on the NOAA building and the hangar appear to be functional.

NATURAL GAS

Natural gas is not available at the Airport or western Clallam County.

STORMWATER

The stormwater systems located on the Airport were installed during the 1943 airfield construction and include a series of catch basins and surface conveyances for runoff into adjacent vegetated areas.



Airport Administration

The Airport Administration section provides a summary of Airport Ownership & Management, Airport Finance, Rates and Charges, Rules and Regulations, and overview of FAA Grant Assurances and Compliance.

AIRPORT OWNERSHIP & MANAGEMENT

Quillayute Airport is owned and operated by the City of Forks. The city is responsible for the day-to-day management and maintenance of the Airport. The financials for Forks Municipal Airport, also owned by the City, are maintained separately from Quillayute Airport to avoid co-mingling funds between FAA-eligible and non-eligible facilities.

AIRPORT FINANCE

Quillayute Airport operates within the City’s general fund, with all revenue generated through operations remaining in the Airport’s budget. This is required by FAA to prevent revenue diversion from airport operations to the sponsor’s general services. The primary revenue generating sources for the Airport include ground leases and rents from city-owned buildings. The Airport also receives periodic revenues from timber sales. Revenues from timber sales were realized in 2020 and 2021, but not in years 2017-2019.

The primary expenditures for the Airport include professional services, insurance, utilities, and maintenance. The capital improvement projects at Quillayute Airport are typically funded through FAA grants with a local match that may be partially offset by WSDOT Aviation grants.

Based on a review of the airports revenues and expenses since 2014, in years that there are no timber sales, the airport’s revenues do not cover the operating expenses of the airport. Fiscal year 2022 operating revenue and expense budgets for Quillayute Airport are summarized in **Table 2-16**.

AIRPORT RATES & CHARGES

The City of Forks rates and charges for Quillayute Airport includes improved and unimproved ground leases and building rentals. Building rental rates vary for the three city-owned structures currently on the Airport. A summary of current airport rates and fees will be provided in the financial management section of the Implementation chapter (Chapter 8).

TABLE 2-16: AIRPORT FINANCIALS (FY2022 BUDGET)

AIRPORT EXPENSES	
Professional Services	\$11,880
Insurance	\$8,741
Utilities	\$3,326
Maintenance and Repair	\$4,347
TOTAL AIRPORT OPERATING EXPENSES	\$28,293
AIRPORT REVENUES	
Fee Use Agreements	\$3,000
UIL Funds on Hand	\$4,000
Authorized Loan Proceeds	\$10,000
TOTAL AIRPORT OPERATING REVENUES	\$17,000
NET OPERATING INCOME (LOSS)	(\$11,293)

Source: City of Forks, 2022 Final Budget
 Grant funding and associated projects are not included in the financials.
 Periodic timber sales contribute to Airport cash balance.



RULES & REGULATIONS

The City of Forks operates the Airport for the use and benefit of the public to make it available to all types, kinds, and classes of aeronautical activity on fair and reasonable terms and without unjust discrimination.

FAA Compliance Overview

A management program based on the FAA's "Planning for Compliance" guidance and the adoption of additional airport management "Best Practices" is recommended to address FAA compliance requirements and avoid noncompliance, which could have significant consequences.

Airport management "Best Practices" are developed to provide timely information and guidance related to good management practices and safe airport operations for airport managers and sponsors. The practices outlined herein are designed for use by the ODA for evaluating and improving their current and future operation and management program.

Airport sponsors must comply with various federal obligations through agreements and/or property conveyances, outlined in [FAA Order 5190.6B, Airport Compliance Manual](#). The contractual federal obligations a sponsor accepts when receiving federal grant funds or transfer of federal property can be found in a variety of documents including:

- Grant agreements issued under the Federal Airport Act of 1946, the Airport and Airway Development Act of 1970, and Airport Improvement Act of 1982. Included in these agreements are the requirement for airport sponsors to comply with:
 - » Grant Assurances;
 - » Advisory Circulars;
 - » Application commitments;
 - » FAR procedures and submittals; and
 - » Special conditions.
- Surplus airport property instruments of transfer;
- Deeds of conveyance;
- Commitments in environmental documents prepared in accordance with FAA requirements; and
- Separate written requirements between a sponsor and the FAA.

Airport Compliance with Grant Assurances

As a recipient of both federal and state airport improvement grant funds, the sponsor is contractually bound to various obligations referred to as "Grant Assurances", developed by the FAA and WSDOT. These obligations, presented in detail in federal and state grants and state statute and administrative codes, document the commitments made by the airport sponsor to fulfill the intent of the grantor (FAA and State of Washington) required when accepting federal and/or state funding for airport improvements. Failure to comply with the grant assurances may result in a finding of noncompliance and/or forfeiture of future funding.

Federal grant assurances and their associated requirements are intended to protect the significant investment made by the FAA and City to preserve and maintain the nation's airports as a valuable national transportation asset, as mandated by Congress.

FAA Grant Assurances

The FAA's Airport Compliance Program defines the interpretation, administration, and oversight of federal sponsor obligations contained in grant assurances. The [Airport Compliance Manual](#) defines policies and procedures for the Airport Compliance Program. Although it is not regulatory or controlling regarding airport sponsor conduct, it establishes the policies and procedures for FAA personnel to follow in carrying out the FAA's responsibilities for ensuring compliance by the sponsor.



The Airport Compliance Manual states the FAA Airport Compliance Program is: “...designed to monitor and enforce obligations agreed to by airport sponsors in exchange for valuable benefits and rights granted by the United States in return for substantial direct grants of funds and for conveyances of federal property for airport purposes. The Airport Compliance Program is designed to protect the public interest in civil aviation. Grants and property conveyances are made in exchange for binding commitments (federal obligations) designed to ensure that the public interest in civil aviation will be served. The FAA bears the important responsibility of seeing that these commitments are met. This order addresses the types of commitments, how they apply to airports, and what FAA personnel are required to do to enforce them.”

According to the FAA, cooperation between the FAA, state, and local agencies should result in an airport system with the following attributes:

- Airports should be safe and efficient, located at optimum sites, and be developed and maintained to appropriate standards.
- Airports should be operated efficiently both for aeronautical users and the government, relying primarily on user fees and placing minimal burden on the general revenues of the local, state, and federal governments.
- Airports should be flexible and expandable, able to meet increased demand and accommodate new aircraft types.
- Airports should be permanent, with assurance that they will remain open for aeronautical use over the long-term.
- Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents in neighboring areas.
- Airports should be developed in concert with improvements to the air traffic control system.
- The airport system should support national objectives for defense, emergency readiness, and postal delivery.
- The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically not more than 20 miles of travel to the nearest NPIAS airport; and
- The airport system should help air transportation contribute to a productive national economy and international competitiveness.

The airport sponsor should have a clear understanding of and comply with all assurances. The following sections describe the selected assurances in more detail.

Project Planning, Design, and Contracting

Sponsor Fund Availability (Assurance #3)

Once a grant is given to the airport sponsor, the sponsor commits to providing the funding to cover their portion of the total project cost. Currently this amount is ten percent of the total eligible project cost, although it may be higher depending on the particular project components or makeup. Once the project has been completed, the receiving airport also commits to having adequate funds to maintain and operate the airport in the appropriate manner to protect the investment in accordance with the terms of the assurances attached to and made a part of the grant agreement.

Consistency with Local Plans (Assurance #6)

All projects must be consistent with city and county comprehensive plans, transportation plans, zoning ordinances, development codes, and hazard mitigation plans. The airport sponsor should familiarize themselves with local planning documents before a project is considered to ensure that all projects follow local plans and ordinances.

Accounting System Audit and Record Keeping (Assurance #13)

All project accounts and records must be made available at any time. Records should include documentation of cost, how monies were actually spent, funds paid by other sources, and any other financial records associated with the project at hand. Any books, records, documents, or papers that pertain to the project should be available at all times for an audit or examination.



General Airport Assurances

Good title (Assurance #4)

The airport sponsor must have a Good Title to affected property when considering projects associated with land, building, or equipment. Good Title means the sponsor can show complete ownership of the property without any legal questions, or show it will soon be acquired.

Preserving Rights and Powers (Assurance #5)

No actions are allowed, which might take away any rights or powers from the sponsor, which are necessary for the sponsor to perform or fulfill any condition set forth by the assurance included as part of the grant agreement.

Airport Layout Plan (ALP) (Assurance #29)

Quillayute Airport should maintain an up-to-date ALP, which should include current and future property boundaries, existing facilities/structures, locations of non-aviation areas, and existing and proposed improvements. FAA requires proposed improvements to be depicted on the ALP to be eligible for FAA funding. If changes are made to the airport without authorization from the FAA, the FAA may require the airport to change the alternation back to the original condition or jeopardize future grant funding.

Disposal of Land (Assurance #31)

Land purchased with the financial participation of an FAA Grant cannot be sold or disposed of by the airport sponsor at their sole discretion. Disposal of such lands are subject to FAA approval and a definitive process established by the FAA. If airport land is no longer considered necessary for airport purposes, and the sale is authorized by the FAA, the land must be sold at fair market value. Proceeds from the sale of the land must either be repaid to the FAA, or reinvested in another eligible airport improvement project.

Airport Operations and Land Use

Pavement Preventative Maintenance (Assurance #11)

Since January 1995, the FAA has mandated that it will only give a grant for airport pavement replacement or reconstruction projects if an effective airport pavement maintenance-management program is in place. WSDOT Aviation prepares and updates pavement reports for all public use general aviation airports in Washington. These reports identify the maintenance of all pavements funded with federal financial assistance (also applies to state funding) and provides a pavement condition index (PCI) rating (0 to 100) for various sections of aprons, runways, and taxiways; including, a score for overall airport pavements.

Operations and Maintenance (Assurance #19)

All federally funded airport facilities must operate at all times in a safe and serviceable manner and in accordance with the minimum standards as may be required or prescribed by applicable federal, state, and local agencies for maintenance and operations.

Compatible Land Use (Assurance #21)

Land uses around an airport should be planned and implemented in a manner that ensures surrounding development and activities are compatible with the airport. The airport is located outside of City limits and urban growth area (UGA) boundary in unincorporated Clallam County. The airport sponsor should work with land use authority (Clallam County) to ensure there are zoning laws that protect the airport from incompatible land uses. Incompatible land uses around airports represents one of the greatest threats to the future viability of airports.

Day-To-Day Airport Management

Economic Non-Discrimination (Assurance #22)

Any reasonable aeronautical activity offering service to the public should be permitted to operate at the airport as long as the activity complies with airport established standards for that activity. Any contractor agreement made with the airport will have provisions making certain the person, firm, or corporation will not be discriminatory when it comes to services rendered including rates or prices charged to customers.



Exclusive Rights (Assurance #23)

No exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. However, an exception may be made if the airport sponsor can prove that permitting a similar business would be unreasonably costly, impractical, or result in a safety concern, the sponsor may consider granting an exclusive right.

Leases and Finances

Fee and Rental Structure (Assurance #24)

An airport's fee and rental structure should be implemented with the goal of generating enough revenue from airport related fees and rents to become self-sufficient in funding the day-to-day operational needs. Airports should update their fees and rents on a regular basis to meet fair market value, often done through an appraisal or fee survey of nearby similar airports. Common fees charged by airports include fuel flowage fees, tie-down fees, landing fees, and hangar or ground lease rents.

Airport Revenue (Assurance #25)

Revenue generated by airport activities must be used to support the continued operation and maintenance of the airport. Use of airport revenue to support or subsidize non-aviation activities or to fund other City departments who are not using the funds for airport specific purposes is not allowed and is considered revenue diversion. Revenue diversion is a significant compliance issue for FAA.

For additional information on FAA Grant Assurances, please go to: https://www.faa.gov/airports/aip/grant_assurances/#current-assurances.

WSDOT Aviation Division Grant Assurances

In 2013, WSDOT Aviation adopted new grant assurances (WAC Chapter 468-260) for airport sponsors that are intended to protect the public's investment in the Washington aviation system. The WSDOT grant assurances apply to both NPIAS and non-NPIAS airports that receive funding through the WSDOT Airport Aid Grant Program. The WSDOT grant assurances are consistent and complimentary to FAA grant assurances with a significant emphasis placed on land use planning, public process, and environmental stewardship.