Cashmere-Dryden Airport

AIRPORT LAYOUT PLAN

CASHMERE, WA
August 2024

CENTURY WEST ENGINEERING

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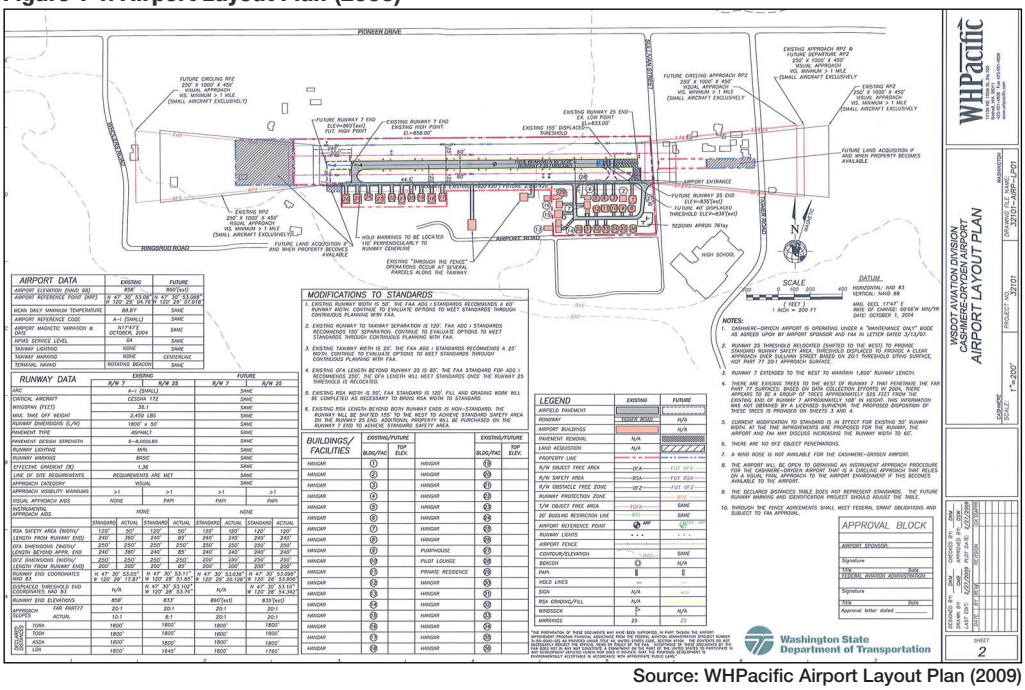
Chapter 1
Introduction

Chelan County is updating the Airport Layout Plan Report (ALP Report) for the Cashmere-Dryden Airport (Airport) in cooperation with the Federal Aviation Administration (FAA) to address the Airport's needs for the next 20 years. The ALP Report is a scaled down version of an Airport Master Plan, which provides specific guidance in making the improvements necessary to maintain a safe and efficient airport that is economically, environmentally, and socially sustainable.

Study Purpose

The purpose of the ALP Report is to define the current, short-term, and long-term needs of the Airport through a comprehensive evaluation of facilities, conditions, and FAA airport planning and design standards. The study addresses elements of local planning (land use, transportation, environmental, economic development, etc.) that have the potential of affecting the planning, development, and operation of the Airport. The 2022-2042 ALP report replaces the previous plan completed in 2009 **(Figure 1-1)**.

Figure 1-1: Airport Layout Plan (2009)



Source: WHPacific Airport Layout Plan (2009)

Project Need

The FAA requires airport sponsors (in this case, Chelan County) to periodically update their ALP drawings in order to maintain current planning. As noted earlier this project replaces the 2009 ALP report and drawing set. Several projects have been completed since the last ALP update:

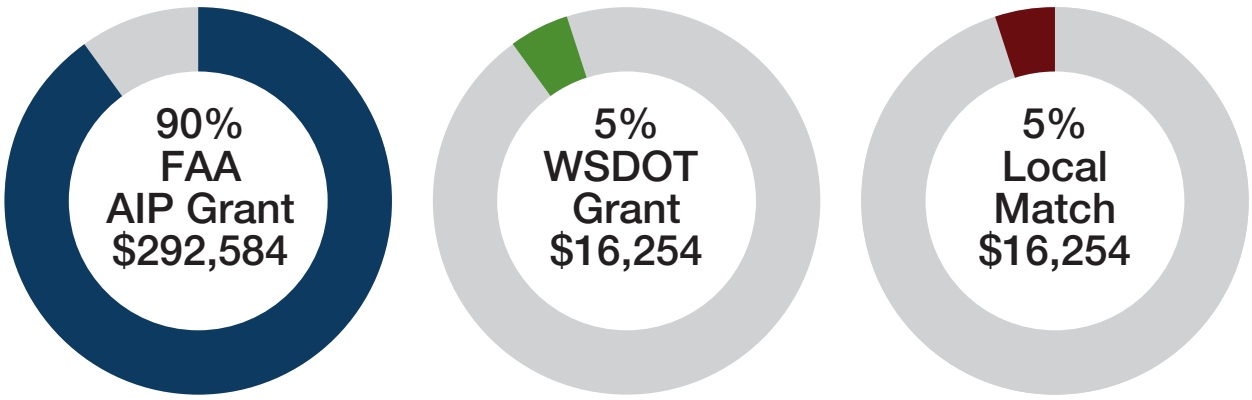
- 2018 Airports Geographic Information System (AGIS) survey.
- 2017 runway slurry seal and crack fill project; replaced/repainted runway markings.
- 2022 hangar loop taxiway chip seal.
- New hangar constructed adjacent to hangar number 36 (SE corner of the Airport).
- Residence building number 29 removed (west of loop taxilane).
- Tree removal (RWY 25 approach).

The updated plan reevaluates the development concepts presented in the previous planning effort and addresses new facility needs. The updated plan reflects changing local conditions, updated FAA design standards, and current trends within the aviation industry.

The 2009 ALP Report serves as a primary source for inventory data. More recent information provided by the County, published FAA data, and data obtained from on-site airfield inspections are reflected in the ALP update. Data generated from recent airfield projects was also reviewed.

Project Funding

Funding for the 2022-2042 Cashmere-Dryden Airport ALP Report is provided by the FAA (90%), the Washington Department of Transportation – Aviation Division (WSDOT) (5%), and Chelan County (5%). The total project cost of $325,092 includes County staff administration time to support the planning process. FAA funding is provided through the Airport Improvement Program (AIP), a dedicated fund administered by FAA with the specific purpose of maintaining and improving the nation's public use airports. The AIP is funded exclusively through fees paid by users of general and commercial aviation.



Goals of the Airport Layout Plan

The primary goal of the ALP Report is to provide the framework and vision needed to guide future development at Cashmere-Dryden Airport. The FAA sets goals and objectives that each airport should meet through its ALP development, in order to ensure future development will cost-effectively satisfy aviation demand and also consider potential environmental and socioeconomic impacts.

Goal 1: Define the vision for the Airport to effectively serve the community, airport users, and the region. Assess known issues including air traffic control, runway length, ability to accommodate development, auto parking, fencing, and land use to develop a realistic sustainable plan to improve the Airport.

Goal 2: Document existing activity, condition of airfield facilities, and policies that impact airport operations and development opportunities.

Goal 3: Forecast future activity based on accepted methodology.

Goal 4: Evaluate facilities and conformance with applicable local, state, and FAA standards.

Goal 5: Identify facility improvements to address design standards conformance and accommodate demand.

Goal 6: Identify potential environmental and land use requirements that may impact development.

Goal 7: Explore alternatives to address facility needs. Work collaboratively with all stakeholders to develop workable solutions to address needs.

Goal 8: Develop an Airport Layout Plan to graphically depict proposed improvements consistent with FAA standards as a road map to future development. Prepare a supporting Capital Improvement Plan to summarize costs and priorities.

Goal 9: Provide recommendations to improve land use, zoning, and County oversight of the Airport to preserve long-term facility viability.

Goal 10: Summarize the collective vision and plan for the Airport in the Airport Layout Plan report.

THE FAA ROLE IN THE AIRPORT MASTER PLAN

FAA *Advisory Circular 150/5070-6B Airport Master Plans* defines the specific requirements and evaluation methods established by FAA for the study. The guidance in this AC covers planning requirements for all airports, regardless of size, complexity, or role. However, each planning study must focus on the specific needs of the airport for which a plan is being prepared. As noted earlier, the scale of this planning effort has been reduced to reflect project needs and FAA funding priorities. The basic FAA guidance defined for airport master plans is applicable to the ALP Report, although some tasks have been eliminated or scaled appropriately.

The recommendations contained in an airport master plan/ALP report represent the views, policies and development plans of the airport sponsor and do not necessarily represent the views of the FAA. Acceptance of the plan by the FAA does not constitute a commitment on the part of the United States to participate in any development depicted in the plan, nor does it indicate that the proposed development is environmentally acceptable in accordance with appropriate public law. The FAA reviews all elements of the plan to ensure that sound planning techniques have been applied. However, the FAA only approves the Aviation Activity Forecasts and Airport Layout Plan (ALP) drawings.

Planning Process

A three phase planning process was used for the ALP Report. The process is designed to provide multiple feedback loops intended to maintain the flow of information and ideas among airport and community stakeholders and ultimately maximize public involvement.

DEVELOP UNDERSTANDING

A comprehensive understanding of the issues and opportunities, existing conditions, and an identified level of future aviation activity that would mandate facility improvements required to satisfy future demand.

Analysis

- Develop Scope of Work
- Public Involvement Strategy
- AGIS Survey (completed in 2018; data to be incorporated into ALP)
- Existing Conditions Analysis
- 20-year Aviation Activity Forecasts

Project Meetings

- Bi-Weekly Planning Team Meetings
- Project Kick-off Meeting
- Planning Advisory Committee (PAC) Meetings

Work Product

- Introduction
- Existing Conditions
- Aviation Activity Forecasts

EXPLORE SOLUTIONS

A collaborative exploration of local airport needs, goals, and facility requirements,community generated ideas, solutions, and development alternatives.

Analysis

- Define current Airfield Design Standards
- Perform Demand/Capacity Analysis
- Define Facility Goals and Requirements
- Identify & Prepare Preliminary Development Alternatives
- Evaluate Development Alternatives; Identify Preferred Alternative

Project Meetings

- Bi-Weekly Planning Team Meetings
- Planning Advisory Committee (PAC) Meetings
- Public Open House

Work Product

- Facility Goals & Requirements
- Airport Development Alternatives

IMPLEMENTATION

An implementation program with recommended strategies and actions for future land use, transportation, and environmental requirements. A realistic CIP and current ALP drawings that graphically depict existing conditions at the Airport and proposed development projects will be prepared.

Analysis

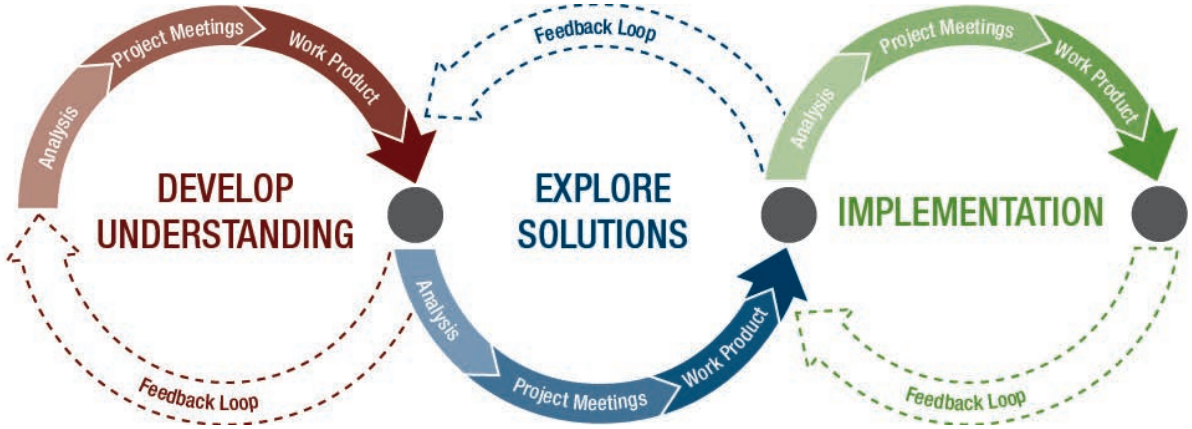
- Develop Strategies & Actions
- Develop CIP/Phasing/Financial Plan
- Develop ALP Drawing Set

Project Meetings

- Bi-Weekly Planning Team Meetings
- Planning Advisory Committee (PAC) Meetings

Work Product

- Strategies & Actions
- Financial Plan (CIP/Phasing)
- ALP Drawing Set
- Draft Report
- Final Report



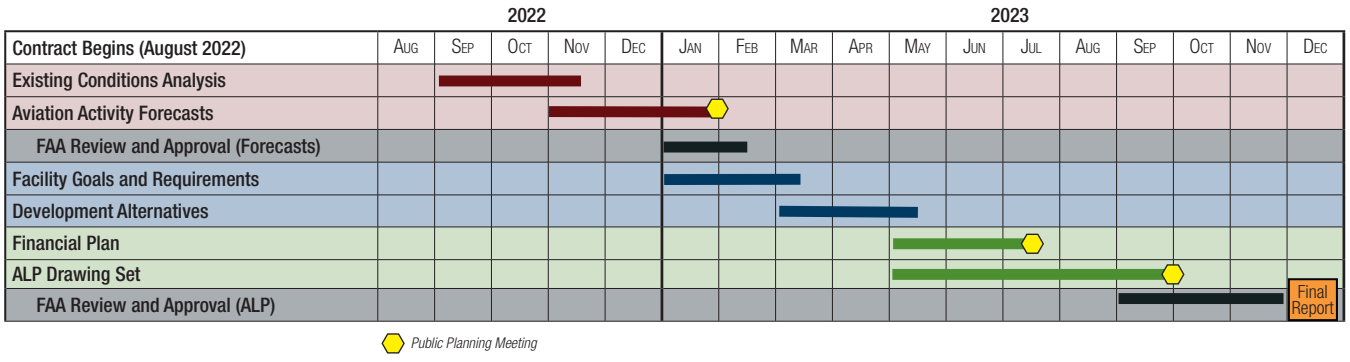
Framework of the Airport Layout Plan

The framework of the ALP Report provides a clear structure to inform and steer future planning decisions and serve as a tool to guide a process that allows the plan to take shape through flexibility, iteration, and adaptation. The framework is intended to analyze the local and regional setting of the Airport, the landside and airside elements of the Airport, as well as the management and administration functions associated with the Airport. The framework provides guidance, while being flexible enough to adapt to changing conditions to maximize opportunities to develop understanding, explore solutions, and implement a preferred development alternative for the Airport that is compatible with its surroundings.

	Regional Setting	Airside Elements	Landside Elements	Airport Administration
Develop Understanding	Location & Vicinity Socio-Economic Data Airport Role Airport History Area Airports Context Airport Operations Relevant Studies Environmental Data Local Surface Transportation Land Use/Zoning	Area Airspace Lighting and Navigational Aids Runway/Helipad Taxiways/Taxilanes Pavement Condition Airside Support Facilities	Aprons/Tiedowns Terminal Building/FBO Hangars Aircraft Fueling Airport Fencing Airport Surface Roads Vehicle Parking Utilities	Airport Ownership & Management Airport Financials Airport Rates and Charges Local Rules & Regulations FAA Compliance Overview
Explore Solutions				
Implementation				

Project Schedule

The Cashmere-Dryden Airport – ALP Report schedule is expected to occur over the course of 18-24 months. **Phase 1 – Develop Understanding** will take approximately 6-7 months. **Phase 2 – Explore Solutions** will take approximately 8-9 months. **Phase 3 – Implementation** will take approximately 8-9 months, including 3 months for formal FAA review and approvals at the end of the project. Actual project completion and coordination are adjusted as needed to address project-specific issues.



Public Involvement Process

A comprehensive and engaging public involvement process is a key element to a successful ALP update. Therefore, numerous opportunities for public input were built into the process. This included three PAC meetings, a project open house, several FAA coordination meetings, a project website, and ongoing communication and coordination between County staff and the project planning team over the course of the project.

PAC MEETINGS

A planning advisory committee (PAC) assisted in the development of this project.

The PAC was assembled to provide input and allow for public dissemination of data. Airport tenants, pilots, local and regional economic development interests, neighbors of the Airport, and staff/representatives of the City of Cashmere and County were identified as members of the PAC. The FAA Seattle Airports District Office (ADO) project manager interacted with the project team throughout the project and attended one or more of the PAC meetings. The FAA has primary responsibility for technical review, comment, and project approval. A representative of the WSDOT – Aviation Division also participated as an ex-officio member of the PAC.

The PAC meetings were in-person, remote (video conferences), or a combination thereof depending on the current pandemic climate, and directions provided by state and local government.

PAC Meeting #1

The Consultant reviewed the goals and objectives of the ALP Report, and summarized existing conditions for the Airport, community, and aviation industry. The updated 20-year aviation activity forecasts was also presented. The draft forecasts were submitted to FAA for review and approval following local review.

PAC Meeting #2

PAC Meeting #2 was an interactive discussion with the PAC that focused on the Airport's facility needs to meet FAA standards, future growth, as well as the goals of the local community and surrounding area. The Consultant presented a series of preliminary alternative concepts capable of satisfying future demand and addressing conformance to specific FAA design standards.

Commissioners Briefing

The Consultant provided a project briefing to the Chelan County Board of County Commissioners to highlight key project findings and recommendations following PAC Meeting #2.

PAC Meeting #3

The input provided in PAC #2 was used to refine the concepts, and based on technical evaluations, public input and coordination with the County, a recommended alternative was presented to the PAC. The Consultant presented an implementation program with recommended strategies and actions for future land use, transportation, and environmental requirements; a realistic and workable capital improvement program (CIP); and ALP drawings that graphically depict the existing and planned facility configurations at the Airport.

Known Issues & Opportunities

At the outset of the ALP Report, several known issues and opportunities were identified by the Chelan County Cashmere-Dryden Airport Advisory Board, airport users/tenants, and the FAA. Several of these items were identified in the previous ALP Report but remain largely unchanged. The items are summarized below and depicted in **Figure 1-2** were evaluated/re-evaluated during the development of the plan and incorporated in proposed solutions and methods of implementation.

KNOWN ISSUE #1 – CONFORMANCE TO FAA STANDARDS

The 2009 ALP Report documented several airfield facilities that do not conform to FAA standards. These items include:

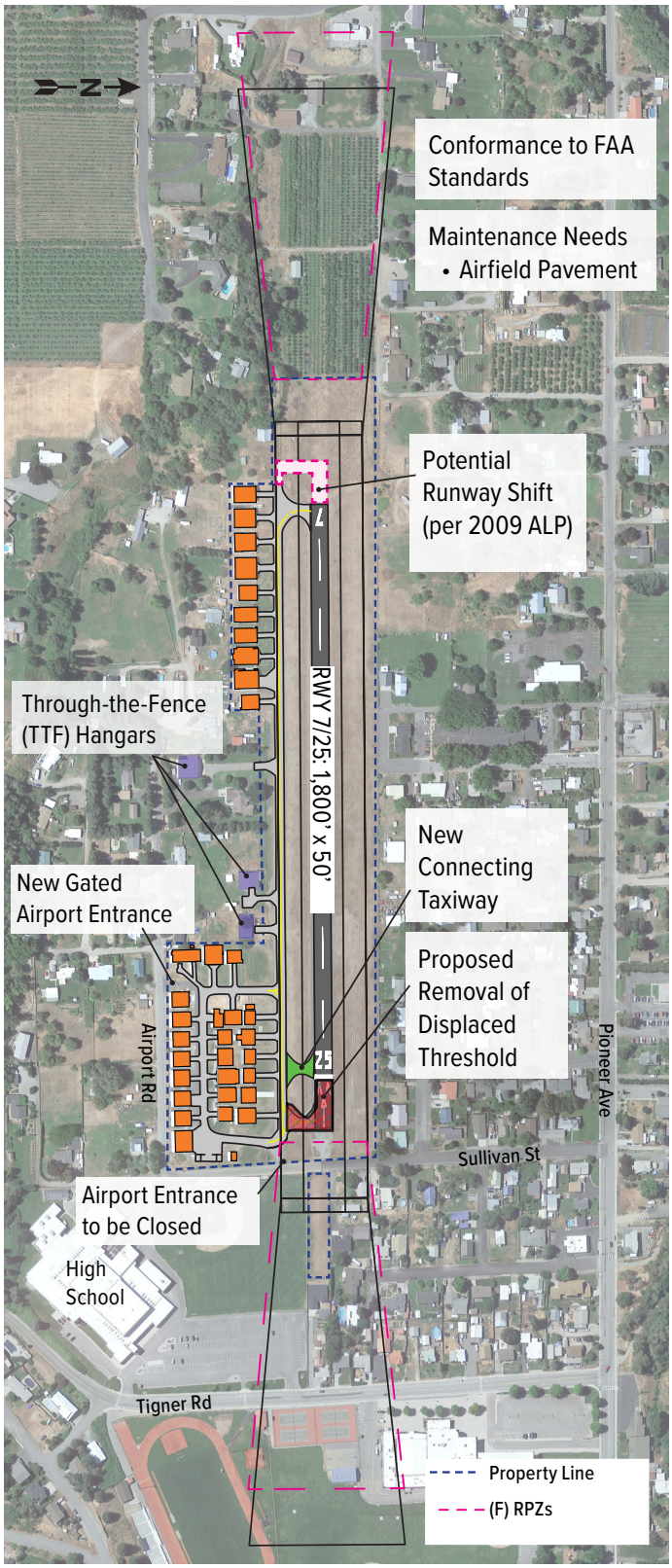
- Runway width
- Runway 25 extended protected areas and approach obstruction clearances
- Runway-to-taxiway separation
- Parallel taxiway width
- Parallel taxiway object free area (fence, trees)
- Hangar loop taxilane object free area (hangars)
- Building setbacks (Part 77 transitional surface)

Projects completed since the 2009 ALP have focused on pavement rehabilitation and maintenance, obstruction surveying, and obstruction removal. The previously recommended changes in runway configuration and property acquisition have not yet been implemented. The updated planning assessment will evaluate prior recommendations and assess the feasibility of fully/partially meeting FAA standards for each airside and landside component. The evaluation is consistent with preserving operational safety and function at Cashmere-Dryden Airport through continuous planning with the FAA.

KNOWN ISSUE #2 – POTENTIAL RUNWAY SHIFT

The 2009 ALP Report depicts a future western runway shift (approximately 155 feet) that is intended to provide FAA standard runway safety area beyond the east end of the runway (clearance to airport fence and Sullivan Street). The western shift of the Runway 25 end will also improve obstacle clearance for the Runway 25 Part 77 approach surface. The ALP depicts future property acquisition (approximately 2.4 acres) beyond the west end of the runway that is intended to accommodate the shifted end of Runway 7 and its protected surfaces, and the future Runway 7 protection zone (RPZ). The existing runway length (1,800 feet) is maintained with the runway shift.

Figure 1-2: Known Issues & Opportunities



KNOWN ISSUE #3 – PROPERTY ACQUISITION

The 2009 ALP depicts future property acquisition (approximately 2.4 acres) beyond the west end of the runway. This area is currently in agricultural use (orchard) and that use could be maintained (lease) within the future RPZ based on FAA permitted uses. The 2009 ALP also depicts a small area of property acquisition (0.5 acres) to accommodate the shifted section of the parallel taxiway and a small area of property (approximately 0.47 acres) to the east in line with the runway centerline. Areas of potential property acquisition will be reviewed as part of this plan, and any recommended acquisition will be dependent on willing sellers.

KNOWN ISSUE #4 – MAINTENANCE NEEDS

The majority of the airports pavements including runway and taxiways have been rehabilitated in the past five years and are in fair condition. A review of WSDOT Aviation airfield pavement condition inspection data was performed to help identify and prioritize pavement needs during the next 20 years. A maintenance plan based on remaining useful life and need is included in the CIP.

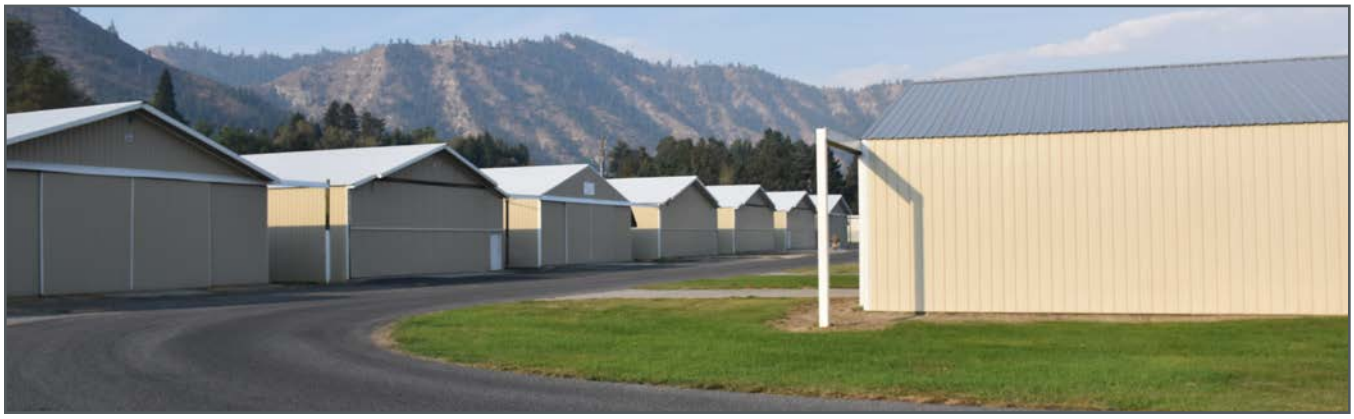
OPPORTUNITY #1 – TRANSIENT HELICOPTER PARKING

Airport management has indicated that transient helicopter activity has increased, although there are no designated parking facilities on the airfield for helicopters. In addition to supporting localized wildfire response, the ability to accommodate medical evacuation (MEDEVAC) and local law enforcement helicopters may provide an opportunity to increase airport utilization and support critical needs in the community. An assessment of demand will be included in the updated aviation activity forecasts and facility requirements analyses. If the future need is defined, options for developing designated transient helicopter parking will be incorporated into the alternatives evaluation.

OPPORTUNITY #2 – CHARGING STATIONS

Washington state is an industry leader in the research and development of new electric vertical take-off and landing (VTOL) aircraft and the electrification of conventional fixed wing aircraft. WSDOT – Aviation Division is actively involved in efforts to develop a statewide system capable of supporting the emerging technology. Although this effort is still in its early stages, the opportunity to evaluate potential facility needs in the ALP Report is timely.

Chapter 2
Existing Conditions



The Existing Conditions chapter documents existing airfield facilities and conditions that affect the operation and development of the Cashmere-Dryden Airport (8S2) within the context of the regional setting, landside, airside, and administrative functions. The existing conditions analysis utilized the 2009 Airport Layout Plan[1] and other subsequent work products as primary data sources, supplemented by numerous meetings with tenants, stakeholders, and County staff to support the effort. The findings documented in the Existing Conditions chapter will be used to support subsequent studies and recommendations throughout the development of the master plan.

Regional Setting

The Regional Setting section describes features that provide a better understanding of the social, economic, and environmental impacts airports can have in a region, county, and city. This includes a discussion of the location & vicinity of Cashmere-Dryden Airport, as well as socio-economic conditions, airport history, airport role, area airports, historical airport activity, relevant studies, environmental data, local surface transportation systems, and land use on and around the Airport.

LOCATION & VICINITY

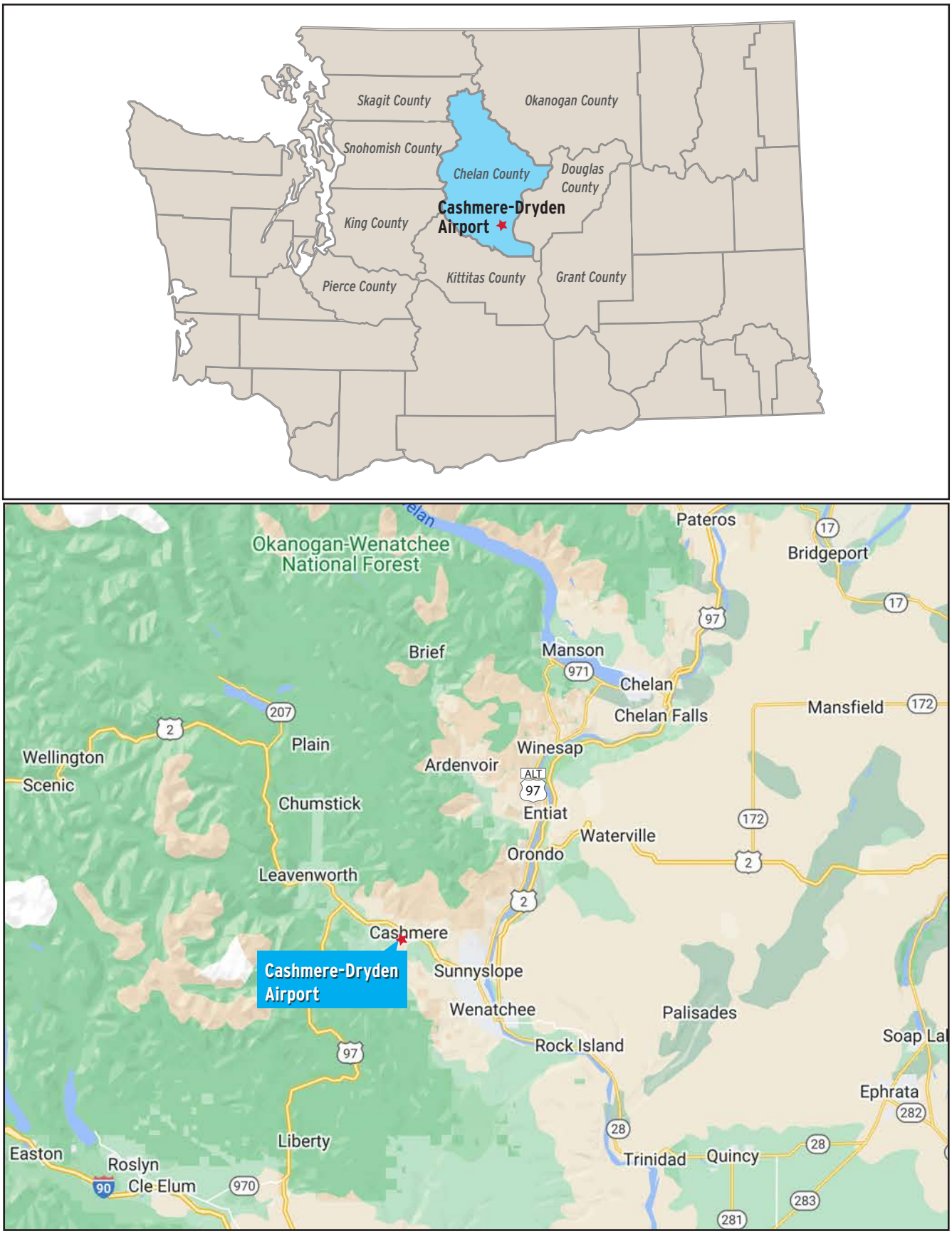
Cashmere-Dryden Airport is located about 1 mile southwest of downtown Cashmere, in Chelan County, Washington. The Airport is located in unincorporated Chelan County, outside the Cashmere city limits and urban growth boundary (UGB). The Airport is owned and operated by Chelan County.

The Airport is located about 1 mile south of U.S. Highway 2, a major east-west travel route in the region. Highway 2 extends northwest to U.S. Interstate 5 (I-5) at Everett and southeast to Wenatchee, Washington, where it connects to U.S. Highway 97 ALT and State Highway 28. Another section of Highway 97 connects to Ellensburg from a junction with Highway 2, about 6.5 miles west of Cashmere. These state highways connect Cashmere with several nearby communities including Leavenworth, Wenatchee, Dryden, Peshastin, Monitor, Chelan, and Ellensburg.

Surface access to the airport hangar area (south side of Airport) is provided by Airport Road, which extends directly west from Sullivan Street with connections to local street system and Highway 2. Access to Highway 2 (approximately 1.7 miles) is provided via Sullivan Street, Pioneer Avenue, the Sunset Highway and Goodwin Road.

1 Cashmere-Dryden Airport Layout Plan Report (WHPacific, 2009)

Figure 2-1: Location & Vicinity Map



Source: Google Maps

Chelan County is located in north central Washington. It is bordered by Kittitas (south); Snohomish and King (west); Okanogan and Skagit (north); and Douglas (east) counties. The Airport sits between the Columbia River and the Cascade mountains at an elevation of 858 feet above mean sea level (MSL). Terrain rises from the valley floor to more than 4,800 feet MSL within 10 nautical miles northwest (Sauer's Mountain), and southwest, toward Sage Hills (elev. 3,100 feet MSL) on the Columbia River.

Community Socio-Economic Data

The information presented in **Tables 2-1 through 2-3** is intended to provide a summary of the local and regional economic conditions that may affect activity at Cashmere-Dryden Airport.

Population

Data from the State of Washington Office of Financial Management (OFM) summarized in **Table 2-1** show that recent historical population in Chelan County has experienced moderate growth over the past decade, but has lagged slightly behind the state average. The county's annual growth rates (AGR) during the period fluctuated from 0.55% to 1.17%, with a 10-year AGR of 1.09%. The net increase in county population during the period is 6,800 (+9.3%).

The same data for the City of Cashmere show more volatility over the 10-year period. The city's AGR for the period fluctuated from -1.50% to 4.77%, with a 10-year AGR of 0.66%. Within several significant year-over-year changes during the period, the population of Cashmere increased by 185 (+6.02%).

It is noted that these population changes occurred during the early recovery from The Great Recession and the first two years of the COVID pandemic.

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
AGR	-	0.95%	1.25%	1.34%	1.73%	1.76%	1.60%	1.60%	2.13%	0.78%
										Average AGR 1.46%
Chelan County	73,200	73,600	74,300	75,030	75,910	76,830	77,800	78,420	79,141	80,000
AGR	-	0.55%	0.95%	0.98%	1.17%	1.12%	1.13%	0.80%	0.92%	1.09%
										Average AGR 0.54%
Cashmere	3,075	3,055	3,010	3,040	3,040	3,075	3,095	3,100	3,248	3,260
AGR	-	-0.65%	-1.50%	1.00%	0.00%	1.15%	0.65%	0.16%	4.77%	0.37%
										Average AGR 0.66%

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

Economic Indicators

Gross Regional Product (GRP) and Personal Income per capita (PI) can serve as indicators of economic growth or decline of a particular area. According to data provided by Woods & Poole Economics, summarized in **Tables 2-2 and 2-3**, the GRP and PI for Chelan County showed inter-year volatility, but net growth overall, through the 10-year period. It is noted that the Woods & Poole data presented reflects constant dollars (2012) to capture actual changes in output, rather the effects of inflation over time.

The effects of the COVID pandemic are evident in the 2020-2021 data. During that time, County GDP declined sharply as the local economy responded to state and local restrictions put in place to slow the spread of the virus. However, the 2020 losses were largely reversed as the economy recovered in 2021. Inversely, per capita income sharply increased, due to federal stimulus payments in 2020, and receded to levels comparable to 2019, as the stimulus programs expired in 2021.

Table 2-2: Historical Gross Regional Product (2012 Dollars)

	2010	2017	2018	2019	2020	2021
Chelan County (millions)	$3,386.45	$3,976.32	$4008.75	$4,557.08	$4,354.89	$4,705.42
AGR	-	-	0.82%	13.68%	-4.64%	8.05%
						Annual Growth Rate 4.48%

Source: Woods & Poole Economics, Inc. (2021 State Profile)

Table 2-3: Historical Per Capita Income (2012 Dollars)

	2010	2017	2018	2019	2020	2021
Chelan County (millions)	$37,574	$48,489	$48,885	$51,208	$53,080	$52,708
AGR	-	-	0.82%	4.75%	3.71%	-0.71%
						Annual Growth Rate 2.14%

Source: Woods & Poole Economics, Inc. (2021 State Profile)

More detailed socio-economic data and analysis is presented in Chapter 3: Aviation Activity Forecasts to supplement the updated projections of future aviation activity.

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 Airport is key to establishing the long-term vision and development of the facility.

National Role

The FAA maintains an inventory of U.S. aviation facilities through the National Plan of Integrated Airport Systems (NPIAS). The NPIAS lists existing and proposed airports significant to the air transportation of the United States, and thus are eligible for federal funding though the Airport Improvement Program (AIP) which currently covers 90% of eligible costs of planning and development projects. According to the 2021 *National Plan of Integrated Airport Systems (2021-2025)*, Report to Congress, Cashmere-Dryden Airport is classified as a **Basic General Aviation Airport** and as such, provides a means for general aviation flying and link the community to the national airport system. Basic airports support general aviation activities such as emergency response, air ambulance service, flight training, and personal flying.

State Role

The Washington State Department of Transportation (WSDOT) developed the current Washington Aviation System Plan (WASP) in 2017. The 2017 WASP updated previous system plans that evaluate the state aviation system performance and recommends improvements for different functional categories of airports. The WASP builds on prior plans including the 2009 Long-term Air Transportation Study (LATS).

The WASP establishes a classification system that includes five categories of airports to reflect system performance and the functional roles of airports in the system. Cashmere-Dryden Airport is included in the WASP "**Community**" airport classification. Community airports support GA activities including personal transportation, recreational flying, pilot training. These airports typically are located outside of metropolitan areas and regional centers; they have paved primary runways; and 15 or more based aircraft.

AIRPORT HISTORY

As noted in the 2009 ALP Report, the airport site was established by Chelan County in 1949. A general history of the property and the facility's improvements was assembled based on available data including prior planning documents, property records, and pavement management records. The most recent Exhibit 'A' Property Plan from the 2009 ALP indicates the parcels currently owned by the Airport (Chelan County) total 21.25 acres.

The WSDOT IDEA pavement database indicates that the runway and parallel taxiway were paved in 1951. The hangar loop taxiway was paved in 1975 and the tie-down apron constructed/paved in 2008.

Facility improvements made since completion of the last (2009) ALP Report include a limited AGIS survey; relocation of the airport entrance gate to Airport Road, and airfield pavement rehabilitation (runway and hangar taxilane). A summary of the Cashmere-Dryden Airport's recent FAA AIP grant history is presented in **Table 2-4**, totaling $364,355 which includes the runway pavement rehabilitation and ALP update.

Table 2-4: FAA AIP Grant History

Fiscal Year	Project Description	AIP Federal Funds	Local/State Match	Supplemental Discretionary
2017	Conduct Miscellaneous Study, Rehabilitate Runway – 07/25	$364,355	$0	$0
2023	Airport Layout Plan Update	$292,584	$32,509	$0

Source: FAA AIP Grant Look Up Tool (Accessed 12/10/2021)); WSDOT Aviation Division Community Grant Funding

AREA AIRPORTS CONTEXTUAL ANALYSIS

The contextual analysis of 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 a service area. Airports located beyond a 60-minute travel time have less impact on local airport activity due largely to the redundancy provided by closer facilities. With numerous airports in the vicinity, service areas often overlap, creating competition between airports. Having several airports located within a relatively short distance affects user demand for items such as hangar space, fuel and aviation services. These items are sensitive to cost, convenience, and the quality of facilities or services. Cashmere Airport is the closest airport to Leavenworth, a popular tourist destination located 13 miles west. Hotel inquires as to how to fly to Leavenworth are referred to the Cashmere Airport; this activity contributes to the Airport's transient traffic.

Cashmere-Dryden Airport has overlapping service areas with six other airports. These airports are summarized in **Table 2-5** and depicted in **Figure 2-2**.

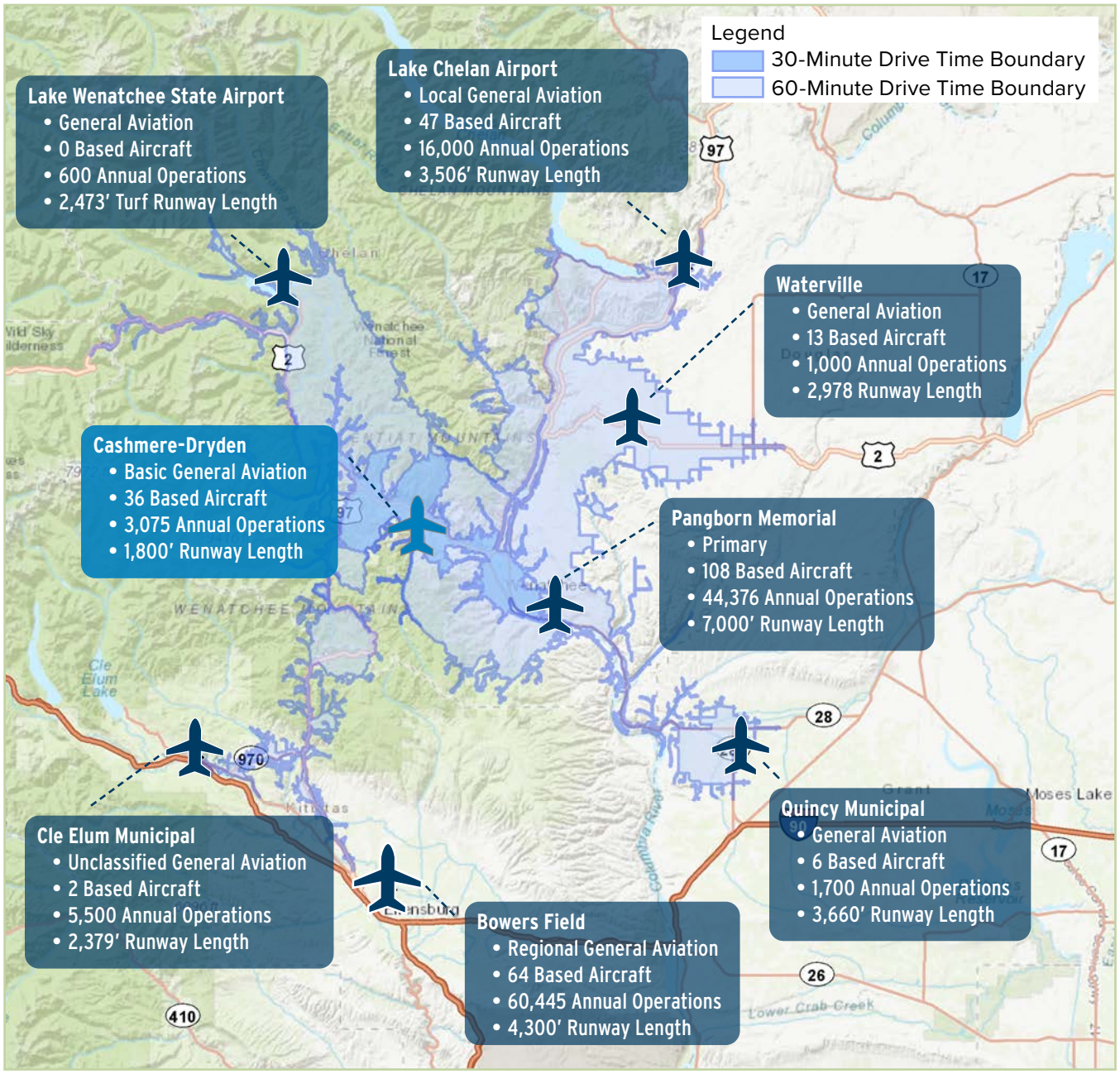
Based on the distance between the airports listed in **Table 2-5** it is important to note the difference between flying versus driving distances. Straight line flight distances to the airports listed below are typically less than the driving distances on available roads.

Table 2-5: Area Airports Comparison

Airport	Location (Air Miles)	Primary Runway Dimension (feet)	Surface	Lighted Runway	Instrument Procedures	Fuel Available
Cashmere-Dryden		1,800' x 50'	Asphalt	Yes	No	No
Pangborn Memorial	12.6 NM W	7,000' x 150'	Asphalt	Yes	Yes	Avgas, Jet-A
Waterville	19.3 NM NE	2,978' X 50'	Asphalt	Yes	No	No
Lake Wenatchee State*	20.4 NM NE	2,473' x 100'	Turf	No	No	No
Cle Elum	25 NM SW	2,379' x 60'	Asphalt	Yes	No	No
Bowers Field	29 NM S	4,300' X 150'	Asphalt	Yes	Yes	Avgas, Jet-A
Lake Chelan	30.2 NM N	3,506' x 60'	Asphalt	Yes	No	Avgas, Jet-A
Quincy	31.6 NM NW	3,660' x 50'	Asphalt	Yes	No	No

Source: FAA 5010 Airport Master Record
(Accessed 10/2022)
* Closed in winter months

Figure 2-2: Area Airports (FAA 5010 Data)



Source: AirportIQ 5010, Esri, USGS, NOAA

SUMMARY OF AIRPORT OPERATIONS DATA

Cashmere-Dryden Airport accommodates primarily small single-engine aircraft, and helicopters. The Airport's based aircraft count was updated by airport management in January 2023 (validated count: 39 aircraft in the FAA BasedAircraft.com database). All based aircraft are small single-engine piston.

The FAA 5010 Airport Master Record for Cashmere-Dryden Airport and the other airports in the service area are summarized in **Table 2-6.** These data are unverified and are presented for reference only. An updated baseline estimate of annual aircraft operations will be developed for the new aviation activity forecasts for the ALP Report (see Chapter 3).

Table 2-6: FAA 5010 Data

	Cashmere-Dryden[1]	Pangborn	Waterville	Quincy	Cle Elum	Bowers Field	Lake Wenatchee State Airport	Lake Chelan
Air Carrier	0	2,072	0	0	0	0	0	0
Air Taxi	75	2,424	0	0	0	1,845	0	0
GA Local	1,750	28,380	500	700	2,000	33,300	0	11,500
GA Itinerant	1,250	11,000	500	1,000	3,500	25,200	600	4,500
Military	0	500	0	0	0	100	0	0
TOTAL OPERATIONS	**3,075**	**44,376**	**1,000**	**1,700**	**5,500**	**60,445**	**600**	**16,000**
TOTAL BASED AIRCRAFT	**39**	**108**	**13**	**6**	**2**	**64**	**0**	**47**
Single Engine	39	82	13	6	2	57	0	35
Multi Engine	0	7	0	0	0	5	0	3
Jet	0	2	0	0	0	2	0	0
Helicopters	0	5	0	0	0	0	0	3
Glider	0	10	0	0	0	0	0	0
Military	0	0	0	0	0	0	0	0
Ultra-Light	0	2	0	0	0	0	0	6

SOURCE: AirportIQ 5010 Airport Master Records and Reports (AirportIQ5010.com, Accessed 10/6/2022)
[1]Cashmere based aircraft numbers presented reflect validated BasedAircraft.com data (Accessed January 2023).

It is important to note that aircraft takeoffs and landings (operations) at non-towered airports, including Cashmere-Dryden, are not routinely recorded. As such, flight activity is estimated through a variety of methods.

RELEVANT STUDIES

2009 Cashmere-Dryden Airport Layout Plan Report

The 2009 Airport Layout Plan Report provided a detailed assessment of site-specific airport development needs and provides the most recent FAA approved ALP for Cashmere-Dryden Airport. Completed projects include the runway and taxilane pavement rehabilitation and the relocation of the main airport entrance gate. Previously recommended projects not yet completed include:

- **Runway:**
  - » Shift and overlay the existing runway by 155 feet to the west to achieve a standard runway safety area and maintain existing 1,800-foot runway length.
  - » Displace Runway 25 threshold (40 feet) for approach obstruction clearance.

- **Runway Lighting/Visual Aids:**
  - » Relocate precision approach path indicator (PAPI) in conjunction with shift of Runway 25 and future displaced threshold.
  - » Install a PAPI on the Runway 7 end.
- **Parallel Taxiway:** Reconstruct parallel taxiway.
- **Property Acquisition:** Approximately 3.57 acres of property was identified for future acquisition to accommodate the planned runway shift to the west should that property become available sometime in the future.
- **Surface Access Roads:** Relocate airport entrance/gate to provide direct access to apron and hangar areas.
- **Terminal Area:**
  - » Reconstruct Tiedown Apron
  - » Airfield pavement maintenance (ongoing, periodic)

WASHINGTON AVIATION SYSTEM PLAN (WASP)

The 2017, Washington Aviation System Plan (WASP) provides long-term planning guidance for 136 public use airports throughout the state. The WASP evaluates system performance against performance standards defined for different types and sizes of airports.

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. The 2017 WASP classifies Cashmere-Dryden Airport as a Community airport.

Community airports support GA activities including personal transportation, recreational flying and pilot training activities. Airports classified as Community are located outside of metropolitan areas and regional centers; they have paved primary runways; and 15 or more based aircraft.

An updated review of the Airport's compliance with WASP minimum standards will be provided in the facility requirements assessment (Chapter 4).

WASHINGTON AVIATION ECONOMIC IMPACT STUDY

In 2020, Washington State Department of Transportation Aviation Division (WSDOT Aviation) released the Washington Aviation Economic Impact Study (AEIS). 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.

According to the study, Cashmere-Dryden Airport contributed over $1 million in value added, and over $2.28 million in business revenue annually to the local and regional economies in 2018. Total full-time employment related to the Airport was estimated to be 10 jobs with an estimated payroll of $623,000.

Environmental Data

PHYSICAL GEOGRAPHY

Cashmere-Dryden Airport has a surveyed elevation of 857.6 feet above mean sea level (MSL). Cashmere-Dryden is located in the lower portion of the Wenatchee River Valley in southern Chelan County. The Wenatchee River is the dominating natural physical feature within the valley, entering the higher valley near Leavenworth and traveling eastward before connecting with the Columbia River near Wenatchee. The lower Wenatchee Valley is bordered by high mountainous terrain to the north and south. Irrigated farmland comprises the majority of the land surrounding Cashmere. Terrain in the vicinity of Cashmere is characterized by level to moderately sloping irrigated farmland located within the basin valley, surrounded by mountainous areas.

Maximum elevation figures (MEF) depicted on the FAA Seattle Sectional Aeronautical Chart provides pilots with information on the highest known terrain elevation (above mean sea level - MSL) within defined areas. The MEFs immediately surrounding Cashmere-Dryden Airport are 7,200 feet to 9,800 feet MSL. The mountains, located two to three miles north and northeast of the airport, have elevations rising above 8,000 feet MSL. To the west of the Airport is the Cascade Mountain Range. Mt. Cashmere, part of this range, peaks at 8,500 feet MSL. The terrain to the east of the Airport consists of rolling hills which descend to approximately 800 feet MSL at the Wenatchee River.

LOCAL CLIMATE ANALYSIS

Cashmere has a relatively dry climate with cold winters and hot summers due to its position on the leeward side of the Cascade Range. Typical temperatures vary between 20-degrees to 87-degrees throughout the year.

Cashmere does not have a local weather observation station that uploads data into the federal system (National Weather Service). The nearest (four) observation stations are located in Leavenworth and Wenatchee (8 to 15 miles from Cashmere). These stations provide an extended record (57 to 102 years) of local conditions. Average summer temperatures from the four nearby stations are similar, with the hottest months (July and August) averaging 87.2 degrees Fahrenheit (F) (range 86.9 - 87.9 F). The temperatures in the coldest month (January) varies more, with Leavenworth averaging a low of 17.3 degrees F, compared to 22 degrees F for the three stations in the Wenatchee area (range 21.2 - 22.3 F). The effects of close mountainous terrain surrounding Leavenworth and elevation appears to contribute to colder winter temperatures and significantly more precipitation. Leavenworth averages 24.2 inches of precipitation and 94.9 inches of snowfall annually. The three Wenatchee area stations average 9.2 inches of precipitation and 31.6 inches of snowfall annually. Since Cashmere is located near the midpoint of this unique climate zone, available historical data from the four stations will be consolidated to approximate local conditions.

Cashmere receives small amounts of precipitation throughout the year, with the rainiest season being fall, followed by winter. December brings the highest amount of rain with an average of 1.53 inches. January, February, and November each average 1.34 inches of precipitation. The summer season is dry, averaging less than a half-inch monthly between June and October. Annual snowfall averages about 64 inches.

WIND ANALYSIS

Historical on-site wind data are not available for Cashmere-Dryden Airport. In cases where on-site observation data are not available, FAA recommends developing a wind rose with data from a nearby airport to approximate local wind coverage. The FAA recognizes that these data are approximate and may not account for unique terrain or localized weather patterns.

The nearest National Weather Service (NWS) tabulated wind data source acceptable to FAA is located at Pangborn Memorial Airport (13.2 NM SE). Applying wind data from Pangborn to Runway 7/25 indicates wind coverage of approximately 98.75% at 10.5 knots which meets the FAA standard of 95%.

Environmental Conditions

The ALP Update scope of work includes an overview of environmental conditions and a preliminary assessment of NEPA environmental impact categories. A cultural resource assessment was also performed for the site. A review of recommended improvements will be performed as part of the alternatives analysis (Chapter 5). These assessments are summarized below, and the full technical memorandums are provided in the listed appendices.

ENVIRONMENTAL REVIEW

A preliminary environmental screening of the airport property and surrounding areas was completed as part of the ALP Update. The screening study examined the following environmental categories on and in vicinity of the Airport:

- 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
- Water Resources (including wetlands, floodplains, surface waters, groundwater, and wild and scenic rivers

A brief summary of significant findings is below. The complete environmental review technical memorandum is provided in **Appendix A**.

Air Quality

Air Quality of the region was found to be generally good with most pollution indicators falling well below the national averages. However, the Airport site falls within a census block where all air quality-related environmental hazard indexes, including Particulate Matter 2.5 and Ozone are between the 28th and 50th percentile nationwide. According to the EPA, the Airport site scored for these indices in 2022.

Biological Resources

Biological resources include sensitive plants, fish, wildlife, and their respective habitats. There are no recorded sightings of any federally or state listed protected species within the immediate vicinity of the Airport. However, there are a few species that have the potential to be found in the area, including gray wolf, Canada lynx, North American wolverine, Northern spotted owl, yellow-billed cuckoo, bull trout, showy stickseed, Wenatchee Mountains checkerwillow, and monarch butterfly.

It is unlikely that any federally or state protected fish species will occur on airport property. However, Chinook salmon, steelhead, and bull trout may use the nearby Wenatchee River for seasonal migration.

Several migratory bird species covered by the Migratory Bird Treaty Act are known to occur in the vicinity of the Airport. See **Appendix A** for the complete list and note that the species listed are representative of species found in the area of the Airport, not necessarily on the airport itself.

The Cashmere-Dryden Airport falls within the USFWS Birds of Conservation Concern (BCC) Zone 9 (USFWS 2022b). Of the 34 avian species listed under BCC, seven species have recorded observations within a 1.5-mile radius of the Airport. These species are evening grosbeak, black swift, American white pelican, Cassin's finch, olive-sided flycatcher, and rufous Hummingbird.

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. While there are sightings of one golden eagle in the vicinity of Cashmere-Dryden Airport no nesting habitat activities occur at the Airport.

The National Wetland Inventory (NWI) indicates that there is an intermittent riverine wetland located approximately 800 feet west of the western boundary of the Airport (the nearest wetland to the property). To the north of the Airport (approximately 0.2 miles) a freshwater/shrub wetland is associated with the Brender Creek flood plain.

Hazardous Materials, Solid Waste, and Pollution Prevention

A query of publicly accessible databases identified the closest Superfund site is located approximately 60 miles southeast of Airport property. The site is located at Grant County International Airport. The closest brownfield site is located 0.40 miles north in the town of Cashmere on Sunset Highway. Four EPA hazardous waste treatment, storage, and disposal facilities (TSDF) were also reported within a 5-mile radius of the Airport. The four sites are located to the east near the city of Wenatchee. Three TRI sites are located within a 5-mile radius of the Airport and all three are located east near the city of Wenatchee, Pollution prevention (P2). There are no pollution prevention sites in Chelan County. There are no fueling facilities available at the Airport and no aboveground storage tank fueling facilities, or recently decommissioned fueling facility with underground storage tanks.

CULTURAL RESOURCES REVIEW

The ALP Update must meet the requirements of Section 106 of the National Historic Preservation Act (NHPA) and consider impacts of future airfield improvements to any potential historic properties. The Section 106 review was conducted by completing pre-field research. The complete cultural resources technical memorandum is provided in **Appendix B**.

Pre-field research included the review of known archaeological resources within a 1.0-mile radius of the airport property, using publicly available archaeological resource databases maintained by the State of Washington. This database includes recorded archaeological resources, historic property inventories (HPIs), National Register of Historic Properties (NRHP) and Washington Heritage Register (WHR) properties, identified cemeteries, and previously conducted cultural resource surveys found throughout the state.

The pre-field research identified four archaeological sites and two isolates within one mile of the study area. Currently, these sites are not affected by airport operations. However, the survey yielded a final recommendation that compliance-level cultural resource investigations occur when individual projects are proposed in association with the Airport Layout Plan. It was also recommended that the Airport be investigated for its potential to meet the minimum eligibility requirements for listing in the National Register of Historic Places (NRHP).

NOISE CONTOURS

A noise analysis is not included in the scope of work for the ALP update planning effort due to the relatively low levels of flight activity at the Airport, which fall below the FAA threshold required for analysis.

AIRSPACE AND 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.

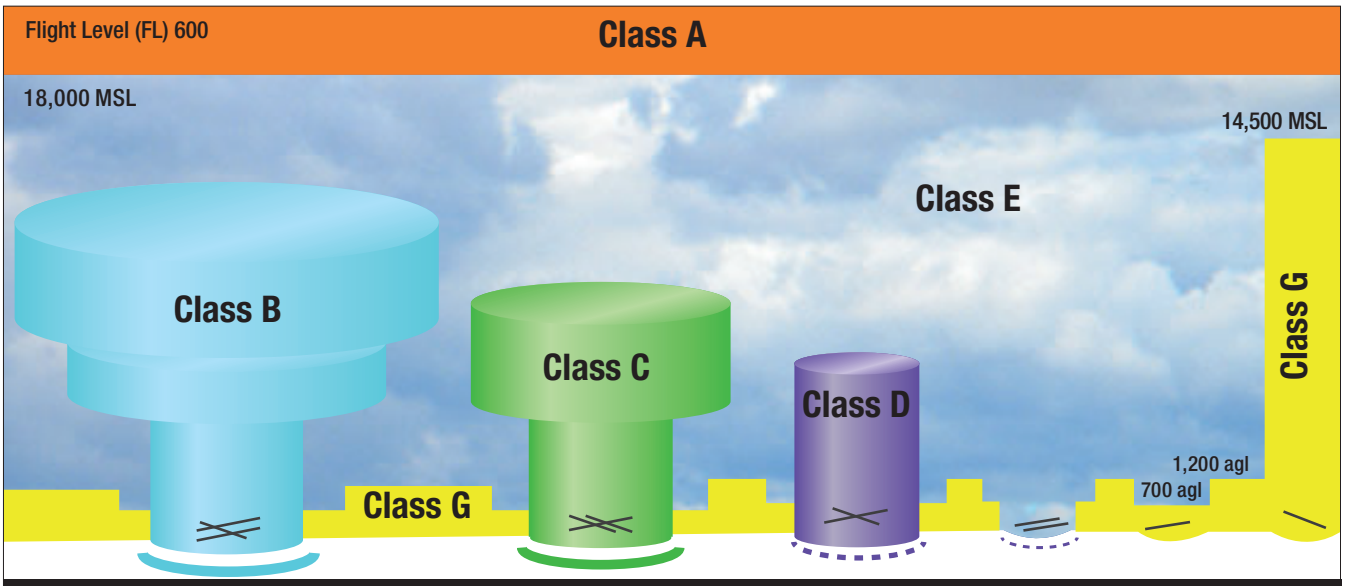
Aircraft operating within controlled airspace are subject to varying levels of positive air traffic control that are unique to each airspace classification. Requirements to operate within controlled airspace vary, with the most stringent requirements associated with very large commercial airports in 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 Cashmere-Dryden Airport.

Cashmere-Dryden Airport is located in an area of Class G airspace up to 700 feet AGL, where it becomes Class E airspace. 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 individual airports. Aircraft are required to obtain an air traffic control (ATC) clearance prior to operating in Class E airspace when operating under instrument flight rules (IFR) conditions.

Figure 2-3: Airspace Classifications



COMMUNICATION REQUIREMENTS AND WEATHER MINIMUMS

	Class A	Class B	Class C	Class D	Class E	Class G
Airspace Class Definition	Generally airspace above 18,000 feet MSL up to and including FL 600.	Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports	Generally airspace from the surface to 4,000 feet AGL surrounding towered airports with service by radar approach control	Generally airspace from the surface to 2,500 feet AGL surrounding towered airports	Generally controlled airspace that is not Class A, Class B, Class C, or Class D	Generally uncontrolled airspace that is not Class A, Class B, Class C, Class D, or Class E
Minimum Pilot Qualifications	Instrument Rating	Student*	Student*	Student*	Student*	Student*
Entry Requirements	IFR: ATC Clearance VFR: Operations Prohibited	ATC Clearance	IFR: ATC Clearance VFR: Two-Way Communication w/ ATC	IFR: ATC Clearance VFR: Two-Way Communication w/ ATC	IFR: ATC Clearance VFR: None	None
VFR Visibility Below 10,000 MSL**	N/A	3 Statute Miles	3 Statute Miles	3 Statute Miles	3 Statute Miles	Day: 1 Statute Mile Night: 3 Statute Miles
VFR Cloud Clearance Below 10,000 MSL***	N/A	Clear of Clouds	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal***
VFR Visibility 10,000 MSL and Above**	N/A	3 Statute Miles	3 Statute Miles	3 Statute Miles	5 Statute Miles	5 Statute Miles
VFR Cloud Clearance 10,000 MSL and Above	N/A	Clear of Clouds	500 Below 1,000 Above 2,000 Horizontal	500 Below 1,000 Above 2,000 Horizontal	1,000 Below 1,000 Above 1 Statute Mile Horizontal	1,000 Below 1,000 Above 1 Statute Mile Horizontal

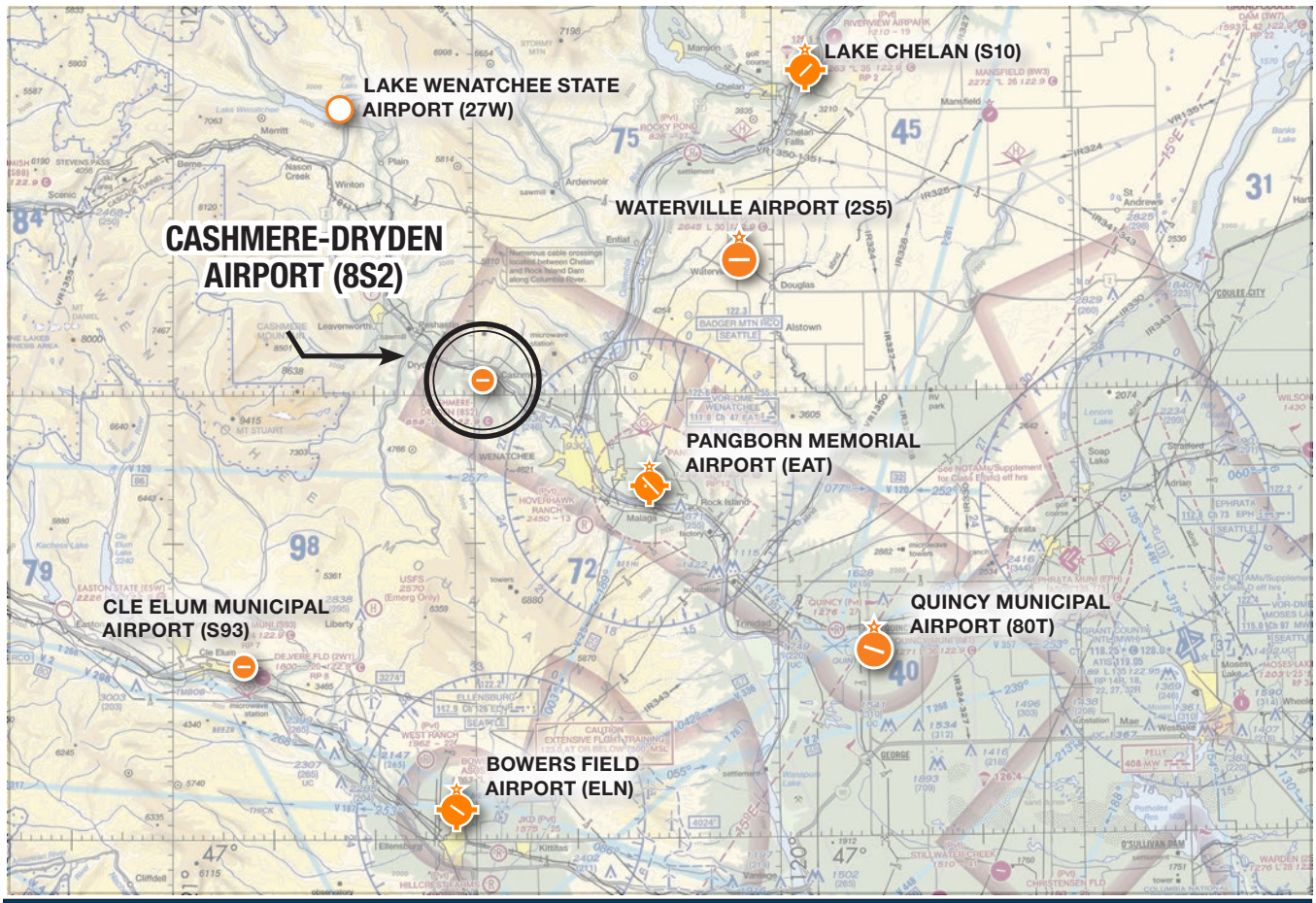
* Prior to operating within Class B, C, or D airspace (or Class E airspace with an operating control tower), student, sport, and recreational pilots must meet the applicable FAR Part 61 training and endorsement requirements. Solo student, sport, and recreational pilot operations are prohibited at those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

Source: Federal Aviation Administration (FAA)

Figure 2-4: 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

Special Use Airspace

None

Controlled & Uncontrolled Airspace

Cashmere-Dryden is an uncontrolled field and pilots use the airport Unicom/CTAF for communications on the ground and in the vicinity of the Airport.

Navigational Aids and Airways

Cashmere-Dryden Airport operates exclusively under visual flight rules (VFR) and has no electronic navigational aids or published instrument procedures. The runway is equipped with a visual landing aid (PAPI-2) on the Runway 25 end.

The nearest electronic navigational aid is the Pangborn Memorial Airport VORTAC (EATr 111 kHz), located 13 nautical miles southeast of Cashmere-Dryden Airport. There is one low altitude instrument airway in the area: Victor 120 (V120) is 9 miles to the south. The minimum enroute altitude (MEA) for this Section of V120 ranges from 7,500 to 12,000 feet MSL. Local airport operations (e.g., traffic pattern) are unaffected.

Airspace - Part 77 and Runway Threshold Siting Surfaces

In addition to the airspace classifications and operating environment pilots are more familiar with (described in the previous section above) there are a variety of FAA rules, regulations, design standards, and policies associated with the protection of airspace, evaluation of proposed objects on and near airports, and their effects on navigable airspace. Several of these are summarized below and visually depicted in **Figure 2-5**. Additional information can be found in the *Airport Cooperative Research Program (ACRP) Report 38 - Understanding Airspace, Objects, and Their Effects on Airports.*

Part 77 – Safe, Efficient Use, and Preservation of Navigable Airspace

Title 14, Code of Federal Regulations (CFR) Part 77 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.

Generic visual Part 77 airspace surfaces, which are applicable to Runway 7/25, are depicted in **Figure 2-6**.

FAA AC 150/5300-13B – Airport Design

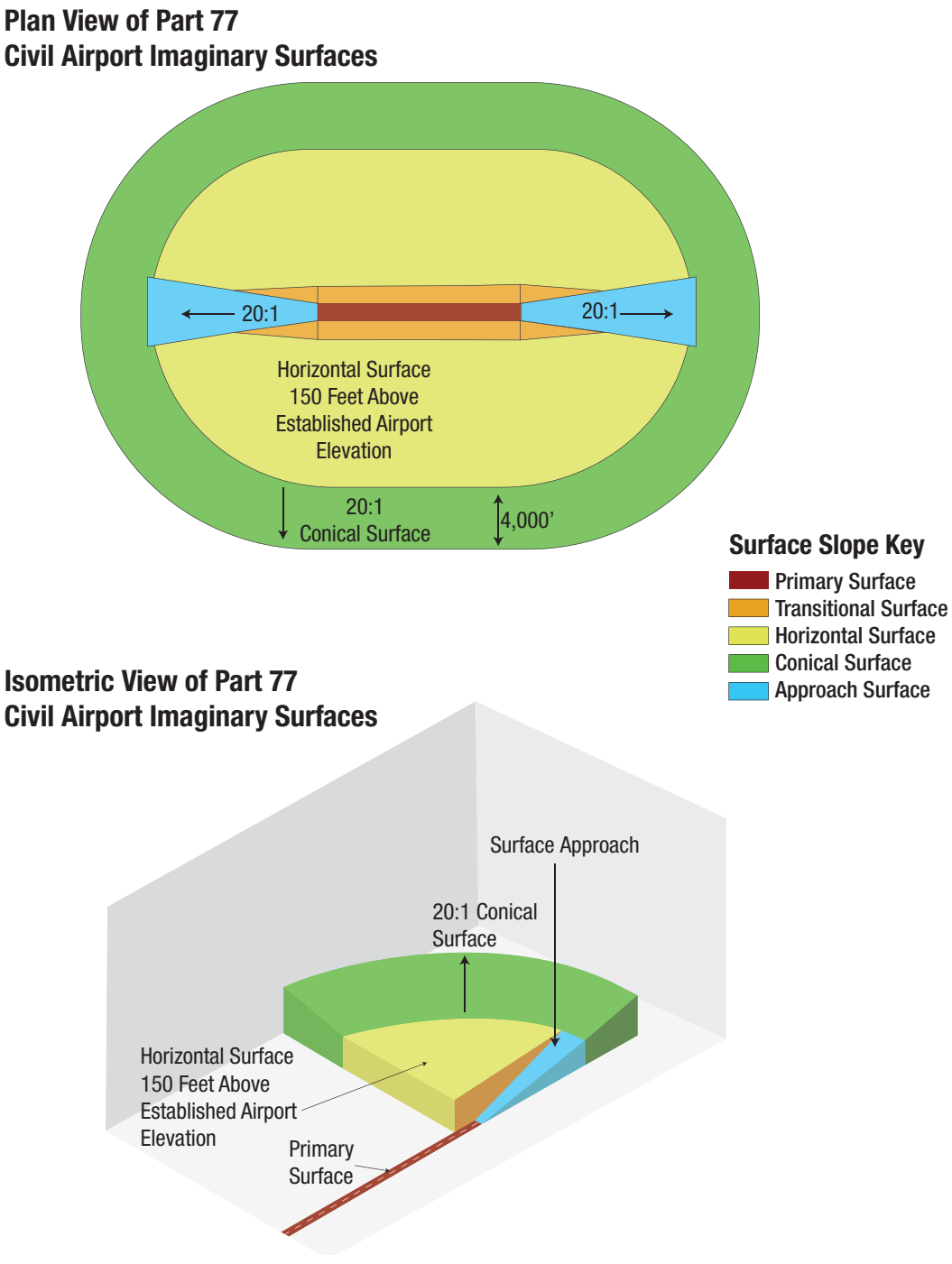
This Advisory Circular (AC) is the principal document utilized by the FAA, airport sponsors, and consultants when planning and designing airport projects. Obstruction clearance criteria for runway end (approaches) are defined in the AC's discussion of Threshold Siting Surfaces.

This AC is periodically updated and has undergone extensive revision since the previous ALP Update was completed in 2009. A comprehensive review of current FAA design standards will be provided in the Facility Requirements Analysis (Chapter 4) to define applicable FAA standards.

Instrument Flight Procedures

Cashmere-Dryden Airport operates exclusively under visual flight rules (VFR) and has no electronic navigational aids or published instrument procedures. Surrounding terrain significantly limits the possibility of developing instrument flight procedures at Cashmere-Dryden Airport.

Figure 2-5: Part 77 Airspace



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

Land Use & Zoning

The majority Cashmere-Dryden Airport is located in unincorporated Chelan County, outside the Cashmere city limits and urban growth area (UGA) boundary. Land use actions related to the airport site, and its immediate surroundings, are under Chelan County jurisdiction except for any actions or land use pertaining to parcel 22247, which is located in the Cashmere city limits. Chelan County and City of Cashmere zoning ordinances associated with the Airport are summarized below and provided in **Appendix C**.

COMPREHENSIVE PLAN LAND USE DESIGNATIONS

Chelan County

The Chelan County Comprehensive Plan defines land use designations for all unincorporated areas of the county, and for UGAs defined for incorporated cities (areas outside city limits). The areas surrounding the Cashmere-Dryden Airport are primarily in agriculture and residential use, with **Rural Residential/Resource, Rural Village,** and **Agricultural** land use designations.

Agricultural designated lands limits use to agricultural activities, with the intent of preventing dense residential development or other development not related to agriculture. Other uses require a conditional use permit.

Rural Residential/Resource designated lands limit commercial or industrial land use and promotes residential development. Agriculture development is also permitted on rural residential resource land. Other uses require a conditional use permit.

Rural Village designated lands promote low density residential development with no commercial or industrial development. Agricultural uses are permitted on land designated as Rural Village. Other uses of this land require an approved permit from the county.

City of Cashmere

According to the Cashmere Comprehensive Plan (adopted in 2019) single family residential (44.8%) and public (28.5%) are the most prominent land uses. The 2008 comprehensive plan recommended some changes in future land use designations, including elimination of the Airport Residential designation (to be replaced with a similar low-density residential designation). Since the last ALP the land designated as Airport Residential has been replaced with a Single-Family land use designation as previously proposed.

The Single Family land use designation is applied to several land parcels that border the north side of the Airport. A similar Single-Family Residential land use designation supports zoning with up to 6 units per acre. It is noted that Airport Residential zoning is currently in place for these parcels; a future rezone to Suburban Residential or Single-Family Residential would be consistent with the comprehensive plan. However, this land use planning would permit higher density residential development directly adjacent to the Airport.

Other land uses bordering the Airport include Single Family Residential and Public. Single Family Residential allows 6 units per acre with a two-story height limit and one type of use per lot. Areas of Public land designation located east of the Airport allow for all manner of public uses (schools, etc.) with more intense uses allowed by conditional use permit. Public land uses east of the Airport are likely to remain (middle school, high school) with similar development densities.

ZONING

Zoning in the vicinity of Cashmere-Dryden Airport is depicted in **Figure 2-6**.

Chelan County

Cashmere-Dryden Airport is zoned as **Rural Public (RP)** defined under Chapter 11.28 of the county code. This zone intended to “provide for general and commercial aviation uses at the Cashmere-Dryden Airport.” Cashmere’s city urban core is located roughly one mile northeast of the Airport, and includes commercial, residential, industrial, and urban growth area zones.

Airport Vicinity Zoning

Cashmere-Dryden Airport borders the Cashmere UGA boundary. City zoning designations of parcels near the Airport may be affected by airport operations. Both county and city zoning in the vicinity will be discussed further below.

Chelan County Zoning

Chelan County zoning in the vicinity of Cashmere-Dryden Airport is a mixture of Rural Residential/Resource (RR2.5), Rural Village, and Airport Residential as described by Chelan County Code, Title 11.

The area immediately south, west, and northwest of the Airport are located in the County's "**Rural Residential/ Resource 2.5 (RR 2.5)**" zone. Permitted uses include agricultural uses and agricultural accessory buildings, single-family dwellings, adult family homes, U-pick and rent-a-tree operations, forestry uses, and heliports for temporary emergency and forest-related management support. The minimum lot size in this zone is 2.5 acres and the maximum building height is 35 feet.

The permitted uses (low density residential) generally within the RR 2.5 zone are compatible with airports. Buildings and trees are not permitted to penetrate the Airport's imaginary surfaces.

Rural Village (RV) zoning exists within a 2-mile radius of the airport. Permitted uses within the RV zoning designation includes agricultural uses, adult family home, single and multi-family dwellings, forestry uses, low impact utilities. The minimum lot size in the RV zone is based on the availability of public water and sewer and the type of facility located in the zone. The maximum building height is 35 feet.

City of Cashmere Zoning

The City of Cashmere's UGA boundary borders the Airport to the northeast. Adjacent parcels are zoned as Airport Residential, Public, Single-Family, Multi-Family and Suburban Residential as described by Cashmere City Code, Title 17.

Single family residential areas (SF) provide for low density residential uses, particularly single-family homes. The maximum building height is 30 feet. Permitted uses include single family dwellings, temporary buildings for construction, manufactured homes and churches.

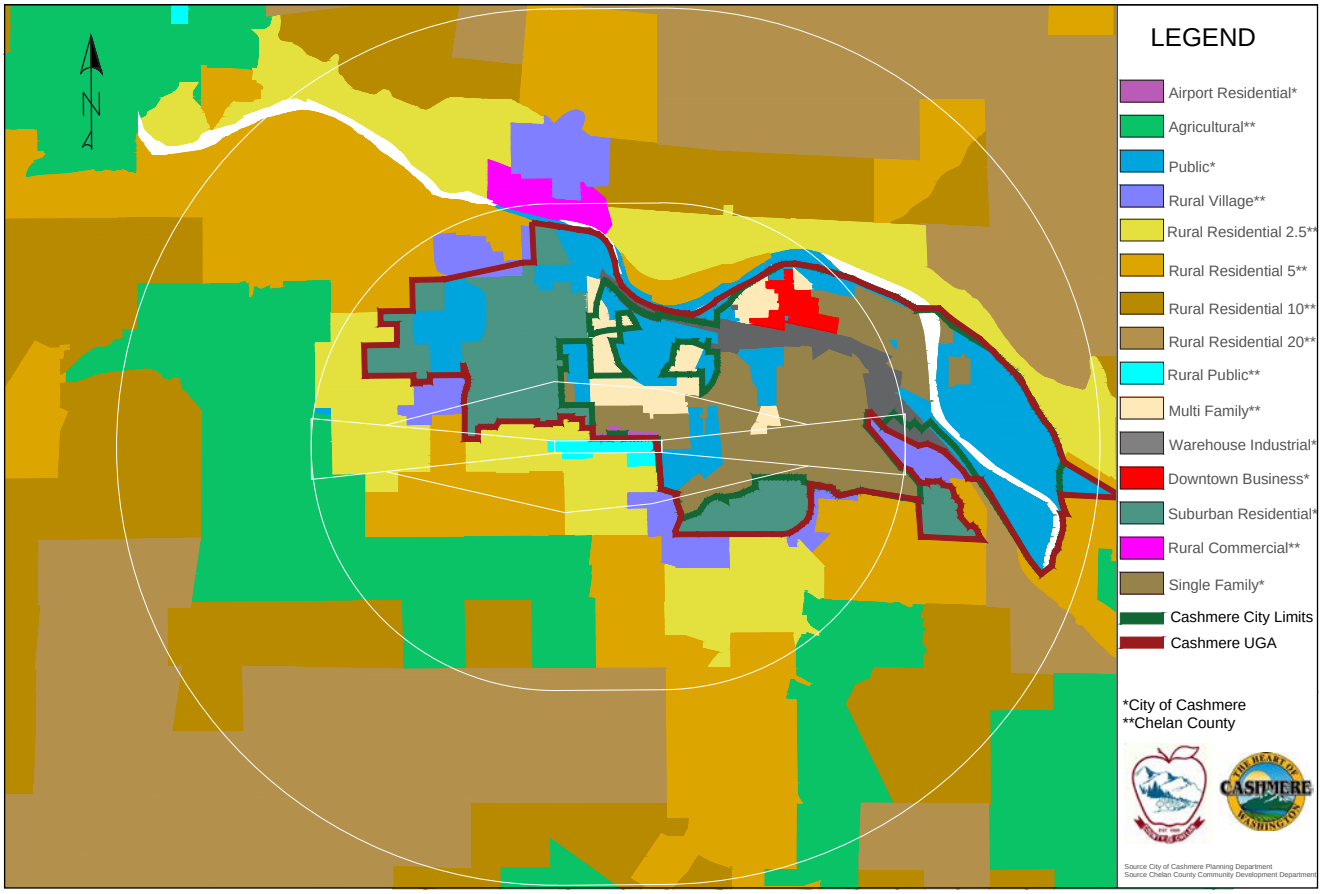
Multi-family residential areas (MF) provide an area for moderate density residential uses such as duplex and apartment units, as well as single family and manufactured homes. The maximum building height is 40 feet. Permitted uses include accessory dwelling units, assisted living facilities, condominiums, convalescent homes, day care centers, duplexes, churches, temporary buildings for construction, gardens, playgrounds and publicly owned recreation facilities.

Public (P) land zoning exists to further the enhancement of existing, publicly held property, and to promote privately owned properties to develop into community-oriented uses, particularly those of a recreational nature. The maximum building height is 40 feet. If located next to a residential district, then the maximum building height is 30 feet. Permitted land uses include cemeteries, mausoleums, community club, grange, lodge, community centers, court of law, schools, and other public facilities.

Airport residential area (AR) purpose is to maintain low density residential uses within the urban growth area. The maximum building height in this zone is 30 feet. Permitted uses include condominiums, duplexes, manufactured homes, single family dwellings, churches, aviation supporting activities, heliports, temporary buildings for construction and publicly owned recreation facilities.

Suburban residential areas (SR) purpose is to maintain low density residential uses within the urban growth area. The maximum building height in this area is 30 feet. Permitted uses include duplex dwellings, manufactured homes, multifamily dwellings, single family dwellings, churches, agriculture, winery or vineyards, temporary buildings for construction, and publicly owned facilities.

Figure 2-6: Airport Vicinity Zoning & Airport Overlay District



1. ASO Zone established by Chelan County(CCC section 11.74); The ADD Zone established for Cashmere-Dryden Airport excludes areas with the City of Cashmere. The City of Cashmere code does not currently include airport overlay zoning.

AIRPORT OVERLAY ZONING

Chelan County ASO

The Part 77 airspace for Runway 7/25 extends over areas of unincorporated Chelan County and the City of Cashmere. Each jurisdiction is responsible for protection of the Part 77 airspace surfaces for the 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. **Figure 2-7** depicts the Part 77 boundaries defined for Runway 7/25, and identifies the city limits boundary for the City of Cashmere.

Chelan County **Airport Overlay District (AOD)** (Chapter 11.74) is established to protect the four public use airports located in Chelan County (Cashmere-Dryden Airport, Chelan Municipal Airport, Lake Wenatchee State Airport and Stehekin State Airport) from obstructions, hazards and incompatible land uses. The zone defines protections for federally defined airspace, per the Code of Federal Regulations (41 CFR) Part 77, and airport safety zones defined by the Washington Department of Transportation - Aviation Division.

The intent and applicability of the **AOD** zoning is summarized below:

(Section 11.74.010)

> *(1) This chapter is adopted pursuant to the requirements of RCW 36.70A.510 and 36.70.547 wherein counties within which general aviation airports are located and operated for the benefit of the general public, whether publicly owned or privately owned public use, shall through its comprehensive plan and development regulations, discourage the siting of incompatible uses adjacent to such airports.*
>
> *(2) RCW 36.70A.200 identifies airports as essential public facilities and requires local jurisdictions to provide a process for identifying and siting essential public facilities... (Res. 2000-129 (part), 10/17/00).*

(Section 11.74.020)

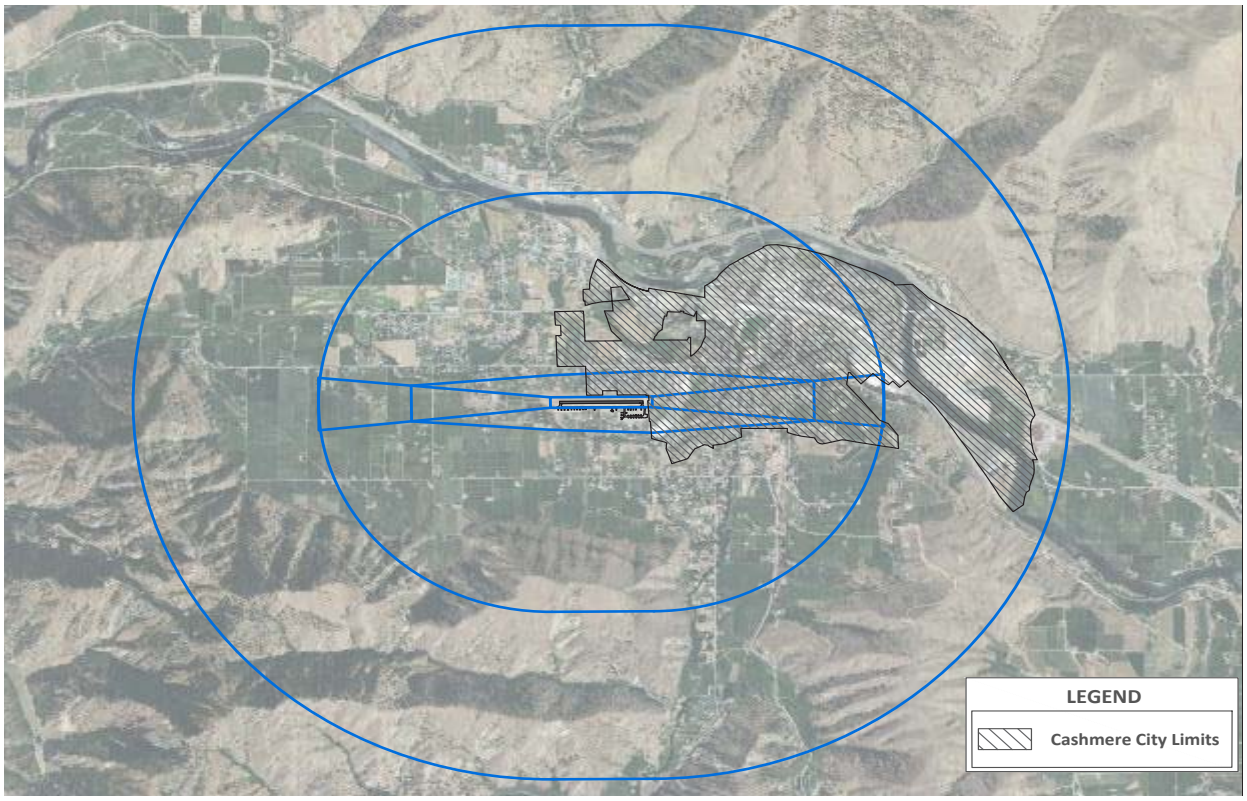
(1) The provisions of this chapter apply to all lands and all zoning districts lying within the boundaries of the airport overlay districts as shown on the Chelan County zoning maps. Airport overlay districts in Chelan County include lands lying outside of existing city limits incorporating and adjacent to the Cashmere Dryden Airport, the Chelan Municipal Airport, the Lake Wenatchee State Airport, and the Stehekin Airfield.

(2) All land uses, buildings, structures, features, including vegetation, and lighting located within the airport overlay district are subject to the provisions of this chapter with the exceptions of those listed in Section 11.74.030. (Res. 2000-129 (part), 10/17/00).

The Airport Safety Overlay component of the overlay zoning is based on WSDOT Safety Zone standards that are designed to ensure land uses located near airports are compatible with noise, height obstruction and other impacts from the airport operation.

- **Runway Protection Zone 1.** An area extending out from the end of the primary surface for 1,000 feet with a width of 450 feet at the end away from the primary surface and centered on the extended runway centerline.
- **Inner Safety Zone 2.** An area adjacent to the end of the runway protection zone 450 feet wide and one 1,500 feet in length, centered on the extended runway centerline.
- **Inner Turning Zone 3.** An area composed of a 60-degree sector centered on the end of the primary surface with an arc radius of 2,500 feet.
- **Outer Safety Zone 4.** An area adjacent to the end of the inner safety zone 450 feet wide and 2,500 feet in length, centered on the extended runway centerline.
- **Sideline Safety Zone 5.** An area adjacent to the primary surface extending 500 feet perpendicular to the centerline of the runway and extending parallel to the primary surface and until the intersection with Runway Protection Zone 1 and Inner Turning Zone 3. (Res. 2000-129 (part), 10/17/00).

Figure 2-7: Airport Overlay District Zone (Chelan County)



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 lighting and signage, airfield pavements, and support facilities. Cashmere-Dryden Airport operates in day and night visual flight rules (VFR) conditions. The Airport does not currently have any instrument procedures.

RUNWAY

Cashmere-Dryden Airport has one paved runway (7/25) that is oriented in an east-west direction (75/255 degrees magnetic). Runway 7/25 is 1,800 x 50 feet; Runway 25 has a 144-foot displaced threshold to improve obstruction clearance on the approach. The runway has a full-length parallel taxiway (Taxiway A) on its south side. The runway is equipped with lighting systems that are consistent with visual approach requirements and runway use.

A summary of runway conditions is provided below:

- **Runway Pavement:** Asphalt, fair condition.
- **Runway Markings:** Runway 7/25 has visual markings (runway numbers and centerline stripe). The runway markings were observed to be in fair condition during recent site visits. All runway markings are consistent with FAA standards for configuration, color (white paint), and approach type.
- **Runway Gradient:** The 2009 Airport Layout Plan (ALP) identifies the Runway 7 end as the high point with an elevation of 858 feet and the Runway 25 end as the low point at 833 feet. The effective runway gradient is 1.36%.
- **MIRL:** Runway 7/25 is equipped with a Medium Intensity Runway Lighting (MIRL) system, which includes white edge lights and threshold lights. The threshold lights consist of two sets of three fixtures near each corner of the runway, indicating the beginning and end of the runway. The Runway 25 displaced threshold is not equipped with threshold lights. The MIRL is pilot activated using the common traffic advisory frequency (CTAF) 121.7 MHz.
- **Visual Guidance Indicator (VGI):** Runway 25 is equipped with a 2-light Precision Approach Path Indicator (PAPI). PAPIs project light along a glide path to a runway end, with red and white colored lights indicating the aircraft's vertical position (above, below, or on glide path) relative to the glide path.
- **Taxiway Lighting:** There is currently no edge lighting or reflective edge markers for the taxiways at Cashmere-Dryden Airport.
- **Other Lighting:** Limited overhead lighting is available in the terminal area. Some hangars also have exterior wall-mounted flood lights.

Table 2-7: Runway Details

Runway 7/25	
Dimensions	1,800' x 50', 144' Displaced Threshold (Rwy 25)
Bearing	N 89 ° 33' 28 E (True)
Effective Gradient	1.36%
Surface/Condition	Asphalt/Satisfactory
Weight Bearing Capacity	8,000 pounds - Single Wheel Gear
Markings	Visual/Basic - Runway Designation Numbers, Centerline Stripe (Fair Condition)
Lighting	Mow Intensity Runway Edge Lighting (MIRL) (Rwy 25) Precision Approach Slope Indicator (PAPI) 2-Light
Signage	Runway Mid-Point Sign

Source: FAA 5010 Airport Master Record (Accessed 10/03/2022); FAA Chart Supplement

TAXIWAYS & TAXILANES

All currently developed areas of Cashmere-Dryden Airport have paved taxiway or taxilane access. The full-length parallel taxiway (Taxiway A) has two 90-degree exit taxiway connections (A1, A2, west to east) to the runway. Taxiway A is 25 feet wide and has a runway centerline-to-centerline separation of 120 feet. The loop taxilane that connects to the east end of Taxiway A provides access to hangars, the pilot building, and the tiedown apron.

Taxiway A and the connector taxiways have centerline stripes. Both exit taxiways are marked with aircraft hold lines approximately 88 feet from runway centerline. Taxiway A1 and A2 have lead-in lines that extend from the south edge of the runway centerline to the taxiway centerline. The loop taxilane is not striped.

The tiedown apron and the east hangar area is accessed from a loop taxilane that connects to Taxiway A. The taxilane is unlighted and not equipped with retroreflective edge markers. Hangars adjacent to the west end of the runway have individual taxilane connectors to Taxiway A.

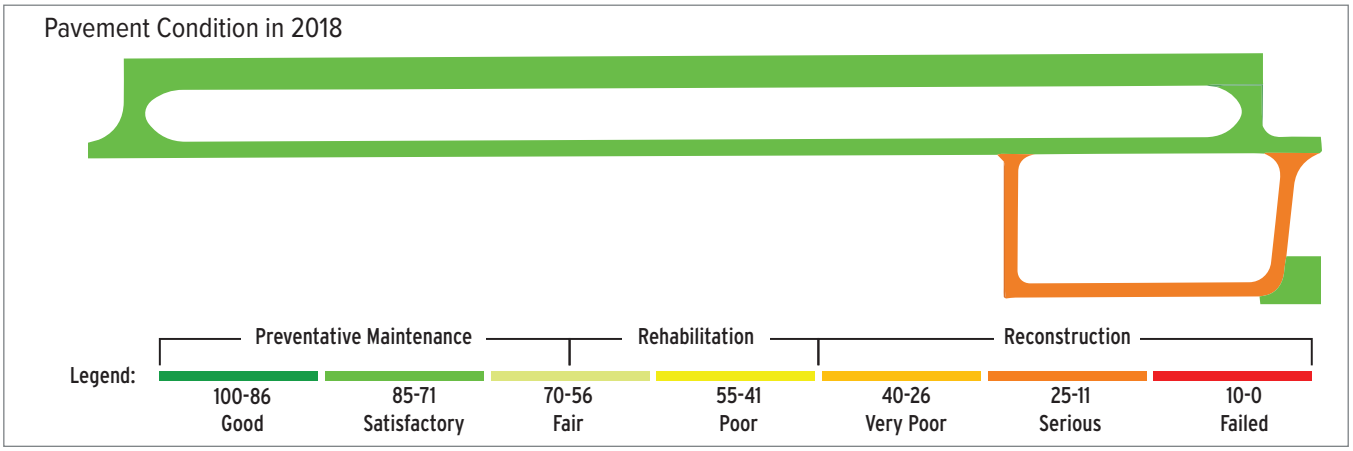
PAVEMENT CONDITION

The WSDOT Aviation Pavement Evaluation Program systematically identifies maintenance, repair, and rehabilitation projects needed to sustain functional pavements at Washington airports. The program provides a thorough evaluation of current conditions and future projections of pavement condition indices (PCI) for eligible airfield pavements at public use airports across the state. For NPIAS airports like Cashmere-Dryden Airport that receive federal money, this work assists airport sponsors in meeting their FAA grant assurances.

The most recent PCI data available (IDEA database) for Cashmere-Dryden Airport was performed in June 2018. The survey was performed using the 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.

Most of the pavements (75%) at Cashmere-Dryden Airport, including the runway and taxiways, were rated Satisfactory in the 2018 inspection survey. The hangar loop taxilane was rated Serious in the 2018 inspection. The pavement ratings are consistent with pavement age and use, with the exception of the loop taxilane, which was subsequently rehabilitated (2022). The runway was reconditioned (crack fill, slurry seal) in 2017. The parallel taxiway was reconstructed in 2008. The tiedown apron was constructed in 2008.

Figure 2-8: Pavement Conditions (2018 Inspection)



Source: WSDOT Aviation, Applied Pavement

AIRSIDE SUPPORT FACILITIES

Airside support facilities include items such as airfield lighting, signage, weather reporting equipment and visual aids. Cashmere-Dryden 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 reviewed during site visits conducted in September 2022.

Airport Lighting

The Airport has a pole-mounted rotating beacon located at the west end of the east hangar area, adjacent to the gated entrance. The beacon operates on a dusk-dawn photocell switch and is reported to function normally. The rotating beacon is pilot activated (same frequency as MIRL) on the CTAF.

Rotating beacons are used to indicate the location of an airport to pilots at night or during reduced visibility. The beacon provides sequenced white and green flashing lights (representing a lighted land airport) that rotate 360 degrees to allow pilots to identify the airport from all directions for several miles.

Visual Aids

The Airport has two lighted wind cones. One is located on the north side of the runway, near the Runway 7 end. The second wind cone is located west of the pilot lounge on the south side of the parallel taxiway. Both wind cones are equipped with external lighting (photocell switch) for night-time illumination and appear to be in good operating condition. The airfield lighting appears to be nearing the end of its useful life but is still fully operational.

Airfield Signage

Runway 07/25 is equipped with a midpoint marker sign [1/2], located on the north side of the runway. The sign indicates to pilots that they have used half the runway. The sign is in good condition with white numbers and a green background.

Information signs are located adjacent to the parallel taxiway at the old entrance reminding pedestrians that they are entering an active airport and that the speed limit is 15 miles per hour for vehicles driving on the taxiway to access hangars. Signage directs pilots to the Runway 7 run up area on Taxiway A end to avoid prop blast into nearby facilities. Both signs are in good condition with white and black coloring.

Weather Observation

Cashmere-Dryden Airport does not have an automated weather observation system that provides on-site weather data. The nearest airport weather reporting is located at Pangborn Memorial Airport, approximately 13nm SE. The Pangborn AWOS-3PT is accessed by radio (119.925 MHz) or telephone (509) 886-4226. The AWOS-3PT provides altimeter setting, wind data, temperature, dew point, density altitude, visibility, cloud/ceiling data, precipitation, and thunderstorm/lightning data.

Landside Elements

The landside elements section includes the facilities designed to support airport operations. These include aircraft apron/ tiedown areas, hangars, fuel storage, utilities, fencing, surface roads, and vehicle parking.

APRONS & TIEDOWN AREAS

Cashmere-Dryden Airport has one apron located at the southeast corner of the Airport. The apron is located adjacent to Taxiway A and is accessed by the loop taxilane. The apron has two small aircraft tiedowns. There are also a limited number (approximately four) of grass tiedowns.

AIRPORT PERIMETER FENCING

Cashmere-Dryden Airport is fully fenced. A 6-foot chain link fence surrounds the perimeter of the airport with off-airport hangars that have a use agreements with the Airport. A single pedestrian gate is located south of the pilot lounge.

AIRPORT SURFACE ROAD ACCESS

Vehicle access to the Airport's south landside facilities is provided from a gate on Airport Road, about 530 feet west of the intersection of Airport Road and Sullivan Street.

VEHICLE PARKING

Airport users to park adjacent to the pilot lounge or inside or next to hangars. There are no designated vehicle parking areas available on the Airport.

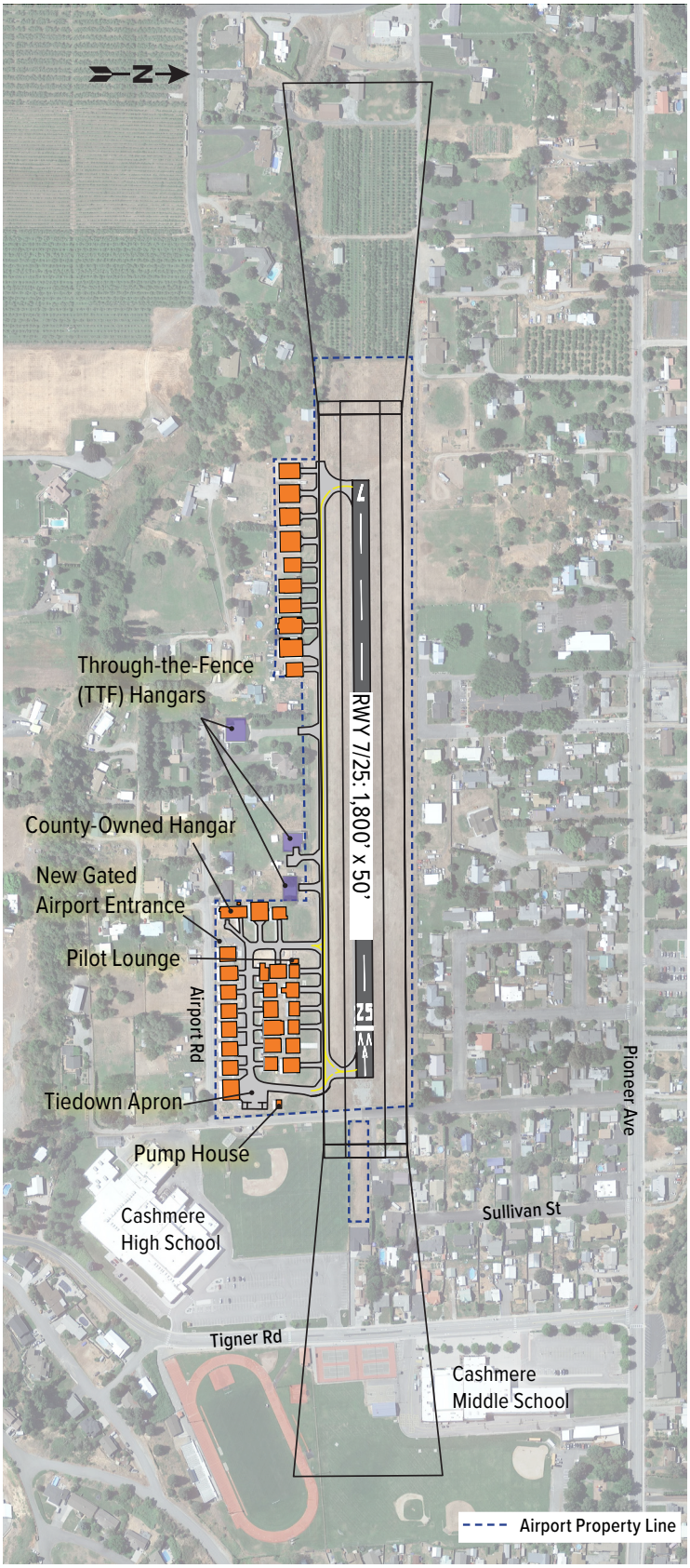
AIRCRAFT FUEL

Cashmere-Dryden Airport currently has no fuel system or fuel storage.

HANGARS & BUILDINGS

The Airport currently has 36 active hangars, all located on the south side of Taxiway A. Three of the hangars are located off airport property (through-the-fence (TFF) users). Two hangars (13 & 14) are county owned, and the remaining hangars are privately owned. In addition to hangars, three other buildings are located on airport property – a water system pump house, located north of the aircraft tiedown area; the pilot's lounge, located near the eastern hangar area; and a maintenance equipment storage building located west of hangar number 12.

Figure 2-9: Existing Conditions



UTILITIES

The developed areas of Cashmere-Dryden Airport have water, electrical, and telephone service. Utility lines servicing the facility are located on Airport Road. There are two fire hydrants located on airport property. One hydrant is located next to the pilot lounge. The second hydrant is in the hangar area near the Runway 7 end of the parallel taxiway. Overhead electrical and buried telephone lines are located on the south side of the access road, with overhead connections to individual structures. The Airport is connected to the City of Cashmere sanitary sewer network and water system. Electrical and telephone service is provided by the local private utilities.

PUBLIC SAFETY

Cashmere-Dryden Airport is served by local law enforcement, fire protection, and EMS. Service is provided by the Chelan County Sheriff and the Cashmere Fire Department. Local medical services are provided by the Cashmere Clinic (Confluence Health); the nearest hospitals are located in Leavenworth (Cascade Medical; level 5 trauma center) in Wenatchee (Central Washington Hospital; level 3 trauma center).

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

Cashmere-Dryden Airport is owned and operated by Chelan County. The Cashmere-Dryden Airport Advisory Board is responsible for overseeing the maintenance and operation of the Airport. The Board reports to the Chelan County Commissioners.

AIRPORT FINANCE

The Airport operates within the county'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 Airport owned hangars and other buildings and TTF access agreements for off-airport hangars. The primary expenditures for the Airport include the hiring of professional services, maintenance, and facility improvements. Cashmere-Dryden's capital improvement projects are typically funded through FAA and WSDOT grants with a local match. Local airport users also contribute volunteer labor and financial resources to support a variety of airport maintenance projects.

Table 2-8: Airport Financials (FY2022 Budget)

AIRPORT EXPENSES	
Salaries & Wages	$14,278
Office & Operating Supplies	$425
Professional Services	$28,000
Facility Maintenance	$8,178
Facility Rentals & Taxes	$250
Other Services, Supplies, and Expenses	$14,813
TOTAL AIRPORT OPERATING EXPENSES	**$65,944**
AIRPORT REVENUES	
Investment Interest	$200
Land Leases	$6,400
Hangar Leases	$2,400
Rentals & Tiedowns	$3,000
Airport Access	$575
Maintenance Assessment	$40,500
Miscellaneous Revenue	$7,000
TOTAL AIRPORT OPERATING REVENUES	**$60,075**
NET OPERATING INCOME (LOSS)	**($5,869)**

Source: Chelan County Washington 2022 Budget

Fiscal year 2022 operating revenue and expense budgets for Cashmere-Dryden Airport are summarized in **Table 2-8.**

RULES AND REGULATIONS

Chelan County operates the Airport for the use and benefit of the public in order 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 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 Chelan County 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 should meet the requirements set forth in the Surplus Act of 1944;
- 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 Aviation. 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. Grant assurances and their associated requirements are intended to protect the significant investment made by the FAA, State, and local airport sponsors 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 with regard to 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 FAA Airport Compliance Manual (Order 5190.6B) 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 accommodates 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 10% 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)

Airports should maintain an up-to-date ALP, which includes 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 in order 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 altered facility 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. Chelan County receives regular updated pavement reports for the Cashmere-Dryden Airport through the WSDOT IDEA pavement management database. These reports identify the maintenance of all pavements funded with federal financial assistance and provides existing and predicted pavement condition index (PCI) ratings (0 to 100) for runways, taxiways, and aprons.

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 Cashmere-Dryden Airport is located outside, and directly adjacent to the Cashmere city limits, in unincorporated Chelan County. The airport sponsor (Chelan County) should coordinate with both land use authorities (Chelan County, City of Cashmere) to ensure that adequate land use protections are in place to protect the Airport from incompatible land uses. Incompatible land uses around airports represent 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 non-airport 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 updated 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. A summary of the WSDOT grant assurances are included in **Appendix D**.

Chapter 3
Aviation Activity Forecasts

COVID-19 IMPACTS ON AVIATION ACTIVITY FORECASTS

This forecast was prepared the end of the third full year of the COVID-19 pandemic. The disruption of activity experienced throughout the U.S. airport system related to COVID-19 since early 2020 was unprecedented and led to significant declines in activity that were not consistent with recent historical trends. It is acknowledged that not all elements of general aviation activity have been affected equally. Some segments of personal air travel have demonstrated resilience, partly in response to the heavily impacted commercial airline industry.

Although the outer limits of the industry-wide disruption have yet to fully resolve, it is believed that the underlying elements of demand within general aviation will remain intact until all public health constraints are fully addressed, and economic conditions gradually return to normal.

Federal Aviation Administration (FAA) forecast approval will be based in reference to the data and methodologies used and the conclusions at the time the document was prepared. However, consideration must still be given to the significant impacts of COVID-19 on aviation activity. As a result, FAA indicates that there is lower than normal confidence in future growth projections.

FAA approval of the forecast does not provide justification to begin airport development. Justification for future projects will be made based on activity levels at the time the project is requested for development, rather than this forecast approval. Further documentation of actual activity levels reaching the planning activity levels will be needed prior to FAA participation in funding for eligible projects.

Introduction and Overview

This chapter provides updated aviation activity forecasts for Cashmere-Dryden Airport (8S2) for the 20-year planning horizon (2022-2042). The most recent Federal Aviation Administration (FAA) approved aviation activity forecasts for the Airport were developed in the December 2008 Airport Layout Plan (ALP).[1] The Airport accommodates a mix of general aviation aircraft, including single-engine and multi-engine piston aircraft, and helicopters. The forecasts presented in this chapter are consistent with the facility's current and historical role as a local general aviation airport serving the community and surrounding area. The forecasts are unconstrained and assume Chelan County will be able to make the facility improvements necessary to accommodate the anticipated demand unless specifically noted. The County will consider if any unconstrained demand will not or cannot be met through the evaluation of airport development alternatives later in the ALP Report.

As noted in Chapter 2 - Existing Conditions, the 2017 Washington Aviation System Plan (WASP) defines Cashmere-Dryden Airport as a "Community" airport. Community airports support general aviation (GA) activities including personal transportation, recreational flying, pilot training. Community airports are typically located outside of metropolitan areas and regional centers; they have paved primary runways; and 15 or more based aircraft.

1 Cashmere-Dryden Airport Layout Plan Update (WH Pacific, 2008)

In the federal airport system, Cashmere-Dryden Airport is classified as a "Basic" general aviation airport in the 2021 National Plan of Integrated Airport Systems (2021-2025), report to Congress. Basic airports provide a means for general aviation flying and link the community to the national airport system. Basic airports support general aviation activities such as emergency response, air ambulance service, flight training, and personal flying.

FAA Forecasting Process

The FAA provides aviation activity forecasting guidance for airport master planning projects. This guidance also applies to Airport Layout Plan Report forecast development, although the level of detail is typically reduced. *FAA Advisory Circular (AC) 150/5070-6B, Airport Master Plans*, outlines seven standard steps involved in the forecast process:

1. **Identify Aviation Activity Measures:** The level and type of aviation activities likely to impact facility needs. For general aviation, this typically includes based aircraft and operations.

2. **Previous Airport Forecasts:** May include the FAA Terminal Area Forecast (TAF), state or regional system plans, and previous master plans or ALP reports.

3. **Gather Data:** Determine what data are required to prepare the forecasts, identify data sources, and collect historical and forecast data.

4. **Select Forecast Methods:** There are several appropriate methodologies and techniques available, including regression analysis, trend analysis, market share or ratio analysis, exponential smoothing, econometric modeling, comparison with other airports, survey techniques, cohort analysis, choice and distribution models, range projections, and professional judgment.

5. **Apply Forecast Methods and Evaluate Results:** Prepare the actual forecasts and evaluate for reasonableness.

6. **Summarize and Document Results:** Provide supporting text and tables, as necessary.

7. **Compare Forecast Results with FAA's TAF:** Follow guidance in *FAA Order 5090.5, Field Formulation of the National Plan of Integrated Airport Systems and Airport Capital Improvement Program*. In part, the Order indicates that forecasts should not vary significantly (more than 10%) from the TAF. When there is a greater than 10% variance, supporting documentation should be supplied to the FAA. The aviation demand forecasts are then submitted to the FAA for their approval.

KEY ACTIVITY ELEMENTS

As noted above, general aviation airport activity forecasting focuses on two key activity segments: based aircraft and aircraft operations (takeoffs & landings). Detailed breakdowns of these activity segments include:

- Aircraft fleet mix
- Peak activity
- Distribution of local and itinerant operations
- Determination of the critical aircraft (also referred to as the design aircraft)

The critical aircraft represents the most demanding aircraft type or family of aircraft that uses an airport on a regular basis (a minimum of 500 annual takeoffs & landings). The critical aircraft is used to establish a variety of FAA design categories, which then establish design standards for airfield facilities. FAA airport design standard groupings reflect the physical requirements of specific aircraft types and sizes. Design items, such as runway length evaluations, are determined by the requirements of current/future critical aircraft. The activity forecasts also support the evaluation of several demand-based facility requirements including runway and taxiway capacity, aircraft parking, and hangar capacity.

Population and Economic Conditions

Historically, downturns in general aviation activity often occur during periods of weak economic conditions while growth typically coincides with favorable economic conditions. The historic depth of the 2008 Great Recession dramatically impacted regions and local communities and rippled throughout general aviation for several years after the recession. Following a slow economic recovery, a 10-year period of sustained economic growth leading into 2020 significantly improved conditions in general aviation. This upward trend included increased flight activity and growth in new aircraft deliveries, particularly in the business aviation, helicopter, light sport aircraft, and experimental (kit) aircraft segments.

The U.S. economy was abruptly impacted at the onset of the COVID-19 pandemic in early 2020. The effects of the pandemic and the related impacts affected the aviation industry in a variety of ways in 2020 and 2021. Signs of rebound within general aviation began to appear heading into 2021 as part of the national recovery. This upward trend has been sustained through a period of economic uncertainty that has persisted into early 2023.

The FAA's current long-term Aerospace Forecast, Fiscal Years 2022-2042 reflects overall strength in both the U.S. and regional economies, and projects modest growth in aviation activity over the long-term. The forecast reflects areas of depressed general aviation activity in the near term and the assumption that general aviation will return to pre-COVID activity levels later in the forecast period, before resuming previously forecast growth.

POPULATION

The population within an airport's service area, in broad terms, affects the type and scale of aviation facilities and services that can be supported. Changes in population often reflect broader economic conditions that may also affect airport activity. The service area for Cashmere-Dryden Airport includes the communities of Cashmere and Dryden, and extends into lower Chelan County. For forecasting aviation activity, an evaluation of population for both the City of Cashmere and Chelan County provides a reasonable indication of trends within the Airport's service area.

Historical Population (2010-2022)

The Washington Office of Financial Management (OFM) April 2022 estimate for Chelan County's population was 80,650, up 11.3% (net gain of 8,197 residents) since 2010. Annual population growth between 2010 and 2022 (0.90% AAGR[2]) trailed the statewide population growth (1.31% AAGR) during this period, which is consistent for eastern Washington counties. Also worth noting, population growth in unincorporated Chelan County, which includes areas surrounding Cashmere, averaged 0.78% AAGR over this 12-year period. Cashmere grew at a rate similar to county-wide growth during this period, with a 7.1% overall increase (0.57% AAGR) and a net gain of 217 residents.

The recent historical population growth rates in Cashmere and Chelan County are comparable. For this reason, it appears that the OFM long term population forecasts for Chelan County will provide a reasonable projection of future growth trends that can be applied to the airport layout plan forecast evaluations.

Recent historical population data and average annual growth rates for Cashmere, Chelan County (overall and unincorporated areas), several other incorporated cities in the county, and Washington are summarized in **Table 3-1.**

2 AAGR = Average Annual Growth Rate (compounded over time)

Table 3-1: Chelan County Population Summary (Historical)

	AAGR[1]	2010	2017	2018	2019	2020	2021	2022
Washington	1.30%	6,733,250	7,310,300	7,427,570	7,546,410	7,706,310	7,766,975	7,864,400
Chelan County	0.83%	73,000	76,830	77,800	78,420	79,141	80,000	80,650
Cashmere	0.73%	3,005	3,075	3,095	3,100	3,248	3,260	3,280
Chelan	0.56%	4,105	4,150	4,210	4,265	4,222	4,320	4,390
Entiat	0.98%	1,205	1,195	1,205	1,255	1,326	1,340	1,355
Leavenworth	0.66%	2,325	2,015	2,030	2,040	2,263	2,390	2,515
Wenatchee	1.14%	31,120	34,070	34,530	34,650	35,575	35,550	35,650
Unincorporated (Outside UGBs)	0.49%	31,540	32,325	32,730	33,110	32,507	33,140	33,460

Source: U.S. Census Bureau (2010, 2020); WA Office of Financial Management (OFM) Postcensal Estimates (2017-2021)
1 AAGR: 2010-2022
Average Annual Growth Rate: 2010-2022

Forecast Population

In Washington state, the OFM is responsible for developing long term population forecasts to support various local and state government programs. OFM also generates postcensal estimates of population on April 1 each year to supplement available census data. OFM periodically generates three 20-year population forecast scenarios for Growth Management Act (GMA) counties for use in their comprehensive planning. The medium or "middle series" forecast scenarios are often selected by counties as the most realistic forecasts for long term planning. The GMA Chelan County forecast issued in 2022 was evaluated for this forecast.[3]

The Washington state long range forecast (2023-2050) issued by OFM in November 2022 was also evaluated. This projection matches OFM's statewide 2022 GMA middle series forecast. A summary of the Chelan County comprehensive plan forecast (county wide and selected cities) is presented in **Table 3-2**.

The current Chelan County comprehensive plan (Horizon 2037) was adopted in 2017. This plan contains OFM population forecasts that were generated in 2012. The Horizon 2037 forecast (2017-2037) was based on the OFM Medium Series forecast for Chelan County and included a population distribution for 7 incorporated cities and unincorporated Chelan County. It is noted that Horizon 2037 comprehensive plan was adopted prior to the COVID-19 pandemic and its underlying population and economic projections do not reflect recent events. Two more recent OFM forecasts are also noted in **Table 3-2,** although only the 2022 Washington state population forecast reflects impacts related to COVID-19, which pushed down statewide average annual growth from 1.46% to 0.90% between 2020 and 2040.

3 State of Washington Office of Financial Management (https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2020-2050)

Table 3-2: Chelan County Horizon 2037 (Comprehensive Plan) Population Forecast

	AAGR[1]	2022	2027	2032	2037	2040
Chelan County	0.62%	79,889	83,030	85,726	87,993	89,246
Incorporated	0.68%	55,715	58,706	60,521	62,047	62,890
Unincorporated (Outside UGAs)	0.79%	22,871	24,345	25,205	25,946	26,356
Select Cities						
Cashmere[3]	0.37%	3,093	3,993	4,070	4,136	4,172
Chelan	0.45%	4,586	4,699	4,797	4,880	4,924
Peshastin	0.24%	689	699	708	715	719
Wenatchee	0.63%	41,421	43,089	44,520	45,724	46,389
Other Recent Forecasts						
Chelan County (2022 GMA)[2]	0.73%	80,650	83,876	87,177	90,202	91,914
Washington (2022 Forecast)[2]	0.90%	7,864,400	8,263,311	8,658,091	9,031,726	9,248,473

Source: Chelan County Comprehensive Plan (Horizon 2037), Adopted August 2017
1. AAGR: 2022-2040
2. Washington Office of Financial Management (OFM): 2022 GMA Forecast (County) – Medium Series
3. City of Cashmere Comprehensive plan (2019)

Summary – Population

The long-term population growth projected for Cashmere and Chelan County is just less than 1% annually between 2020 and 2040. The anticipated growth in local and county population is consistent with conditions favorable to growth in air traffic activity at Cashmere-Dryden Airport.

ECONOMY

Chelan County's economy is heavily influenced by agriculture and the region's economic output reflects a diverse range of production. Dan Mesek, regional labor economist with the Washington Employment Security Department (ESD) characterizes the Chelan County job market as being moderated by agriculture *"The agriculture sector strongly influences many "nonfarm" industries such as nondurable goods manufacturing (i.e., food processing), wholesale trade (i.e., fresh fruit packinghouses) and transportation."* The current ESD profile for Chelan County[4] summarizes the local and regional economy, with a preliminary assessment of COVID impacts and subsequent events. According to the County profile, agriculture is the single largest employment segment in Chelan County, with health services and local government rounding out the top three segments (accounting for 49.1% of total employment in the county in 2020).

Chelan County agriculture consists of primarily fruit production in apples, apricots, cherries, pears, and plums. Orchards are located throughout most of the lower valley between Dryden and Sunnyslope providing a large number of agriculture jobs. United States Department of Agriculture (USDA) fruit production data for 2021 and 2022 ranked Washington State number one in apple production in the U.S., producing 64% of all apples in 2022. The USDA 2017 agricultural census for Chelan County included 7,917 acres dedicated to apple farming.

Table 3-3 summarizes the county's leading employment sectors. It is noted that agricultural and related manufacturing (food processing) accounts for approximately 21% of employment in Chelan County. The economic impacts of agriculture in Chelan County are well established and this industry is a major part of the Cashmere economy. Tourism is also a large contributor to Chelan County's economy. Leavenworth, 11 road miles from Cashmere, receives 2.5 million visitors annually, with the accommodation and food service sectors employing 20% of the city's workforce.[5] Cashmere-Dryden Airport is the closest public use airport to Leavenworth and some Leavenworth hotels offer ground transportation to/from the Airport on request.

4 The Wenatchee World (https://www.wenatcheeworld.com/business/what-we-know-about-microsofts-409-million-arrival-in-east-wenatchee/article_04425170-8b61-11eb-b6fe-73922a8e395f.html), January 2023.
5 Leavenworth Economic Profile 2021. Leavenworth Chamber of Commerce

Table 3-3: Chelan County Employment (2020)

	Number of Jobs	Share of Employment
Agriculture, forestry, fishing	8,708	21.3%
Health services	6,478	15.8%
Local government	4,963	12.1%
Retail trade	4,182	10.2%
Accommodation and food services	3,623	8.9%
All other industries	12,917	31.6%
Total	40,871	100%

Source: Washington Employment Security Department – Chelan County Profile (May 2022)

Personal Income

Chelan County trails state and national per capita income levels but has a lower level of poverty. The conditions are consistent with a seasonal agricultural economy where access to full-time year-round employment is limited. The current ESD profile for Chelan County provides the following summaries related to personal income for the 2016 to 2020 period:

- Per capita income in Chelan County was $32,249 (in 2020 dollars). Washington's inflation-adjusted income was $40,837 and the nation was $35,384.
- Median household income in Chelan County (in 2019 dollars) was $61,304, compared to Washington state ($77,006) and the nation ($64,994).
- Chelan County's poverty rate was 8.3%, lower than Washington state's rate of 9.5% and the nation's rate of 11.4%.

Unemployment

Chelan County's reliance on the agricultural economy is reflected in its distinct seasonal shifts in unemployment rates. Typically, peak unemployment occurs in the winter, and the lowest is found during peak summer months. A review of fourteen years (2009-2022) of historical unemployment data indicates an average spread of 3.1 percentage points between the high and low levels of seasonal unemployment each year. The normal range within the spread is narrow and consistent with recognized seasonal patterns in the industry. 2020 was an exception, when COVID-19-induced unemployment spiked at 15.8% in April, before dropping to a low of 5.4% in October 2020, resulting in a 10.4-point spread.

Unemployment levels began a steady improvement in late 2020 and have remained relatively stable since, fluctuating between 2.9% to 7.7%. The county's unemployment rates for the two months of 2023 are generally comparable to the same period in 2019, nearly a year before the onset of the pandemic in the U.S.

Similar to income, historical unemployment levels in Chelan County reveal relatively predictable seasonal fluctuations. While overall levels may improve as ongoing economic expansion occurs both locally and throughout the county, changes in current trends would most likely be incremental and not significantly impact airport activity during the current planning period.

Economic Outlook

The Washington Employment Security Department (ESD) generates annual short and long-term employment forecasts by region. Chelan County is in the North-Central region, which also includes Adams, Douglas, Grant, and Okanogan. The ESD projections show expected changes in employment by industry and occupation, current and projected employment counts, estimated growth rates and average annual openings.

The current five- and ten-year forecasts for the North-Central region are summarized in **Table 3-4**. The near-term forecast (2020-2025) reflects a net increase in employment for 2025 based on the mid-2021 update performed in the second year of the current COVID -19 pandemic. The longer-term forecast (2025-2030) shows more traditional growth, averaging just under 1% annually.

Table 3-4: North Central Region Employment Forecast by Industry (Updated 2022)

Job Categories	Estimated employment 2020	Estimated employment 2025	Estimated employment 2030	Average annual growth rate 2020-2025	Average annual growth rate 2025-2030
TOTAL NONFARM	94,100	105,600	112,500	2.33%	1.27%
NATURAL RESOURCES and Mining	200	200	200	0.00%	0.00%
Logging	100	100	100	0.00%	0.00%
Mining	100	100	100	0.00%	0.00%
CONSTRUCTION	5,300	6,000	6,500	2.51%	1.61%
MANUFACTURING	8,200	8,900	9,100	1.65%	0.45%
Durable Goods	2,900	3,100	3,200	1.34%	0.64%
Wood Product Manufacturing	200	200	200	0.00%	0.00%
Nonmetallic Mineral Product Manufacturing	400	500	500	4.56%	0.00%
Primary Metal Manufacturing	400	400	400	0.00%	0.00%
Fabricated Metal Product Manufacturing	200	200	200	0.00%	0.00%
Machinery Manufacturing	800	800	900	0.00%	2.38%
Aerospace Product and Parts Manufacturing	0	0	0	0.00%	0.00%
Other Durable Manufacturing	100	200	200	14.87%	0.00%
Non-Durable Goods	5,300	5,800	5,900	1.82%	0.34%
Food and Beverages Manufacturing	4,100	4,500	4,600	1.88%	0.44%
Printing and Related Support Activities	100	100	100	0.00%	0.00%
Other Non-Durable	900	1,000	1,000	2.13%	0.00%
WHOLESALE TRADE	5,100	5,100	5,200	0.00%	0.39%
RETAIL TRADE	12,500	13,500	14,100	1.55%	0.87%
Food and Beverage Stores	2,700	3,000	3,000	2.13%	0.00%
Motor Vehicle and Parts Dealers	1,600	1,700	1,800	1.22%	1.15%
Other Retail Trade	8,200	8,800	9,300	1.42%	1.11%
TRANSPORTATION, WAREHOUSING AND UTILITIES	2,900	3,200	3,300	1.99%	0.62%
Utilities	100	100	100	0.00%	0.00%
Transportation and Warehousing	2,800	3,100	3,200	2.06%	0.64%
INFORMATION	1,200	1,300	1,500	1.61%	2.90%
Other Information	900	1,000	1,100	2.13%	1.92%
FINANCIAL ACTIVITES	3,300	3,500	3,500	1.18%	0.00%
Finance and Insurance	1,900	1,900	1,900	0.00%	0.00%
Real Estate, Rental and Leasing	1,400	1,600	1,600	2.71%	0.00%
PROFESSIONAL and BUSINESS SERVICES	6,200	6,900	7,500	2.16%	1.68%
Professional, Scientific and Technical Services	2,900	3,100	3,400	1.34%	1.86%
Management of Companies and Enterprises	100	100	100	0.00%	0.00%
Other Professional Services	1,700	1,900	2,000	2.25%	1.03%
Employment Services	1,500	1,800	2,000	3.71%	2.13%
EDUCATION and HEALTH SERVICES	13,300	14,800	16,400	2.16%	2.07%
Education Services	500	600	600	3.71%	0.00%
Health Services and Social Assistance	12,800	14,200	15,800	2.10%	2.16%
LEISURE and HOSPITALITY	9,500	13,700	15,300	7.60%	2.23%
Arts, Entertainment and Recreation	1,200	1,500	1,600	4.56%	1.30%
Accommodation and Food Services	8,300	12,200	13,700	8.01%	2.35%
OTHER SERVICES	2,500	2,900	3,100	3.01%	1.34%
GOVERNMENT	23,900	25,600	26,800	1.38%	0.92%
Federal Government	2,100	2,100	2,100	0.00%	0.00%
State and Local Government Other	12,000	12,900	13,600	1.46%	1.06%
Government Educational Services	9,800	10,600	11,100	1.58%	0.93%

Source: Washington Employment Security Department/LMEA, North-Central Region (2022 update)

Woods & Poole Forecasts

A review of Woods & Poole Economics, Inc., population, and economic forecasts for the region reflect similar long-term growth expectations. Woods & Poole forecasts are recognized nationally for the demographic detail provided down to the county level, with additional breakouts provided for a variety of defined place designations.

The Woods & Poole 2021 State Profile Series[6] forecast contains regional data and projections for all Combined Statistical Areas (CSAs), Metropolitan Statistical Areas (MSAs), Micropolitan Statistical Areas (MICROs), Metropolitan Divisions (MDIVs), and counties in the region. The current forecasts extend to 2050 and provide a useful comparison to shorter term projections developed by state or local government. Although some differences in data organization may exist from the forecasts noted earlier, the overall growth rates within the forecasts provide relevant evaluations of long-term economic growth for comparison. **Table 3-5** summarizes key growth rates for Chelan County from the Woods & Poole 2021-2050 forecasts. The economic data are presented in 2012 dollars, referred to as "constant" dollars, which are used to measure real change in earnings and income when inflation is considered.

Table 3-5: Chelan County – Forecast Annual Growth Rates (2021-2050)

Annual Growth Rates (2021-2050) Data Category	Average
Total Population	0.58%
Total Employment (includes farm employment)	0.99%
Total Earnings (2012 $)	1.78%
Personal Income (2012 $)	0.37%
Income Per Capita (2012 $)	1.44%
Mean Household Income (2012 $)	1.42%
Gross Regional Product (2012 $)	1.82%

Source: Woods & Poole Economics, 2021 State Profile Series (Idaho, Washington, Oregon)
2012 referenced data represents "constant" dollars used to measure real change over time when inflation is considered.

Summary – Economic Outlook

Modest population growth is expected for Chelan County during the current ALP 20-year planning horizon. Annual population growth is projected to average about 0.62% over this period, which is comparable to the historical growth experienced over the last 20 years. As with historical population trends, local growth is expected to be slower than statewide growth. Long term economic forecasts project more robust growth in terms of employment levels and measures of economic output (post-COVID-19 pandemic recovery).

The Woods & Poole 2021-2050 forecast for Chelan County highlights several key long-term indicators. The forecast projects employment growth to increase at nearly twice the rate of population growth over the 29-year period. In addition, forecast per capita income, household income, mean household income, and gross regional product outpaces employment growth over the long term. This suggests a long-term strengthening in the economy that will generate demand for services and transportation.

The data indicate that the agricultural components of the Chelan County economy will continue leading economic growth in the county. The anticipated growth in local population and economic output is expected to be modest during the current ALP planning period. The expected underlying growth will provide a solid foundation for generating additional air traffic demand at Cashmere-Dryden Airport that is consistent with overall expectations for the community and region.

6 2021 State Profile – Idaho, Oregon, and Washington. Copyright 2021, Woods & Poole Economics, Inc.

Historical Aviation Activity

Historical activity data for Cashmere-Dryden Airport is limited to the FAA National Based Aircraft Inventory Program (validated counts), FAA Airport Record Forms (5010-1), the FAA Terminal Area Forecast (TAF), and previous airport plans. The FAA requires airport sponsors to periodically update their 5010-1 forms and the validated based aircraft count to accurately reflect local conditions. As noted earlier, the primary data used in general aviation airport planning includes based aircraft and annual aircraft operations. This chapter will document existing activity that will serve as the baseline for updated based aircraft and aircraft operations forecasts. The methods used to develop these data are described below.

The February 2023 FAA National Based Aircraft Inventory Program validated count for Cashmere-Dryden Airport is 37 aircraft. A review of the FAA database identified two aircraft that are not currently included in the validated count due to issues with FAA registration or conflict with another airport listing the same aircraft. Airport management has communicated to FAA that these aircraft have been verified on site with adequate documentation to update the validated count to 39. As a result, a 2022 baseline of 39 based aircraft will be used in the 2022-2042 forecast update . An updated aircraft operations estimate for 2022 is presented later in this chapter and will serve as the baseline for the 2022-2042 aircraft operations forecasts.

The current TAF and 5010 for Cashmere-Dryden Airport provide the most recent FAA record of based aircraft and annual aircraft operations data at the Airport. The current 5010 reports 38 based aircraft and 3,075 total operations for 12 months ending 12/31/2020. The current TAF reports 36 based aircraft and 3,075 annual aircraft operations for 2021. The 5010 based aircraft total is relatively consistent with the Airport's updated based aircraft count (39) in early 2023.

The current estimate of annual aircraft operations listed on FAA 5010 and TAF for the Airport appear to rely on a common data source. The source of the annual operations totals is unknown, although it is noted that the TAF lists the same number dating back to 2015. The extended timeline of TAF historical aircraft operations data directly corresponding to the current 5010 form appears to demonstrate that the TAF was used to populate the 5010. FAA 5010 forms are periodically updated by airport sponsors with best available data and submitted to FAA for publication; the TAF is updated by FAA without a formal data verification process for airport sponsors.

The process for updating based aircraft counts has become significantly more dependable in recent years with the FAA National Based Aircraft Inventory Program that relies on airport owner on-site verification and records searches. The data base allows FAA to verify reporting of "validated counts" by eliminating inactive or non-airworthy aircraft and aircraft reported by other airports.

The process for updating aircraft operations data on 5010 forms at non-towered airports is far more challenging. Accurately tracking aircraft operations numbers by airport management is not feasible without actual counts (e.g., air traffic control tower or other on-site traffic counts) or detailed assessments of flight activity. Without actual traffic counts, airport sponsors typically interpolate/extrapolate available airport master plan forecasts, rely on the current year TAF data, or simply carry forward the existing 5010 entry. These methods are not considered highly accurate and will not be used to define baseline operations levels for the ALP Report. However, these data are summarized below for reference.

The 2009 ALP Report forecasts also concluded that available TAF operations data could not be adequately documented, and they were not used in the recommended forecast. The forecasts noted the inconsistency reflected in the TAF's annual operations total and based aircraft total both of which were considerably higher than the existing counts estimated at the time.

The Airport's historical TAF data indicates that the 2009 ALP Report forecasts were partially incorporated into the TAF. In 2005 both based aircraft and annual aircraft operations totals were adjusted levels similar to the forecast 2005 numbers. Operations were reduced from 11,150 to 5,650 and based aircraft were lowered from 60 to 55.

FAA TERMINAL AREA FORECAST (TAF)

The February 2023 TAF provides a summary of historical activity (estimates) for the Airport that extends from 1990 to 2021. The range of data for based aircraft and annual aircraft operations is significant and there are several extended periods where numbers are unchanged year-over-year. As a result, the TAF does not appear to provide a consistently accurate record of actual historical activity at Cashmere-Dryden Airport.

Between 1990 and 2021 (32 years), the TAF provides only four different annual operations totals and most of these totals are repeated. The most common number (11,500 annual operations) appears over a 14-year run (1991-2004). Two other common numbers (6,150 and 3,075) account for a consecutive 16-year period between 2006 and 2021. Annual operations for 2005 were reset to 5,650, which was within 1% of the 2005 baseline (5,588) in the FAA-approved 2009 ALP Report forecasts. In 2006, the annual operations were again reset to 6,150, where they were maintained until 2015 (3,075 operations). Similar deviations will need to be considered by FAA when the 2022-2042 Airport Layout Plan forecasts are compared to future year TAF data, as required by FAA.

A summary of current and historical TAF data and related data for the Airport are presented in **Figure 3-1**.

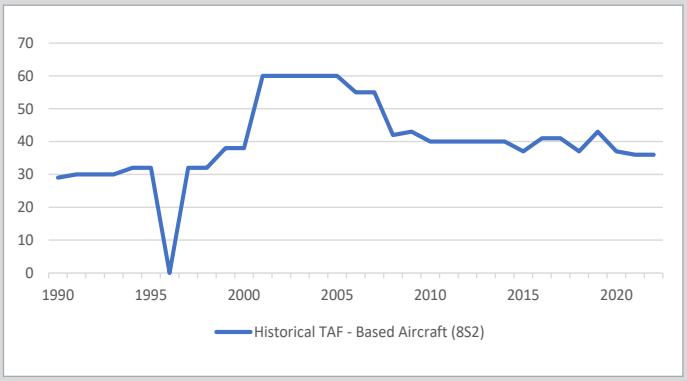
Figure: 3-1: Activity Summary - FAA TAF, FAA 5010 Airport Record Form; 2009 ALP Report

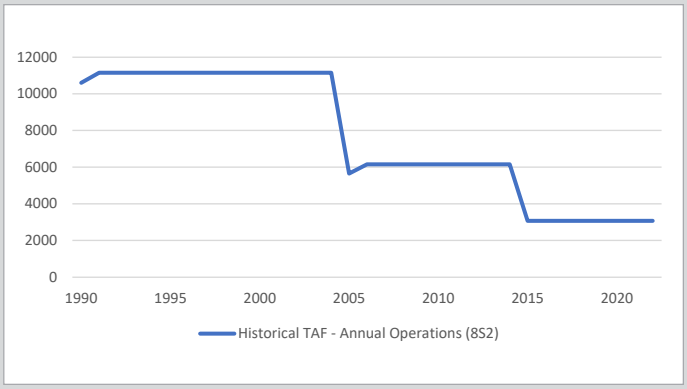
Available activity estimates for Cashmere-Dryden Airport from FAA Terminal Area Forecast (TAF), Airport Record Form (5010-1), the 2009 ALP Report, and the Airport's 2023 validated based aircraft count (adjusted) are summarized below.

Based Aircraft and Operations

Aircraft Type	Updated Airport Count[1] (2023)	Airport Master Record[2] (12 months ending 12/31/20)	2009 ALP Update Report[3]
Single Engine	39	38	53
Multi Engine	0	0	0
Jet	0	0	0
Helicopter	0	0	0
Glider	0	0	0
Military	0	0	0
Ultra-Light	0	0	0
Total Based Aircraft	39	38	53
Annual Operations	**4,290**	**3,075**	**5,588**

1. www.BasedAircraft.com (Validated Count 2023)
2. Airport Master Record (5010) December 31st, 2020
3. Cashmere-Dryden Airport Layout Plan Update (2005 base year)





Current Aviation Activity

Cashmere-Dryden Airport currently has 39 based aircraft. All existing based aircraft are fixed wing single engine aircraft, including 32 conventional single-engine piston aircraft and 7 fixed wing aircraft that are classified as experimental or light sport aircraft (LSA). All of these aircraft are included in Aircraft Approach Category A and Airplane Design Group I (small) as defined by FAA AC 150/5300-13B.

An updated based aircraft count was completed by airport management and submitted to FAA in early 2023 as part of a required update of the FAA National Based Aircraft Inventory. During the review of the Airport's validated based aircraft count, airport management identified two aircraft (verified on site) that were not included in the FAA-accepted validated count (37 aircraft). One aircraft was excluded in the validated count due to an FAA registration issue ("NC" vs. "N"). It has been verified that the vintage aircraft has a current FAA airworthiness certificate and is hangared on the Airport. The second aircraft was excluded in the validated count due to a duplicate listing at another airport. Airport management has verified that the aircraft is located at Cashmere-Dryden Airport more than 6 months of the year, which meets the FAA criteria for based aircraft. Documentation for these aircraft has been provided to FAA from airport management. It is anticipated that the FAA validated based aircraft inventory for the Airport will be updated to 39, and this number is recommended as the current based aircraft total in the 2022-2042 ALP forecasts.

An updated estimate of aircraft operations at the Airport was developed to provide a common (2022) baseline for the new forecasts for the 2022-2042 ALP Report. The 2022 baselines will be used for all forecast models. Aircraft operations are defined as takeoffs and landings by FAA, with a single takeoff or landing counted as one operation. A touch-and-go landing is counted as two operations since it involves both a takeoff and landing. Since regular air traffic counts are not available for the Airport, an operations per based aircraft (OPBA) ratio was used to approximate flight activity at the Airport for 2022. The use of OPBA ratios to estimate aircraft operations is acceptable to FAA when other counting methods are unavailable. This method was also used in the 2009 ALP Report. The ratios used in the 2009 ALP forecasts ranged from 105 to 107 OPBA. A comparable OPBA of 110 was determined to be a reasonable activity measure to be applied to the current based aircraft count.

Based on these assumptions, the Airport's 2022 baseline activity is 39 based aircraft and 4,290 annual operations. This activity is summarized below and in **Table 3-6**.

Airport management reports that two additional aircraft will be relocating to the Airport in 2023. Since these aircraft were not physically located onsite in 2022, they are not included in the current based aircraft count. However, since the aircraft are known, and the owners have secured hangar space in advance, they will be assumed in the 2023 based aircraft count. This one-time manual adjustment will be applied to year one in all of the forecast models, and the underlying growth rates for each model will be applied from 2023-2042 (19 years).

Table 3-6: Airport Activity Summary (2022)

Operator	A/C Type	ARC	Annual Operations
GA Local & Transient Activity[1]	SE Piston	A-I	4,090
	ME Piston	B-I	0
	Turboprop	B-I	0
	Jet	B-II	0
	Helicopter	Heli	200
TOTAL OPS - ALL			4,290
TOTAL OPS - A-I			4,090
TOTAL OPS - B-I			0
TOTAL OPS - A-II			0
TOTAL OPS - B-II			0
TOTAL OPS - HELI			200
TOTAL OPS - ALL A/C			4,290
Based Aircraft			39

1. Operations are estimated using 250 OPBA applied to the equivalent of 1 based aircraft to account for part-year based aircraft and transient aircraft use.

SUMMARY – CURRENT ACTIVITY

The majority of air traffic at Cashmere-Dryden Airport is generated by locally based single-engine aircraft, with additional activity generated by similar transient fixed wing aircraft and helicopters. The activity includes users that have direct ties to the local economy and a wide range of personal travel and recreational aviation.

The activity summarized in **Table 3-6** represents the current level of aircraft activity for the Airport that will serve as the baseline for the updated 2022-2042 aviation activity forecasts developed in the ALP Report Update.

Existing Aviation Activity Forecasts

Existing forecasts for Cashmere-Dryden Airport include the FAA TAF, the previous ALP Report completed in 2009, and an outdated Washington aviation system plan forecast completed in 2007. These forecasts are provided for reference, although they all have relevancy issues that do not support valid comparisons with current activity or updated forecasts presented later in this chapter.

FAA TERMINAL AREA FORECAST (TAF)

The TAF (issued February 2023) lists 36 based aircraft and 3,075 annual operations for the Airport in its most recent historical year (2021) and maintains these numbers unchanged through 2050. The TAF baseline and projected activity data are not considered to accurately reflect current or future potential activity for the Airport. The deviations will need to be considered by FAA when the recommended ALP Report forecasts are compared to the TAF, as required by FAA. **Table 3-7** summarizes the 2022-2050 TAF for Airport. The 2022 baseline numbers (based aircraft and operations) are provided for reference.

Table 3-7: FAA TAF – Cashmere-Dryden Airport (8S2)

Forecast	AAGR	2022	2027	2032	2037	2042
Based Aircraft	0.00%	36	36	36	36	36
Annual Aircraft Operations	0.00%	3,075	3,075	3,075	3,075	3,075
2022 Baseline (* Based Aircraft)	-	39	-	-	-	-
2022 Baseline (Aircraft Operations)	-	4,290	-	-	-	-

Source: FY 2022-2050 FAA Terminal Area Forecast (8S2) Issued February 2023; * FAA Validated Based Aircraft Count; AAGR: Average Annual Growth Rate (2022-2042)

2009 ALP REPORT FORECAST

The 2009 ALP Report provided forecasts for the 2005-2025 planning period. The selected forecast projected an increase in based aircraft from 53 to 67, which represented an average annual growth rate of 1.18%. Annual aircraft operations were projected to increase from 5,588 to 7,201, which represented an average annual growth rate of 1.27%. The updated baseline data noted above can be compared to the forecasts to determine current relevance. **Table 3-8** summarizes the 2009 ALP Report forecasts and notes the 2022 baseline activity.

Table 3-8: 2009 ALP Report – Forecast Summary

Forecast	AAGR	2005	2010	2015	2020	2025
Based Aircraft	1.2%	53	56	60	64	67
Annual Aircraft Operations	1.3%	5,588	5,981	6,403	6,823	7,201
2022 Baseline (Based Aircraft)	-	-	-	-	39	-
2022 Baseline (Aircraft Operations)	-	-	-	-	4,290	-

Source: Century West Engineering; AAGR: Average Annual Growth Rate

WASHINGTON STATE AVIATION SYSTEM PLAN FORECAST

The 2017 WASP does not include activity forecasts for individual airports. The 2014-2034 WASP forecasts projected annual growth for the statewide non-commercial based aircraft fleet would average 1.1% , and annual growth in non-commercial aircraft operations would average 0.7%. during its forecast period. Growth rates derived from the WASP forecasts will be used to develop forecast models for the ALP Report forecasts that are consistent with long-term WSDOT Aviation statewide growth expectations.

The most recent Washington aviation system plan that included individual airport forecasts was the 2007 Long Term Air Transportation Study (LATS). The LATS was replaced with the 2017 WASP, although no new airport-specific forecasts were included. The LATS forecasts are considered obsolete and are not currently used by WSDOT to support its system planning analyses.

Updated Aviation Activity Forecasts

Updated aviation activity forecasts developed for the ALP Report's 20-year planning period (2022-2042) are presented in this section. The updated activity forecasts use the common baseline activity data presented earlier in Table 3-6 and provide projections in 5-year increments. A review of the preliminary based aircraft and annual aircraft operations models presented is provided at the end of this section, with recommended forecasts identified for each.

The recommended ALP Report forecasts will be compared to the TAF (Fiscal Years 2022-2050, issued February 2023) when presented to FAA for review and approval. Additional information about the TAF based aircraft and operations comparison is presented at the end of the chapter.

BASED AIRCRAFT FORECASTS

Four updated based aircraft forecast models were developed and are presented in **Table 3-9** and **Figure 3-2**. The current TAF projection is added to **Figure 3-2** for reference. Annualized growth rates established by these models were applied to the common 2022 baseline count of 39 based aircraft to generate the 2022-2042 based aircraft forecasts. The 20-year projections provide a spread of 10 aircraft, ranging from a low of 40 aircraft to a high of 50 aircraft in 2042.

As noted in the baseline activity description, airport management reports that two known aircraft will be relocating to the Airport in 2023. This is treated as a verified (future) event that is incorporated into all the forecast models (+2 aircraft added in 2023). Once the one-time adjustment is made, the underlying growth rate defining each model is applied through the end of the forecast period. Due to the adjustment made in year one of the 20-year forecast, the overall (20 year) average annual growth rates will differ slightly. This method was chosen in lieu of shifting the forecast period to 2023-2043, since the overall effect on actual aircraft numbers is not significant.

Model 1 – Weighted FAA Aerospace GA Fleet Model

This model was developed by applying the FAA's National Aerospace Forecast 2022-2042 annual growth rates for the GA fleet, weighted to reflect the type of aircraft commonly based at Cashmere-Dryden Airport. These include single-engine piston, experimental, and LSA. The FAA's long-term forecasts project that the single-engine piston fleet will shrink by 17% (-0.9% average annual growth) during this period. This trend is partially offset by projected growth in the Experimental and LSA fleet (+16%; 1.3% average annual growth) during this period. However, despite the strong forecast growth of new-generation aircraft, the FAA expects that conventional single-engine piston aircraft will continue to account for the majority (72%) of fixed wing single-engine aircraft in 2042.

The ongoing replacement of legacy single-engine piston aircraft with new-design LSA or experimental fixed wing aircraft is expected to increase as the fleet ages and new aircraft choices increase. A review of the FAA national based aircraft inventory and FAA aircraft registration database indicates that 7 of the 39 single-engine piston aircraft (15%) currently based at the Airport are kit aircraft, registered in the 'experimental' airworthiness category. It is noted that many of the current aircraft designs in this segment provide a range of airworthiness certificate options for the owners, including Experimental (amateur built and build assist kits), LSA (production and experimental), and FAR Part 23 certified (factory built).

The projection for the Modified FAA Aerospace GA Fleet Model reflects a net average annual growth rate of 0.13%, despite the model's underlying negative growth rate. As described earlier, the model's negative growth rate (-0.13%) is applied to the adjusted 2023 based aircraft total (41) noted previously and projected through the end of the planning period. The resulting 2022-2042 average annual growth rate actually becomes positive (0.13%) when the 2023 adjustment is made. This projection results in 40 based aircraft in 2042, a net increase of one (1) aircraft over the 20-year planning period. This model assumes that changes in the future based aircraft fleet at Cashmere-Dryden Airport will be consistent with FAA's long-term expectations for specific aircraft types within the national GA fleet.

Model 2 – OFM Medium Series Population Forecast

This model applies the Washington Office of Financial Management (OFM) Chelan County 2020-2050 population forecast (medium series) annual growth rate (0.67%) to the Airport's based aircraft fleet.

The model's growth rate is applied to the adjusted 2023 based aircraft total (41) and projected through the end of the planning period. The resulting 2022-2042 average annual growth rate increases to 1.04% when the 2023 adjustment is made. This projection results in 48 based aircraft in 2042, a net increase of 9 aircraft over the 20-year planning period. This model assumes a correlation between population growth and airport activity.

Model 3 – Increased Hangar Utilization Forecast

This model reflects the recent historical trend established at the Airport to increase its based aircraft numbers within the existing hangar inventory, coupled with the ability to accommodate limited infill development or redevelopment on existing airport property or new/expanded development on adjacent privately owned land parcels.

The airport currently has 37 individual hangar spaces that will accommodate 41 aircraft in 2023. The trend toward multiple aircraft storage in hangars is expected to continue and vacant hangars are waitlisted to be filled in the short term. An evaluation of recent historical trends and existing hangar capacity suggest the ability to accommodate a modest net increase in based aircraft at the Airport (above 2023) levels that translates into an average annual growth rate of approximately 0.74%.

The model's growth rate is applied to the adjusted 2023 based aircraft total (41) and projected through the end of the planning period. The resulting 2022-2042 average annual growth rate increases to 0.94% when the 2023 adjustment is made. This projection results in 47 based aircraft in 2042, a net increase of 8 aircraft over the 20-year planning period.

Model 4 – WASP Statewide Growth Rate Forecast

This model applies the 2017 WASP long term forecast statewide growth rate for GA based aircraft (1.1% AAGR), to the Airport's based aircraft fleet. The model's growth rate is applied to the adjusted 2023 based aircraft total (41) and projected through the end of the planning period. The resulting 2022-2042 average annual growth rate increases to 1.17% when the 2023 adjustment is made. This projection results in 50 based aircraft in 2042, a net increase of 11 aircraft over the 20-year planning period.

RECOMMENDED BASED AIRCRAFT SUMMARY

The **Increased Hangar Utilization Model** is the recommended based aircraft model for use in the Cashmere-Dryden ALP Report. It is recognized that the available development area for landside facilities on airport property is limited. However, options for infill hangar development and new/expanded through-the-fence hangar development appear to be capable of accommodating increased demand.

The forecast results in an increase from **39 to 47 aircraft** at the Airport by 2042, which reflects an **average annual growth rate of 0.94%**. This projection includes a one-time increase of 2 based aircraft in year one (2023) of the planning period. As noted earlier, the addition of 2 known aircraft has been documented by airport management though executed hangar rental agreements that will be in place when the aircraft are relocated to the Airport.

The based aircraft forecast models developed for the ALP Report are summarized in **Table 3-9** and depicted on **Figure 3-2**. The FAA TAF previously summarized in **Table 3-7** is added the figure for reference.

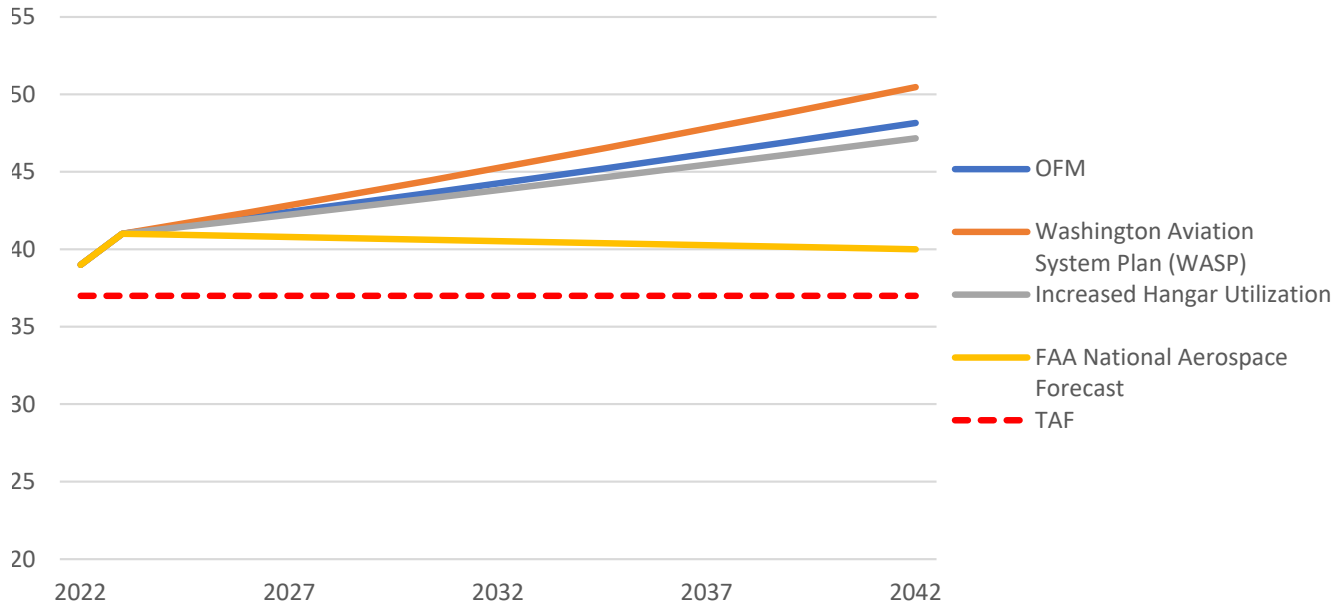
Table 3-9: Based Aircraft Forecast Models (8S2)

Forecast	AAGR	2022	2027	2032	2037	2042
Model 1 - FAA National Aerospace Forecast (Weighted GA Fleet)	0.13%	39	41	41	40	40
Model 2 - OFM Chelan County Population Forecast	1.04%	39	42	44	46	48
Model 3 - Increased Hangar Utilization (Recommended)	**0.94%**	**39**	**42**	**44**	**45**	**47**
Model 4 – WASP Statewide GA Fleet Growth Rate	1.17%	39	43	45	48	50

Source: Century West Engineering.
AAGR: Average Annual Growth Rate

Based aircraft forecasts are primarily intended to identify future facility needs in forthcoming sections of the ALP Report, particularly aircraft storage – apron parking and hangar space. The use of development reserves (+50%-100% forecast increase in demand) is suggested for defining activity-dependent facility needs that may exceed forecast growth over the next 20 years.

Figure 3-2: Based Aircraft Forecast Models (8S2)



BASED AIRCRAFT FLEET MIX

Conventional single-engine piston aircraft and similar experimental/LSA aircraft account for 100% of the current based aircraft fleet at Cashmere-Dryden Airport. The based aircraft fleet mix at the Airport is expected to remain predominantly single-engine aircraft, which is largely defined by practical limits on available runway length. Following national GA fleet trends, the addition of one or more locally based helicopters at the Airport is a reasonable assumption. **Table 3-10** summarizes the current and forecast fleet mix for the planning period.

Growth in LSA and experimental kit aircraft at the Airport is expected to follow national trends. The anticipated introduction of electric-powered aircraft into the national GA fleet would also be expected to occur at Cashmere-Dryden Airport. However, as with piston-engine fixed wing aircraft, runway length will effectively dictate what types of aircraft can be accommodated at the Airport. EV versions of single-engine piston aircraft and vertical takeoff and landing (VTOL) aircraft are fully within the existing capabilities of the Airport.

Table 3-10: Based Aircraft Fleet Mix Summary (8S2)

Aircraft Type	2022	2027	2032	2037	2042
Single Engine Piston*	39	42	42	44	46
Multi Engine Piston	0	0	0	0	0
Turboprop	0	0	0	0	0
Jet	0	0	0	0	0
Helicopter	0	0	1	1	1
TOTAL	**39**	**42**	**43**	**45**	**47**

Source: Century West Engineering
*Includes LSA/Experimental Aircraft/Single-Engine EV

AIRCRAFT OPERATIONS FORECASTS

Four updated aircraft operations forecast models were developed for the ALP Report. The new operations forecast models, including the recommended model, are summarized in **Table 3-11** and depicted on **Figure 3-3**. The FAA TAF previously summarized in **Table 3-7** is added the figure for reference. All forecast models are applied to the 2022 aircraft operations baseline data (4,290) presented earlier in the chapter.

Model 1 – FAA Aerospace GA Fleet Model (Weighted)

This model was developed by applying the FAA Aerospace Forecast – Fiscal Years (2022- 2042) annual growth rates for GA and air taxi operations for the current planning period. Based on a weighted distribution of flight activity at the Airport, the FAA Aerospace Forecast model projects an **average annual growth rate of -0.25%**. When applied to the current baseline operations, this model projects a decrease from **4,290 to 4,081 annual aircraft operations** at the Airport by 2042. This represents a 4.9% decrease below the current air traffic level over the planning period.

Model 2 – Operations Per Based Aircraft (OPBA) Formula

This model utilizes the same methodology that was used to calculate the baseline aircraft operations estimate presented earlier. The modified OPBA formula (110 OPBA) was applied to the recommended based aircraft forecast to project future aircraft operations through the planning period. As noted earlier, this OPBA ratio is comparable to the level defined in the 2009 ALP. The recommended OPBA is lower than ratios often found at small GA airports, however, several factors appear to contribute to lower levels of transient aircraft activity including runway length, complex nearby terrain, limited aircraft parking, and the absence of fuel for sale. This model assumes that aircraft operations at Cashmere-Dryden Airport will increase at the same rate as forecast based aircraft.

The Modified NPIAS OPBA model projects an **average annual growth rate of 0.95%**. When applied to the current baseline operations, this model projects an increase from **4,290 to 5,188 annual aircraft operations** at the Airport by 2042. This represents a 20.9% increase above the current air traffic level over the planning period.

Model 3 – Washington Office of Financial Management Population Forecast

This model applies the Washington Office of Financial Management (OFM) Chelan County 2020-2050 population forecast (medium series) annual growth rate (0.67%) to the Airport's 2022 baseline aircraft operations total, and projects forward through the end of the planning period. The model assumes that growth in the Airport's flight activity will be in line with Chelan County population growth.

The OFM Population Model projects an average **annual growth rate of 0.67%**. When applied to the 2022 baseline operations, this model projects an increase from **4,290 to 4,903 annual aircraft operations** at the Airport by 2042. This represents a 14.29% increase above the current air traffic level over the planning period.

Model 4 – WASP Statewide Growth Rate Forecast

This model applies the long-term statewide GA operations forecast annual growth rate (0.7%) contained in the 2017 WASP, to the Airport's baseline operations level. This model assumes that Cashmere-Dryden Airport will maintain its current share of the statewide GA flight activity, within forecast statewide growth.

The WASP Forecast Model projects an **average annual growth rate of 0.7%**. When applied to the 2022 baseline operations, this model projects an increase from **4,290 to 4,932 annual aircraft operations** at the Airport by 2042. This represents a 15.0% increase above the current air traffic level over the planning period.

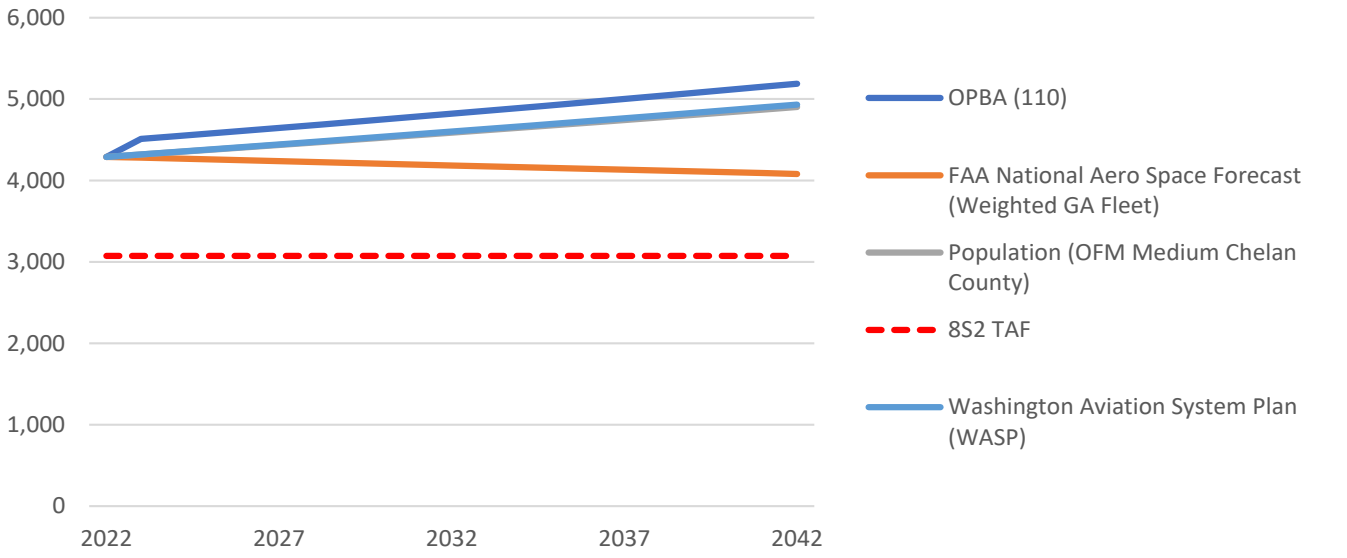
The new aircraft operations forecast models are summarized in **Table 3-11**, and depicted on Figure 3-3. The FAA TAF previously summarized in **Table 3-7** is added the figure for reference.

Table 3-11: Forecast Annual Aircraft Operations (8S2)

Forecast	AAGR	2022	2027	2032	2037	2042
Model 1 - National Aerospace Forecast – Weighted GA Fleet	-0.25%	4,290	4,237	4,184	4,132	4,081
Model 2 - OPBA (Recommended)	**0.95%**	**4,290**	**4,645**	**4,819**	**5,000**	**5,188**
Model 3 - OFM Chelan County Population Forecast	0.67%	4,290	4,436	4,586	4,742	4,903
Model 4 - WASP Statewide GA Fleet Growth Rate	0.70%	4,290	4,442	4,600	4,763	4,932

Source: Century West Engineering.
AAGR: Average Annual Growth Rate (2022-2042).

Figure 3-3: Aircraft Operations Forecast Models (8S2)



SUMMARY – RECOMMENDED AIRCRAFT OPERATIONS FORECAST

Model 2 - Operations Per Based Aircraft (OPBA) Formula is the recommended aircraft operations forecast for the 2022-2042 planning period for Cashmere-Dryden Airport. This model is consistent with the recommended based aircraft forecast, which projects modest increases in hangar utilization and/or development during the planning period.

The forecast projects an increase from **4,290 to 5,188 operations** at the Airport by 2042, which results in an **average annual growth rate of 0.95%**. The use of the modified OPBA model is consistent with aircraft operations levels previously defined for the Airport in 2009 ALP Report forecasts.

LOCAL AND ITINERANT OPERATIONS

Aircraft operations are classified by FAA as local or itinerant. Local operations are conducted in the vicinity of an airport and include flights that begin and end at the airport. These include aerial applicators, flight training, training flights within the airport traffic pattern such as touch and go landings, and other flights that do not involve a landing at another airport. Itinerant operations include flights between airports such as on-demand air charter, air cargo/express, cross-country flight training, and personal or business travel.

The 2009 ALP Report forecasts estimated the local/itinerant operations split to be 64%/36%. This operational split is reasonable for current activity and is recommended for use in the forecast. As noted earlier in **Table 3-6**. The local and itinerant distribution for each forecast year is summarized in **Table 3-12**.

Table 3-12: Operations Fleet Mix by AAC & ADG (8S2)

Aircraft Type	2022	2027	2032	2037	2042
Total Itinerant Operations (36%)	1,544	1,672	1,735	1,800	1,868
Local Operations (64%)	2,745	2,973	3,084	3,200	3,320
Total Local & Itinerant Operations	**4,290**	**4,645**	**4,819**	**5,000**	**5,188**

Source: Century West Engineering

AIRCRAFT OPERATIONS FLEET MIX

It is estimated that approximately 95% of operations at Cashmere-Dryden Airport are generated by single-engine piston aircraft, with about 5% of operations generated by helicopters, and a nominal amount by multi-engine piston aircraft. The current fleet mix is expected to remain relatively unchanged during the planning period, with the potential addition of locally based helicopters. Additional information about the critical aircraft is provided in the following section. The aircraft operations fleet mix forecast is summarized in **Table 3-13**.

Table 3-13: Aircraft Operations Fleet Mix by Aircraft Type (8S2)

Aircraft Type	2022	2027	2032	2037	2042
Single Engine Piston[1]	4,080	4,410	4,559	4,715	4,878
Multi Engine Piston	10	10	10	10	10
Helicopters	200	225	250	275	300
Total Operations	**4,290**	**4,645**	**4,819**	**5,000**	**5,188**

1 Includes Experimental, LSA, and Electric (future)

Critical Aircraft

The selection of design standards for airfield facilities is based upon the characteristics of the most demanding aircraft that are expected to use an airport, which is designated as the "critical aircraft." This designation does not mean that other types of aircraft can't operate at the Airport, although it does typically define FAA funding eligibility for facilities based on the applicable dimensional standards.

The FAA provides the following definition for critical aircraft:

> *"The critical aircraft is the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, including both itinerant and local operations, but excluding touch- and-go operations. An operation is either a takeoff or landing."* (FAA AC 150/5000-17)

The characteristics of the critical aircraft (Aircraft Approach Category and Airplane Design Group) were previously used by FAA to define the Airport Reference Code (ARC), which represented the airport's highest Runway Design Code (RDC). Current FAA guidance eliminates use of the ARC, in favor of runway design codes and taxiway design groups. Since Cashmere-Dryden Airport has one runway, the previous ARC designation was also consistent with the RDC for Runway 7/25.

The aircraft component of the RDC is defined by the Aircraft Approach Category (AAC) and the Airplane Design Group (ADG) of the critical aircraft. The AAC is determined by the approach speed, or 1.3 times the stall speed of the aircraft in its landing configuration at its maximum landing weight. AAC categories A to E provide a wide range of approach speeds (<91 - ≥ 160 knots). ADG is determined by aircraft wingspan and tail height. Most small aircraft (12,500 pounds or less) are included in AAC A (<91 knots) or AAC B (<121 knots) and ADG I (< 49' wingspan) or ADG II (49' - < 79' wingspan).

CURRENT & FUTURE CRITICAL AIRCRAFT

The assessment of current air traffic at Cashmere-Dryden Airport identifies sufficient ADG I (small) operations to meet the FAA's regular use threshold of 500 annual operations. The Airport currently accommodates regular ADG I (small) aircraft activity, generated by both locally based and transient aircraft consisting of single engine piston aircraft. Historically, most fixed wing aircraft traffic at Cashmere-Dryden Airport is ADG I, and this trend is expected to continue in the 2022-2042 forecast.

The 2009 ALP lists a Cessna 172 as the current and future critical aircraft, with a corresponding A-I (small) designation. This designation will be maintained for the 2022-2042 planning period.

The current and future critical aircraft identified for the Airport is a single-engine piston aircraft, represented by a 4-seat Cessna 172 (C-172). This aircraft is representative of small GA aircraft commonly used throughout the region. The C-172 is classified as a small airplane based on a maximum takeoff weight of less than 12,500 pounds, and it is included in Aircraft Approach Category A and Airplane Design Group I, which corresponds to **RDC A-I (small)**. **Table 3-14** summarizes forecast operations for Cashmere-Dryden Airport by the AAC + ADG components of the RDG.

Source: Textron/Cessna Aircraft Company

Specific taxiway standards are defined by Taxiway Design Group (TDG), which are driven by the landing gear configuration of the critical aircraft. Runway length requirements for the critical aircraft (single engine piston) will be evaluated in the facility requirements chapter.

Table 3-14: Operations Fleet Mix by RDC (8S2)

Activity	%	2022	2027	2032	2037	2042
TOTAL OPS - A-I	95	4,090	4,420	4,569	4,725	4,888
TOTAL OPS - B-I	0%	0	0	0	0	0
TOTAL OPS - A-II/B-II	0%	0	0	0	0	0
TOTAL OPS - HELI (AAC A)	5%	200	225	250	275	300
TOTAL OPS - ALL A/C	**100%**	**4,290**	**4,645**	**4,819**	**5,000**	**5,188**

Source: Century West Engineering; AAGR Average Annual Growth Rate; "%" based on 2022 baseline operations estimate. Fleet mix percentages and operations totals may not sum due to rounding

Figure 3-4 depicts the aircraft design criteria used to define RDC, and representative aircraft in each category. The applicable dimensional standards for Cashmere-Dryden Airport are shown in bold.

Figure 3-4: Critical Aircraft & Airport Reference Code (ARC)

Aircraft Approach Category	Aircraft Approach Speed knots	Airplane Design Group	Aircraft Wingspan
A - Existing/Future	**less than or equal to 91**	**I - Existing/Future**	**less than or equal to 49'**
B	92 to 121	II	50' to 79'
C	122 to 141	III	80' to 118'
D	142 to 166	IV	119' to 171'

Source: Century West Engineering

Operational Peaks

Activity peaking is evaluated to identify potential capacity related issues that may need to be addressed through facility improvements or operational changes. The Peak Month represents the month of the year with the greatest number of aircraft operations (takeoffs and landings). The peak month for most general aviation airports occurs during the summer when weather conditions and daylight are optimal.

For planning purposes, the peak month for aircraft operations at Cashmere-Dryden Airport is assumed to account for 20% of annual operations, which effectively captures increased summer (July or August) flight activity.

Peak Day operations are defined by the average day in the peak month (Design Day) and the busy day in the typical week during peak month (Busy Day). The Design Day is calculated by dividing peak month operations by 30. For planning purposes, the Busy Day is estimated to be 50% higher than the average day in the peak month (Design Day x 1.5), based on common activities generating significant increases in flight activity.

The peak activity period in the Design Day is the Design Hour. For planning purposes, the Design Hour operations are estimated to account for 20% of Design Day operations (Design Day x 0.20).

The operational peaks for each forecast year are summarized in **Table 3-15**. This level of peaking is consistent with the mix of airport traffic and is expected to remain unchanged during the planning period. These measures of activity are considered when calculating runway/taxiway capacity and transient aircraft parking requirements. No significant runway or taxiway capacity issues have been identified at the Airport based on current or forecast activity levels.

Table 3-15: Forecast Peak Operations (8S2)

Aircraft Type	2022	2027	2032	2037	2042
Annual Operations	4,290	4,645	4,819	5,000	5,188
Peak Month Operations (20%)	858	929	964	1,000	1,038
Design Day Operations (average day in peak month)	29	31	32	33	35
Busy Day Operations (assumed 150% of design day)	44	46	48	50	52
Design Hour Operations (assumed 20% of design day)	6	6	6	7	7

Source: Century West Engineering. * 2022 Peak Month estimated to be approximately 42% (fire activity)

Military Activity

The FAA Terminal Area Forecast (TAF) lists no military flight activity at Cashmere-Dryden Airport. No specific military activity is included in the updated 2022-2042 ALP forecast. However, the Airport has the ability to accommodate military helicopters used in emergency response, search and rescue, wildfire support, and training activities (Washington Army National Guard, etc.).

Air Taxi Activity

Air taxi activity includes for-hire charter flights, medevac flights, and some scheduled commercial air carriers operating under FAR Part 135. The current FAA TAF and 5010 Airport Record Form lists 75 air taxi operations at Cashmere-Dryden Airport. This level of activity appears to be reasonable for future planning purposes and would capture air ambulance operators and on-demand flights by small, fixed wing aircraft and helicopters.

Forecast Summary

The 2022-2042 aviation activity forecasts for Cashmere-Dryden Airport are summarized in **Table 3-16**. These forecasts project modest growth for the Airport over the 20-year planning period that is consistent with FAA's long-term expectations for general aviation in the region. The forecast average annual growth rates are 0.74% for based aircraft and 0.94% for aircraft operations between 2022 and 2042.

Table 3-16: Forecast Summary

Activity	2022	2027	2032	2037	2042
Itinerant Operations					
General Aviation	1,469	1,597	1,660	1,725	1,793
Air Taxi (Fire & Medevac)	75	75	75	75	75
Military	0	0	0	0	0
Total Itinerant Operations	**1,544**	**1,672**	**1,735**	**1,800**	**1,868**
Local Operations	2,746	2,973	3,084	3,200	3,320
Total Local & Itinerant Operations	**4,290**	**4,645**	**4,819**	**5,000**	**5,188**
Based Aircraft	39	42	44	45	47
Operations Per Based Aircraft (OPBA)	110	110	110	110	110

Source: Century West Engineering

TERMINAL AREA FORECAST COMPARISON

The recommended forecasts for the 2022-2042 planning period are compared with the current FAA TAF for Cashmere-Dryden Airport. FAA review will be required for both the based aircraft and the aircraft operations models for comparison to the current TAF, as presented in **Figure 3-5**.

Figure 3-5: FAA TAF and ALP Forecast Comparison

Forecast Summary

8S2

Base Year: 2022

						Average Annual Compound Growth Rates			
	Base Yr. Level	Base Yr.+1yr.	Base Yr.+5yrs.	Base Yr.+10yrs.	Base Yr.+15yrs.	Base Yr. to +1	Base Yr. to +5	Base Yr. to +10	Base Yr. to +15
Passenger Enplanements									
Air Carrier	0	0	0	0	0	N/A	N/A	N/A	N/A
Commuter	0	0	0	0	0	N/A	N/A	N/A	N/A
TOTAL	0	0	0	0	0	N/A	N/A	N/A	N/A
Operations									
Itinerant									
Air carrier	0	0	0	0	0	N/A	N/A	N/A	N/A
Commuter/air taxi	75	75	75	75	75	N/A	N/A	N/A	N/A
Total Commercial Operations	75	75	75	75	75	N/A	N/A	N/A	N/A
General aviation	1,469	1,537	1,597	1,660	1,725	4.6%	1.7%	1.2%	1.1%
Military	0	0	0	0	0	N/A	N/A	N/A	N/A
Local									
General aviation	2,746	2,848	2,973	3,084	3,200	3.7%	1.6%	1.2%	1.0%
Military	0	0	0	0	0	N/A	N/A	N/A	N/A
TOTAL OPERATIONS	4,290	4,460	4,645	4,819	5,000	4.0%	1.6%	1.2%	1.0%
Instrument Operations	0	0	0	0	0	N/A	N/A	N/A	N/A
Peak Hour Operations	6	6	6	6	7	0.0%	0.0%	0.0%	1.0%
Cargo/mail (enplaned + deplaned tons)	0	0	0	0	0	N/A	N/A	N/A	N/A
Based Aircraft									
Single Engine (Nonjet)	39	41	42	43	44	5.1%	1.5%	1.0%	0.8%
Multi Engine (Nonjet)	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
Jet Engine	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
Helicopter	0	0	0	1	1	n/a	n/a	n/a	n/a
Other	0	0	0	0	0	0.0%	0.0%	0.0%	0.0%
TOTAL	39	41	42	44	45	5.1%	1.5%	1.2%	1.0%
GA Operations Per Based Aircraft	110	109	111	110	111	n/a	n/a	n/a	n/a

Airport Planning and TAF Forecast Comparison

	Year	Airport Forecast	TAF	AF/TAF (% Difference)
Passenger Enplanements				
Base yr.	2022	0	0	0.0%
Base yr. + 5yrs.	2027	0	0	0.0%
Base yr. + 10yrs.	2032	0	0	0.0%
Base yr. + 15yrs.	2037	0	0	0.0%
Commercial Operations				
Base yr.	2022	0	0	0.0%
Base yr. + 5yrs.	2027	0	0	0.0%
Base yr. + 10yrs.	2032	0	0	0.0%
Base yr. + 15yrs.	2037	0	0	0.0%
Total Operations				
Base yr.	2022	4,290	3,075	39.5%
Base yr. + 5yrs.	2027	4,645	3,075	51.1%
Base yr. + 10yrs.	2032	4,819	3,075	56.7%
Base yr. + 15yrs.	2037	5,000	3,075	62.6%

Note: TAF data is on a U.S. government fiscal year basis (October through September).

Legend:
"N/A" No Activity for this Category
"n/a" formula error generated for forecasts due to "0" base year data

FIFTY-YEAR FORECAST

Fifty-year demand forecasts were prepared as required in the FAA-approved ALP Report scope of work by extrapolating the average annual growth rates (AAGR) for the recommended twenty-year based aircraft and aircraft operations forecasts. The purpose of the 50-year projection is to provide an unconstrained estimate of demand to approximate long-term aviation use land requirements for the Airport. **Table 3-17** summarizes the 50-year forecast including the intermediate 30- and 40-year projections.

Table 3-17: 50-Year Forecast (8S2)

	2022	2042	2052	2062	2072
Annual Operations (0.94% AAGR)	4,290	5,188	5,698	6,256	6,870
Based Aircraft (0.74% AAGR)	39	47	51	55	59

Source: Century West Engineering *45-year AAGR projected from first forecast year (2027-2072)

Chapter 4
Airport Facility Requirements

The evaluation of airport facility requirements is intended to determine the facility needs for Cashmere-Dryden Airport (8S2) for the current 20-year planning period based on updated aviation activity forecasts and conformance to established Federal Aviation Administration (FAA) airport design criteria.

Introduction

The evaluation of airport facility requirements combines the results of the inventory and forecasts contained in Chapters 2 and 3, and established FAA planning criteria to determine the future facility needs for the Airport during the current 20-year planning period. Airside facilities include runways, taxiways, navigational aids, and lighting systems. Airside facilities are often protected by airspace or clear areas that are defined by applicable FAA standards.

Landside facilities include hangars, terminal/fixed base operator (FBO) facilities, aircraft parking apron(s), aircraft fueling facilities, and aerial applicator facilities. Surface access roads, automobile parking, security/perimeter fencing, and utilities are generally identified as support facilities. All airfield items are evaluated based on established FAA standards and the functional role of the Airport.

The facility requirements evaluation identifies the adequacy of facilities and identifies what new facilities may be needed during the planning period based on forecast demand or conformance to FAA standards. The evaluation of demand-driven elements will quantify facility needs such as runway length requirements, hangar space, and aircraft parking positions based on forecast demand and the type of aircraft being accommodated. Items such as lighting, navigational aids, and approach capabilities are evaluated based on overall airport activity and facility classification. Options for accommodating current and future facility needs will be evaluated in the Airport Development Alternatives (Chapter 5).

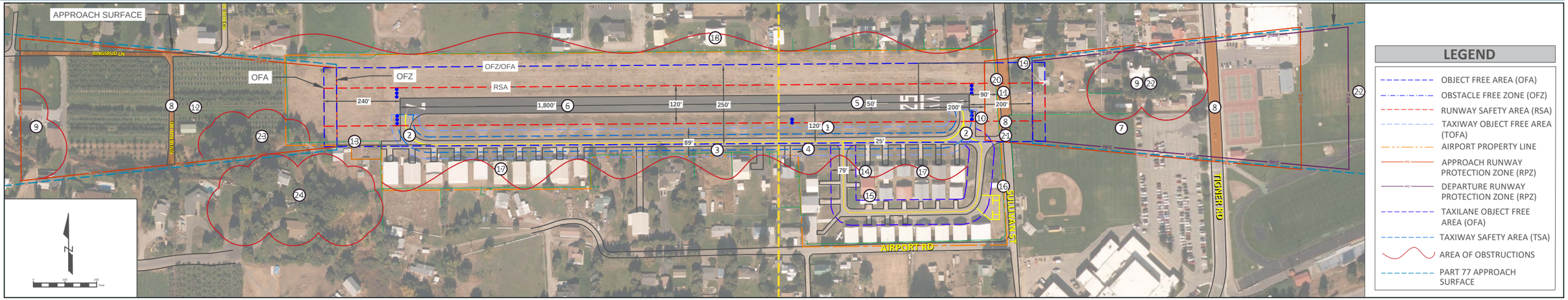
Airport Facilities Analysis

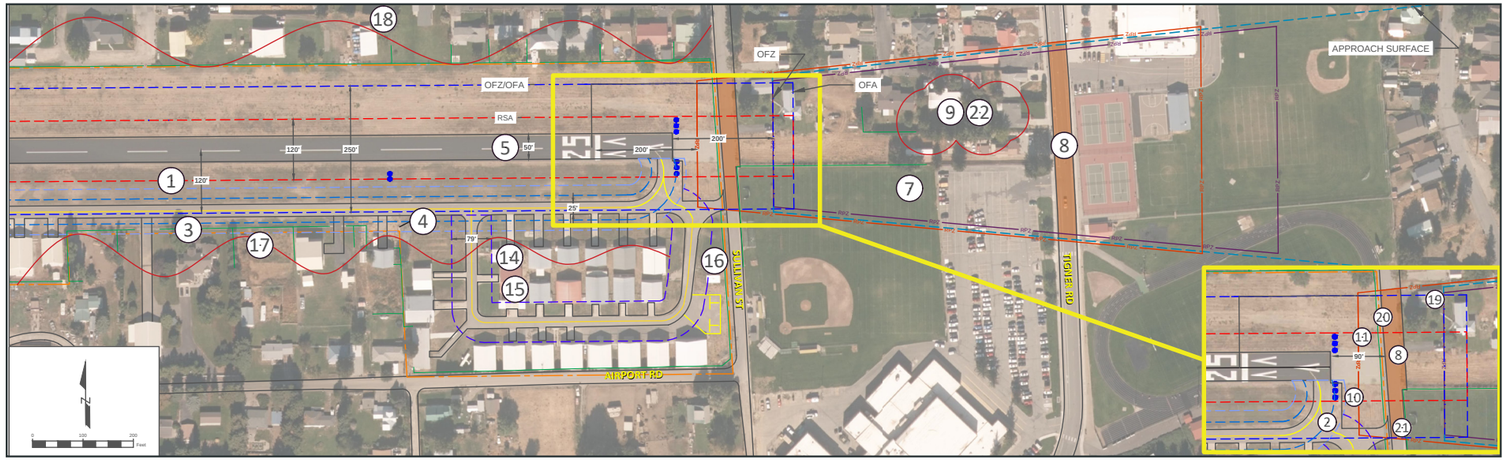
Design Standards Conformance Review

Existing airfield facilities were evaluated for their conformance with applicable FAA standards. As noted in Chapter 3, the current and future critical aircraft for the Airport is a small single-engine piston aircraft included in Aircraft Approach Category (AAC) A and Airplane Design Group (ADG) I. Cashmere-Dryden Airport currently operates exclusively under Visual Flight Rules (VFR), with no instrument capabilities. Runway 7/25 is designated as a "visual" runway in *14 Code of Federal Regulations (CFR), Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace*. These designations were also identified in the previous (2009) ALP Report. The applicable design and visual airspace planning standards and individual facility assessments are summarized later in the chapter.

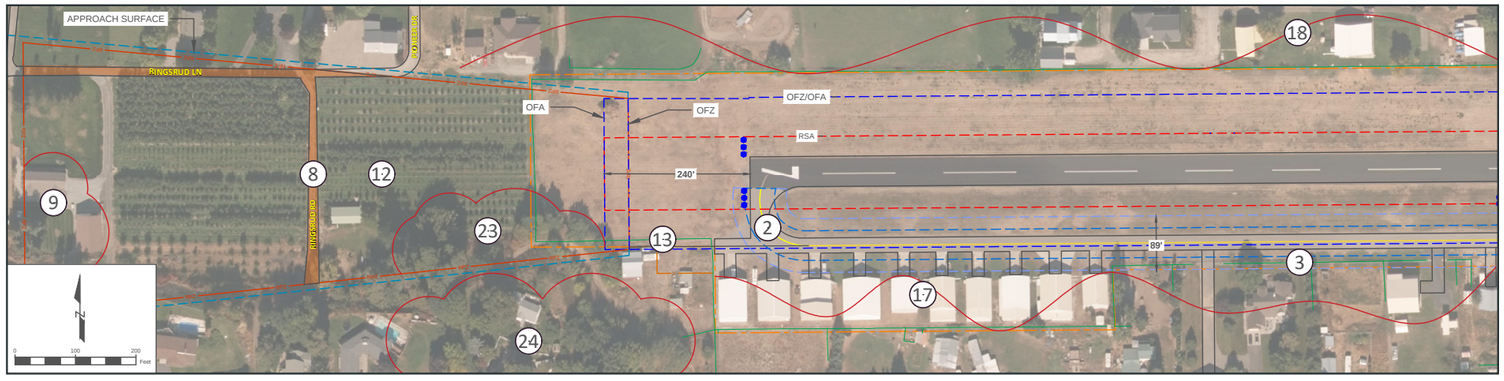
Figure 4-1 depicts the existing non-conforming runway-taxiway facilities at Cashmere-Dryden Airport and the applicable design standards recommended for the updated planning evaluation. Enlarged views of the runway ends are provided in **Detail A and B**. **Detail A** depicts the Airport's east landside and airside development areas; **Detail B** depicts the west landside and airside development areas. **Table 4-1** summarizes the non-conforming facilities depicted in **Figure 4-1**. Options for addressing non-conforming items will be evaluated through development alternatives review in Chapter 5.

Figure 4-1: Non-Conforming Items (Airside/Landside Facilities)





Detail A



Detail B

PARALLEL TAXIWAY	
1	SEPARATION: RWY-TAXIWAY (120')
2	AIRCRAFT HOLD LINES (RWY OFZ)
3	TOFA: FENCE
4	TOFA: PROPANE TANK/WIND SOCK

RUNWAY	
5	WIDTH: 50'
6	RUNWAY LENGTH: 1,800'

RUNWAY 25 END	
7	RPZ: PROPERTY CONTROL
8	RPZ: ROAD
9	RPZ: RESIDENCES; STRUCTURES; TREES
10	LIGHTING: THRESHOLD LIGHTING RWY 25
11	OFA/OFZ UNOBSTRUCTED LENGTH (90') LIMITED BY FENCE

RUNWAY 7 END	
12	RPZ: PROPERTY CONTROL
8	RPZ: ROAD
13	FENCE IN OFA

TERMINAL AREA	
14	TLOFA: PILOT LOUNGE
15	TLOFA: HANGARS
16	TLOFA: PUMPHOUSE

PART 77 OBSTRUCTIONS	
17	TRANSITIONAL SURFACE: HANGARS; TREES; STRUCTURES; OVERHEAD LIGHT POLES
18	TRANSITIONAL SURFACE: TREES; STRUCTURES
19	PRIMARY SURFACE: RESIDENCE; STRUCTURE
20	PRIMARY SURFACE: FENCE
21	PRIMARY SURFACE; VEHICLES (TRAVELING ON ROAD)
22	APPROACH SURFACE: STRUCTURES; TREES; TERRAIN
23	APPROACH SURFACE: TREES; TERRAIN
24	TRANSITIONAL: TREES; TERRAIN; STRUCTURES

CENTURY WEST ENGINEERING

Table 4-1: 8S2 Airfield Conformance (Existing)

Non-conforming Items	Proposed Approach
The Runway Protection Zones (RPZs) for Runways 7 and 25 extend off airport property over public roads and publicly- and privately-owned land parcels (residential, public, agricultural uses).	The FAA guidelines on Incompatible Land Uses in RPZs discourages roads and other items within RPZs; airport control over uses within RPZs (fee simple or avigation easement) is also recommended.
The runway centerline to parallel taxiway separation (120 feet) is less than the applicable ADG I standard (150 feet).	Increase the separation to 150 feet if feasible and no other design conflicts are created.
The runway width (50 feet) is less than the applicable ADG I standard (60 feet).	Widen runway to 60 feet.
The eastern portion of the Runway Object Free Area (OFA), Obstacle Free Zone (OFZ) and Runway Safety Area (RSA) footprints extend off airport property beyond the Runway 25 end. These surfaces are constrained by: • airport fence (obstruction) • public roadway (vehicle obstruction and airport control) • private and public lands - trees, structures, (obstructions and airport control) The western sections of the Runway OFA and OFZ are constrained by: • elevated terrain (outer section - SW corner above grade) • airport fence (nearest section approximately 63 feet from Rwy 7 end) • private property to the south of fence	Airport control of the OFA, OFZ and the RSA is required to meet FAA dimensional, obstacle clearing, and surface (gradient and compaction) standards. The standards will also apply to any future runway configuration.
The east hangar loop taxilane OFA clearance is less than the ADG-I standard of 79 feet (39.5 feet from taxilane centerline to fixed/moveable object).	Use FAA-defined taxilane OFA formula (1.2 x AC wingspan + 20 feet) to determine maximum aircraft wingspan accommodated on taxilane based on narrowest actual taxilane centerline to fixed object (building) clearance.
The parallel taxiway does not meet ADG-I taxiway OFA clearing standards of 89 feet. The distance from the taxiway centerline and a fixed or movable object (e.g structure) is less than FAA standard. • A portion of the south parallel taxiway OFA near mid-runway is obstructed by built items (fence, propane storage tank).	Relocate items located within the taxiway OFA.
The aircraft hold lines for the west and east taxiway connectors for the runway (≈85) feet do not meet ADG-I Runway OFZ clearing standard (>125 feet from runway centerline). A portion of the parallel taxiway and the full connecting taxiways are located within the Runway OFZ, inside the recommended 125-foot aircraft hold line standard.	Increase the taxiway separations to accommodate standard AC hold line locations if feasible and no other design conflicts are created.
Multiple PART 77 obstructions exist within the runway approach, transitional, and primary surfaces.	Eliminate or mitigate existing obstacles through object removal, obstruction lighting, and changes in runway configuration. Local adoption of airport overlay zoning is recommended to guide future compatible development within these surfaces. Avigation easements are recommended for existing/future inner approach surfaces, coinciding with RPZs.

Demand/Capacity Analysis

The evaluation of runway capacity is used to identify existing or future operational constraints that may require specific facility improvements such as taxiways, aircraft hold areas, etc. Runway 7/25 has a full-length parallel taxiway with two 90-degree exit taxiways. This configuration provides a high level of functionality and operational capacity that provides for effective movement between the runway and adjacent landside facilities.

Annual service volume (ASV) is a broad measure of airport capacity and delay used for long-term planning as defined in *FAA Advisory Circular (AC) 150/5060-5, Airport Capacity and Delay.* Although the generic ASV calculation assumes optimal conditions (air traffic control, radar, the ability to operate in both visual flight rules (VFR) and instrument flight rules (IFR) conditions, etc.) that do not exist at Cashmere-Dryden Airport, it provides a theoretical measure of existing and future capacity for planning purposes.

The FAA estimates the ASV for a single runway with no air carrier traffic is approximately 230,000 annual operations. Hourly capacity is estimated to be 98 operations during VFR conditions and 59 operations during IFR conditions (assuming the runway supports instrument operations). It is recognized that these theoretical annual and hourly capacity measures are not realistic for Runway 7/25, but based on current and forecast air traffic, no significant airfield capacity issues are identified. It is noted that the absence of aircraft hold areas (clear of the parallel taxiway) at the runway ends may create temporary congestion and delays during busy periods on the runway and parallel taxiway. The existing and future demand-capacity ratios for Runway 7/25 presented below are based on the aviation forecasts presented in Chapter 3.

- *Existing Capacity: 4,180 Annual Operations / 230,000 ASV = 1.8% (demand/capacity ratio)*
- *Future Capacity: 5,188 Annual Operations / 230,000 ASV = 2.3% (demand/capacity ratio)*

Based on these ratios, the annual capacity of Runway 7/25 exceeds demand through the current 20-year planning period. Hourly capacity is also expected to be adequate to accommodate normal demand. The average delay per aircraft would be expected to remain below one minute through the planning period.

Critical Aircraft and Airport Design Standards Discussion

The existing and future critical aircraft is determined based on the activity described in Chapter 3, Aviation Activity Forecasts. The critical aircraft establishes existing and future airport planning & design standards organized in series of code categories. The groupings are applied to specific runways, taxiways and taxilanes to guide future planning, design, and development of the Airport. FAA design criteria are determined by the physical characteristics of the critical aircraft. The primary airfield design groupings sharing common aircraft-specific components include:

- Runway Design Code (RDC)
- Approach and Departure Reference Cost (APRC and DPRC)
- Taxiway Design Group (TDG)

The runway standards incorporate different combinations of aircraft elements including approach speed, wingspan/tail height, and weight with approach visibility criteria. Additional information is provided in the sections below. The taxiway design standard applies physical characteristics of the aircraft's landing gear configuration and overall dimensions. Definitions for the FAA design standards are provided throughout the chapter.

For detailed information on determining specific design standards see *FAA AC 150/5300-13B, Airport Design*.

Note: Current FAA airport planning standards have eliminated use of the Airport Reference Code (ARC) as the primary designation for airfield categories, in favor of Runway Design Code (RDC). The FAA now uses Aircraft Approach Category (AAC), Airplane Design Group (ADG), and Taxiway Design Group (TDG) to categorize aircraft and facilities. The components of the current/future Runway 7-25 RDC are identical to the components used to define 'ARC' in the 2009 ALP Report.

CRITICAL AIRCRAFT

The critical aircraft is intended to represent the most demanding aircraft using the Airport on a regular basis (defined by FAA as ≥ 500 annual operations). This designation does not mean that larger aircraft cannot operate on the runway, but it does define the design guidance to be used for FAA-funded improvements. The 2009 ALP identified a Cessna 172 (single-engine piston) as the existing and future critical aircraft with ARC A-I (small).

The FAA-approved aviation activity forecasts for Cashmere-Dryden Airport, presented In Chapter 3, identifies the Cessna 172 (C-172) as a representative single-engine piston engine aircraft for both the current and future critical aircraft. The aircraft manufacturer (Cessna) lists the C-172 approach speed as 60 knots, which is well within **AAC A** (<91 knots); a 36-foot wingspan (**ADG I** <49 feet); and a maximum operating weight below 12,500 pounds, which is classified by FAA as a "**small** airplane." Based on aircraft manufacturer's specifications, the FAA Aircraft Characteristics Database (2018 update) lists the C-172 as AAC A, TDG 1A, and ADG I, based on the aircraft manufacturer specifications noted above.[1]

RUNWAY DESIGN CODE (RDC)

The RDC defines specific runway dimensional standards based on a composite of aircraft-specific and runway-specific factors. The RDC inputs include critical aircraft characteristics: approach speed (AAC) and wingspan/tail height (ADG), and the approach visibility minimums of a specific runway end. The approach visibility refers to the minimum visibility required for aircraft operation, expressed by runway visual range (RVR) values in feet. Runways with only visual approaches use the 'VIS' designation in lieu of the prescribed RVR value. **The existing and future RDC for Runway 7/25 is A/B-I-VIS**.

APPROACH AND DEPARTURE REFERENCE CODE (APRC AND DPRC)

The APRC and DPRC represent the current operational capabilities of each specific runway end and adjacent taxiways. The APRC uses the performance characteristics of the critical aircraft (approach speed and wingspan/tail height) and the approach visibility minimums (expressed in RVR values) and runway-to-taxiway separation on the airfield to define specific standards. The DPRC uses only the physical characteristics of the design aircraft and runway-to-taxiway separation.

The existing and future APRC for Runway 7/25 is A-I (S) /4000. This is the nearest definition to small aircraft A-I listed in AC 150/5300-13B, and the existing runway-parallel taxiway separation.[2]

The existing and future DPRC for Runway 7/25 is B/I (S). This is the closest DPRC designation listed in AC 150/5300-13B, which is equivalent to A/I (S) since FAA Approach Category A and B are interchangeable in the runway design standards tables.[3]

TAXIWAY DESIGN GROUP (TDG)

The TDG is used to define taxiway dimensions based on physical aircraft characteristics. The TDG is based on aircraft dimensions, including landing gear distance from the cockpit to the main gear (CMG) and main gear width (MGW) (see **Figure 4-2**). These dimensions affect an aircraft's ability to safely maneuver on airport taxiways and dictate pavement fillet design.

The current and future critical aircraft (C-172) is listed in the *FAA Aircraft Characteristics Database* as **TDG 1A**. A review of ADG I aircraft types indicates that TDG 1A is also common for other single-engine piston aircraft (C-172, C-206, etc.) and is appropriate for Cashmere-Dryden Airport.

1 Aircraft Characteristics Database (faa.gov)
2 AC 150/5300-13B, Appendix L, Table L-1.
3 AC 150/5300-13B, Appendix L, Table L-2.

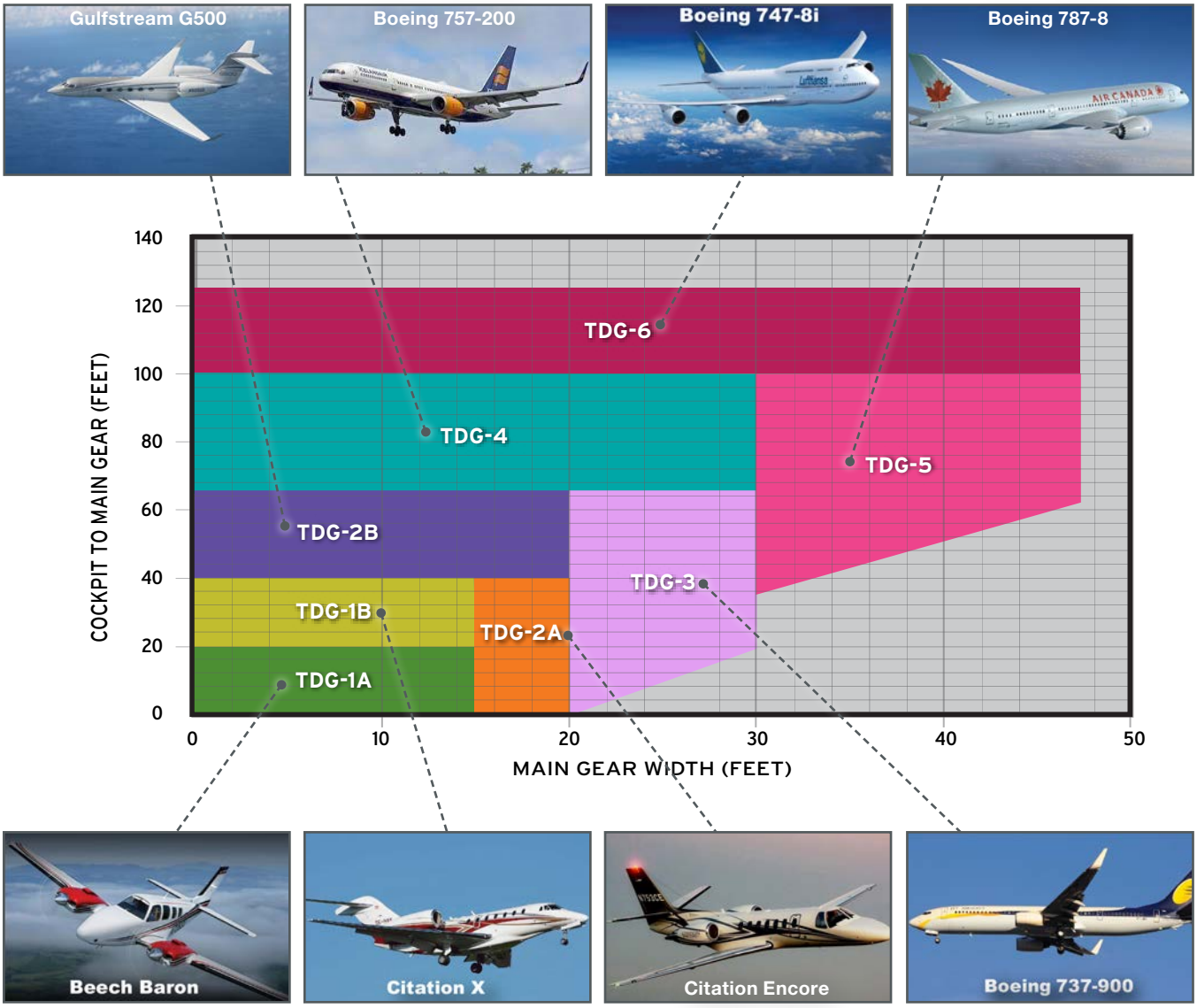
The parallel taxiway (Taxiway A) and the two end connector taxiways (A1, A2) do not fully comply with TDG 1A standards:

- The existing parallel taxiway/exit taxiway width (25 feet) meets TDG 1 standards.
- The existing taxiways do not have TDG 1-defined gravel shoulders (10-foot wide).

Hangar and apron taxiways/taxilanes can be constructed to different TDGs based on the expected aircraft use. The main tiedown apron and the east hangar taxilane are designed to accommodate small single-engine aircraft (TDG 1A).

It is noted that the parallel taxiway does not meet FAA A/B-I (Small) aircraft runway design standards, that require a 150-foot runway-to-parallel taxiway separation (centerline to centerline). The current separation is 120 feet.

Figure 4-2: Taxiway Design Group Components



Source: Century West Engineering

FAA DESIGN STANDARDS

FAA AC 150/5300-13B, Airport Design, serves as the primary reference in establishing the geometry of airfield facilities at Cashmere-Dryden Airport. Existing condition dimensions and applicable design standards (ADG I small) based on the updated critical aircraft determination are summarized in **Table 4-2**. It is noted that there is no change in the critical aircraft designation or most of the design standards for the Airport compared to the 2009 ALP. However, the FAA has updated the primary airport design advisory circular, which has led to additional, or modified design standards.

FAA DESIGN STANDARDS

Specific design standards and conditions applicable to Cashmere-Dryden Airport facilities are presented in the following sections of this chapter within the sidebar "FAA Design Standards" text box. For additional information reference appropriate sections within AC 150/5300-13B.

A summary of taxiway and taxilane design standards is provided in **Table 4-3**. As noted earlier, these standards are determined by the critical aircraft for major facilities used by all aircraft operating at the Airport. For facilities intended for use by a specific aircraft type (e.g., small airplane tiedowns) the aircraft-appropriate standard is used.

Table 4-2: Runway 7/25 Airport Design Standards Summary (Dimensions In Feet)

FAA STANDARD	RUNWAY 7/25 EXISTING CONDITIONS[1]	RUNWAY 7/25 (CURRENT STANDARD)[2] ARC A/B-I (SMALL) VISUAL OR NOT LOWER THAN1-MILE
Runway Length	1,800	3,310
Runway Width	50	60
Runway Shoulder Width	none	10
Runway Blast Pads • Width • Length	none	 80 60
Runway Safety Area • Width • Beyond RWY End • Prior to Landing Threshold	 120[3] RWY 7: 85 ± / RWY 25: 240 RWY 7: 240 / RWY 25: 85 ±	 120 240 240
Runway Obstacle Free Zone • Width • Beyond RWY End • Prior to Landing Threshold	 250[3] RWY 7: 80 ± / RWY 25: 200 RWY 7: 200 / RWY 25: 80 ±	 250 200 200
Object Free Area • Width • Beyond RWY End • Prior to Landing Threshold	 250[3] RWY 7: 80 ± / RWY 25: 240 RWY 7: 240 / RWY 25: 80 ±	 250 240 240
Runway Protection Zone Length	RWY 7: 1,000 RWY 25: 1,000	RWY 7: 1,000 RWY 25: 1,000
Runway Protection Zone Inner Width	RWY 7: 250 RWY 25: 250	RWY 7: 250 RWY 25: 250
Runway Protection Zone Outer Width	RWY 7: 450 RWY 25: 450	RWY 7: 450 RWY 25: 450
Runway Centerline to: Parallel Taxiway/Taxilane CL Aircraft Hold Position Aircraft Parking Area 20' Building Restriction Line (BRL) Nearest Building to Runway	 120 80[4] 290[5] 265[7] 168[8]	 150 125 164.5[6] 265 170

Source: FAA AC 150/5300-13B, Airport Design

Table 4-1 Notes:

1. Based on 2009 signed ALP drawing, and the existing facilities inventory (2022).
2. Based on updated critical aircraft and ARC (A/B-I small).
3. BRL maintained from the 2009 ALP.
4. AC hold lines on both end connecting taxiways.
5. SE Aircraft Tiedown Apron.
6. Distance required to clear existing parallel taxiway TOFA.
7. BRL dimension and line type reference (legend) depicted on 2009 ALP; actual BRL not depicted.
8. Hangar (South) – off airport property.

Table 4-3: Cashmere-Dryden Airport – Taxiway and Taxilane Standards (Current/Future)

DESIGN STANDARD	AIRPLANE DESIGN GROUP (ADG) STANDARDS	TAXIWAY DESIGN GROUP (TDG) STANDARD
Taxiway A, A1-A2	**ADG I**	**TDG 1A**
Taxiway Safety Area (width)	49 feet	-
Taxiway Object Free Area (width)[1]	89 feet	-
Taxiway centerline to fixed or moveable object[1]	44.5 feet	-
Taxiway Width	-	25 feet
Taxiway Shoulder Width	-	10 feet
Tiedown Apron, Loop Taxilane	**ADG I**	**TDG 1A**
Taxilane Width	-	25 feet
Taxilane Object Free Area (width)[1,2]	79 feet	-
Taxilane centerline to fixed or moveable object[1,2]	39.5 feet	-

Source: FAA AC 150/5300-13B (Table 4-1, 4-2)
Table 4-3 Notes:
1. The required obstacle clearances are measured from the taxiway/taxilane centerline to the nearest fixed or moveable object, which includes items such as parked aircraft, hangars, fences, equipment storage, and parked vehicles.
2. Current FAA design guidance requires additional separation be provided beyond the top of the tiedown marking "T" to account for the distance "from main gear to nose of critical aircraft at the outer edge of the TLOFA." An acceptable design approach is to provide clearance for a common aircraft type that uses the apron (e.g., small single-engine piston aircraft).

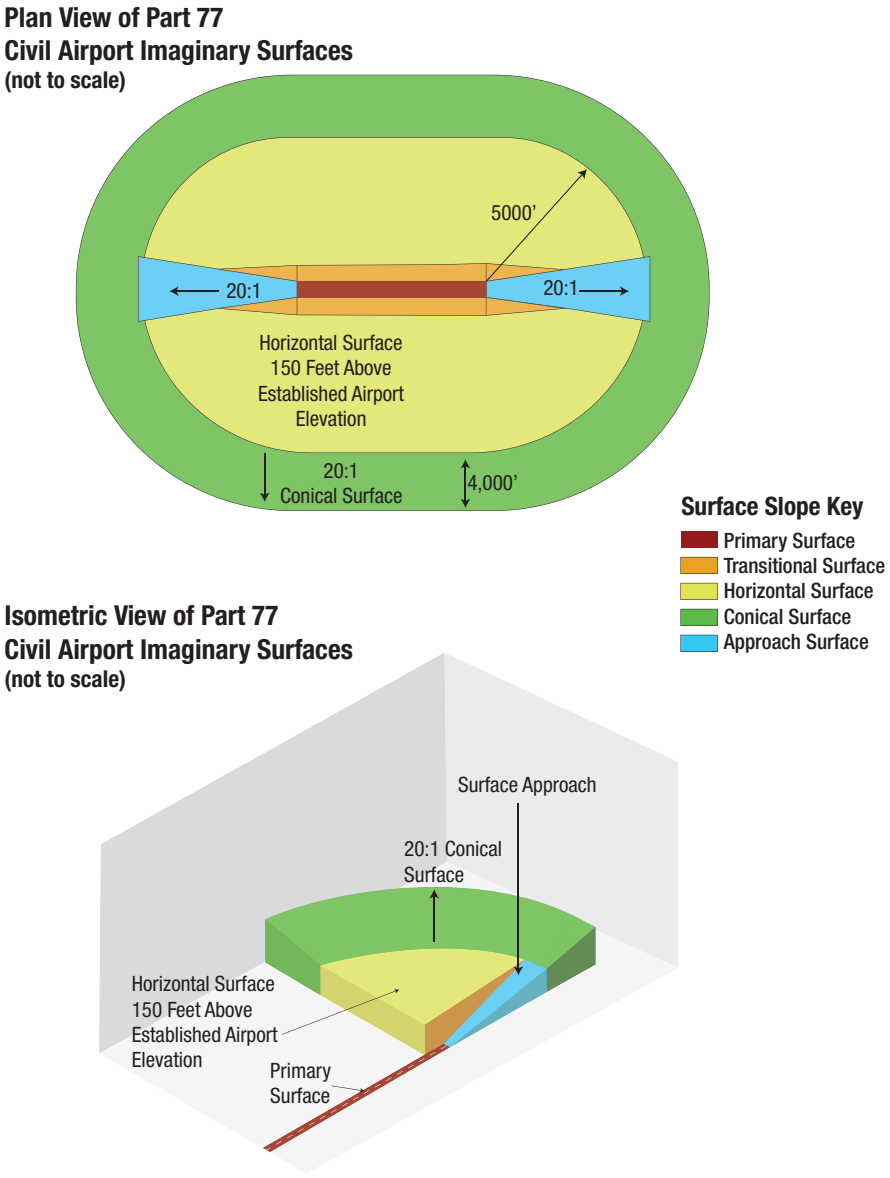
Airside Facility Requirements

PART 77 AIRSPACE

U.S. airport airspace is defined by **Title 14, CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace**.[4] Part 77 defines five types of airport imaginary surfaces that are established to protect the airspace immediately surrounding a runway. The airspace surfaces should be free of obstructions (i.e., terrain, structures, parked aircraft, trees, etc.) to the maximum extent possible to provide a safe aircraft operating environment. Runways that support instrument operations typically have larger or more demanding surfaces that protect aircraft operating closer to the ground without visual references. A generic Part 77 diagram illustrating each type of airspace surface is provided in **Figure 4-3**.

4 Part 77 is contained in Code of Federal Regulations (CFR), Title 14 – Aeronautics and Space, Chapter 1, Subchapter E, Part 77.

Figure 4-3: Part 77 Airspace (Generic)



Source: Century West Engineering, Airspace Plan; Part 77

RUNWAY 7/25 AIRSPACE PLANNING CRITERIA

The definition of Part 77 surfaces at an airport reflects a variety of factors functional elements. For runways, the primary defining factors include runway approach capability (visual, non-precision instrument, or precision instrument) and the size of aircraft that are accommodated on the runway – small aircraft < 12,500 pounds (Utility) or large aircraft ≥12,500 pounds (Larger Than Utility). Runway 7/25 is designated as a Utility Visual runway. It accommodates small aircraft and does not support existing or planned instrument procedures. A summary of visual surface requirements for Runway 7/25 is provided in **Table 4-4**.

Table 4-4: Runway 7/25 - Part 77 Airspace Summary

	EXISTING STANDARD
PART 77 SURFACE	UTILITY VISUAL (VIS)
Width of Primary Surface	250 feet
Approach Surface Length	5,000 feet
Approach Surface Width (Outer End)	1,250 feet
Approach Surface Slope	20:1
Transitional Surface	7:1 Slope to 150 feet above airport elevation
Horizontal Surface Elevation	150 feet above airport elevation
Horizontal Surface Radius	5,000 feet
Conical Surface	20:1 for 4,000 feet

Source: Code of Federal Regulations (CFR), Title 14, Subpart E, Part 77

RUNWAY 7/25 AIRSPACE SURFACES AND OBSTRUCTIONS

This section describes the Part 77 airspace surfaces for Runway 7/25 based on its existing visual approaches and small airplane (Utility) standards. Obstruction information from two sources was reviewed for this evaluation – the 2009 ALP Airspace Plan drawing (Sheet 3)[5] and four 2018 obstruction drawings[6] generated from an Airports GIS (AGIS) survey for the runway. Obstacle Clearance Surfaces (OCS) depicted on the AGIS survey drawings are defined by *FAA AC 150/5300-4B and Order 6850.2B*.

This 2009 Airspace Plan (Existing Configuration) drawing was prepared without benefit of an obstruction survey and the identified obstructions are estimated. A total of 32 items are listed in the existing Part 77 obstruction data table.

The 2018 AGIS drawings provide obstruction details for both ends of the runway and within the primary surface. The AGIS survey did not evaluate obstacles to the runway's transitional, horizontal, or conical surfaces. A total of 55 items are depicted on four separate drawings and documented in two obstruction tables:

Runway 7:

- Part 77 20:1 Approach Surface
- 20:1 Obstacle Clearance Surface (OCS)

Runway 25:

- Part 77 Primary Surface
- Part 77 20:1 Approach Surface
- 20:1 OCS (for both runway end and displaced threshold)
- PAPI OCS (for existing PAPI)

The AGIS data will be used to populate obstruction tables in the updated Part 77 Airspace Plan, and related drawings in the ALP set (see Chapter 7). The obstructions depicted on the 2009 drawing will be reviewed based on available data and identified as "estimated" or "approximate" on the updated airspace plan drawing. Several trees previously identified as obstacles in the AGIS survey within the runway approaches have been removed by the Airport. Part 77 obstruction clearing standards will also apply to any future changes in runway configuration. Additional obstruction surveying may be required to confirm height/location of specific obstructions.

The updated ALP drawing set will depict the recommended future runway configuration and will serve as the primary reference for future obstacle removal projects in the Capital Improvement Plan (CIP) (Chapter 6).

5 WSDOT Aviation Division Cashmere-Dryden Airport Airspace Plan Existing Configuration (plot date: 2/27/09)
6 Cashmere Dryden Airport Obstruction Analysis (4 sheets), Century West Engineering (February 2018) based on 2017 AGIS obstruction survey

Approach Surfaces (20:1, 5,000 feet)

Approach Surfaces provide defined descent paths for landing aircraft on runways (and helipads). The approach surface extends outward and upward from each runway end (at the end of the primary surface) along the extended runway centerline. The surface slope and dimensions are determined by the type of aircraft intended to use the runway, the most demanding approach planned for the runway, and the minimum visibility required for the approach.

It is noted that the 144-foot displaced threshold on Runway 25 is intended to mitigate obstructions (airport boundary fence, vehicles traveling on a public roadway, trees) to the Runway 25 approach surface. This runway design feature does not alter the Part 77 airspace for the runway. The end of the primary surface at this end of the runway extends 200 feet beyond the end of pavement and its configuration is unaffected by the displaced threshold. As a result, the Part 77 approach surface for Runway 25 begins its 20:1 slope on the opposite side of the airport fence.

2009 ALP Part 77 Drawing: Two obstructions (individual or group) are noted for the visual 20:1 approach surfaces for both runway ends, with estimated penetrations of 92 and 25 feet.

2018 AGIS Obstruction Drawing: The AGIS survey identified a total of 34 obstacles penetrating Part 77 approach surfaces. 13 trees were identified in the existing Runway 7 approach surface, with penetrations ranging from 0 to 65 feet. 21 items were identified in the existing Runway 25 approach surface, including trees, poles, and buildings, with penetrations ranging from 0 to 59 feet. As noted earlier, airport management conducted tree removal and lowering in 2022 that included several close in obstructions at both ends of the runway. The updated airspace plan drawing will identify any previously mapped obstacles that have since been removed or lowered.

All approach surface penetrations identified in the AGIS for both the existing runway and any recommended future runway configuration will be noted with recommended mitigation to the extent required by FAA. This may include removing, lowering, or lighting the object. Part 77 surfaces cannot be modified, although the FAA recognizes use of design features such as displaced thresholds and threshold siting surfaces/obstacle clearance surfaces to mitigate airspace penetrations.

As noted earlier, the 2018 AGIS obstruction drawings also depict the defined 20:1 visual navigational aid obstacle clearance surface (OCS) for the Runway 25 precision approach path indicator (PAPI). 20 obstacles were identified including trees and one water tank, with penetrations ranging from 35 to 194 feet. Extensive terrain penetration occurs within the surface beginning at approximately 16,500 feet from the runway end (depicted in the drawing profile view, but not listed in the obstruction chart table). The majority of the PAPI OCS obstacles are located adjacent to the Runway 25 approach surface, along its south edge. A second cluster of obstacles (trees) are located in the outer section of the PAPI OCS beginning approximately 15,600 feet from the runway end.

Primary Surface (250 feet wide)

The Primary Surface is intended to provide a clear area surrounding the runway that accommodates aircraft overruns on takeoff or landing, undershoots on landing, and deviations to the sides of the runway during normal operations. The primary surface is a flat rectangular plane of airspace longitudinally centered on the runway, extending 200 feet beyond each runway end (for hard surfaced runways). The primary surface has the same elevation as the runway centerline at its nearest point. The outer ends of the primary surface connect to the inner portion of the runway approach surfaces.

The width of the primary surface depends on runway category, approach capability, and approach visibility minimums. Based on the utility designation associated with the critical aircraft (<12,500 lb), the primary surface width is 250 feet for visual approaches. As noted above, the east end of the primary surface extends 200 feet beyond the end of runway pavement, which captures both an airport boundary fence and a public roadway at the east end of Runway 7/25.

The primary surface should be free of terrain or built item penetrations, except Items with locations fixed-by-function (e.g., approach lighting, runway or taxiway edge lights, visual guidance indicators, airfield signs, etc.). Those items are required to be mounted on break-away (frangible) mounts. Other common items such as wind cones require an obstruction light at the top of the mounting pole if it penetrates Part 77 airspace.

2009 ALP Part 77 Drawing: Two obstructions (tree, road) are noted in the primary surface at the east end of the runway, with estimated penetrations of 15 and 33 feet. The road obstruction references a 15-foot vehicle height for a public roadway.

2018 AGIS Obstruction Drawing: The AGIS survey identified one obstacle (tree) located on the northeast corner of the primary surface adjacent to Sullivan Street, with a penetration of 40 feet. Sullivan Street and the east airport boundary fence are depicted within in the primary surface, although the items are not included in the obstruction table (vehicles traveling - 15 feet assumed height, Per Part 77 on the roadway and 6-foot chain link fence both penetrate the primary surface). All primary surface penetrations identified in the AGIS will be noted with recommended mitigation to the extent required by FAA for the current and future runway.

Transitional Surface

The Transitional Surface is located along the lateral edges of the primary surface and the runway approach surfaces. The surface is represented by two planes rising from the edge of the primary surface, perpendicularly to the runway centerline, at a slope of 7 to 1. The transitional surface extends outward and upward to an elevation 150 feet above the airport elevation. The outer edges of the transitional surface connect with the horizontal surface (see below).

The transitional surface should be free of obstructions (i.e., parked aircraft, structures, trees, terrain, etc.). Common facilities located adjacent to runways such as hangars and parked aircraft are ideally located to avoid transitional surface penetrations. When penetrations exist, the FAA typically requires removal or lowering when possible; fixed objects penetrations such as buildings may also be identified with roof-mounted obstruction lighting, although long-term removal is generally recommended by FAA, where feasible.

2009 ALP Part 77 Drawing: Twenty-five (25) obstructions are noted in the north and south transitional surfaces for the runway, with estimated penetrations ranging from 5 feet to 99 feet. The items include 21 trees/shrubs, 3 buildings, and 1 support for a net. The proposed disposition for the trees noted on the drawing is to “top or remove” and the buildings “obstruction lighting.” The row of hangars located adjacent to the south side of Runway 7 also appear to penetrate the transitional surface, although they are not referenced on the drawing. The north hangar walls for 10 hangars are about 180 feet south of the runway centerline. At this distance, the transitional surface height would be approximately 7.9 feet.

2018 AGIS Obstruction Drawing: No obstruction data for the transitional surface are available.

Horizontal Surface

The Horizontal Surface is a flat plane located 150 feet above the airport elevation, with its boundaries defined by radii extended from each end of the runway primary surface. The outer edges of the radii for each runway end are connected with tangent lines, which taken together define the horizontal surface. Based on its utility and visual approach Part 77 designations, 5,000-foot radii are used on Runway 7/25. Where feasible, horizontal surface obstructions identified in the AGIS should be removed, lighted, or lowered to a height where they are no longer penetrating the surface.

2009 ALP Part 77 Drawing Obstructions: Due to the mountainous terrain surrounding the Airport, two areas of terrain penetration are depicted within the horizontal surface. The largest area of terrain penetration is directly south and southwest of the runway. No specific elevations or penetration estimates are provided, although the high point depicted in the area on the Cashmere, Washington U.S. Quadrangle Map is 1,935 feet above mean sea level (MSL), approximately 927 higher than the horizontal surface. A smaller area of terrain penetration is depicted along the outer north edge of the horizontal surface, north of the Wenatchee River and U.S. Highway 2. No specific elevations or penetration estimates are provided and the terrain is not included in the obstruction table.

An area of high terrain is located about 1,000 feet east of the end of Runway 25 (rising above the west bank of the river). This area is not depicted as a terrain penetration on the drawing for either the Runway 25 approach surface (outer section) or the underlying horizontal surface. The terrain will be reviewed when the updated airspace plan drawing is updated using AGIS data.

2018 AGIS Obstruction Drawing: No obstruction data for the horizontal surface are available.

Conical Surface

The Conical Surface is an outer band of airspace that encircles the horizontal surface. The conical surface begins at the outer edge of the horizontal surface and extends outward 4,000 feet and upward at a slope of 20:1. The outer edge of the conical surface is 350 feet above airport elevation.

Where feasible, conical surface obstructions identified in the AGIS should be removed, lighted, or lowered to a height where they are no longer penetrating the surface.

2009 ALP Part 77 Drawing Obstructions: Due to the mountainous terrain surrounding the Airport, two areas of terrain penetration are depicted in the inner bands of the conical surface (adjacent to the horizontal surface penetrations described earlier). The largest area of terrain penetration is directly south and southwest of the runway. A smaller area of terrain penetration is north of the runway, on the north side of the Wenatchee River and U.S. Highway 2. No specific elevations or penetration estimates are provided for these areas of terrain ("varies"). One radio tower is identified as an obstruction with a conical surface penetration of 837 feet (1,043 feet MSL top elevation). The recommended disposition of the obstructions include "publish advisory notice" (terrain) and "obstruction lighting" (radio tower).

2018 AGIS Obstruction Drawing: No obstruction data for the conical surface are available.

Airfield Pavement Strength and Condition

Airfield pavements are the single most important asset on an airport. Like roadways, airfield pavements have a common life expectancy and require ongoing maintenance to provide a safe operating surface and maximize useful life. Monitoring and planning for future improvements for airfield pavements is critical to maintaining air safety and satisfying aeronautical demand.

AIRFIELD PAVEMENT STRENGTH

The published pavement strength rating for Runway 7/25 is 8,000 pounds for aircraft equipped with single-wheel landing gear configurations.[7] The runway and parallel taxiway are asphalt (Asphalt Concrete - AC). The critical aircraft (C-172) has a maximum takeoff weight (MTOW) of 2,300 pounds on a single-wheel configuration landing gear. The east hangar loop taxilane does not have a published weight rating. The taxilane is Asphalt over Asphalt Concrete (AAC). The most recent (non-structural) rehabilitation was completed in 2022 and consisted of a chip seal coating.

AIRFIELD PAVEMENT CONDITION

The most recent WSDOT Aviation airfield pavement management system (APMS) inspection at Cashmere-Dryden Airport was completed in 2018. This onsite inspection captured a recommended 2017 runway crackfill and slurry seal project. The east hangar loop taxilane was rehabilitated in 2022 and is not reflected in the APMS.

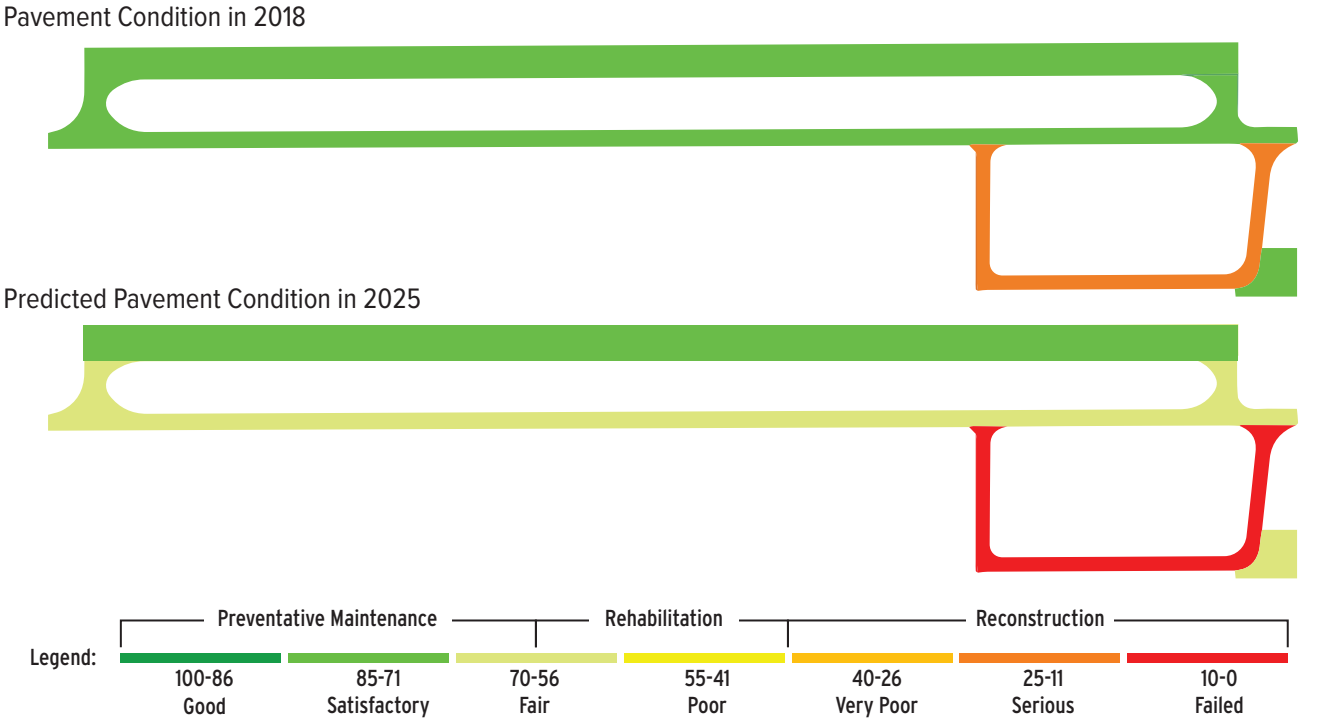
The study provides projected conditions for existing pavement, assuming no intervening maintenance, through 2025. **Figure 4-4** depicts the pavement condition for 2018 and 2025 on a scale of 0-100. The runway, parallel taxiway, and tiedown apron were included in the "Preventative" category, rated 83, 75, and 72 respectively in 2018. The east hangar loop taxiway was rated 11 "Reconstruction" in 2018. The projected (2025) pavement conditions (assuming no intervening work) include "Preventative" (runway); "Rehabilitation" (parallel taxiway, tiedown apron); and "Reconstruction" (hangar loop taxilane).

The pavement maintenance plan prioritizes recommended work items based on pavement condition in the 2019-2025 timeframe. No work was recommended for the runway during this period. Slurry seals and subsequent major rehabilitations were recommended for both the parallel taxiway (2019, 2025) and tiedown apron (2019, 2024). Major rehabilitation was recommended for the hangar loop taxilane in 2019; the taxilane was rehabilitated (chip seal) in 2022.

Major rehabilitation of asphalt pavements (overlay, crack cutouts, patching, etc.) is typically programmed on a 15 to 20-year cycle for planning purposes, depending on use and pavement design. A regular schedule of crack filling and fog/slurry seals should be performed for all asphalt pavement sections to maximize useful life. The required change in airfield design standards noted earlier may result in some existing pavements being reconstructed or modified before the end of their useful life to meet FAA standards. A prioritized list of pavement rehabilitation or reconstruction projects, and any recommended new pavements, will be provided in the updated capital improvement program.

7 FAA Airport Record Form 5010-1, FAA Chart Supplement

Figure 4-4: Pavement Conditions



Source: Washington State Department of Transportation Aviation 2018 Pavement Management Program Update

Source: Century West Engineering

FAA Design Standards

The airport design standards that correspond to the design aircraft referenced in the April 2023 FAA Forecast approval letter are described in the following sections. Other than some updates to specific design standards defined by FAA, the underlying A-I (small) family of aircraft and the visual approaches dimensional standards depicted on the 2009 ALP are maintained.

RUNWAY 7/25

Runway 7/25 was analyzed relative to runway orientation, runway length and width, and FAA design standards.

Runway Orientation and Crosswind Coverage

The preferred orientation of runways is a function of wind velocity, combined with the ability of aircraft to operate under given conditions. FAA has defined the maximum allowable direct crosswind (90-degrees) for small aircraft as 10.5 knots and 13 knots for larger general aviation aircraft. The 10.5-knot crosswind component corresponds to the current critical aircraft A-I (small).

The FAA recommends that primary runways accommodate at least 95% of wind conditions. When this level of wind coverage is not provided, the FAA recommends consideration of a crosswind runway.

There is no onsite weather observation data available for the Airport. In cases where the required data are not available, the FAA requires use of wind data from the nearest available airport(s) in developing a wind rose for the ALP drawing. Pangborn Memorial Airport Data (EAT), located 13 nautical miles southeast of Cashmere-Dryden Airport, is the nearest airport with sufficient wind data. The data provides only the roughest indication of localized wind coverage due to the influence of the terrain surrounding the Airport. This is referenced only to meet FAA requirements.

EAT Wind Data

An evaluation of Runway 7/25 wind coverage was performed based on EAT wind data (All Weather and VFR). The tabulated wind data is summarized in **Table 4-5**. A review of the EAT wind rose suggests that the Runway 7/25 orientation accommodates more than 95% of all weather wind conditions for general aviation aircraft, suggesting that the runway meets the FAA's wind coverage threshold for a primary runway.

Table 4-5: Wind Analysis (EAT Data)

Runway 7/25	
All Weather	
10.5 KNOTS	95.23%
VFR	
10.5 KNOTS	95.85%

Source: Pangborn Memorial Airport (EAT) ALP Wind Rose.
National Climate Data Center AGIS Windrose (2011-2020)
Runway 7/25 Bearing = S 89° 33' E True

Runway Length

For general aviation airports the FAA recommends using a "family of design aircraft" approach to defining runway length requirements. *FAA AC 150/5325-4B, Runway Length Requirements for Airport Design* includes runway length curves that match the design aircraft small airplanes with maximum takeoff weight (MTOW) of 12,500 pounds or less.

The current and future critical aircraft (Cessna 172) for Cashmere-Dryden Airport has a MTOW of 2,300 pounds. This type of aircraft is included in the 95% grouping of the small airplane fleet (maximum certificated takeoff weight of 12,500 pounds or less) with approach speeds of 50 knots or more and seating capacity of 10 or fewer seats. Standard runway length requirements are determined based on airport mean maximum temperature of the hottest month, runway gradient, and the elevation of the airport.

The FAA provides the following information regarding percentage (95%) of fleet: *"This category applies to airports that are primarily intended to serve medium size population communities with a diversity of usage and a greater potential for increased aviation activities.* ***Also included in this category are those airports that are***

primarily intended to serve low-activity locations, small population centers, and remote recreational areas." *The appropriate runway length curves are presented in Figure 2-1 of AC 150/5325-4B.*

Using the FAA runway length curves for 95% of the small airplane fleet, a runway length of 3,310 feet is calculated based on airport elevation (857.6 feet) and mean daily maximum temperature (87 degrees F).

The existing length of Runway 7/25 (1,800 feet) reflects specific site limitations. It is recognized that the technical definition of justified runway lengths may or may not be feasible to pursue.

A review of common single engine piston aircraft runway length requirements was performed to gauge the existing runway's ability to accommodate normal demand. **Table 4-6 and 4-7** summarize takeoff and landing distances for two common 4-passenger aircraft that are based or are routinely operated at the Airport. The take-off and landing distances required to clear a 50-foot obstacle were used to illustrate realistic length requirements for a runway with numerous close-in obstacles.

Table 4-6: Take off – Ground Roll + Distance to Clear a 50-foot Obstacle

Aircraft	Temp (Fahrenheit)	2,300 lb (Fully loaded)	@ 2,100 lb	@ 1,900 lb
C172	68	1,725 ft	1,405 ft	1,130 ft
	86	1,845 ft	1,500 ft	1,205 ft
	Temp (Fahrenheit)	2,950 (Fully loaded)	@ 2,500 lb	@ 2,000 lb
C182	59	1,350 ft	1,050 ft	720 ft
	84	1,485 ft	955 ft	655 ft

1. Distances based on zero wind; level dry runway; no flaps (172) / 20° flaps (182); 1,000-foot airfield elevation (172) / SL (182).
2. Calculations based on the pilot operating handbook.

Table 4-7: Landing Distance to Clear a 50-foot Obstacle

Aircraft	Temp (Fahrenheit)	2,300 lb (Fully loaded)
C172	68	1,300 ft
	86	1,330 ft
	Temp (Fahrenheit)	2,950 (Fully loaded)
C182	59	1,350 ft
	84	1,485 ft

1. Distances based on zero wind; level dry runway; 40° flaps (172)/20° (182); 1,000-foot airfield elevation. C182: 10% increase in landing distance assumed based on +25°F temperature.
2. Calculations based on the pilot operating handbook.

FAA DESIGN STANDARDS

Runway Safety Area (RSA)

Standards: A/B-I small dimensional standard is 120 feet wide (60 feet on each side of the runway centerline) and extends 240 feet beyond each runway end. Additional FAA standards include gradient, object clearing, and surface compaction. As noted in AC 150-5300-4B, *"the FAA will not consider a modification of standard to address non-standard RSA dimensions."*

Condition: The current RSA for Runway 7/25 does not meet the A-I small dimensional standards at its east end (fence, road). The 2009 ALP depicts a future western runway shift to remedy the non-standard RSA.

Runway Object Free Area (OFA)

Standards: A/B-I small dimensional standard is 250 feet wide (125 feet each side of runway centerline) and extends 240 feet beyond each runway end. Additional FAA standards include gradient and object clearing.

Condition: The current OFA for Runway 7/25 does not meet the A-I small dimensional standards at its east end (fence, road) and along the south edge of the OFA (fence, property control) at its west end. The western runway shift previously noted to remedy the non-standard RSA also addresses the OFA conditions, and the associated property acquisition to accommodate the western shift of the parallel taxiway would also address the non-conforming items near the OFA's southwest corner.

Runway Obstacle Free Zone (OFZ)

Standards: A/B-I dimensional standard for small airplanes is 250 feet wide (125 feet each side of runway centerline) and extends 200' beyond each runway end. Additional FAA standards include object clearing for holding aircraft (holding position lines) and parked aircraft.

Condition: The current OFZ for Runway 7/25 does not meet the A-I small dimensional standards at its east end (fence, road) and along the south edge of the OFZ (fence, property control) at its west end. The western runway/parallel taxiway shift previously noted to remedy the non-standard RSA and OFA would also address the non-conforming items in the OFZ, with exception of the 125-foot aircraft hold line standard that coincides with the outer edge of the OFZ on all taxiway connections to the runway. The existing parallel taxiway separation (120 feet) does not provide space for aircraft holding that is fully clear of the OFZ.

Runway Length Requirements

Rwy 7/25

Condition: 1,800 feet

Standards: 3,310 feet
(FAA-defined length required to accommodate 95% of small airplane fleet based on local airport conditions)

The Cessna 172 and 182 aircraft operating data indicate the existing runway (1,800 feet long) provides sufficient length to accommodate typical single-engine aircraft in most conditions. It is recognized that aircraft may be weight limited, or otherwise operationally limited, during very warm conditions. Preserving the current usable lengths for takeoff and landing is recommended to maintain existing operational capabilities and safety as part of a future reconfiguration to meet FAA design standards. Runway configuration options will be presented in the airport alternatives evaluation (Chapter 5.).

Runway Protection Zones (RPZ)

By FAA definition *"The RPZ is a protection zone that serves to enhance the protection of people and property on the ground."* The RPZ shape and location often correspond to the inner portion of the runway approach surface, although RPZs do not have a vertical (slope) component. RPZ dimensions vary by runway design code (RDC).

Runway 7 has a single arrival/departure RPZ. Runway 25 requires separate arrival and departure RPZs based on its 144-foot displaced threshold. The majority of the Runway 7 and 25 RPZs extend off of airport property and contain a variety of non-aeronautical uses, including public roads and structures.

The most recent update of the FAA Airport Design advisory circular (AC 150/5300-13B, Appendix I) identifies several common conditions and facilities that are considered compatible with RPZs. An updated *Airport Land Use Compatibility Planning AC (150/5190-4B)*, issued by FAA in 2022, provides this guidance for RPZs.

The FAA recommends airport control of RPZ through property ownership or acquisition of an avigation easement that limits specific conditions and defines vertical clearances for the corresponding approach surfaces. In general, proposed runway changes that reduce the presence of incompatible land uses in an RPZ are considered to provide incremental safety benefits.

FAA DESIGN STANDARDS

Runway Protection Zone (RPZ)

Standards: A/B-I (small) standard for runway ends with visual or not lower than 1-mile visibility minimums is 250 x 450 x 1,000 feet (8.075 acres). If a runway end has a displaced threshold, separate approach, and departure RPZs are required. RPZs should be owned by the Airport or under control by easement and incompatible land uses such as roads and buildings are discouraged. RPZs are located with a 200-foot offset from a runway end or threshold location.

FAA Advisory Circular 150/5300-13B, Appendix I (section I.3; I.3.1-I.3.3) defines permissible land uses within RPZs, which include farming activities that meet other design clearance requirements, compliant irrigation channels, and non-public airport service roads that are under airport control.

Condition:

Runway 7: The RPZ has a public roadway (Ringsrud Road) extending from the outer end and crossing near its midpoint. The majority of the RPZ extends off of airport property. The 2009 ALP does not depict an avigation easement for the off-airport portions of the existing or future RPZs but shows future property acquisition for a portion of the area (orchard) contained in both the existing and future RPZs.

Runway 25: The arrival and departure RPZs have public roadways (Sullivan Street and Tigner Road) traversing the surfaces north-south, numerous structures (including residences), and other built items. The 2009 ALP does not depict avigation easements for the off-airport portions of the RPZs.

Runway Width/Shoulders

Runway 7/25 is 50 feet wide with no prepared shoulders. The A/B-I (small) dimensional standard for runways with visual or not lower than 1-mile approach visibility minimums is 60 feet with 10-foot shoulders. A future runway width of 60 feet with 10-foot gravel shoulders is recommended.

Runway Blast Pads

Runway 7/25 does not accommodate regular jet operations and therefore does not require blast pads, per FAA design guidance. However, if significant propeller wash is generated beyond the runway ends, particularly on the Runway 25 end (adjacent to Sullivan Street), a surface treatment may be considered to stabilize loose material within a standard blast pad footprint in the extended runway safety area.

TAXIWAY/TAXILANE NETWORK

The taxiways and taxilanes at Cashmere-Dryden Airport were designed based on the equivalent of the current FAA Taxiway Design Group 1A (TDG 1A), Airplane Design Group I (ADG I), and RDC A/B-I small standards based on the critical aircraft. Issues related to specific taxiway and taxilane components are described below.

FAA DESIGN STANDARDS

Runway Width/Shoulders

Standards: A/B-I standard width for runways with visual or not lower than ¾-mile visibility is 60 feet. The standard is 10 feet for shoulders.

Condition: Existing Runway 7/25 width is 50 feet, which does not meet standards. The runway does not have prepared shoulders.

Options for widening the runway with standard shoulders will be included in the airside alternatives evaluation in Chapter 5 for both the current runway and any proposed future runway configurations.

FAA DESIGN STANDARDS

Taxiway Width/Shoulders

Standards: TDG 1A standard width is 25 feet with 10-foot shoulders is recommended for all major taxiways at the Airport. TDG 1A standards are recommended for taxiways/taxilanes used exclusively by small aircraft.

Condition: Existing Taxiway A width is 25 feet, which meets standards. The taxiway does not have prepared shoulders.

Parallel Taxiway/Exit Taxiways

Runway 7/25 is served by a full-length parallel taxiway on its south side (Taxiway A). Taxiway A has two 90-degree exit/connector taxiways (A1, A2) at each end. The taxiway is 25 feet wide, which meets the TDG 1A width standard, but does not have prepared shoulders (TDG 1A Standard: 10 feet wide, gravel).

The runway and parallel taxiway (centerline-to-centerline) separation is 120 feet, which does not meet the A/B-I (small) aircraft standard of 150 feet. The less than standard runway separation also limits the ability to meet the FAA aircraft holding position dimensional standard (125 feet from runway centerline) on the two connecting taxiways (A1, A2).

The ADG I taxiway object free area (TOFA) dimensional standard width is 89 feet (44.5 feet from centerline to nearest fixed or movable object). The TOFA for Taxiway A has several obstructions on its south side, including a 600-foot-long section of fence located mid-runway along the airport property line (approximately 32 feet from centerline at its nearest point), an above-ground propane tank (located east of mid-runway, opposite the PAPI), and a lighted wind cone. Clearing obstacles within the TOFA is recommended to be incorporated with related airside improvements.

The ADG I taxiway safety area (TSA) dimensional standards width is 49 feet (24.5 feet either side of centerline) and also has grading and surface compaction standards similar to runway safety area (RSA). For Taxiway A, the outer edge of the TSA extends approximately 12 feet from each pavement edge. The TSA for Taxiway A meets ADG I clearing and gradient standards.

The existing west and east hangar row configuration directly adjacent to Taxiway A creates the potential of direct access between some hangars and the runway the two connectors (A1, A2), which is not consistent with current FAA design guidance intended to avoid runway incursions. Similar to the runway-parallel taxiway separation, options for mitigating the condition are limited by the physical space available.

FAA DESIGN STANDARDS

Runway – Parallel Taxiway/Taxilane Separation
Standards: A/B-I (small) standard is 150 feet centerline-to-centerline separation between runway and parallel taxiway for visual runways and runways with visibility minimums not lower than 1-mile.

Condition: The separation between the runway and Taxiway A is 120 feet, which does not meet standards.

Taxiway Safety Area (TSA)
Standards: A/B-I (small) standard is 49 feet wide, or 24.5 feet each side of taxiway centerline along the sides the taxiway. Additional gradient and surface compaction standards apply.

Condition: Taxiway A and Taxiways A1-A2 appear to meet all TSA gradient and clearance standards.

Taxiway Object Free Area (TOFA)
Standards: A/B-I (small) standard is 89 feet wide, or 44.5 feet each side of taxiway centerline.

Condition: The middle section of Taxiway A does not meet TOFA clearance standards (obstructions - propane tank, fencing, trees).

Taxilane Object Free Area (TLOFA)
Standards: A/B-I (small) standard is 79 feet wide, or 39.5 feet each side of taxilane centerline.

Condition: The east hangar loop taxiway does not meet ADG I TLOFA clearance standards due to obstructions (hangars, equipment storage, pumphouse).

Aircraft Holding Position
Standards: A/B-I (small) standard is 125 feet from runway centerline for runways with visual or not lower than 1-mile visibility minimums. This dimension corresponds to the outer edge of the 250-foot-wide runway obstacle free zone (OFZ).

Condition: The painted hold lines on Taxiways A1 and A2 are approximately 85 feet from runway centerline. The parallel taxiway separation (120 feet) does not permit holding aircraft to be positioned outside the runway OFZ.

Taxilanes

The Airport has a single loop taxilane that connects the east hangar area and aircraft tiedown apron to Taxiway A, at two points near its east end. The taxilane object free area (TLOFA) dimensional standards are based on the Airplane Design Group I (ADG I) designation associated with the critical aircraft. The ADG I TLOFA width is 79 feet (39.5 feet from centerline to nearest fixed or movable object). The loop taxilane TLOFA clearance varies with some obstructions (hangars) located near its southern corners. Options for mitigating TLOFA obstructions will be included in the landside alternatives evaluation.

Landside Facility Requirements

Landside facilities include aircraft parking aprons, hangars, terminal/pilot buildings, FBO facilities, aircraft fueling, surface access and automobile parking. The existing landside facilities for Cashmere-Dryden Airport were reviewed for their conformance to current FAA design standards and current capacity. Future facility demand is estimated based on the FAA-approved aviation activity forecasts presented in Chapter 3.

All locally based aircraft at the Airport are currently stored in hangars. The limited aircraft parking areas (2 hard surfaced tiedowns, unimproved grass areas) are used by transient aircraft or seasonally by local tenants. A total of 36 hangars are currently available for aircraft use, including 33 hangars located on airport property and 3 hangars located on adjacent private property with airport-approved through-the-fence (TTF) agreements to access the airfield. All but one hangar is a conventional (box) unit ranging from about 1,400 to 3,000 square feet. The multi-unit hangar has two units. The hangars are used primarily for aircraft storage and minor maintenance.

The Airport's current based aircraft count (39 aircraft) exceeds the number of hangar units (37) currently available for use. The existing hangars have historically accommodated multiple aircraft. The 2009 ALP Report listed 53 based aircraft in 2005 and 32 hangars (33 units) were depicted on the ALP drawing.

Airport management reports that the planned addition of two aircraft to the Airport in 2023 will utilize existing hangar space. Due to limited developable areas for new hangar construction, it is assumed that increased utilization of existing hangars will represent to majority of "new" capacity during the current planning period.

AIRCRAFT PARKING APRON

The Airport has one paved apron with two small airplane tiedowns located near its southeast corner adjacent to the east hangar loop taxilane. The tiedown positions are located outside the adjacent TLOFA for the loop taxilane. The apron tiedowns are used primarily by transient aircraft.

Aircraft are also accommodated in grass areas near the pilot building or adjacent to existing hangars. There is no designated parking area for helicopters at the Airport.

The evaluation of apron requirements will address parking demand for locally based and transient fixed wing aircraft, and transient helicopters.

Based on current and forecast use, ADG I standards are appropriate for small airplane tiedowns. Transient helicopter parking area requirements are based on accommodating small or medium helicopters commonly used for personal transport, air ambulance, and law enforcement.

The aircraft parking apron facility requirements were analyzed relative to existing FAA apron and aircraft parking analysis provided in *FAA AC 150/5300-13B, Airport Design*. Facility needs are summarized in **Table 4-8**. It is noted that the projected demand is based on forecast air traffic and peaking levels. When existing parking is at capacity, it is assumed that demand is accommodated in unimproved areas in the existing landside area or transient aircraft will not remain at the Airport for extended periods. The absence of aviation fuel for public sale and limited aircraft parking contribute to a lower level of transient activity than might normally be experienced at the Airport.

Based and Itinerant Aircraft Parking

To quantify the based and transient aircraft parking needs/requirements presented in **Table 4-8**, the based aircraft forecasts and operations forecasts were used to determine the parking spaces needed to satisfy existing and future demand. A common planning standard of 300 square yards for each based aircraft and 360 square yards for transient aircraft was used to calculate apron space requirements for long-term planning purposes. Space requirements for transient helicopter parking were estimated based on typical aircraft use. The evaluation of apron configurations in the Airport Development Alternatives (Chapter 5) will reflect the aircraft using the facility, consistent with current FAA design guidance:

AC 150/5300-13B, Appendix E Section E.2.1. General Aviation Apron, General Design Considerations.

1. *Evaluate apron parking positions and tie-downs for aircraft entry and exit under self-power and by tow.*
2. *Segregate parking areas for small aircraft (e.g., ADG I) from larger aircraft (e.g., ADG II) to optimize utility and efficiency of apron space.*
3. *Design separate apron areas to accommodate the critical aircraft intended to use the segment of apron.*
4. *Account for the effects of jet blast and propeller wash on adjacent aircraft and facilities…"*

Transient Aircraft Parking

Transient aircraft parking demand was calculated using a method described in Airport Cooperative Research Program (ACRP) Report 113.[8] The ACRP method applies the following formula to the updated operations forecast to estimate future demand for transient aircraft parking:

(X/2 * T)/365 * P = Number of Transient Parking Positions

Where:
X = number of annual operations
T = percent of annual operations that are from transient aircraft (20% assumed)
P = percent of transient aircraft that are parked on the apron at the same time (50% assumed)

- *2022: (4,290/2 * .2)/365 * .5 = 0.56 Transient SEP/MEP Parking Positions (Round to 1)*
- *2042: (5,188/2 * .2)/365 * .5 = 0.71 Transient SEP/\MEP Parking Positions (Round to 1)*

Based on the low overall aircraft operations levels involved, the projected transient parking demand for small single engine aircraft is projected to remain <1 aircraft (rounded up to 1 aircraft) through the 20-year planning period. A similar demand projection exists for transient helicopters (rounded to 1 parking position). These projections reflect normal daily activity; this demand may be exceeded during special events or during peak conditions. Aircraft parking options will be included in the landside alternatives evaluation with the intent to meet forecast demand for fixed wing aircraft and helicopters.

Based Aircraft Parking

It is assumed that the current practice of storing most locally based aircraft in hangars will continue. For planning purposes, one small airplane tiedown position is expected to be adequate to meet future demand for based aircraft parking. The position may also be used by transient aircraft when available.

8 ARCP Report 113, Appendix C.

Table 4-8: Apron and Hangar Facility Requirements Summary

ITEM	BASE YEAR (2022)	2027	2032	2037	2042
Based Aircraft Forecast	39	42	44	45	47
Aircraft Parking Apron - Existing Aircraft Parking Type/Capacity					
Existing Tiedown Apron[1]	571 sy				
Small Aircraft Parking	2 Tiedowns				
Helicopter Parking	0				
Projected Needs (Gross Demand)[2]					
Locally Based Tiedowns (@ 300 SY each)	1 space / 300 sy	1 space / 300 sy	1 space / 300 sy	1 space / 300 sy	1 space / 300 sy
Small Airplane Transient Tiedowns (@ 300 SY each)	1 space / 360 sy	1 space / 360 sy	1 space / 360 sy	1 space / 360 sy	1 space / 360 sy
Transient Helicopter Parking Positions (@ 380 SY each)	1 space / 0 sy	1 space / 380 sy	1 space / 380 sy	1 space / 380 sy	1 space / 380 sy
Total Apron Needs	**2 spaces / 660 sy**	**3 spaces / 1,040 sy**	**3 spaces / 1,040 sy**	**3 spaces / 1,040 sy**	**3 spaces / 1,040 sy**
Aircraft Hangars (Existing Facilities)					
Existing Hangar Units/Aircraft Storage Capacity (≈86,000 SF)[3]	37 Units				
Projected Needs (Net Increase in Demand)[4]					
(New) Hangar Space Demand (@ 1,500 SF per space). Cumulative 20-year net projected demand: 7 Units / 10,500 SF)		+3 Units / 4,500 SF	+1 Unit / 1,500 SF	+1 Unit / 1,500 SF	+2 Units / 3,000 SF

Source: Century West Engineering

Table 4-8 Notes:

SY: Square Yards, SF: Square Feet

1. Apron pavement area (A01CD-01) as defined in WSDOT Airport Pavement Database (IDEA).
2. Apron parking demand levels identified for each forecast year represents estimated gross demand.
3. 36 existing hangars includes one multi-unit hangar (two units) and 35 small/medium conventional hangars. Total hangar area is estimated at 86,000 square feet, which currently accommodates 39 aircraft.
4. Aircraft hangar demand levels identified for each forecast year represent forecast cumulative demand; assumed 100% of new based aircraft will be stored in hangars.

Aircraft Parking Recommendations

Based on the long-term demand projections, maintaining two (2) small aircraft tiedowns is recommended for locally based and transient aircraft. The addition of a dedicated parking position for transient helicopters is also recommended. The helicopter parking position could be configured as a dual use space to provide additional short-term parking for transient small single engine aircraft, particularly if the parking area is located near the pilot building. Additional aircraft parking could be developed on or off airport to address events or heavier seasonal demand. For long-term planning purposes a small aircraft development reserve equal to 100% of 20-year demand projection is recommended.

AIRCRAFT HANGARS

Currently, all of the Airport's 39 based aircraft (100%) are stored in hangars. One hangar has been constructed (large conventional hangar – see right) at the Airport since the last ALP Report was completed in 2009.

For planning purposes, it is assumed that 98% of the Airport's future based aircraft will be stored in hangars, with 2% parked on the apron. This allocation projects 46 of the 47 based aircraft forecast for 2042 will be hangered (+7 hangar units).

The projected hangar storage requirements included in **Table 4-8**, reflect a hangar planning standard of 1,500 square feet per aircraft. Demand for hangar space (aircraft storage only) is estimated at 10,500 square feet over the 20-year planning period.

The Airport may also want to identify and define additional hangar development reserves during the landside development alternatives process to address potential unanticipated demand.

GA TERMINAL/PILOT LOUNGE

The existing airport pilot lounge provides a restroom and an indoor waiting area in small building adjacent to the parallel taxiway and the east hangar loop taxilane.

AIRFIELD INSTRUMENTATION, SIGNAGE, LIGHTING, AND MARKINGS

Runway & Taxiway Lighting

Runway 7/25 is equipped with Medium Intensity Runway Lighting (MIRL), which consists of white runway edge and red/green threshold lights. It is noted that the Runway 25 threshold lights are located at the runway end, rather than marking the (displaced) threshold. By FAA standard, displaced thresholds have separate light installations for the end of usable runway (for opposite direction operations) and the threshold location.

Runway 25 is equipped with a 2-Box Precision Approach Path Indicator (PAPI), with a standard 3-degree glide path. 4-Box PAPIs are the FAA's current standard for Visual Glide Slope Indicators (VGSI) at GA Airports. An updated evaluation of obstacle clearance may be required for new PAPI installations to determine the ability to meet FAA glide slope siting standards.

The lighting systems associated with Runway 7/25 are in fair condition. The useful life for airfield lighting systems is assumed to be 20 years, although some systems remain reliable and functional for longer periods. For aging systems, the availability of technical support and parts often impacts reliability. Since all existing airfield lighting systems will exceed the assumed 20-year useful life during the current planning period, replacement systems will be included in the 20-year capital improvement program.

The transition to LED fixtures is anticipated for all airfield lighting systems. In addition to requiring less energy to create the same light output, FAA indicates that the life of the PAPI lamps is extended from 2,000 hours to at least 40,000 hours when converting from conventional incandescent to LED.

It is recommended that existing runway lighting be replaced and upgraded to LED lighting as part of the next runway rehabilitation project. Until that time, the existing MIRL should be maintained to provide operational reliability.

The major taxiways are not currently lighted or equipped with blue retroreflective edge markers. The option of adding edge reflectors may be considered as a low-cost alternative to edge lighting. Airports in snowy areas often remove taxiway edge reflectors during the winter season to reduce damage and replacement cost.

Runway Markings

The runway markings at the Airport are consistent with FAA standards for color (white), configuration, and current approach type, and they are in fair condition (repainted with 2017 runway project). It is recommended that future runway markings be consistent with FAA standards for the runway configuration. The visibility of the markings should be maintained with periodic repainting coordinated with pavement maintenance (seal coats).

Taxiway Markings

The taxiway centerline stripe is consistent with FAA standards for color (yellow) and is in fair/poor condition (worn/faded). The visibility of the markings should be maintained with periodic repainting coordinated with pavement maintenance (seal coats).

As noted earlier, the aircraft hold line markings located on the two connecting taxiways do not meet FAA standards for location (125 feet from runway centerline/ OFZ edge).

Airfield Signage

Signage at the airport is limited. It is recommended that reflective runway/taxiway signs be installed as part of future runway/taxiway projects. All airfield and informational signs installed within the defined protected object free areas of the runway, taxiways, and taxilanes should be relocated and/or installed on frangible mounts.

One runway distance remaining sign [1/2] (green background and white numbers) is located along the north edge of Runway 7/25. The existing signs do not meet current FAA standards for color (black background and white numbers) and should be updated in conjunction with future runway improvements and/or changes in configuration.

Airfield Lighting

The airfield lighting systems (airport beacon, primary and secondary wind cones, visual guidance systems, etc.) meet standards for location, type, and color. It is recommended that existing airfield lighting be maintained and updated accordingly based on function and operating reliability. A transition to LED lighting is recommended for future systems.

Airfield Instrumentation

There is currently no airfield instrumentation at Cashmere-Dryden Airport. The nearest airport weather observation site is located at Pangborn Memorial Field (13 nautical miles SE).

Surface Access And Vehicle Parking

Vehicle access to the Airport's south landside facilities is provided by a single paved drive that connects to Airport Road. The entrance is located 550 feet west of the intersection of Airport Road and Sullivan Street. Vehicle access to the aprons and hangar areas is provided along the access road and through a recently relocated gate. The old gate will be closed (locked) and maintained for emergency access from Sullivan Street.

There are no designated vehicle parking spaces at the Airport. However, airport tenants typically park vehicles inside or next to their hangars. Airport management should review current tenant vehicle parking practices to identify areas commonly used for parking that are within an adjacent TLOFA. All areas used for vehicle parking should be clear of active aircraft movement areas, primarily the nearest TLOFA.

It is recommended that the existing vehicle access points and parking facilities be maintained and improved as required to serve developed areas of the Airport.

Support Facilities Requirements

FUEL FACILITIES

The Airport does not have any public use fuel facilities. Options for siting fuel storage at the Airport are limited. However, if desired, the addition of a fuel storage and dispensing area could be included in the alternatives evaluation. Electronic aircraft charging facilities are expected to become more common during the current planning period. An aircraft fueling/charging reserve could be combined.

UTILITIES

The existing airport utilities appear to be adequate to support future development in the landside development areas of the Airport. Minor extensions of existing water and electric service lines may be required if new hangars are added during the planning period.

PERIMETER FENCING/GATES

The Airport has sections of chain link fencing along its property line. The Airport vehicle entrance gate was relocated from its Sullivan Street frontage (directly in line with the parallel taxiway) to Airport Road. The original gate opening will be closed/locked for emergency access.

Replacement/upgrading of existing fence sections is recommended during the current planning period.

TFF access points are in place for three off-airport hangars. The TTF access points enter the south side of the Airport with connections to the parallel taxiway. Two of the hangars have gated access with a fence.

ON-AIRPORT LAND USE

On-airport land use needs consist primarily of airfield facilities such as runways, aprons, taxiways/taxilanes, hangars, aircraft storage, and other typical aviation services. The existing Chelan County Airport (AP) zoning for the Airport is appropriate to support landside development (hangars, aircraft parking, etc.). It is recommended that any future land acquisitions identified in the development alternatives process be rezoned to match the existing airport property.

The required facility upgrades, and the clearance requirements of A-I (small) may impact both existing developed areas and areas that are currently undeveloped. The previous ALP drawing depicts a runway shift that requires acquisition of property adjacent to the west end of the Airport that is privately owned. As noted earlier, an extension of the runway beyond its current length is not required to accommodate the current and future design aircraft. However, the property requirements associated with the future configuration of Runway 7/25, including the RDC A-I (small) protected areas and RPZ will be reevaluated in the airside alternatives evaluation.

Future landside development is heavily influenced by the limited space available on airport property. Opportunities for landside development will be reviewed in order to determine the priorities of the Airport in terms of using existing space for future developmental needs such as helicopter parking, fuel facilities, or additional hangar development. The configuration of landside facilities within existing airport property will be evaluated in the airside alternatives evaluation to identify infill opportunities.

OFF-AIRPORT LAND USE

Chelan County has land use jurisdiction for the Airport and its immediate surroundings, while portions of the Airport's Part 77 airspace surfaces extend over the City of Cashmere. As noted in Chapter 2, Chelan County has adopted airport overlay zoning ordinances to protect the airspace from obstruction or hazards and incompatible land uses. The City of Cashmere has not adopted airport overlay zoning.

To continue ensuring airport land use compatibility, it is recommended that the County closely coordinate with the City of Cashmere to remove or mitigate any Part 77 surface obstructions identified in the 2017 AGIS survey and referenced on the updated Part 77 Airspace Plan. A primary focus will initially be related to mitigation of obstacles that may affect runway approaches and threshold locations/configurations.

If changes are made to the runway that would affect the Part 77 airspace surfaces, local ordinances and mapping should be updated for consistency with the updated ALP drawing set.

SUMMARY OF FACILITY REQUIREMENTS

A summary of facility requirements for the 20-year planning period is presented in **Table 4-9**. Development reserves are recommended for all demand-driven facility needs such as aircraft parking and hangars.

Table 4-9: Facility Requirements Summary

Facility	Short Term (0-10 years)	Long Term (10-20 years)
Runway 7/25	RDC A-I (small) Reconfigure runway to address Rwy 25 non-std (RSA, OFA, OFZ) Widen to 60 feet	RDC A-I (small) Address Rwy 7 OFA (fence) Pavement Maintenance
Taxiway A, A1-A2	TDG 1A Relocate/Replace Taxiway A2 Pavement Maintenance	TDG 1 A Pavement Maintenance Rehabilitate Taxiway A, A1 Install Edge Reflectors
Main Apron	Pavement Maintenance	Rehabilitate Main Apron
Aircraft Fueling	Evaluate Aircraft Fueling Area options	Reserve for tanks
Navigational Aids and Lighting	MIRL – Rwy 7/25 (replace existing with LEDs) Replace Rwy 25 PAPI (LED)	Replace Airport Beacon (LED)
Weather	None	
Hangars	Define Hangar Development Areas	Same Replace/Reconfigure hangars at end of useful life
Surface Access	Maintain, resurface	Same
Security	Airport Perimeter Fencing (maintain, upgrade, relocate)	Same Upgraded Exterior Lighting (with cutoff fixtures to control glare)
Utilities	None	Electrical and Water to New Hangar Sites
Property	Evaluate property requirements for runway/ taxiway improvements Acquire avigation easements for off-airport RPZs (E/F)	Same Support future hangar development (on or off-airport/TTF)

FACILITY GOALS

1. Maintain a safe public-use airport facility
2. Effectively manage local land use to protect the Airport and maintain compatibility with surrounding community.
3. Meet FAA Design Standards and guidance where feasible.
4. Maintain a realistic maintenance and capital improvement program for the Airport.
5. Operate the Airport as a essential public facility (EPF).

Chapter 5
Alternatives Analysis

The evaluation of future development alternatives represents a critical step in the airport planning process. The primary goal is to define a path for future development that provides an efficient use of resources and is capable of accommodating the forecast demand and facility needs defined in the Airport Layout Plan (ALP) Report. Preliminary alternatives developed and presented in this chapter are reviewed by the Cashmere-Dryden Airport Board, assembled by Chelan County, the Airport owner. The board serves as the Planning Advisory Committee (PAC) for this project. Refined alternatives were developed based on input provided by the PAC, airport users, and the public. The final preferred alternative elements are selected by Chelan County for incorporation into the ALP. All project elements are consistent with the requirements of the Federal Aviation Administration (FAA).

Introduction

As noted in the facility requirements evaluation, current and long-term planning for Cashmere-Dryden Airport is focused primarily on improving safety by increasing the airfield's level of conformance to FAA Airplane Design Group (ADG) I and Taxiway Design Group (TDG) 1 standards. Improving existing facilities is intended to support the Airport's ability to better serve the small single-engine aircraft and helicopters that it currently accommodates. The non-conforming items identified in the facility requirements assessment are addressed in the appropriate airside or landside development alternatives. The process may involve several incremental steps that can be implemented in a logical manner and within available funding resources.

The 2009 ALP recommended areas of property acquisition at the west end of the Airport that were required to meet specific FAA runway and taxiway design standards. The property acquisition represented a critical path item required to implement the recommended runway-taxiway reconfiguration. As a result, the subsequent inability to acquire property has directly affected the Airport's ability to meet FAA design standards and maintain existing runway length. As with the technical evaluations noted above, the updated preliminary alternatives review property acquisition requirements for each concept.

The facility requirements chapter recognized that the developable land remaining within the current airport boundary is limited. All existing landside development (aircraft parking, hangars, etc.) is located on the south side of the Airport. The narrow configuration and topography of the site does not allow a significant increase in new on-airport landside development. As a result, future landside development options within the current airport property boundary will be limited to infill or redevelopment of existing uses. The 2009 ALP did not propose property acquisition to accommodate demand for new landside facilities (hangars, aircraft parking, etc.), although development of off-airport through-the-fence (TTF) hangars was noted. Airport management has not indicated an interest in changing this approach in the future, although the option of working with potentially interested sellers remains. For this reason, the addition of new aircraft hangars along the southern airport boundary is identified as a possible future improvement that could involve acquisition of individual land parcels, initiated by the seller, or with TTF agreements.

The historical development of hangars on adjacent private land parcels remains a viable option for increasing the number of hangars at the Airport. Currently, three (3) TTF hangars are located along the southern airport boundary, with private taxiway connections to the parallel taxiway (Taxiway A).

Since any future development of hangars on private land would be initiated by the property owner (after securing a Chelan County TTF agreement to access the Airport), no additional evaluations of potential off-airport TTF hangar sites were performed. Absent new TTF hangar construction or aircraft parking, it is assumed that the forecast increase in based aircraft will be accommodated within the existing hangar inventory (on-airport and TTF) or will be parked on available tiedown aprons or grass areas (on-airport or TTF).

2009 AIRPORT LAYOUT PLAN (ALP)

The 2009 ALP is the most recent FAA-approved ALP for the Airport. The preferred alternative depicted on the ALP focused on meeting FAA standards for the runway safety area (RSA), obstacle free zone (OFZ), and object free area (OFA). This was achieved by shifting Runway 7/25 approximately 155 feet to the west, while maintaining the existing length (1,800 feet). The concept addressed several significant non-standard conditions at the runway's east end, but required property acquisition beyond the west end of the Airport to accommodate the runway shift and the protected surfaces extending beyond the end of the runway and along the south side of the extended parallel taxiway. The Runway 25 displaced threshold was eliminated and other airside improvements (taxiway widening, lighting upgrades, etc.) were recommended. Key features include:

- Maintain existing runway length and width —1,800 feet x 50 feet:
  - » Shift runway west approximately 155 feet;
  - » Relocate east end of runway (eliminate existing 155-foot Runway 25 displaced threshold); add 155 feet at west end;
  - » Replace existing east taxiway connector for relocated Runway 25 end (remove existing east taxiway connector);
  - » Add 40 feet displaced threshold for relocated Runway 25 end to improve approach obstruction clearance over Sullivan Street;
  - » The reconfigured runway was intended to provide standard runway safety area (RSA), object free area (OFA) and obstacle free zone (OFZ) at both ends.
- Proposed Property Acquisition:
  - » Parcel (2.4 acres ±) near Runway 7 end to accommodate extended RSA, OFA, and a portion of the Runway Protection Zone (RPZ);
  - » Parcel (0.1 acres ±) near southwest corner of Airport required to protect the (shifted) parallel taxiway OFA extended in conjunction with recommended runway shift;
  - » Parcel (0.4 acres ±) within Runway 25 RPZ (narrow parcel on extended runway centerline, west of Tigner Road);

    Note: a new single-family home was constructed at the west end of this parcel after 2017 (divided flag lot); a second residence located directly adjacent to Tigner Road predates the 2009 ALP.

- No changes to existing runway or parallel taxiway widths recommended (general recommendation to "continue to evaluate options to meet FAA standards" – 60 feet and 25 feet respectively);
- No changes to existing runway-taxiway separation (120 feet) depicted (general recommendation to "continue to evaluate options to meet FAA standards" – 150 feet);
- No changes to existing roads within RPZs;
- No additional landside facilities depicted;
- No property acquisition recommended for future hangar or aircraft parking development.

The recommended property acquisition and runway reconfiguration have not been implemented and the Airport has effectively operated in a maintenance-only mode for several years. Improving conformance to FAA design standards remains a high priority and is currently a critical path item for future use of FAA funds. Overall, the 2009 ALP provides a viable development concept that is appropriate for comparison with newly defined options and current FAA design standards.

Various projects have been completed to maintain or upgrade existing facilities since the preferred alternative was defined for the 2009 ALP. Although no runway reconfigurations were performed, the parallel taxiway was widened from 20 to 25 feet in 2008 (not reflected on the 2009 ALP). An on-airport residential structure located near the pilot building was removed to accommodate future aeronautical development and one new conventional hangar was constructed adjacent to the small airplane tiedown apron near the southeast corner of the Airport.

Evaluation Factors and Key Assumptions

Based on several site-specific conditions and development constraints at Cashmere-Dryden Airport, the preliminary alternatives evaluation in the 2022-2042 ALP Report will focus on the airside improvements that will improve conformance to FAA design standards for the runway-taxiway system. An incremental approach is proposed that provides measurable progress for conformance within the practical limits of the existing airport site. This is consistent with the approach reflected in the previous (2009) ALP Report and it represents a significant improvement beyond maintaining existing conditions (a "no-build" alternative).

Overall goals and objectives include:

1. Maintain a safe public-use airport facility;
2. Operate the Airport as an essential public facility (EPF);
3. Meet FAA Design Standards and guidance, where feasible;
4. Maintain a realistic maintenance and capital improvement program for the Airport;
5. Effectively manage local land use to protect the Airport and maintain compatibility with the surrounding community;
6. Identify and preserve the highest and best use of available on-airport landside capacity.

It is recognized that the preliminary alternatives may not be capable of meeting all applicable FAA design standards and are therefore evaluated on the degree of improvement provided. The Airport is bordered by incorporated City of Cashmere and unincorporated Chelan County land uses that include developed residential lots, public facilities (high school, middle school), agriculture, and local streets. These conditions contribute to many of the non-conforming surface dimensions noted in the facility requirements chapter. The existing airport footprint and its surroundings also effectively limit a significant increase in runway length. Based on mountainous terrain and other physical geography in the surrounding valley, relocation of the Airport elsewhere in the Cashmere-Dryden area is not considered feasible.

Based on these factors, several assumptions are applied to the evaluation of alternatives:

1. The existing runway length (1,800 feet) will be maintained, if feasible;
2. No increase in runway length will be evaluated;

3. No realignment of the existing runway will be evaluated;
4. No significant lateral shift of the runway or the existing parallel taxiway will be evaluated;
5. No closures of existing public roads will be evaluated.

Runway Safety Area

The runway safety area (RSA) is a protected surface (level, graded, and compacted) that surrounds the runway on the sides and ends. As noted in the facility requirements chapter, FAA policy does not permit a modification to standards for RSAs.

For this reason, all of the airside alternatives being considered, with the exception of the no-build alternative, relocates the east end of Runway 7/25 to the west, to provide an ADG-I standard RSA beyond the runway end (240 feet). The RSA beyond the east end of the runway (abutting Sullivan Road) is intended to capture aircraft overruns when taking off or landing on Runway 7 and undershoots for aircraft landing on Runway 25.

Runway Length

The runway length planning assumption defined in the facility requirements analysis was to maintain the existing length (1,800 feet). This assumption is consistent with prior planning for the Airport. More importantly, it reflects the practical limitations of the site and its surroundings, and it reflects a long-established use of the Airport by a specific segment of small general aviation (GA) aircraft. The airport owner (Chelan County) recognizes that significant increases in runway length would involve substantial impacts for the local street system and adjacent property. Maintaining the existing runway length provides a practical approach that meets the needs of the size and type of aircraft currently operating at the Airport, while maximizing the development potential of the existing site. Minimal property acquisition, sufficient to meet FAA design standards for the existing runway length, will be considered.

Parallel Taxiway

The existing runway-to-parallel taxiway separation is 120 feet, 30 feet less than the FAA standard (150 feet) for RDC A/B-I (small aircraft) runways. About half of the Airport's 37 hangars are directly adjacent to the parallel taxiway, and 60% of those hangars would be located in the ADG I object free area for a shifted parallel taxiway with a 150-foot runway separation. Relocating the hangars to the south is not considered practical due to the limited depth of airport-owned property available to accomplish that.

Shifting the runway centerline 30 feet north would allow the 150-foot lateral taxiway separation standard to be met, however, this would involve moving the runway closer to a line of 15 developed residential lots abutting the north airport property line. This would also increase the number of incompatible land uses in the (shifted) Runway 25 protection zone (RPZ) and it would increase the number of residences directly under the flight path beyond the east end of the runway. The footprint for the Cashmere Middle School building within a shifted Runway 25 RPZ, would also increase. Neither of these outcomes are considered positive and no changes to the existing runway-taxiway separation were evaluated further.

Other Airside and Landside Facilities

Table 5-1 summarizes the primary demand factors and corresponding facility needs that will be evaluated in the alternatives analysis. These are general planning guidelines and it is recognized that the ability to accommodate some items may be limited by the airport site.

As noted earlier, the capacity of existing airport land to accommodate additional storage facilities for based aircraft is limited, although the practice of accommodating multiple aircraft in conventional hangars appears to provide an opportunity to accommodate modest growth. In addition, continued development of hangars on privately owned land parcels located adjacent to the Airport appears reasonable. Facility development reserves (e.g., hangar sites or tiedown positions) equal to 100% of the 20-year forecast net increase in based aircraft are provided for reference only. This level of demand is likely beyond what can be absorbed within existing hangars and parking aprons but does provide an indication of potential demand if off-airport development opportunities are pursued.

Table 5-1: Summary of Demand Factors and Facility Development Needs – Cashmere-Dryden Airport

Item	Defined Facility Needs in Current 20-year Planning Period
Forecast Increase in Based Aircraft	• Aircraft Requiring Hangar or Apron Storage » +6 Aircraft (20-year forecast – net increase above current total) » +6 Aircraft (development reserve – 100% of forecast increase)
Runway-Taxiway System	• Improve conformance with FAA design standards: » Runway length & width » Runway Safety Area » Object Free Area » Object Free Zone » Runway Protection Zone » Taxiway Object Free Area » Runway – Taxiway Separation » Parallel Taxiway OFA • Runway Approaches – Mitigate close-in obstructions (vehicles/road, trees, etc.) • Part 77 Airspace (Visual Runway Designation) • No change in runway length recommended • Life-Cycle Pavement Maintenance and Rehabilitation
Aircraft Storage Hangars	• 20-year demand (forecast): 6 Hangar Units (+6 Reserve)
Pilot / Mixed Use Building	• Maintain/Upgrade as needed
Local and Transient Tiedowns	• 2 Positions (on airport + off airport parking)
Transient Airplane Parking	• 1 Position (+1 Reserve) – Short Term Loading/Unloading
Transient Helicopter Parking	• 1 Position
Aircraft Fueling Facilities (Space Reserves)	• Aircraft Fueling Station (aboveground storage and dispensing) • Electric Aircraft Charging Station

Developing effective alternatives for evaluation represents the first step in the multi-step process that leads to the selection of a preferred alternative. It is important to note that the current FAA-approved Airport Layout Plan (ALP) identifies future improvements recommended in the last ALP Report. The updated ALP will depict the preferred alternative recommended in the 2022-2042 ALP Report.

FAA PLANNING GUIDANCE

The evaluation process utilized in this study is based on guidance provided in *Advisory Circular (AC) 150/5070-6B Airport Master Planning*. Evaluation criteria categories selected to support the evaluation of development alternatives include:

Operational Capability – Includes criteria that evaluate how well the airport functions as a system and can satisfy future activity levels, meet functional objectives such as accommodating the design aircraft, and provide for the most efficient taxiway system or aircraft parking layout.

FAA Design Standards – Includes an analysis of existing FAA design standards and various requirements or areas of focus currently identified by Advisory Circular.

Airspace Compatibility – Includes the identification and analysis of the impacts that proposed changes to the airport environment would have on the local and regional airspace systems.

Land Use, Transportation, and Environmental Compatibility – The preliminary alternatives are reviewed to identify potential issues that may affect comparison and implementation of the development concepts. The environmental review memo and the site conditions described in the Existing Conditions Chapter are referenced in the applicable sections. A more detailed review will be performed for the development concepts that move to the next level of evaluation. This 'best planning practices' evaluation will expand on the earlier inventory work and is intended to provide a cursory analysis/identification of potential environmental effects, as defined in FAA Order 1050.1 Environmental Impacts Policies and Procedures and *FAA Order 5050.4 FAA Airports Guidance for complying with the National Environmental Policy Act (NEPA)*.

By analyzing the development alternatives against the evaluation criteria presented above, and subsequently discussed with local stakeholders and interested airport users, an interactive process of identifying and selecting elements of a preferred alternative will emerge that can best accommodate all required facility improvements. Throughout this process, Chelan County and the airport board will seek public input and coordination with FAA to shape the preferred alternative.

Once the preferred alternative is selected by Chelan County, a detailed capital improvement program will be created that identifies and prioritizes specific projects to be implemented. The elements of the preferred alternative will be integrated into the updated ALP drawings that will guide future improvements at the Airport.

Development Alternative Summaries

The development alternatives are intended to facilitate a discussion about the most effective way to meet the facility needs of the Airport. The facility needs identified in the previous chapter and addressed in each development alternative include a variety of airside and landside items. Items such as lighting improvements and pavement maintenance do not typically require an alternatives analysis and will be incorporated into the preferred development alternative and the ALP. The development alternatives have been organized accordingly:

- No-Build Alternative
- **Proposed Airside Improvements:**
  - » Airside Alternative 1 (**Figure 5-1**)
  - » Airside Alternative 2 (**Figure 5-2**)
  - » Airside Alternative 3 (**Figure 5-3**)
  - » Airside Alternative 4 (**Figure 5-4**)
  - » Airside Alternative 5 (**Figure 5-5**)
- **Proposed Landside Improvements** (**Figure 5-6**):
  - » Hangar Development Areas
  - » Transient Aircraft and Helicopter Parking
  - » Small Aircraft Fueling/Charging Stations

The preliminary airside development alternatives described below and illustrated in **Figures 5-1 through 5-5** are intended to illustrate the key elements of each proposed concept. It is important to note that the eventual preferred alternative selected by Chelan County may come from one of the alternatives, a combination or hybrid of the alternatives, or a new concept that evolves through the evaluation and discussion of the alternatives. As noted earlier, Chelan County has the option of limiting future facility improvements based on financial considerations or development limitations. It is recognized that the hangar development options locate proposed facilities beyond current airport boundaries. At this stage of the evaluation, the concepts are presented to demonstrate basic feasibility based on terrain or other site features, and compatibility with airfield geometry. No assumptions have been made about the feasibility of using these land parcels. If the off-airport development concepts are recommended for further evaluation, Chelan County will initiate contact with the property owners to discuss the viability of accommodating future airport development.

NO BUILD ALTERNATIVE

A No-Build Alternative is included to represent the maintenance of existing facilities and capabilities. Unlike the active development alternatives that are intended to respond to future demand for facility needs, the No-Build Alternative represents a “no-action” option. The existing airfield would remain unchanged from its present configuration and the Airport would be operated in a “maintenance-only” mode. No improvement in public use facilities would be planned, although construction/redevelopment of private hangars or related facilities could be accommodated within currently developed areas. The primary result of this alternative would be the inability of the Airport to meet most FAA airport design standards defined for Runway 7/25, which may preclude continued use of FAA funds.

The no-action alternative establishes a baseline from which the other alternatives can be developed and compared. The purpose and need for the alternatives are defined by the findings of the forecasts and facilities requirements analyses. The need to safely accommodate access and use of the public transportation facility provides the underlying rationale for making facility improvements. Based on the factors noted above, the No-Build Alternative is inconsistent with the policies established by Chelan County and its commitment to provide a safe and efficient air transportation facility to serve the surrounding areas that is socially, environmentally, and economically sustainable.

The timing of public investment in facilities is driven by safety, capacity, and the ability to operate an airport on a financially sustainable basis, whereas market factors generally determine the level and pace of private investment in hangars or other facilities at an airport.

AIRSIDE DEVELOPMENT ALTERNATIVES

Overview

The primary focus of the airside alternatives is to improve runway-taxiway system conformance with FAA design standards. The runway reconfiguration is identified as a high priority need at the Airport since it is required to increase conformance with FAA Airplane Design Group I (ADG I) and Taxiway Design Group I (TDG I) standards and maintain existing runway length.

Runway 7/25 is widened from its existing 50 feet to the AAC A and ADG I standard of 60 feet, with standard 10-foot-wide gravel shoulders, in all the preliminary alternatives. The parallel taxiway object free area (TOFA) obstacle clearance issues identified in the Facility Requirements Chapter are addressed as a maintenance item and are not expected to require an alternatives evaluation.

The group of preliminary airside alternatives provide a wide range of possible increments of improvement. These range from addressing only the Runway 25 end issues to a full reconfiguration that provides standard protected areas at both runway ends for an 1,800-foot runway length. The incremental improvements allow for phased development to occur in the event that items such as property acquisition, delays full reconfiguration. Each of the preliminary airside alternatives meet the applicable FAA standards for:

- Runway Width
- Runway Safety Area (RSA)
- Runway Object Free Area (OFA)
- Runway Obstacle Free Zone (OFZ)
- Taxiway Object Free Area (TOFA)

It is recommended that Chelan County acquire avigation (air) easements for the portions of all RPZs that extend beyond airport property. The easements typically limit the height of natural and built items to avoid penetration to the runway approaches.

AIRSIDE ALTERNATIVE 1

Airside Alternative 1 (see **Figure 5-1**) focuses on bringing the RSA, OFA, and OFZ at the east end of Runway 7/25 into full conformance with FAA standards. The primary existing constraint is an airport boundary fence that is located within the extended surfaces noted above. The proposed remedy for this condition is to relocate the Runway 25 end to effectively pull the ends of the RSA, OFA, and OFZ inside the existing fence and clear of the adjacent Sullivan Road. This alternative may be completed as a stand-alone project or as part of a larger effort to improve the runway by shifting west and providing a length of up to 1,800 feet (see Airside Alternatives 2-5).

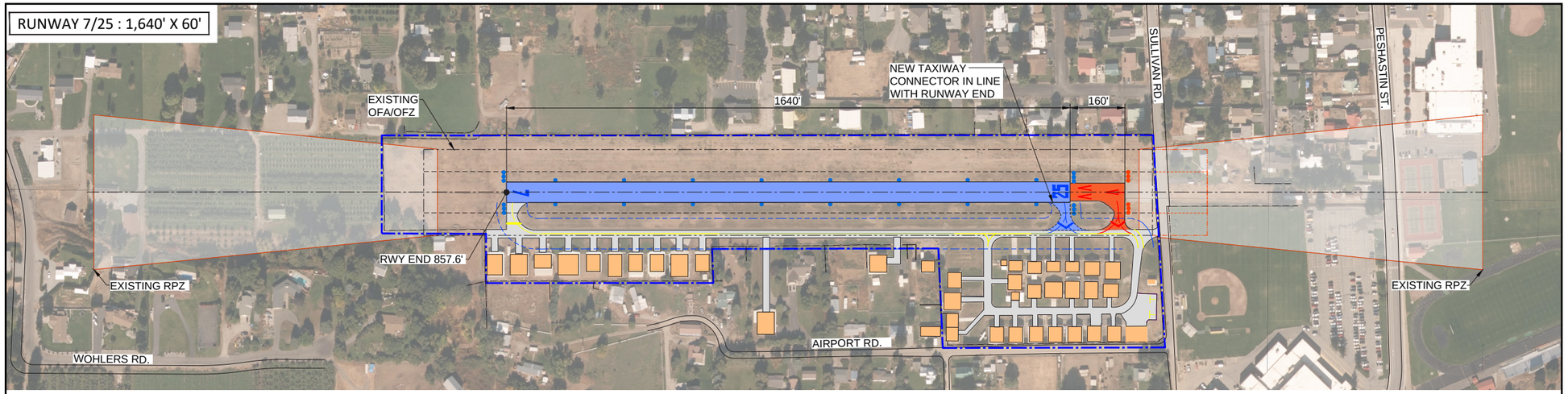
Specific changes in runway-taxiway configuration include:

- Eliminate the eastern 160 feet of existing runway at the east end to provide 240 feet of clearance from the runway end to the outer (northeast) corner of the Runway OFA. This will also provide full clearance for the narrower RSA footprint and the shorter OFZ footprint.
- Relocate the future Runway 25 threshold approximately 16 feet west of the current displaced threshold, install new runway end/threshold lighting; remove existing threshold lighting at east end of the runway.
- Construct new east connector taxiway (A2) to connect the relocated threshold; remove existing east taxiway connector.
- Use 20:1 threshold siting surface (*AC 150/5300-13B Visual Approach Surface 2*) for Runway 25 to mitigate close-in obstacles, including vehicles traveling on Sullivan Road.
- The existing arrival and departure RPZs for Runway 25 are eliminated and replaced with a single arrival/departure RPZ for the relocated threshold.
- Replace the existing medium intensity runway edge lighting (MIRL), and threshold lights at both runway ends with LED fixtures. Replace the precision approach path indicator (PAPI) at Runway 25 end, if feasible.

As proposed, Alternative 1 would result in a runway length of 1,640 feet, available for all operations on both runway ends, which is 9% less (160 feet) than the 1,800-foot length currently available for most operations. This option reduces the 1,656-foot landing distance currently available for Runway 25 (144-foot displaced threshold) by 1% (16 feet). The beginning of the takeoff run on Runway 25 is shifted 160 feet west of its current location.

Local pilots report that runway length available for takeoff on Runway 25 is the most critical operational challenge for most aircraft due to rising terrain beyond the west end of the runway. Shifting the beginning of aircraft takeoffs toward rising terrain run may affect the clearance for some potential users during initial climb, particularly for lower powered aircraft on hot days.

Portions of both future RPZs will continue to extend beyond airport property and include roads and structures. Avigation easements are recommended to limit incompatible land uses and potential obstacles within the RPZ, which coincides with the inner portion of the Part 77 approach surface. The west end of the runway is maintained in its current configuration.



EXISTING AIRPORT PROPERTY LINE

FUTURE AIRFIELD PAVEMENT MARKING

REMOVE AIRFIELD PAVEMENT MARKING

EXISTING RUNWAY OFA, OFZ / RSA

REMOVE RUNWAY OFA, OFZ / RSA

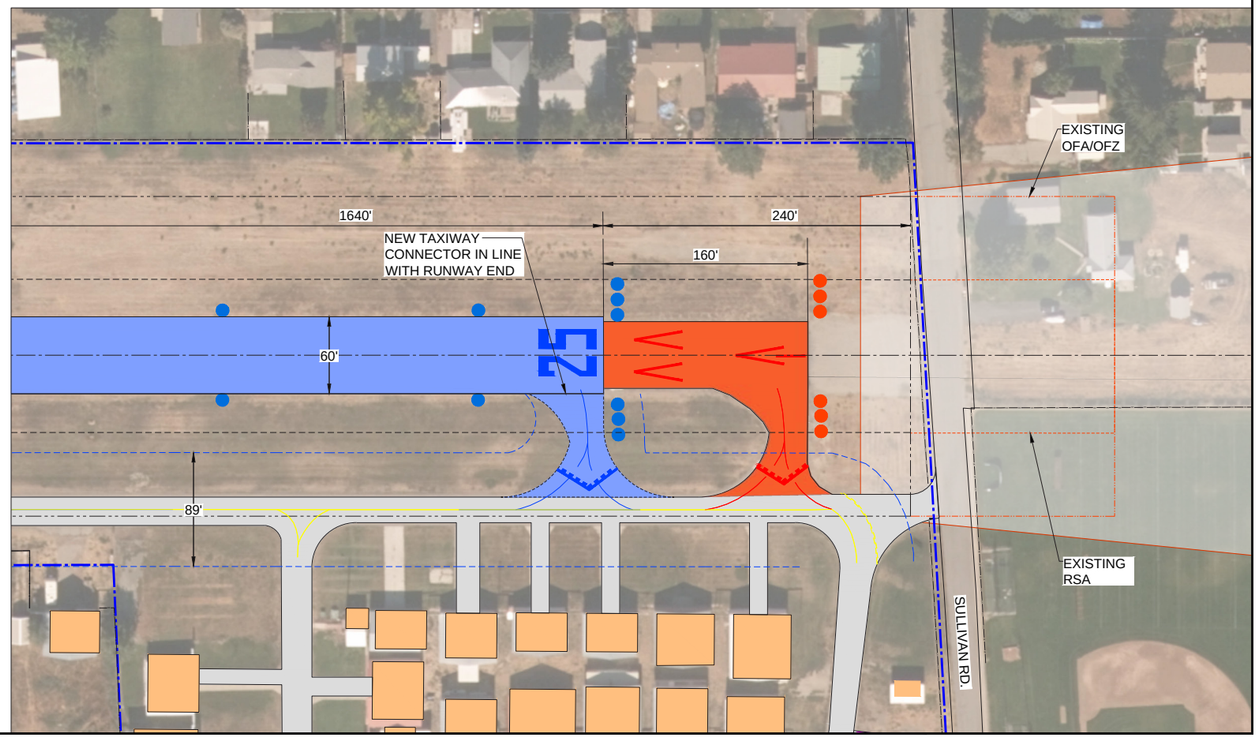
EXISTING/FUTURE THRESHOLD LIGHTS

FENCE

FUTURE AIRFIELD PAVEMENT

PAVEMENT TO BE REMOVED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	X



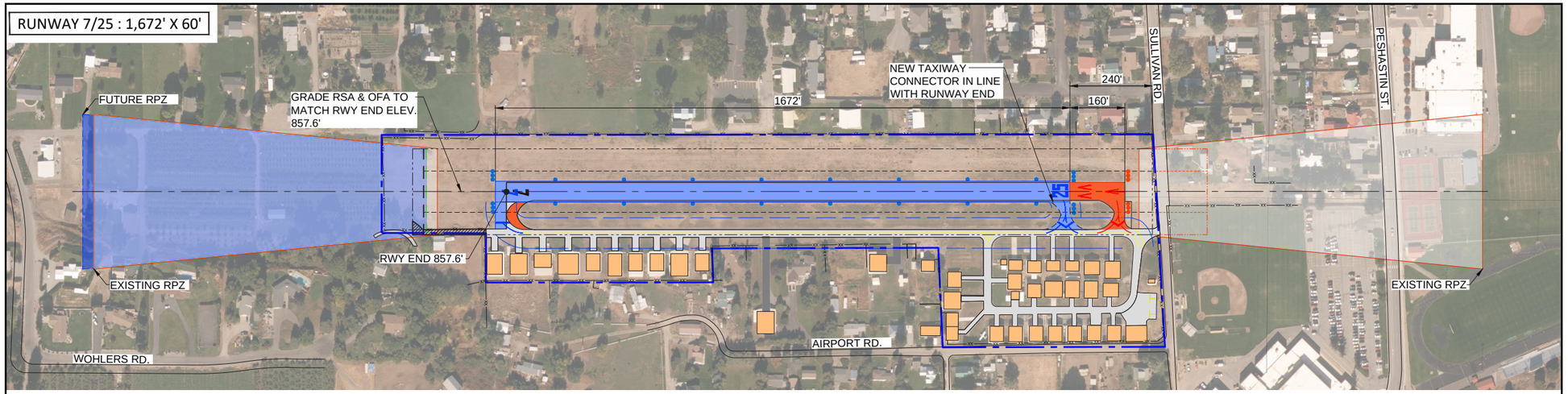
AIRSIDE ALTERNATIVE 2

Alternative 2 (see **Figure 5-2**) contains all improvements proposed in Alternative 1, and adds 32 feet of runway (and parallel taxiway) to the Runway 7 end. This configuration provides a partial offset for the loss of 160 feet of runway on the east end. The small amount of runway added in this option is limited by preserving an existing service road and the underlying hillside that supports it, located on a private land parcel abutting the southwest corner of the Airport.

The proposed western runway extension pushes toward rising terrain, particularly affecting the southwest corner of the OFA, but also the extended portions of both the OFA and RSA beyond the runway end. The sloping terrain that extends beyond the end of Runway 7 will require grading based on RSA and OFA standards. A small area of property acquisition is needed to accommodate the southwest edge of the runway OFA and the OFA for the new parallel taxiway extension.

By FAA standard, the RSA has a graded, compacted, and drained surface that is capable of accommodating the occasional passage of aircraft without causing major damage. The first 200 feet of the RSA beyond the runway end must be level (negative grades are also permitted), and the remaining portion (the outer 40 for feet for A/B-I runways) can accommodate an upward slope that does not penetrate the applicable approach surface. The OFA is a defined clear area that should be free of penetrating objects or terrain elevated above the adjacent RSA. The outer edges of the OFA have more design flexibility to accommodate elevated terrain, although the general practice is for the OFA surface to be maintained at or below the nearest RSA elevation.

As proposed, Alternative 2 would result in a runway length of 1,672 feet for all operations on both runway ends, which is 7% less (128 feet) than the 1,800-foot length currently available for most operations. This option increases the 1,656-foot landing distance currently available for Runway 25 (144-foot displaced threshold) by 1% (16 feet). As with the other options, the beginning of the takeoff run is shifted 160 feet west of its current location.



EXISTING AIRPORT PROPERTY LINE

FUTURE AIRFIELD PAVEMENT MARKING

REMOVE AIRFIELD PAVEMENT MARKING

EXISTING RUNWAY OFA, OFZ / RSA

REMOVE RUNWAY OFA, OFZ / RSA

EXISTING/FUTURE THRESHOLD LIGHTS

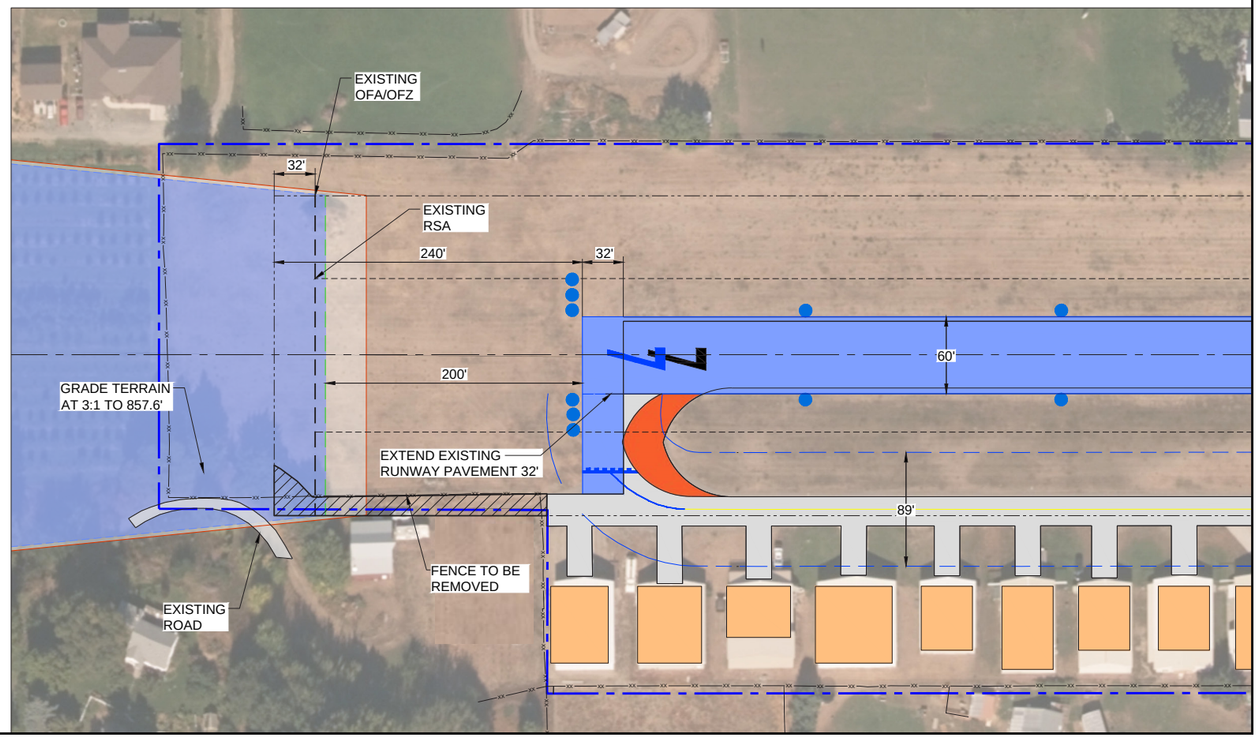
FENCE

FUTURE AIRFIELD PAVEMENT

PAVEMENT TO BE REMOVED

AREA TO BE CLEARED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	X

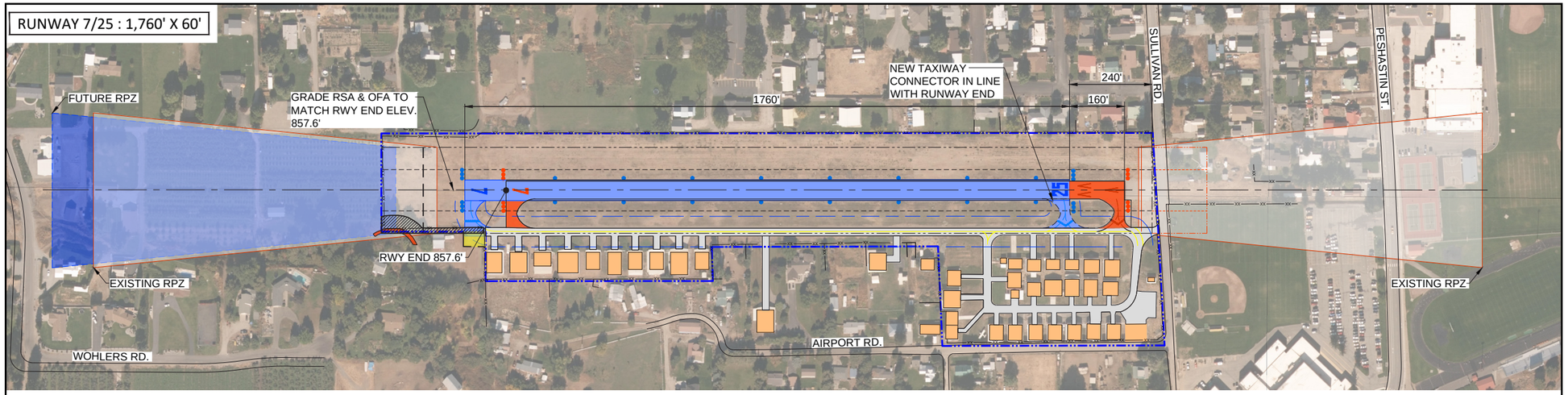


AIRSIDE ALTERNATIVE 3

Alternative 3 (see **Figure 5-3**) contains all improvements proposed in Alternative 1, and adds 120 feet of runway (and parallel taxiway) to the Runway 7 end. This configuration provides a partial offset for the loss of 160 feet of runway on the east end.

The amount of runway added in this option is limited by existing airport property ownership at the outer end of the OFA and RSA beyond the future Runway 7 end. A small area of property acquisition is needed to accommodate the southwest edge of the runway OFA and the OFA for the new parallel taxiway extension. Due to the excavation and grading required for obstacle clearing in the southwest corner of the runway OFA, the existing service road located on the private land parcel abutting the southwest corner of the Airport would be eliminated or realigned. As with the previous option, sloping terrain extending beyond the end of Runway 7 will require grading based on RSA and OFA standards.

As proposed, Alternative 3 would result in a runway length of 1,760 feet for all operations on both runway ends, which is 2% less (40 feet) than the 1,800-foot length currently available for most operations. This option increases the landing distance currently available for Runway 25 (144-foot displaced threshold) by 6% (104 feet). The beginning of the takeoff run is shifted 160 feet north of its current location.



EXISTING AIRPORT PROPERTY LINE

FUTURE AIRFIELD PAVEMENT MARKING

REMOVE AIRFIELD PAVEMENT MARKING

EXISTING RUNWAY OFA, OFZ / RSA

REMOVE RUNWAY OFA, OFZ / RSA

EXISTING/FUTURE THRESHOLD LIGHTS

FENCE

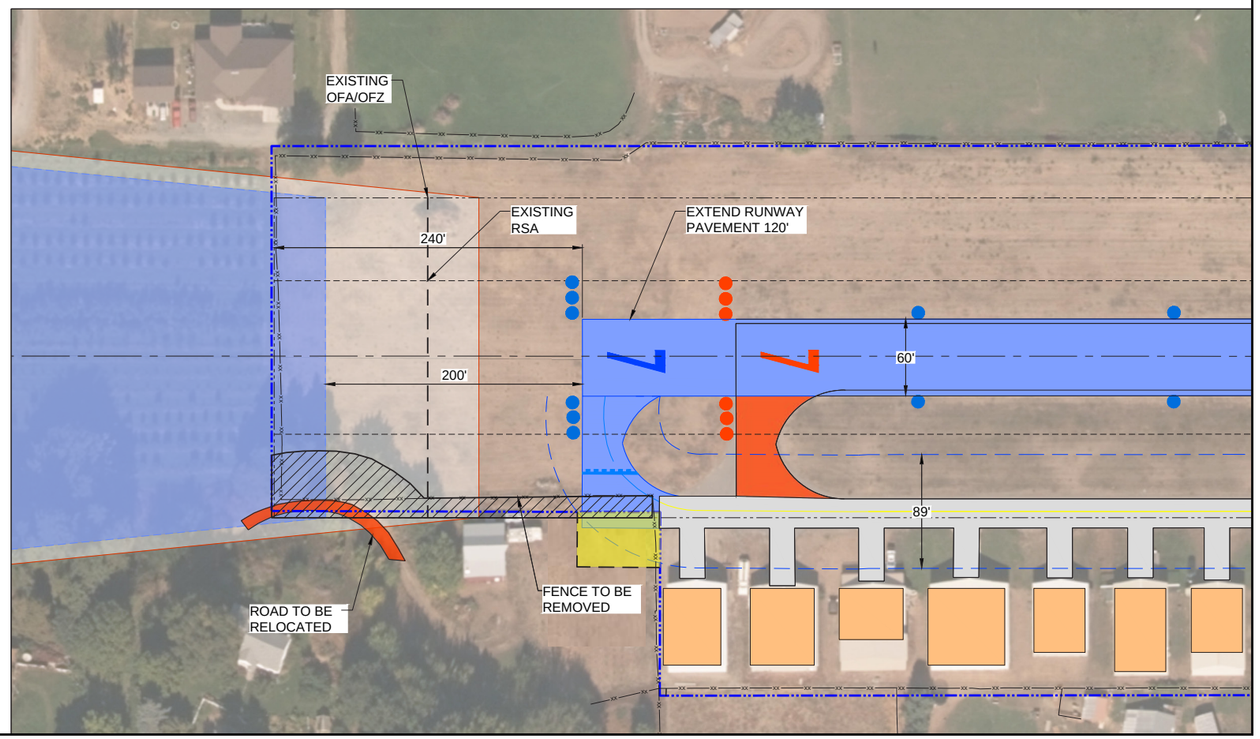
FUTURE AIRFIELD PAVEMENT

PAVEMENT TO BE REMOVED

PROPERTY ACQUISITION

AREA TO BE CLEARED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	X



CENTURY WEST ENGINEERING

AIRSIDE ALTERNATIVE 4

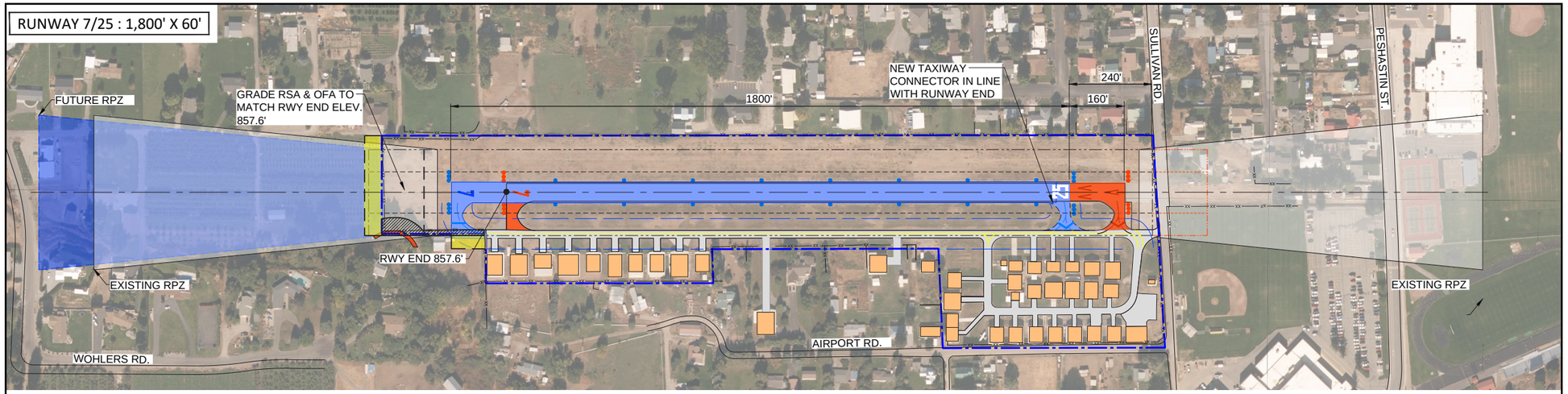
Alternative 4 (see **Figure 5-4**) contains all improvements proposed in Alternative 1, and adds 160 feet of runway (and parallel taxiway) to the Runway 7 end. This configuration fully offsets the loss of 160 feet of runway on the east end, however, the east end of the runway (beginning of Runway 25 takeoff) is shifted 160 feet west.

This option requires property acquisition at the Runway 7 end to accommodate the extended RSA and OFA, and along the south edge of the extended section of parallel taxiway (taxiway OFA). The section of chain link fence located near the west end of the parallel taxiway would be removed to accommodate the extended taxiway section and relocated outside both the runway and taxiway OFAs.

The outer portion of the future OFA/RSA extends into the adjacent fruit orchard directly abutting the west end of the Airport (approximately 50 feet deep and 250 feet wide). This area would be cleared of trees and graded to meet FAA standards driven by the future end of Runway 7. Existing surface access within the orchard would be relocated outside the runway clear areas. As with the previous option, sloping terrain extending beyond the end of Runway 7 will require grading based on RSA and OFA standards. Due to the excavation and grading required for obstacle clearing in the southwest corner of the runway OFA, the existing service road located on the private land parcel abutting the southwest corner of the Airport would be eliminated or realigned.

With this option, the portion of the future RPZ for Runway 7 located beyond the end of the OFA (240 feet from runway end) would remain in its current ownership and agricultural use, consistent with current FAA land use compatibility guidelines for RPZs.

As proposed, Alternative 4 would result in a runway length of 1,800 feet for all operations on both runway ends, which is equal to the 1,800-foot length currently available for most operations. This option increases the landing distance currently available for Runway 25 (144-foot displaced threshold) by 9% (144 feet). The beginning of the takeoff run on Runway 25 is shifted 160 feet north of its current location.



EXISTING AIRPORT PROPERTY LINE

FUTURE AIRFIELD PAVEMENT MARKING

REMOVE AIRFIELD PAVEMENT MARKING

EXISTING RUNWAY OFA, OFZ / RSA

REMOVE RUNWAY OFA, OFZ / RSA

EXISTING/FUTURE THRESHOLD LIGHTS

FENCE

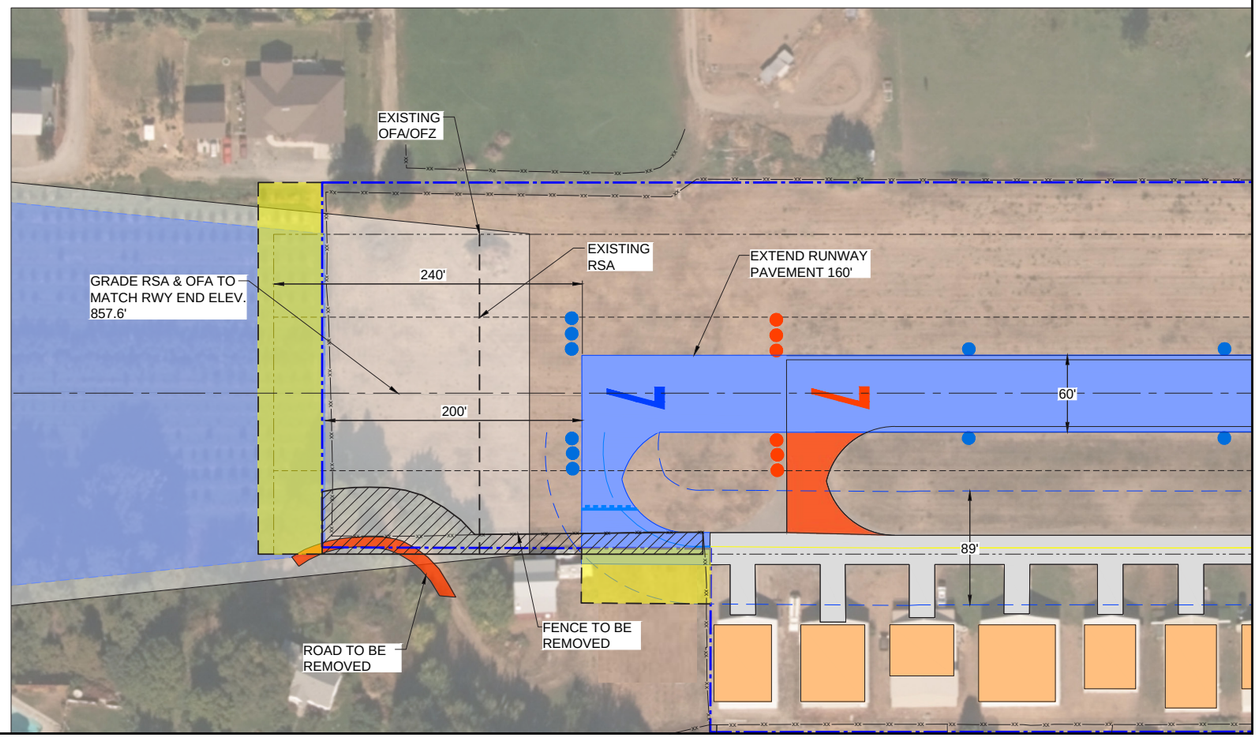
FUTURE AIRFIELD PAVEMENT

PAVEMENT TO BE REMOVED

PROPERTY ACQUISITION

AREA TO BE CLEARED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	X

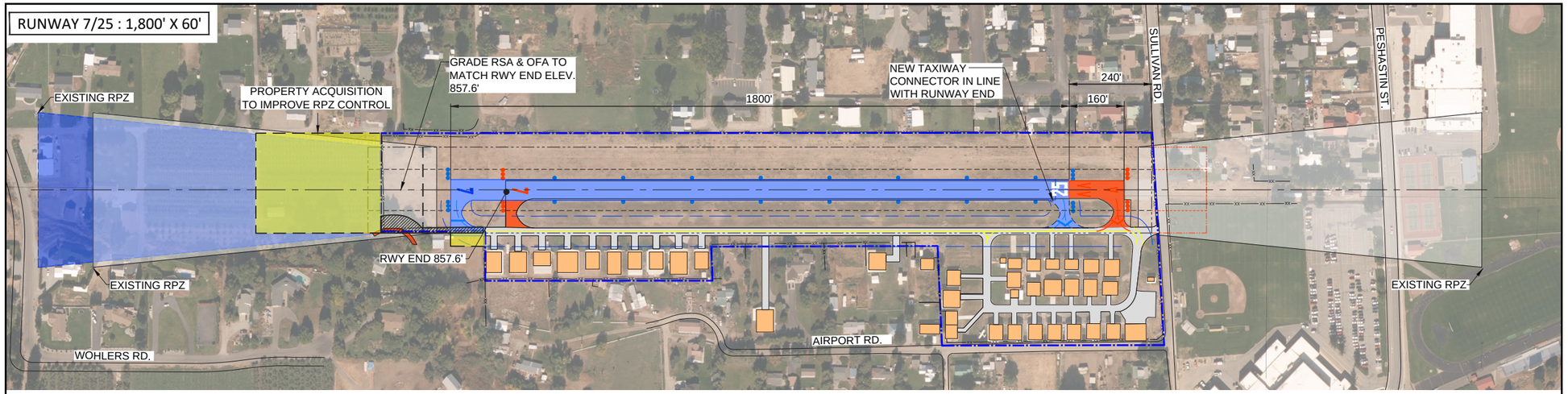


AIRSIDE ALTERNATIVE 5

Alternative 5 (see **Figure 5-5**) maintains all the runway-taxiway improvements included in Alternative 4 and adds the recommended property acquisition in the future Runway 7 RPZ depicted on the 2009 ALP.

As proposed, Alternative 5 would result in a runway length of 1,800 feet for all operations on both runway ends, which is equal to the 1,800-foot length currently available for most operations. This option increases the landing distance currently available for Runway 25 (144-foot displaced threshold) by 9% (144 feet). The beginning of the takeoff run on Runway 25 is shifted 160 feet north of its current location.

The proposed property acquisition within the future Runway 7 RPZ is intended to protect the RPZ from incompatible land uses. Based on current FAA guidance, existing agricultural activities may continue and could be managed through a lease and avigation easement.



EXISTING AIRPORT PROPERTY LINE

FUTURE AIRFIELD PAVEMENT MARKING

REMOVE AIRFIELD PAVEMENT MARKING

EXISTING RUNWAY OFA, OFZ / RSA

REMOVE RUNWAY OFA, OFZ / RSA

EXISTING/FUTURE THRESHOLD LIGHTS

FENCE

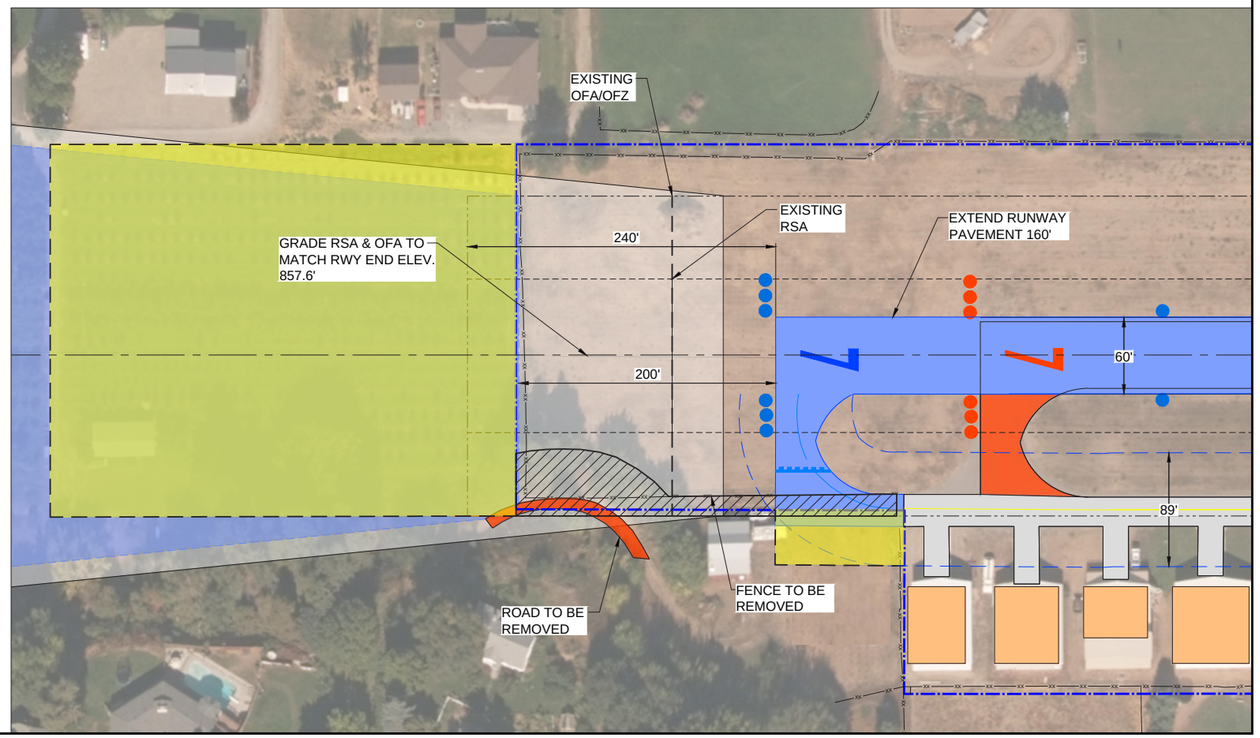
FUTURE AIRFIELD PAVEMENT

PAVEMENT TO BE REMOVED

PROPERTY ACQUISITION

AREA TO BE CLEARED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	✓



LANDSIDE DEVELOPMENT ALTERNATIVES

Overview

As noted in earlier chapters, the 2009 ALP Report did not include traditional landside development alternatives to accommodate future demand for hangars, aircraft parking, and aircraft fueling. The 2009 ALP also did not propose property acquisition for future landside facility development. While airport management has not indicated an interest in changing this approach in the future, the option of working with potentially interested sellers remains. The landside areas of Cashmere-Dryden Airport are nearly fully developed and limited opportunities exist for infill development. However, continued off-airport hangar development opportunities may exist through approved through-the-fence (TTF) agreements.

All existing landside development (aircraft parking, hangars, etc.) is located on the south side of the Airport. Future landside development options within the current airport property boundary are limited to infill or redevelopment of existing uses. For this reason, the addition of new aircraft hangars outside the southern airport boundary is identified as a possible future improvement that involves acquisition of individual land parcels, initiated by a seller, or with TTF agreements.

The primary landside facility needs include aircraft parking (transient helicopter and short-term aircraft parking), hangars, and sites for locating future aircraft fueling and charging stations. **Figure 5-6** depicts proposed landside improvements focused on addressing forecast facility needs. It is assumed that the initial development focus will prioritize use of remaining developable land capacity on the Airport and that efforts to facilitate development outside current airport boundaries will be pursued as opportunities exist.

Proposed on-airport development is limited to one area located adjacent to the parallel taxiway, the hangar taxilane loop, and the pilot building. This site previously accommodated a residence, which has been removed and the area graded. As proposed, the new apron would provide a designated parking area for transient helicopters, including law enforcement and emergency medical transport aircraft. Since helicopter activity is relatively low and fluctuates throughout the year, the apron would also be available for use as a temporary parking (loading/unloading) area for small aircraft directly opposite the Airport's pilot building/restroom. Fixed wing aircraft use would be secondary and it is recommended that parked aircraft not be left unattended. No small airplane tiedowns are recommended for the apron. Signage is recommended adjacent to the apron to encourage small airplane users to yield to helicopters when needed, and to use the small airplane tiedown apron or park in adjacent grass areas for longer term parking. The designated helicopter parking is intended to improve the Airport's ability to safely accommodate helicopter use by providing a designated parking area that is clear of other aircraft and structures.

The conceptual apron configuration has two connections to the adjacent parallel taxiway and hangar taxilane that would allow drive-through movement for aircraft. Wheel or skid equipped helicopters would typically access the parking area by ground- or hover-taxiing directly from the parallel taxiway.

The future addition of electric charging capabilities for small aircraft was identified as a possible long-term facility need. As this is a rapidly emerging technology, technical aircraft specifications and specific equipment requirements have not yet evolved into an industry standard. For long-term planning purposes, a potential charging station site is proposed adjacent to the existing small airplane tiedown apron located near the southeast corner of the Airport with existing electrical service. This location could also accommodate an above-ground fuel storage tank.

N
PIONEER AVE.
SULLIVAN RD.
7
25
69'
79'
POTENTIAL HANGAR / AC PARKING (F)
(TTF OR PROPERTY ACQUISITION)
POTENTIAL HANGAR SITES (F)
TRANSIENT
HELICOPTER /
SHORT TERM
AC PARKING
0'
100'
200'
Scale: 1"=100'

Preferred Alternative

RECOMMENDED DEVELOPMENT ALTERNATIVE

The preliminary development concepts in this chapter were presented for public review, which included multiple Airport Layout Plan – Planning Advisory Committee (PAC) meetings and public open houses, and posts on the project website. The appointed airport advisory board and Staff from Chelan County served as the PAC for the project. The Federal Aviation Administration Seattle Airports District Office (ADO), Washington DOT Aviation Division, airport users, and the public provided input into the airport planning process. This input was used to assist in Chelan County's evaluation of the preliminary alternatives and it provided important guidance in the refinement of development concepts leading to the selection of the preferred alternative.

The following section describes the proposed improvements for specific airside and landside facilities which have been consolidated into a preferred alternative. **Figure 5-7** depicts the recommended airside and landside improvements. The recommended preferred alternative elements will be incorporated into the updated ALP and submitted to FAA for formal review and approval at the end of this project. The draft ALP drawing set will be presented in Chapter 7, when completed.

2022-2042 RECOMMENDED IMPROVEMENTS (PREFERRED ALTERNATIVE)

Airside Facilities (Runway/Taxiway System)

The primary development focus for airside facilities is to reconfigure Runway 7/25 while improving overall airfield function and safety. The most notable airside projects are described below:

- Runway 7/25
  - » Reconfigure runway to address non-standard RSA, OFA, OFZ (Relocate Rwy 25 threshold for clear OFA/RSA);
  - » Maintain 1,800-foot runway length (runway shift);
  - » Widen runway to 60 feet;
  - » Convert the existing Runway 25 displaced threshold to non-movement area (overrun), if feasible, and mark with yellow chevrons;
  - » Use 20:1 obstacle clearing surfaces on both runway ends, as needed, to mitigate close-in obstructions to Part 77 approach surfaces (e.g., Sullivan Road vehicles +15 feet).
- Taxiway A, A1, A2
  - » Relocate/Replace Taxiway A2;
  - » Install Taxiway Edge Reflectors.
- NAVAIDS & Lighting (Replace with LED)
  - » Runway Lighting (MIRL);
  - » Runway 25 PAPI;
  - » Airport Beacon.
- Pavement Maintenance
  - » Runways, Taxiways, Apron;
  - » Vegetation Removal, Crack fill, Sealcoat;
  - » Overlay/Reconstruction.

The planned runway shift requires property acquisition and significant grading at the west end of the runway to comply with FAA OFA and RSA standards. This development is similar to the recommended alternative depicted on the 2009 ALP drawing. Detailed cost estimates for the improvements will be prepared for the Airport's updated 20-year capital improvement program (CIP).

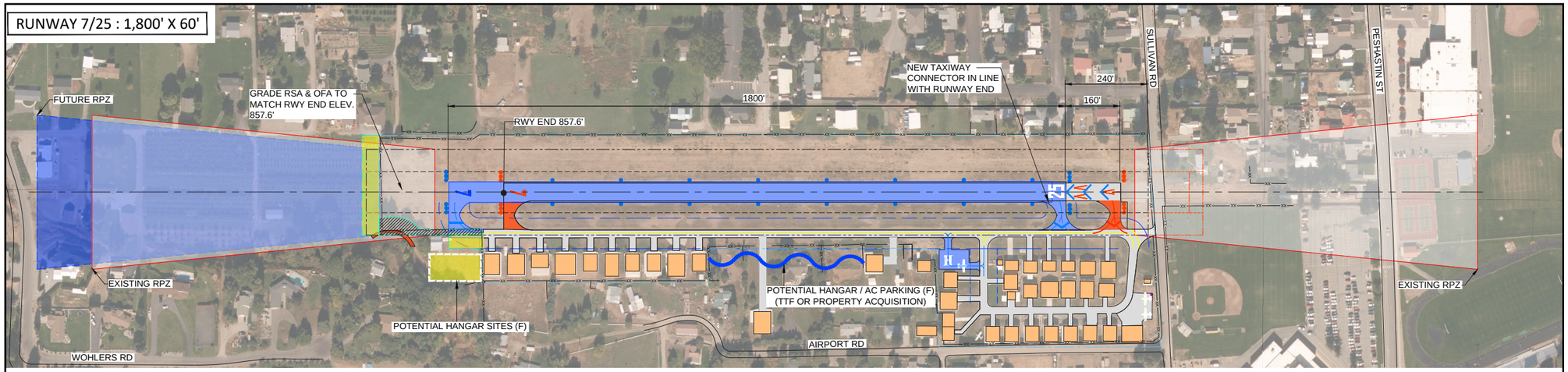
Due to the complex terrain near the west end of the runway, and particularly near the southwest corner of the future OFA, decisions about final runway configuration, drainage, and obstacle clearances will be made during environmental review, project design and formulation. Minor adjustments, including a lateral shift of the runway centerline to reduce terrain/grading challenges, may be considered during refinement of the development concept. The option of shifting the runway centerline approximately 30 feet north to obtain standard 150-foot runway-parallel taxiway separation was not identified as a recommended project on the 2009 ALP. As noted earlier in this chapter, this decision was kept in the current planning evaluation to maintain existing lateral separation between the runway and adjacent residential parcels. However, if during the design process, a minor shift of runway centerline is found to provide significant benefits affecting the ability to improve the runway, it could be considered during the final design.

It is also noted that if full project implementation is delayed, several interim steps may be considered to improve the existing runway. Items including runway widening, adding shoulders, runway lighting replacement, and reconstructing existing runway pavement could be accomplished as incremental steps toward the preferred alternative. Any reconstruction of the existing runway should provide adequate clearance for vehicles traveling on Sullivan Road for the approach. Based on preliminary review, it appears that the displaced threshold for Runway 25 should be relocated approximately 16 feet (west) of its current location with use of a 20:1 visual obstacle clearance surface (OCS). In this scenario, the future configuration (shifted runway) defined in the preferred alternative would be maintained as a long-term improvement.

Landside Facilities

The development of landside facilities at the Airport focuses primarily on improving the Airport's aircraft parking. Sites are also identified for locating future aircraft fuel storage and an electric aircraft charging station. The most notable landside projects are described below:

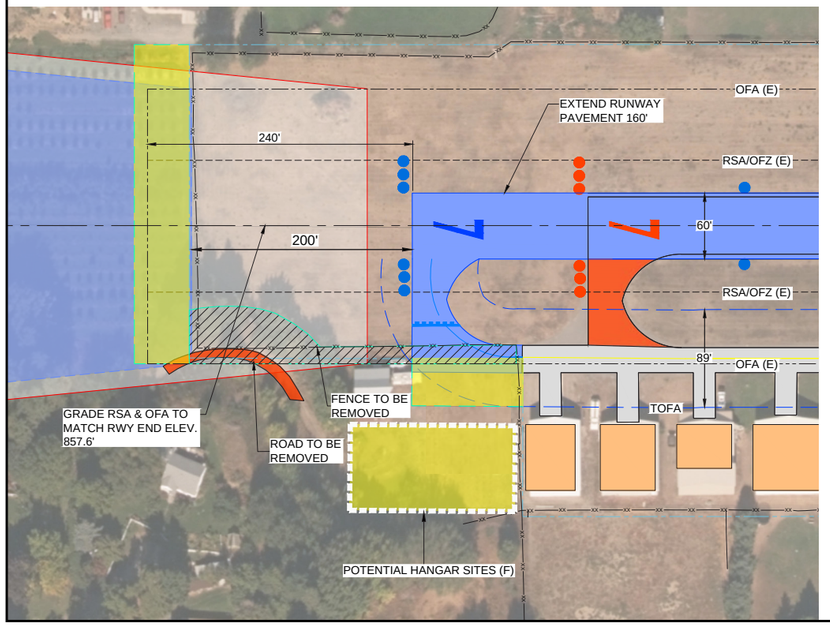
- Central Aircraft Parking Apron
  - » New apron to accommodate transient helicopter and small airplane parking with taxilane connectors to Taxiway A and the east hangar loop taxilane.
  - » Sites located at SE Tiedown Apron for future aircraft electric charging station and above-ground aviation fuel storage.
  - » Off-airport sites identified (near Rwy 7 end and mid-runway) for potential acquisition or development of future TTF hangars.

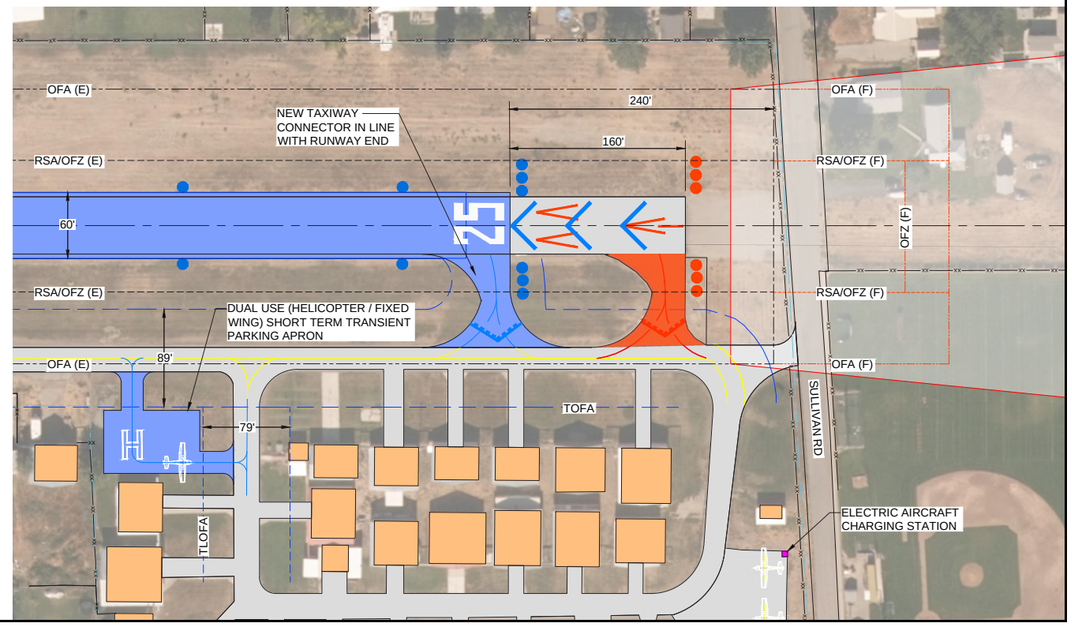


EXISTING AIRPORT PROPERTY LINE
FUTURE AIRFIELD PAVEMENT MARKING
REMOVE AIRFIELD PAVEMENT MARKING
EXISTING RUNWAY OFA, OFZ / RSA
REMOVE RUNWAY OFA, OFZ / RSA
EXISTING/FUTURE THRESHOLD LIGHTS

FENCE
FUTURE AIRFIELD PAVEMENT
PAVEMENT TO BE REMOVED
PROPERTY ACQUISITION
AREA TO BE CLEARED / GRADED

FAA RUNWAY STANDARDS	
STANDARD	COMPLIANCE
RUNWAY SAFETY AREA	✓
OBJECT FREE AREA	✓
OBSTACLE FREE ZONE	✓
RUNWAY PROTECTION ZONES	X
WIDTH	✓
MAINTAINS EXISTING LENGTH	X





AIRSIDE ALTERNATIVES ADDENDUM

Runway 25 Lighting

As noted in the facility requirements evaluation, the existing threshold lighting for Runway 25 does not meet FAA standards for configuration. Runway 25 is currently equipped with one set of threshold lights located at the end of the paved surface (the beginning of the 144-foot displaced threshold). The lights have standard green/red split lenses. The displaced threshold is not equipped with threshold lights. This lighting configuration incorrectly identifies the end of runway pavement, rather than the displaced threshold, as the intended landing target for approaching aircraft. It appears that the PAPI for Runway 25 provides a visual glide path to the displaced threshold. Although relatively minor, these two conflicting visual cues may create momentary confusion for pilots unfamiliar with the runway during the critical final approach stage of landing. Upgrading the lighting configuration to clearly identify the landing threshold would eliminate conflicting visual information and thereby increase safety.

Each of the airside alternatives presented earlier include new threshold lights for the future Runway 25 threshold, with the existing displaced threshold converted to paved overrun. As currently proposed, converting the existing displaced threshold to paved overrun would not require two sets of threshold lights. However, for both the current configuration and if any displaced threshold is maintained for Runway 25 in the future, two sets of threshold lights would be required. The recommended runway shift depends on a variety of factors including property acquisition, project funding, and verification of overall feasibility through pre-design to account for the challenges of extending graded surfaces into elevated terrain while considering drainage, slope stabilization, and obstacle clearances. With several challenges anticipated, the actual timeline for construction of the proposed runway shift and elimination of the Runway 25 displaced threshold is unknown.

Interim Recommendation

Updating existing threshold lighting for Runway 25 is proposed as an interim improvement that will increase safety for current users and continue to provide safety benefits until the overall runway reconfiguration project is implemented. The use of conventional incandescent lights is recommended rather than LED fixtures to maintain visual and system consistency with existing lighting systems. A full system upgrade/replacement (LED) for the MIRL and threshold lights is recommended as part of a future runway reconstruction.

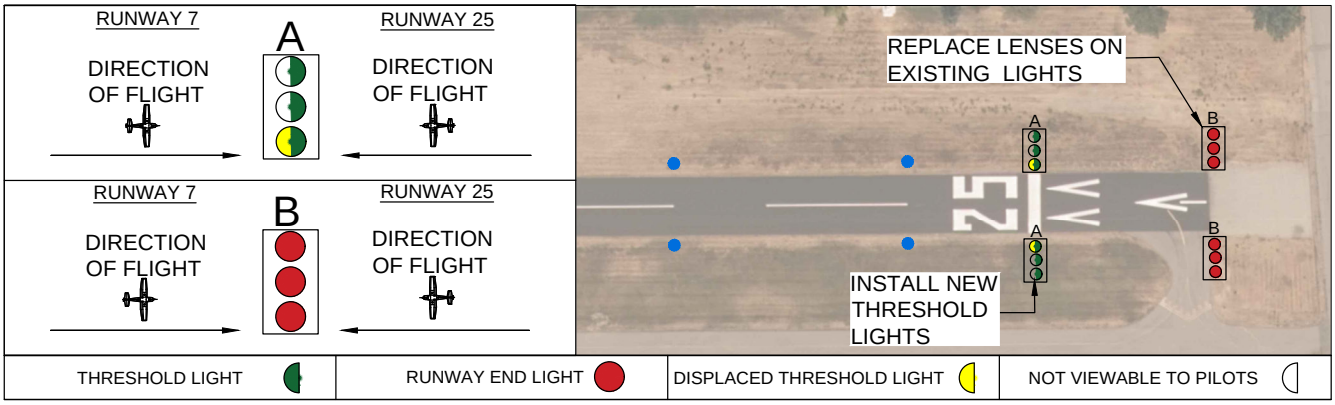
The recommended change in lighting configuration includes the addition of a second set of threshold lights at the existing displaced threshold, consistent with FAA guidance provided in *AC 150/5340-30J - Design and Installation Details for Airport Visual Aids*. The lighting changes do not alter the RSA or OFA available beyond the end of Runway 25 pavement. The existing threshold lights at the east end of runway pavement would be maintained in place and modified, as noted below.

Additional lighting details:

- The new threshold lights at the Runway 25 displaced threshold will have three fixtures on each side of the runway. All of the fixtures have green lenses facing approaching aircraft. The inboard fixtures on each side of the runway have yellow lenses on their opposite sides (facing the Runway 7 end); the outer two fixtures on each side are unidirectional (only visible from the direction of the approach). Although not fully compliant with FAA dimensional standards for RSA and OFA for the runway end, this configuration is intended to partially mitigate current conditions without changing the existing threshold location and runway markings, by increasing pilot awareness.
- The existing threshold lights at the end of Runway 25 are modified with omnidirectional red lenses, visible from both directions on the runway. This configuration is intended to complement the new threshold lighting at the displaced threshold and mitigate non-standard RSA and OFA at the Runway 25 end for approaching aircraft. The red fixtures at the runway end will correct the existing light guidance (green lenses) that may direct approaching aircraft to the runway end, rather than the displaced threshold.

This change in lighting configuration is intended to rely on the existing runway markings that define the Runway 25 displaced threshold. As a result, an incremental improvement in conditions is provided prior to a full reconfiguration of the runway end to ultimately be completed. **Figure 5-8** depicts the recommended lighting changes for Runway 25 based on the existing runway configuration.

Figure 5-8: Runway 25 Lighting



Next Steps

The preliminary development alternatives were presented for public review and comment at the July 10th, 2023, PAC meeting, and subsequently through the airport layout plan project website. The project meetings were held in-person and virtually, with links provided to access the draft chapters and supporting documents. An open public comment period was provided following the presentation of the preliminary alternatives and additional work was then performed to refine the concepts. Chelan County provided initial direction regarding the elements of its preferred alternative. This was used to formulate a project list and develop engineering costs estimates for each project that will be organized in the new 20-year (2022-2042) CIP for the Airport. The next step in the ALP planning process is to finalize the draft ALP drawing set for preliminary review by FAA. Following that review, the Financial Plan and the ALP chapters will be prepared and the draft ALP Report will be submitted for formal FAA and local review.

As noted earlier, when completed, the new ALP drawing set and report will replace the 2009 ALP drawings and report with new FAA approved versions.

Chapter 6
Implementation Plan

Introduction

The purpose of this chapter is to present the proposed implementation program for the 2022-2042 Cashmere-Dryden Airport Layout Plan (ALP). The main feature of this information is the 20-year Airport Capital Improvement Program (ACIP) that was developed based on the analyses conducted in the Facility Requirements and Development Alternatives evaluations (Chapters 4 and 5).

The ACIP projects are summarized in **Table 6-1**, later in the chapter. The ACIP is organized into near term and long-term planning periods that reflect project prioritization and Chelan County's ability to support the proposed financial investments.

Several factors were considered in determining project prioritization, including safety, forecast demand, the need to maintain/ replace existing airfield facilities, and financial capabilities of both the County and FAA to support the development program based on existing funding sources. Minor pavement maintenance items such as vegetation removal and crack filling are not included in the ACIP but will need to be undertaken by the County on an annual or semi-annual basis.

Airport Development Schedule and Cost Estimates

Cost estimates for each individual project were developed in 2023 dollars based on typical construction costs associated with the specific type of project. The project costs listed in the ACIP represent order-of-magnitude estimates that approximate design, engineering, environmental, other related costs, and contingencies. The estimates are intended only for preliminary planning and programming purposes. Specific project analysis and detailed engineering design will be required prior to project implementation to provide more refined and detailed estimates of the development costs.

These cost estimates can continue to assist management through adjustments to the 2023-dollar amounts to account for subsequent inflation as the plan is carried out in future years. This can be accomplished by converting the appropriate change in the United States Consumer Price Index (USCPI) to a multiplier using the following formula:

$$\frac{X}{I} = y$$

Where:
X = USCPI in any given future year
Y = Change Ratio
I = Current Index (USCPI)[1]

USCPI-U
307.789
(1982-1984 = 100)
September 2023

Multiplying the change ratio (Y) times any 2023-based cost estimate presented in this study will yield the adjusted dollar amounts appropriate in any future year evaluation. Several different CPI-based indices are available for use and any applicable index may be substituted by the airport sponsor in its financial management program.

Overall project scheduling is defined based on the facility requirements needs identified in the ALP evaluation. The projected staging of development projects is based on a combination of needs, development priorities, and anticipated funding.

ACIP PROJECTS

The ACIP projects in **Table 6-1** are summarized below for short-term and long-term periods. The summaries provide a general time frame for implementation of individual projects. However, the actual timing for project implementation is subject to change, based on a variety of factors including availability of funding. Projects that are not completed during the current 20-year planning period will be reevaluated based on need, with determinations on future timing made by Chelan County.

Short-Term Projects (Years 1-5)

The main priority in the short-term development period is complete pavement maintenance on runway 7/25 and replace threshold lighting. General obstruction removal is a short-term priority and the replacement of the PAPI is another top priority in the short-term development.

Long-Term Projects (Years 6-20)

The main priority in the long-term development period is to complete the design and construction of a new transient aircraft and helicopter parking/hangar site. Environmental assessments are proposed to be conducted for the Runway 7/25 shift, reconstruction, and obstruction removal along with an assessment for the property acquisition proposed at the RWY 7 end. Completing the environmental and design phases for the Runway 7/25 shift and reconstruction is another top priority in the long-term development.

Other priorities in the short-term period include:

- General Obstruction Removal
- Runway 7/25 Pavement Maintenance
- Property Acquisition at RWY 7 End and RWY 25 RPZ
- Avigation Easement at RWY 7 and RWY 25 RPZ
- Electric AC Charging Station
- Above Ground Fuel System
- Pavement Maintenance
- Parallel Taxiway Rehabilitation
- Taxilane Pavement Maintenance

1 U.S. Consumer Price Index for All Urban Consumers (USCPI-U)

Table 6-1: 20-Year Capital Improvement Program

Project #	Short Term Projects (2024-2028)	FAA*	BIL	WSDOT	Local	Total Project Costs
1	Runway 7/25 Pavement Maintenance & Replace Threshold Lighting	$450,000	$372,000	$25,000	$25,000	$872,000
2	Runway PAPI Replacement	$0	$80,000	$0	$0	$80,000
3	New South-Central Apron (Environmental/ Design/Construction)	$0	$60,000	$0	$0	$60,000
	SHORT-TERM TOTAL (1-5 Years)	**$450,000**	**$512,000**	**$25,000**	**$25,000**	**$1,012,000**
Project #	**Long Term Projects (2029-2044)**	**FAA**	**BIL**	**WSDOT**	**Local**	**Total Project Costs**
4	Hangar Taxilane Rehabilitation and Repair	$600,000	$0	$30,000	$30,000	$660,000
5	New South-Central Apron (Environmental/ Design/Construction)	$700,877	$0	$38,937	$38,937	$778,752
6	EA for Property Acquisition -RWY 7 end (Parallel TWY OFA)	$71,820	$0	$3,990	$3,990	$79,800
7	EA – Runway Shift and Reconstruction Project & RWY 7 Obstruction Removal	$371,070	$0	$20,615	$20,615	$412,300
8	Property Acquisition - RWY 7 End (Parallel TWY OFA)	$773,807	$0	$42,989	$42,989	$859,785
9	Avigation Easement - RWY 7 & RWY 25 RPZ	$221,945	$0	$12,330	$12,330	$246,605
10	Property Acquisition - RWY 7 OFA/RSA	$743,814	$0	$41,323	$41,323	$826,460
11	Runway 7/25 Shift and Reconfiguration Project (Environmental)	$203,490	$0	$11,305	$11,305	$226,100
12	Runway 7/25 Shift and Reconstruction Project (Design)	$622,440	$0	$34,580	$34,580	$691,600
13	Obstruction Removal - Runway 7/25 Shift and Reconstruction Project	$81,580	$0	$4,532	$4,532	$90,644
14	Runway 7/25 Shift and Reconstruction Project (Construction)	$3,620,962	$0	$201,164	$201,164	$4,023,291
15	Runway Lighting Replacement	$1,410,314	$0	$78,351	$78,351	$1,567,016
16	Hangar Taxilane Reconstruction Project (Environmental/ Design/ Construction)	$1,537,215	$0	$85,401	$85,401	$1,708,017
17	Parallel Taxiway Pavement Maintenance	$296,565	$0	$16,476	$16,476	$329,516
18	Electric AC Charging Station - Southeast Apron	$245,939	$0	$13,663	$13,663	$273,265
19	Runway 7/25 Pavement Maintenance - Post Reconstruction	$461,022	$0	$25,612	$25,612	$512,247
20	Southeast Apron Pavement Maintenance	$111,917	$0	$6,217	$6,217	$124,352
21	Hangar Taxilane Pavement Maintenance	$214,852	$0	$11,936	$11,936	$238,724
22	Parallel Taxiway Rehabilitation (Overlay)	$582,168	$0	$32,342	$32,342	$646,853
23	Above-Ground Fuel System with Cardlock	$692,820	$0	$38,490	$38,490	$769,800
	LONG-TERM TOTAL (6-20 Years)	**$13,564,617**	**$0**	**$750,253**	**$750,253**	**$15,065,127**
	20-YEAR CIP TOTALS	**$14,014,617**	**$512,000**	**$775,253**	**$775,253**	**$16,077,127**

*Typical FAA/local split for eligible projects is 90%/10%
**Long-term projects include design, construction, and environmental

Capital Funding Sources & Programs

FAA grants provided through the federal Airport Improvement Program (AIP) are the primary source of funding for public use airports in the federal airport system. **Table 6-1** identifies the typical federal and local share of project costs based on current funding formulas. It is important to note that overall project eligibility for FAA funding does not guarantee availability of funding within the defined 20-year time frame of the master plan.

FEDERAL GRANTS

The current AIP, reauthorized in 2024, is the latest evolution of a funding program originally authorized by Congress in 1946 as the Federal Aid to Airports Program (FAAP). Other appropriations of AIP funds go to states, general aviation airports, commercial service airports, and for noise compatibility planning. Any remaining AIP funds at the national level are designated as Discretionary funds and may be used by the FAA to fund eligible projects. Discretionary funds are typically used to enhance airport capacity, safety, and/or security and are often directed to specific national priorities such as the recent program to improve runway safety areas. AIP funds can only be used for eligible capital improvement projects and may not be used to support airport operation and maintenance costs. AIP funding for eligible projects is described in FAA Order 5100.38D (Change 1), *Airport Improvement Program Handbook*.

Funds for the AIP are derived from the Airport and Airway Trust Fund, which is supported by user fees, fuel taxes, and other similar revenue sources. Currently, AIP grants cover 90% of eligible project costs for general aviation airports like Packwood Airport.

The FAA Reauthorization Act of 2024 extends funding through fiscal year 2028. AIP funding programs for general aviation (GA) airports include:

- **AIP General Aviation Non-Primary Entitlement (NPE) Grants:** The AIP provides Non-Primary Entitlement (NPE) funds for general aviation airports based on fixed amount of $150,000 per year. The NPE funds can be carried over for up to four years, or a maximum of $600,000. Unused NPEs may be “donated” to other GA airports within the state through the ADO, or the funds revert into a national pot for reallocation among all FAA regions.
- **AIP Discretionary Grants:** The AIP provides Discretionary funds to airports for projects that have a high federal priority or to enhance safety, security, or capacity. These grants are over and above NPE funding. Discretionary grant amounts can vary significantly compared to NPE and are awarded at the FAA’s sole discretion. Discretionary grant applications are evaluated based on:
  - » Need;
  - » The FAA’s project priority ranking system; and
  - » The FAA’s assessment of a project’s significance within the national airport and airway system.
- **FAA Facilities and Equipment Funds:** Additional funds are available under the FAA Facilities and Equipment (F&E) program to purchase navigational aids and air safety-related technical equipment, including Airport Traffic Control Towers (ATCTs) for use at commercial service airports in the National Airport System. Each F&E project is evaluated independently using a cost-benefit analysis to determine funding eligibility and priority ranking. Qualified projects are funded in total (i.e., 100 percent) by the FAA, while remaining projects would likely be eligible for funding through the AIP or PFC programs. In addition, an airport can apply for NAVAID maintenance funding through the F&E program for those facilities not funded through the F&E program.

FAA funding is limited to projects that have a clearly defined need and are identified through preparation of an FAA approved Airport Layout Plan (ALP). Periodic updates of the ALP are required when new or unanticipated project needs or opportunities exist that require use of FAA funds and to reflect the status of completed projects. The FAA will generally not participate in projects involving vehicle parking, utilities, building renovations, or projects associated with non-aviation development. Projects such as hangar construction or fuel systems are eligible for funding, although the FAA considers these types of projects as a much lower priority than other airfield needs.

As part of the economic recovery response to the COVID-19 pandemic, several supplemental funding programs were introduced that benefited airports. These included the American Rescue Plan (APRA) and the Bipartisan Infrastructure Law (BIL). These grant programs created temporary funding streams for airports beyond traditional AIP funding.

Airport sponsors accept obligations (grant assurances) when accepting FAA AIP grants. A summary of the applicable grant assurances is provided in **Appendix D.**

STATE FUNDING

The Washington State Department of Transportation - Aviation Division (WSDOT Aviation) provides an additional source of funding for airport projects in the form of grants through its Airport Aid Grants program. The Aviation Division has established grant criteria for airport sponsors requesting aid to define projects related to pavement, safety, maintenance, security, or planning.

Although Aviation Division funding is distributed widely to general aviation airports throughout the state, predicting any consistent level of funding for purposes of long-term financial planning is not possible. Competition for the limited grant funds is consistently high, with priority often given to airports with limited resources or to airports that are not eligible to receive FAA grants. Project funding is determined on a case-by-case basis and is affected by overall funding levels and competition among airports during any state budget cycle (biennium).

The current maximum grant award through the Aviation Division is $750,000. Due to the volume of grant applications received in any given cycle, large grant awards under this program remain relatively uncommon.

The WSDOT Aviation web page provides the following information:

> *"On projects seeking state funds only, the airport sponsor must contribute a minimum 5 percent match of the entire project cost. If the sponsor is able, and would like to contribute a larger match amount, they certainly can and will receive additional points towards their total project application score during WSDOT Aviation's prioritization review of all grant applications.*
>
> *For projects receiving federal funds, it has been a long-standing practice of the Airport Aid Program to support airports in matching their Airport Improvement Program (AIP) grants. Currently, AIP grants require 10 percent of the project total to come from the airport sponsor. WSDOT supports grants to airports for up to half of their match requirement."*

For long-term planning purposes, the local share (10%) of FAA-eligible projects is assumed to be evenly split (5%/5%) between local and state levels in the updated CIP. However, since available funding levels in the state grant program may vary year to year, it is recommended that whenever possible, Chelan County manage its capital program where WSDOT grants are supportive, but not essential to fully fund the local match required for FAA grants.

When WSDOT Aviation Division grant requests are successful, the required Chelan County expenditure (local match) for FAA grants or funding non-FAA eligible projects will be reduced.

Community Aviation Revitalization Loan Program (description provided by WSDOT)

The Community Aviation Revitalization Loan Program was established by EHB 1102 and funded initially with $5 million. The revolving loan program is for revenue-producing capital projects that help public-use general aviation airports become more self-sustainable. The program funds are distributed with the guidance of the Community Aviation Revitalization Board (CARB).

As currently authorized, the program provides loans up to $750,000 at 3% interest to airports with less than 75,000 annual commercial enplanements, as reported to the FAA. Loans can have a maximum 20-year loan period and recipients can opt to have up to a 3-year loan repayment grace period. Loan recipients must commit to providing public access to the airport for a period of time equivalent to one and one-half times the length of the loan. Eligible projects can include hangars, fueling facilities, business parks on airport property, paid parking facilities, passenger amenities, and other revenue-generating or cost-cutting developments that help make the airport more self-sustaining and less dependent on public funding.

State Capital Improvement Program (SCIP)

The FAA's Seattle Airports District Office (ADO) coordinates its capital improvement programming with state aviation agencies in Washington and Oregon. The coordinated program is known as the "state" capital improvement program, or "SCIP." The SCIP is the primary tool used by FAA, state aviation agencies, and local airport sponsors to prioritize current and near-term future funding decisions through evaluation formulas and ongoing coordination. Airport sponsors provide annual updates to the short-term project lists in order to maintain a current system of defined project needs. For Washington airports, the FAA and WSDOT Aviation schedule annual "joint planning conferences" (JPC) with airport sponsors to update the regularly SCIP.

LOCAL FUNDING

The locally funded portion of the CIP for the 20-year planning period is estimated to be approximately $1.55 million, as currently defined. Local matching funds are generated through airport operating revenues and may include other capital funds, interfund loans or the issuance of long-term debt (revenue or general obligation bonds). The WSDOT CARB loan program is a similar form of long-term debt available to support eligible projects at Washington GA airports. WSDOT grant funding noted earlier may reduce the local share of the CIP to approximately $775,000

Chapter 7

Airport Layout Plan

Introduction

This chapter presents the Airport Layout Plan (ALP) drawing set for Cashmere-Dryden Airport (8S2). The ALP set includes individual drawings that provide specific information related to the existing conditions and recommended improvements for the Airport, developed through airport master plan evaluations.

The future airfield configuration presented in the ALP reflects the preferred alternative selected by Chelan County, with input provided by the Federal Aviation Administration (FAA), airport stakeholders, airport users, and members of the community. The analyses and findings of the previous chapters provided the technical and policy guidance required to support the ALP's development.

The following sheets make up the ALP set for Cashmere-Dryden Airport:

- Sheet 1 – Title Sheet
- Sheet 2 – Airport Data Sheet
- Sheet 3 – Airport Layout Plan
- Sheet 4 – Terminal Area Plan
- Sheet 5 – Airport Airspace Plan (Part 77)
- Sheet 6 – Runway 8-26 Approach Plan & Profile
- Sheet 7 – Inner Portion Runway 8-26 Inner Approach Surfaces
- Sheet 8 – On Airport Land Use Plan
- Sheet 9 – Off Airport Land Use Plan
- Sheet 10 – Exhibit A - Airport Property Plan
- Sheet 11 – Airspace Obstruction Data Tables (1 of 4)
- Sheet 12 – Airspace Obstruction Data Tables (2 of 4)
- Sheet 13 – Airspace Obstruction Data Tables (3 of 4)
- Sheet 14 – Airspace Obstruction Data Tables (4 of 4)

A brief summary of the individual drawings is provided on the following page.

Title Sheet (Sheet 1 of 14)

The Title Sheet serves as an introduction to the ALP drawing set. It includes airport location and vicinity maps, and an index of the drawings. The FAA ALP approval letter is embedded into the Title Sheet, in lieu of signing the individual ALP sheets.

Airport Data Sheet (Sheet 2 of 14)

The Airport Data Sheet contains detailed runway and taxiway dimensions, FAA dimensional standards, wind roses, and other data that is reflected within the drawing set. Based on an ongoing change in magnetic variation, the current runway designation (7/25) will be changed to Runway 8/26 as part of a future runway project.

Airport Layout Plan (Sheet 3 of 14)

The Airport Layout Plan (ALP) drawing graphically depicts existing and future airfield facilities. Future facilities are color-coded to distinguish them from existing facilities. Future facilities are represented in the airport layout plan's 20-year capital improvement program (CIP) as individual projects or project groupings. Property acquisition required for future runway-taxiway improvements are depicted.

Terminal Area Plan (Sheet 4 of 14)

The Terminal Area Plan provides additional details for existing and new landside facilities. The Terminal Area Plan focuses on the main apron area, east aprons, fuel facilities, existing/future hangar areas, and vehicle parking.

Airport Airspace Plan (Part 77) (Sheet 5 of 14)

The Part 77 Airspace drawings depict the protected airspace defined for Runway 8/26, as codified in Title 14 of the Code of Federal Regulations (CFR), Part 77 - Safe, Efficient Use and Preservation of the Navigable Airspace. The airspace plan drawings depict the five "imaginary surfaces" defined in Part 77.25 including the primary, transitional, approach, horizontal, and conical surfaces, previously described in the Facility Requirements Chapter. Part 77 surfaces should be free of built or terrain obstructions to the greatest extent possible. Objects that penetrate Part 77 surfaces may require action to mark or remove depending on their severity, location, and the feasibility of the action.

The drawings are supplemented by tables detailing the obstacles with recommended dispositions. Obstacles presented on the Airspace Plan were documented by the AGIS survey data.

The physical characteristics of the Part 77 surfaces for Runway 8/26 are defined by the size of aircraft using the runway and the visual approach capabilities of the runway.

- **Runway 8/26 Approach Surfaces**: Extend 5,000 feet from the ends of the runway primary surface. Each runway end has an approach surface slope of 20:1, which represents the horizontal distance required for each increment of vertical rise.
- **Runway 8/26 Primary Surface**: The primary surface is 500 feet wide extending 200 feet beyond each end of the runway. The primary surface is a flat plane of airspace centered on the runway, with the same elevation as the nearest point on the runway centerline.
- **Transitional Surface**: The runway transitional surfaces extend outward and upward from the outer edges of the primary surface. The transitional surfaces have a slope of 7:1 and extend to an elevation 150 feet above airfield elevation and connect to the runway horizontal surface.
- **Horizontal Surface**: The horizontal surface is drawn from 5,000-foot radii that extends from both ends of the primary surface to form an oval. The horizontal surface is a flat plane of airspace with an elevation approximately 150 feet above airport elevation.
- **Conical Surface**: The conical surface extends from the outer edge of the horizontal surface at a slope of 20:1 for 4,000 feet.

The Part 77 airspace surfaces are depicted in the drawing, along with the obstacles identified in the AGIS survey. The drawing depicts obstacles in the approach, primary, and transitional surfaces. No horizontal or conical surface obstructions are noted on the drawing.

Where scale allows, individual obstacles are identified. Due to the number and density of obstacles in the primary and transitional surfaces south of the runway, each penetrating obstacle is not individually identified. Due to scale requirements, obstacles in the RPZ and Approaches are also unidentified. Instead, all obstacles are detailed in the following Runway Plan and Profile drawings. Obstacles identified in these drawings are listed in the obstruction tables at the end of the ALP.

Runway 8/26 Approach Plan and Profile (Sheet 6 of 14)

The Approach Plan and Profile drawings depict a detailed plan and profile view of the Airport's visual approach surfaces and threshold siting surfaces. The drawings provide additional detail in identifying obstacles, non-listed obstacles, and primary and transitional surface obstructions. The obstructions depicted in the drawing use the same numbering identifiers from the overall Part 77 Airport Airspace Plan. Only obstacles present in the AGIS data are presented on this sheet.

Inner Portion Runway 8/26 Inner Approach Surfaces (Sheet 7 of 14)

The Inner Approach Surface Plan and Profile drawings depict a detailed plan and profile view of the Airport's inner approach surfaces and runway protection zones (RPZs). The drawings provide additional detail in identifying obstructions, terrain, and other features such as runway OFA, OFZ, and RSA. The obstructions depicted on the drawing use the same numbering identifiers from the overall Part 77 Airspace Plan. Only obstacles present in the AGIS data are presented on this sheet.

On-Airport Land Use Plan (Sheet 8 of 14)

The On-Airport Land Use Plan depicts land use categories common to general aviation airports, including:

- Airport Operations Area (runway, taxiway and protected areas)
- Runway Protection Zone (defined surfaces at runway ends)
- Aeronautical Development (aviation related development; hangars, aircraft parking, etc.)
- Aeronautical Compatible Non-Aviation Facilities (development that is compatible with the airfield's primary aeronautical functions)

The land use classifications are consistent with the ALP drawing and reflect both existing and future facilities. The airport operations areas and RPZs are intended to protect the function of the runway-taxiway system. All aircraft parking and hangar development is located in the aeronautical development area. Areas suitable for aeronautical compatible non-aviation development are identified primarily at the south end of the Airport.

Off Airport Land Use Plan (Sheet 9 of 14)

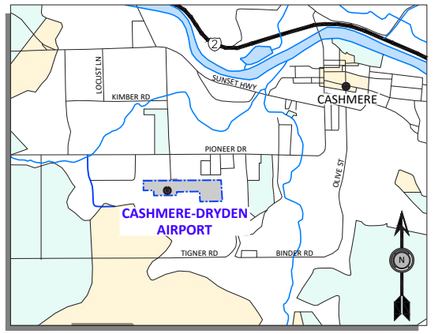
The On-Airport and Off-Airport Land Use Plans depict the existing land use designations for the Airport and surrounding areas. It also identifies land that is impacted by Part 77 surfaces and associated airspace overlay zoning districts. Land use classifications were derived from city and county comprehensive plans and zoning districts. Chelan County has land use jurisdiction for Cashmere-Dryden Airport and most of the surrounding area. A portion of the Airport's Part 77 airspace extends over areas of the City of Cashmere's jurisdiction.

Exhibit A - Airport Property Plan (Sheet 10 of 14)

The Airport Property Plan depicts all property owned or controlled by Chelan County. The drawing notes the form of ownership or control (fee simple, avigation easement, etc.), the date of acquisition per FAA guidelines, and the purpose for ownership. Proposed property acquisition is depicted at the east end of the Airport to support the recommended runway shift and the protected surfaces.

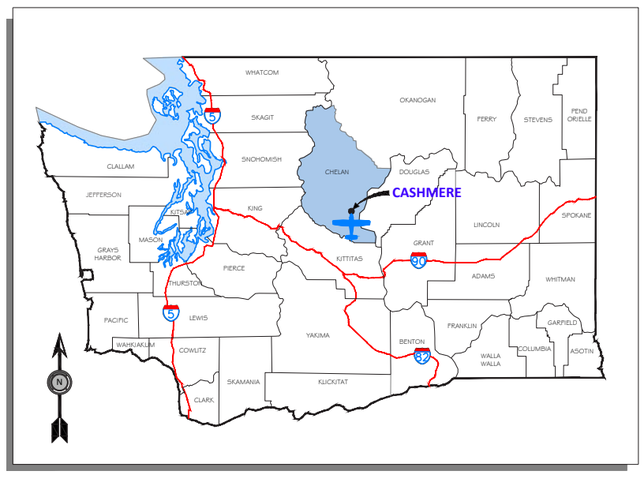
Airspace Obstruction Data Tables (Sheets 11-14 of 14)

The obstacles depicted on several drawings in the ALP set are listed in tabular form on two separate drawings. All listed obstructions fall under their respective Part 77 surface category and details the location, elevation information, and a proposed disposition for each.



VICINITY MAP

AERIAL PHOTO



LOCATION MAP

CASHMERE-DRYDEN AIRPORT (8S2)
AIRPORT LAYOUT PLAN

CHELAN COUNTY, WASHINGTON
AIP NO. 3-53-0011-007-2022
AIRPORT LAYOUT PLAN
MARCH 2024

SHEET INDEX

NUMBER	REV. DATE	CONTENTS
1		TITLE SHEET
2		AIRPORT DATA SHEET
3		AIRPORT LAYOUT PLAN
4		TERMINAL AREA PLAN
5		AIRPORT AIRSPACE PLAN (PART 77)
6		RUNWAY 8-26 APPROACH PLAN & PROFILE
7		INNER PORTION RUNWAY 8-26 APPROACH SURFACES
8		ON AIRPORT LAND USE PLAN
9		OFF AIRPORT LAND USE PLAN
10		EXHIBIT A - AIRPORT PROPERTY PLAN
11		AIRSPACE OBSTRUCTION DATA TABLES
12		AIRSPACE OBSTRUCTION DATA TABLES
13		AIRSPACE OBSTRUCTION DATA TABLES
14		AIRSPACE OBSTRUCTION DATA TABLES

FAA APPROVAL LETTER

ALP APPROVAL

Cashmere-Dryden Airport | Cashmere, Washington

July 15th, 2024

Background

The updated Airport Layout Plan (ALP) for the Cashmere-Dryden Airport (8S2) represents a change to the general aviation area of the airport. This change was developed based on the conclusions of an informal planning study completed over the course of 2023. An aeronautical study (no. 2024 - ANM - 2685 - NRA) was conducted on the proposed development. This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

ALP

Major changes in this 2024 ALP from the previous version include:

Sheet 2 - Data Sheet

- Added a data sheet.

Sheet 3 - Airport Layout Plan

- A 160' shift to the west;
- A widening of the runway from 50' to 60';
- Easements were recommended to control the Runway Protection Zones (RPZ);
- Proposed property acquisition 0.56 acres (reduced from 3.57 acres depicted in 2009 ALP);
- Electric Aircraft Charging station location reserved;
- Transient helicopter parking apron added.

Sheet 4 - Terminal Area Plan

- Added a sheet for the Terminal Area Plan.

Sheet 13 & 14-Obstruction Tables

- Added sheet 13 & 14 cataloging obstructions (2017 AGIS Survey).

This ALP approval is conditioned on acknowledgement that any development on airport property requiring Federal environmental approval must receive such written approval from FAA prior to commencement of the subject development. This ALP approval is also conditioned on acceptance of the plan under local land use laws. We encourage appropriate agencies to adopt land use and height restrictive zoning based on the plan.

Approval of the plan does not indicate that the United States will participate in the cost of any development proposed. AIP funding requires evidence of eligibility and justification at the time a funding request is ripe for consideration. When construction of any proposed structure or development indicated on the plan is undertaken, such construction requires normal 45-day advance notification to FAA for review in accordance with applicable Federal Aviation Regulations (i.e., Parts 77, 157, 152, etc.). More notice is generally beneficial to ensure that all statutory, regulatory, technical and operational issues can be addressed in a timely manner.

Signature Blocks

The FAA signature below acknowledges approval of the ALP.

FAA: Agnes Fisher – SEA 637, Community Planner- WA **June 2024**

Agnes O. Fisher — Digitally signed by Agnes O. Fisher Date: 2024.07.15 10:23:52 -07'00'

Airport Sponsor: Chelan County, Kevin Overbay, Board Chair

7/8/24

Consultant: Century West Engineering, Samantha Peterson, Planning Project Manager

Samantha Peterson — Digitally signed by Samantha Peterson Date: 2024.06.25 08:38:28 -07'00'

"THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION (PROJECT NUMBER 3-53-0011-007-2022) AS PROVIDED UNDER TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING. 0" ——— 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

FEDERAL AVIATION ADMINISTRATION APPROVAL

APPROVAL DATE: _____

SIGNATURE

CHELAN COUNTY APPROVAL

APPROVAL DATE: _____

SIGNATURE

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

TITLE SHEET

FIGURE NO.

SHEET NO. 1 OF 14

AIRPORT DATA TABLE

	EXISTING (E)	FUTURE (F)
AIRPORT REFERENCE CODE (ARC)	A-I (SMALL)	SAME
FAA IDENTIFIER	8S2	SAME
MEAN MAX. TEMPERATURE	87.2°	SAME
AIRPORT ELEVATION (MSL)	857.6'	859.2'
AIRPORT ACREAGE	21.25	21.81 EST.
AIRPORT NAVAIDS	BEACON	SAME
AIRPORT REFERENCE POINT	N 47° 30' 53.08" W 120° 29' 04.76"	N 47° 30' 53.08" W 120° 29' 07.09"
MISCELLANEOUS FACILITIES	WIND CONE	WIND CONE, TW REFLECTORS
CRITICAL AIRCRAFT	CESSNA 172	SAME
WINGSPAN	<49	SAME
WEIGHT	<12,500 LBS.	SAME
APPROACH SPEED	<91 KNOTS	SAME
LENGTH OF HAUL	<500 MILES	SAME
OFZ PENETRATION	YES - RUNWAY 25	NONE
MAGNETIC DECLINATION (SEE NOTE 1)	14°49'E (2/2024)	ANNUAL RATE OF CHANGE 0°6'W
NPIAS ROLE / SERVICE LEVEL	BASIC - GA	SAME
STATE SERVICE LEVEL	COMMUNITY AIRPORT	SAME

RUNWAY DATA

	EXISTING (E)		FUTURE (F)	
RUNWAY IDENTIFICATION	7-25		8-26 (SEE NOTE 2)	
RUNWAY DESIGN CODE (RDC)	A-I(S)-VIS.		SAME	
APPROACH REFERENCE CODE (APRC)	A/I(S)/VIS		SAME	
DEPARTURE REFERENCE CODE (DPRC)	A/I(S)		SAME	
RUNWAY PAVEMENT TYPE	ASPHALT		SAME	
RUNWAY PAVEMENT STRENGTH - (PCI) (IN 1000 LBS)	8 SW		12.5 SW	
RUNWAY PAVEMENT STRENGTH (PCN)	DATA NOT AVAILABLE		SAME	
RUNWAY SURFACE TREATMENT	NONE		SAME	
RUNWAY PERCENT GRADIENT / MAXIMUM GRADE	1.38%		1.44%	
PERCENT WIND COVERAGE	SEE WIND ROSE			
RUNWAY DIMENSIONS LENGTH AND WIDTH	1,800' X 50'		1,800' X 60'	
DISPLACED THRESHOLD	YES		NO	
	RUNWAY 7	RUNWAY 25	RUNWAY 8	RUNWAY 26
DISPLACED THRESHOLD ELEVATION	N/A	834.53'	N/A	N/A
DISPLACED THRESHOLD COORDINATES LAT.	N/A	N 47° 30' 53.10"	N/A	N/A
DISPLACED THRESHOLD COORDINATES LONG.	N/A	W 120° 28' 53.75"	N/A	N/A
RUNWAY END COORDINATES LAT.	N 47° 30' 53.05"	N 47° 30' 53.11"	N 47° 30' 53.05"	N 47° 30' 53.10"
RUNWAY END COORDINATES LONG.	W 120° 29' 17.87"	W 120° 28' 51.65"	W 120° 29' 20.20"	W 120° 28' 53.98"
RUNWAY LIGHTING	MIRL		SAME	
RUNWAY PROTECTION ZONE	SEE RUNWAY DESIGN SURFACES TABLE			
RUNWAY MARKING	BASIC		SAME	
14 CFR PART 77 RUNWAY CATEGORY	VISUAL		SAME	
RUNWAY APPROACH SLOPE	20:1		SAME	
APPROACH VISIBILITY MINIMUMS	VISUAL		SAME	
AERONAUTICAL SURVEY REQUIRED	AGIS (2023)		SAME	
RUNWAY DEPARTURE SURFACE	N/A		SAME	
RUNWAY SAFETY AREA - RSA	SEE RUNWAY DESIGN SURFACES TABLE			
RUNWAY OBJECT FREE AREA - OFA				
RUNWAY OBSTACLE FREE ZONE - OFZ				
THRESHOLD SITING SURFACE - TSS	TYPE 2 (20:1)		SAME	
THRESHOLD SITING SURFACE PENETRATIONS			ROAD, FENCE	
RUNWAY VISUAL AND INSTRUMENT NAVAIDS	NONE		(SEE NOTE 4)	
TOUCHDOWN ZONE ELEVATION (TDZE)	857.57'		860.02'	
TAXIWAY AND TAXILANE SAFETY AREA -TSA	SEE TAXIWAY DATA TABLE			
TAXIWAY AND TAXILANE OBJECT FREE AREA - TOFA				
TAXIWAY AND TAXILANE SEPARATION				
TAXIWAY AND TAXILANE LIGHTING	REFLECTORS		SAME	
DATUM	NAD83 (HORZ)/NAVD88 (VERT)		SAME	

TAXIWAY / TAXILANE DATA TABLE

	EXISTING (E)		FUTURE (F)	
	CONDITIONS	STANDARDS	CONDITIONS	STANDARDS
TAXIWAY WIDTHS	25'	25'	25'	25'
TAXILANE WIDTHS	20'	25'	20'	25'
TAXIWAY SAFETY AREA	49'	49'	49'	49'
TAXILANE SAFETY AREA	49'	49'	49'	49'
TAXIWAY OBJECT FREE AREA	VARIES	89'	VARIES	89'
TAXILANE OBJECT FREE AREA	VARIES	79'	VARIES	79'
TAXIWAY LIGHTING	NONE		EDGE REFLECTORS	
TAXIWAY MARKING	BASIC		SAME	

RUNWAY 7/25 (E) 8/26 (F) DESIGN SURFACES

RUNWAY PROTECTION ZONE (RPZ)

	INNER WIDTH	LENGTH	OUTER WIDTH
EXISTING RWY 7	250'	1,000'	450'
EXISTING RWY 25	250'	1,000'	450'
FUTURE RWY 8	SAME	SAME	SAME
FUTURE RWY 26	SAME	SAME	SAME

RUNWAY SAFETY AREA (RSA)

	WIDTH	LENGTH BEYOND RUNWAY END & PRIOR TO THRESHOLD
EXISTING RWY 7/25	120'	240'
FUTURE RWY 8/26	SAME	SAME

RUNWAY OBJECT FREE AREA (OFA)

	WIDTH	LENGTH BEYOND RUNWAY END & PRIOR TO THRESHOLD
EXISTING RWY 7/25	250'	240'
FUTURE RWY 8/26	SAME	SAME

RUNWAY OBSTACLE FREE ZONE (OFZ)

	WIDTH	LENGTH BEYOND RUNWAY END & PRIOR TO THRESHOLD
EXISTING RWY 7/25	250'	200'
FUTURE RWY 8/26	SAME	SAME

NOTE:

DECLARED DISTANCES

	EXISTING (E)		FUTURE (F)	
	RWY 7	RWY 25	RWY 8	RWY 26
TORA	1,800'	1.647'	1,800'	1,800'
TODA	1,800'	1,800'	1,800'	1,960'
ASDA	1,800'	1,800'	1,800'	1,960'
LDA	1,800'	1,800'	1,800'	1,960'

RUNWAY 7/25 (E) 8/26 (F) DESIGN STANDARDS

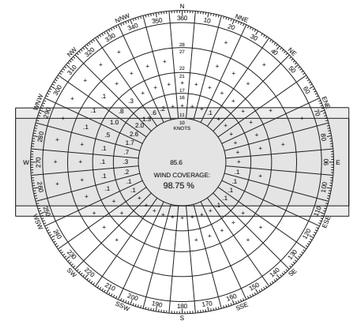
	EXISTING CONDITIONS	EXISTING STANDARD	FUTURE CONDITIONS	FUTURE STANDARD
RUNWAY SAFETY AREA LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	2,280' X 120' 240'	2,280' X 120' 240'	2,280' X 120' 240'	2,280' X 120' 240'
OBJECT FREE AREA LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	2,280' X 250' 240'	2,280' X 250' 240'	2,280' X 250' 240'	2,280' X 250' 240'
OBSTACLE FREE ZONE LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	2,200' X 250' 200'	2,200' X 250' 200'	2,200' X 250' 200'	2,200' X 250' 200'

MODIFICATION TO STANDARDS

"NONE REQUIRED"

APRON DIMENSIONS

	SQUARE FOOTAGE APPROX.
APRON EXISTING	5,771
APRON FUTURE	5,000



ALL WEATHER WIND ROSE

SOURCE:
FAA AIRPORT DATA AND INFORMATION PORTAL
STATION 727825 PANGBORN MEMORIAL AIRPORT
PERIOD OF OBSERVATIONS : 2011-2020
NUMBER OF OBSERVATIONS : 102,691

RUNWAY 7/25 (E) 8/26 (F)WIND COVERAGE

RUNWAY ALIGNMENT	CROSSWIND COMP. (KNOTS)	ALL-WEATHER WIND COVERAGE	VFR WIND COVERAGE	IFR WIND COVERAGE
RUNWAY 7	10.5	42.61%	38.67%	61.75%
	13	42.78%	38.86%	61.79%
RUNWAY 25	10.5	77.19%	76.85%	78.61%
	13	79.24%	79.32%	78.64%
COMBINED	10.5	96.53%	95.85%	99.82%
	13	98.75%	98.51%	99.88%

NOTES:
1. NATIONAL GEODETIC SURVEY MAGNETIC DECLINATION CALCULATOR (HTTPS://WWW.NGDC.NOAA.GOV/GEOMAG/CALCULATORS/MAGCALC.SHTML) ACCESSED ON SEPTEMBER, 2023
2. FUTURE RUNWAY DESIGNATION TO BE CHANGED TO 8/26, DUE TO ONGOING CHANGE IN MAGNETIC DECLINATION.
3. AGIS SURVEY - AUGUST 2017, PROVIDED RUNWAY END COORDINATES AND ELEVATIONS.
4. FUTURE PAPI FOR RUNWAY 8 AND 26 SUBJECT TO ENGINEERING ANALYSIS TO DETERMINE FEASIBILITY.

"THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION (PROJECT NUMBER 3-53-0011-007-2022) AS PROVIDED UNDER TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

FEDERAL AVIATION ADMINISTRATION APPROVAL
APPROVAL DATE: _____
SIGNATURE

CHELAN COUNTY APPROVAL
APPROVAL DATE: _____
SIGNATURE

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 3-53-0011-007-2022	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRPORT DATA SHEET

FIGURE NO.

SHEET NO. 2 OF 14

LEGEND

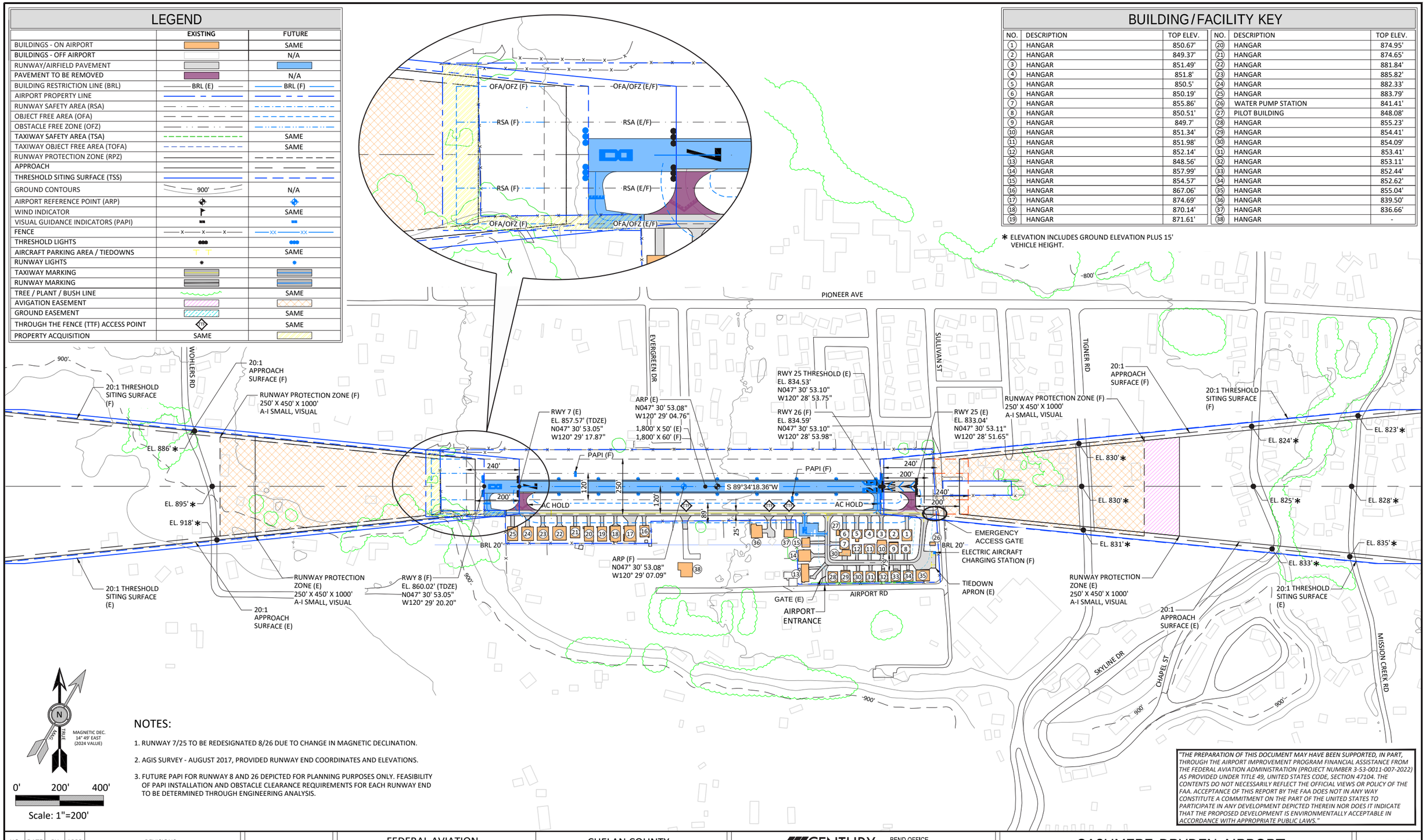
	EXISTING	FUTURE
BUILDINGS - ON AIRPORT		SAME
BUILDINGS - OFF AIRPORT		N/A
RUNWAY/AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		N/A
BUILDING RESTRICTION LINE (BRL)	BRL (E)	BRL (F)
AIRPORT PROPERTY LINE		
RUNWAY SAFETY AREA (RSA)		
OBJECT FREE AREA (OFA)		
OBSTACLE FREE ZONE (OFZ)		
TAXIWAY SAFETY AREA (TSA)		SAME
TAXIWAY OBJECT FREE AREA (TOFA)		SAME
RUNWAY PROTECTION ZONE (RPZ)		
APPROACH		
THRESHOLD SITING SURFACE (TSS)		
GROUND CONTOURS	900'	N/A
AIRPORT REFERENCE POINT (ARP)		
WIND INDICATOR		SAME
VISUAL GUIDANCE INDICATORS (PAPI)		
FENCE	x x x	xx xx
THRESHOLD LIGHTS		
AIRCRAFT PARKING AREA / TIEDOWNS		SAME
RUNWAY LIGHTS		
TAXIWAY MARKING		
RUNWAY MARKING		
TREE / PLANT / BUSH LINE		SAME
AVIGATION EASEMENT		SAME
GROUND EASEMENT		SAME
THROUGH THE FENCE (TTF) ACCESS POINT	TTF	SAME
PROPERTY ACQUISITION	SAME	

BUILDING / FACILITY KEY

NO.	DESCRIPTION	TOP ELEV.
1	HANGAR	850.67'
2	HANGAR	849.37'
3	HANGAR	851.49'
4	HANGAR	851.8'
5	HANGAR	850.5'
6	HANGAR	850.19'
7	HANGAR	855.86'
8	HANGAR	850.51'
9	HANGAR	849.7'
10	HANGAR	851.34'
11	HANGAR	851.98'
12	HANGAR	852.14'
13	HANGAR	848.56'
14	HANGAR	857.99'
15	HANGAR	854.57'
16	HANGAR	867.06'
17	HANGAR	874.69'
18	HANGAR	870.14'
19	HANGAR	871.61'

NO.	DESCRIPTION	TOP ELEV.
20	HANGAR	874.95'
21	HANGAR	874.65'
22	HANGAR	881.84'
23	HANGAR	885.82'
24	HANGAR	882.33'
25	HANGAR	883.79'
26	WATER PUMP STATION	841.41'
27	PILOT BUILDING	848.08'
28	HANGAR	855.23'
29	HANGAR	854.41'
30	HANGAR	854.09'
31	HANGAR	853.41'
32	HANGAR	853.11'
33	HANGAR	852.44'
34	HANGAR	852.62'
35	HANGAR	855.04'
36	HANGAR	839.50'
37	HANGAR	836.66'
38	HANGAR	-

✱ ELEVATION INCLUDES GROUND ELEVATION PLUS 15' VEHICLE HEIGHT.



0' 200' 400'

Scale: 1"=200'

NOTES:

1. RUNWAY 7/25 TO BE REDESIGNATED 8/26 DUE TO CHANGE IN MAGNETIC DECLINATION.
2. AGIS SURVEY - AUGUST 2017, PROVIDED RUNWAY END COORDINATES AND ELEVATIONS.
3. FUTURE PAPI FOR RUNWAY 8 AND 26 DEPICTED FOR PLANNING PURPOSES ONLY. FEASIBILITY OF PAPI INSTALLATION AND OBSTACLE CLEARANCE REQUIREMENTS FOR EACH RUNWAY END TO BE DETERMINED THROUGH ENGINEERING ANALYSIS.

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NO.	DATE	BY	APPR	REVISIONS

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SIGNATURE

CHELAN COUNTY APPROVAL

APPROVAL DATE: _____

SIGNATURE

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRPORT LAYOUT PLAN

FIGURE NO.

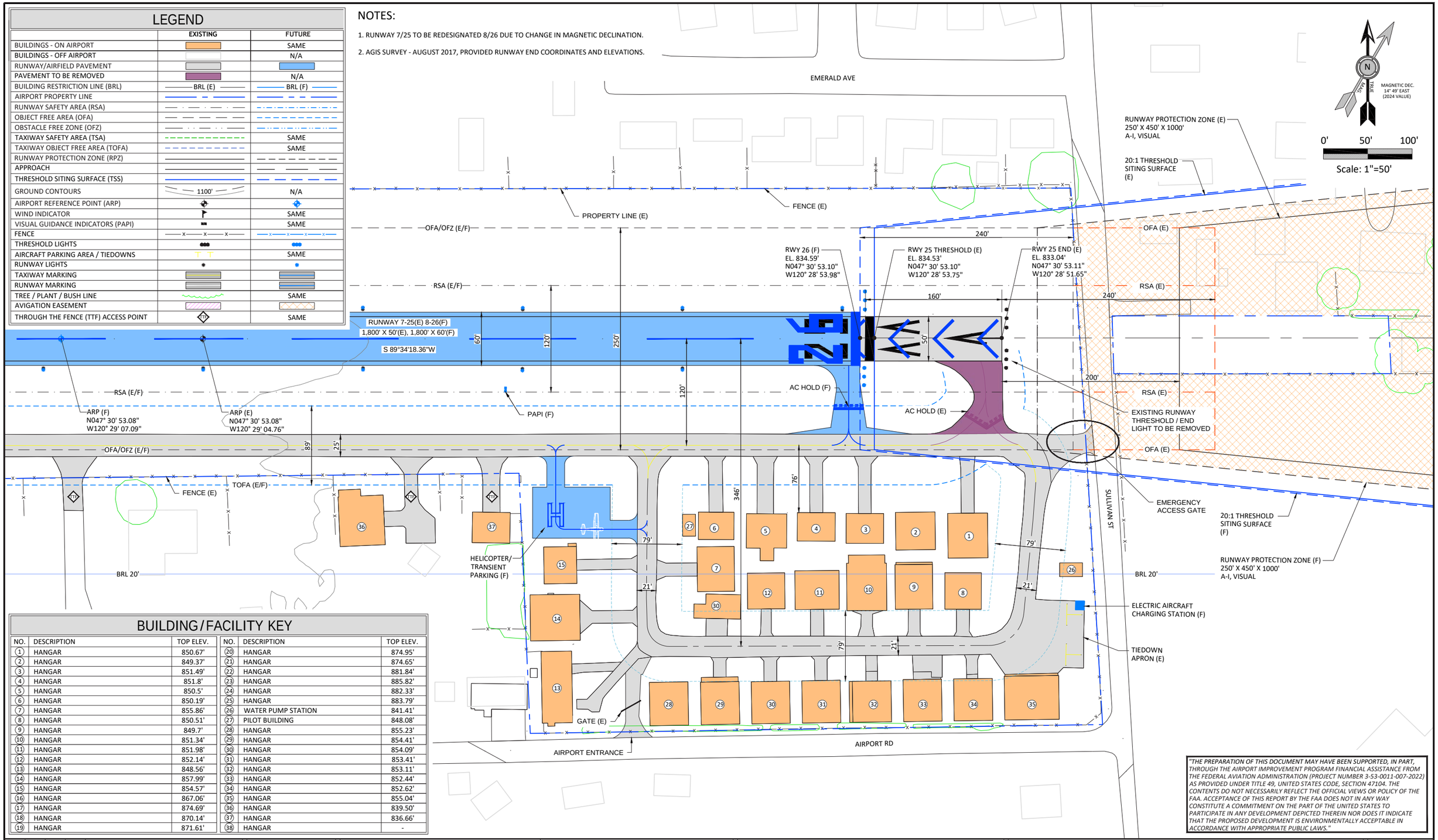
SHEET NO. 3 OF 14

LEGEND

	EXISTING	FUTURE
BUILDINGS - ON AIRPORT		SAME
BUILDINGS - OFF AIRPORT		N/A
RUNWAY/AIRFIELD PAVEMENT		
PAVEMENT TO BE REMOVED		N/A
BUILDING RESTRICTION LINE (BRL)	BRL (E)	BRL (F)
AIRPORT PROPERTY LINE		
RUNWAY SAFETY AREA (RSA)		
OBJECT FREE AREA (OFA)		
OBSTACLE FREE ZONE (OFZ)		
TAXIWAY SAFETY AREA (TSA)		SAME
TAXIWAY OBJECT FREE AREA (TOFA)		SAME
RUNWAY PROTECTION ZONE (RPZ)		
APPROACH		
THRESHOLD SITING SURFACE (TSS)		
GROUND CONTOURS	1100'	N/A
AIRPORT REFERENCE POINT (ARP)		
WIND INDICATOR		SAME
VISUAL GUIDANCE INDICATORS (PAPI)		SAME
FENCE		
THRESHOLD LIGHTS		
AIRCRAFT PARKING AREA / TIEDOWNS		SAME
RUNWAY LIGHTS		
TAXIWAY MARKING		
RUNWAY MARKING		
TREE / PLANT / BUSH LINE		SAME
AVIGATION EASEMENT		
THROUGH THE FENCE (TTF) ACCESS POINT	TTF	SAME

NOTES:

1. RUNWAY 7/25 TO BE REDESIGNATED 8/26 DUE TO CHANGE IN MAGNETIC DECLINATION.
2. AGIS SURVEY - AUGUST 2017, PROVIDED RUNWAY END COORDINATES AND ELEVATIONS.



BUILDING / FACILITY KEY

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
1	HANGAR	850.67'	20	HANGAR	874.95'
2	HANGAR	849.37'	21	HANGAR	874.65'
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4	HANGAR	851.8'	23	HANGAR	885.82'
5	HANGAR	850.5'	24	HANGAR	882.33'
6	HANGAR	850.19'	25	HANGAR	883.79'
7	HANGAR	855.86'	26	WATER PUMP STATION	841.41'
8	HANGAR	850.51'	27	PILOT BUILDING	848.08'
9	HANGAR	849.7'	28	HANGAR	855.23'
10	HANGAR	851.34'	29	HANGAR	854.41'
11	HANGAR	851.98'	30	HANGAR	854.09'
12	HANGAR	852.14'	31	HANGAR	853.41'
13	HANGAR	848.56'	32	HANGAR	853.11'
14	HANGAR	857.99'	33	HANGAR	852.44'
15	HANGAR	854.57'	34	HANGAR	852.62'
16	HANGAR	867.06'	35	HANGAR	855.04'
17	HANGAR	874.69'	36	HANGAR	839.50'
18	HANGAR	870.14'	37	HANGAR	836.66'
19	HANGAR	871.61'	38	HANGAR	-

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CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

TERMINAL AREA PLAN

FIGURE NO.

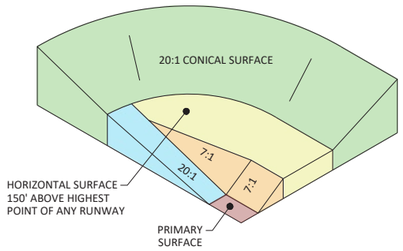
SHEET NO. 4 OF 14

RUNWAY 8/26 (F)

PART 77 DIMENSIONAL STANDARDS
UTILITY VISUAL (FUTURE)
RUNWAY EXISTING LENGTH = 1,800' (RUNWAY TYPE = A-I / B-I SMALL)
RUNWAY FUTURE LENGTH = 1,800' (RUNWAY TYPE = A-I / B-I SMALL)

RUNWAY 8
PRIMARY SURFACE WIDTH = 250'
APPROACH SURFACE INNER WIDTH = 250'
APPROACH SURFACE OUTER WIDTH = 1,250'
APPROACH SURFACE LENGTH = 5,000'
RADIUS OF HORIZONTAL SURFACE = 5,000'
APPROACH SLOPE = 20:1

RUNWAY 26
PRIMARY SURFACE WIDTH = 250'
APPROACH SURFACE INNER WIDTH = 250'
APPROACH SURFACE OUTER WIDTH = 1,250'
APPROACH SURFACE LENGTH = 5,000'
RADIUS OF HORIZONTAL SURFACE = 5,000'
APPROACH SLOPE = 20:1



TYPICAL ISOMETRIC VIEW OF PART 77 SURFACES
(CUT ON RUNWAY CENTERLINE)

LEGEND

▲ OBSTACLE

NOTES:

1. GRID NUMBERS REPRESENT THE HIGHEST PENETRATING OBJECT WITHIN EACH 1000' X 1000' GRID CELL.
2. SEE SHEETS 11, 12, 13 AND 14 FOR OBSTRUCTION TABLES.
3. DATE OF AGIS OBSTRUCTION SURVEY: AUGUST 2017.
4. E/F FAA THRESHOLD SITING SURFACES (AC 150/5300-13B) DEPICTED FOR REFERENCE.

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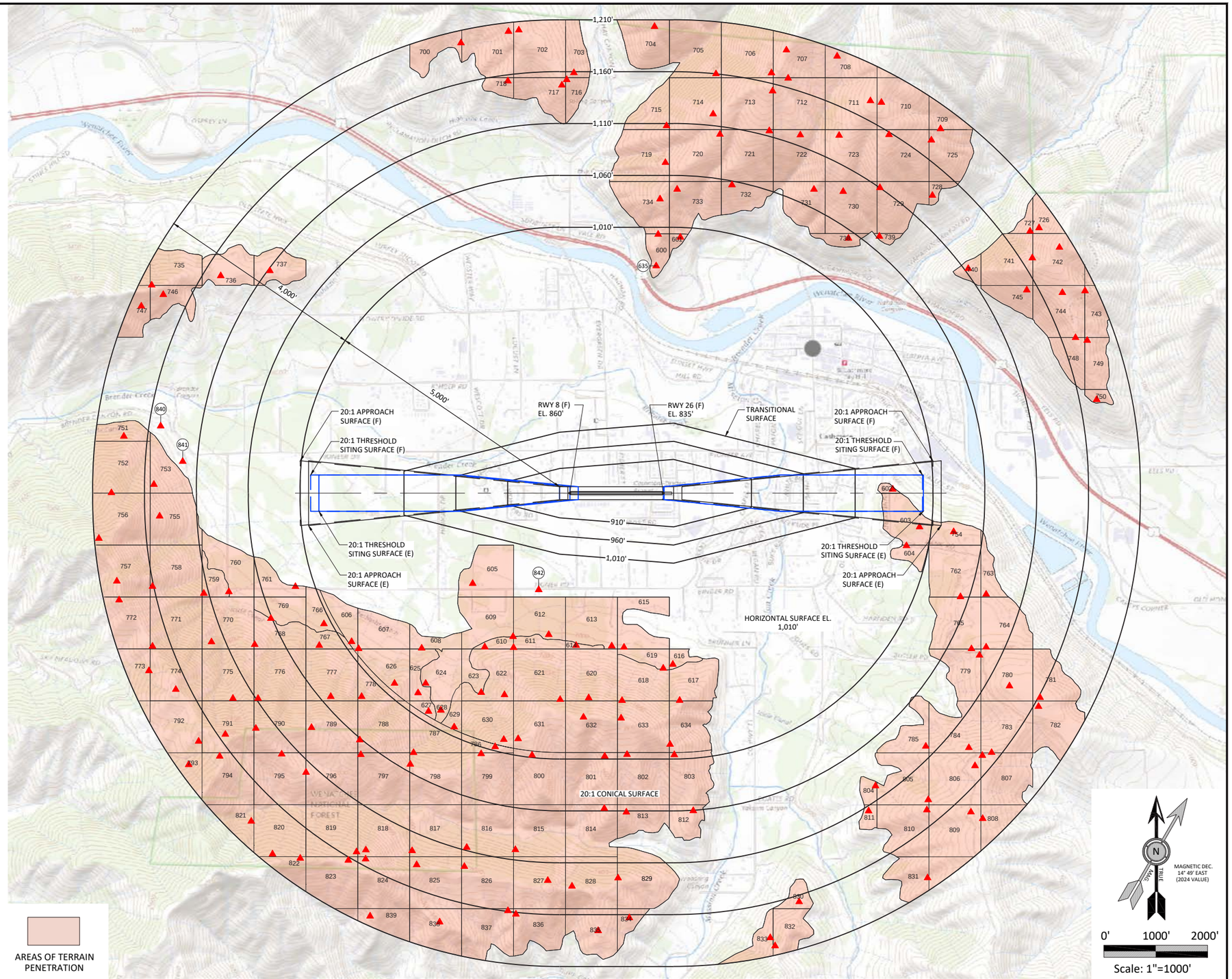

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1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
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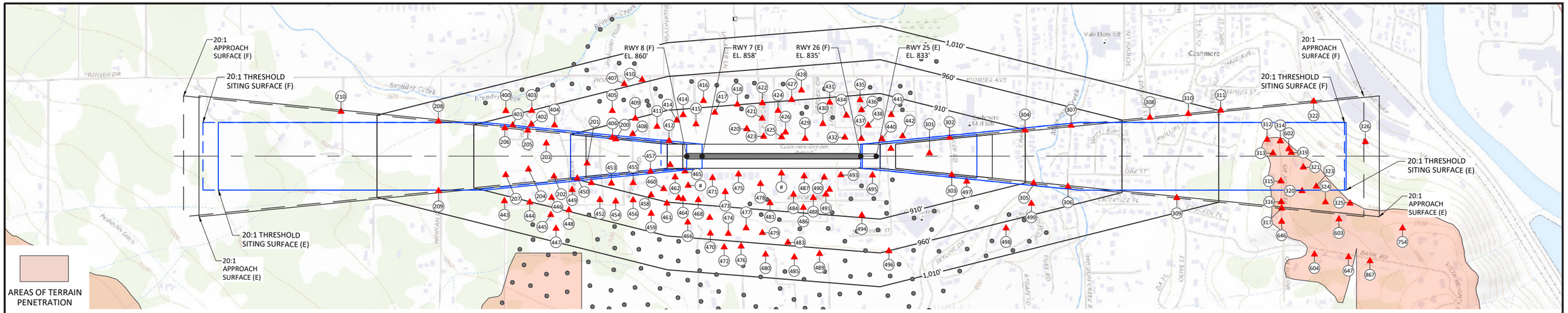
CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRPORT AIRSPACE PLAN (PART 77)

FIGURE NO.

SHEET NO. 5 OF 14



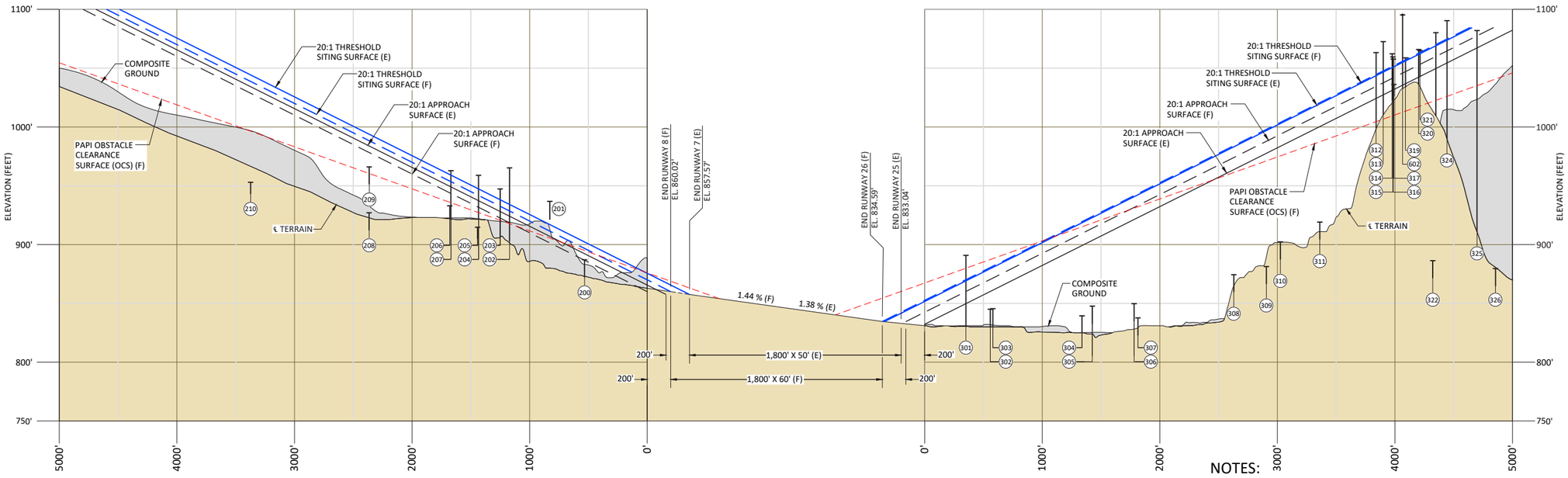
RUNWAY 7-25(E) 8-26(F) PLAN VIEW

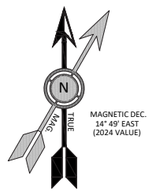
0' 500' 1000'

SCALE OF FEET
HORIZONTAL SCALE 1"=500'

LEGEND

- OBSTACLE
- NON-LISTED OBSTACLE





0' 1000' 2000'

Scale: 1"=1000'

RUNWAY 7-25(E) 8-26(F) PROFILE VIEW

0' 50' 100'

SCALE OF FEET
VERTICAL SCALE 1"=50'

0' 500' 1000'

SCALE OF FEET
HORIZONTAL SCALE 1"=500'

NOTES:

1. DETAILED DATA ARE PROVIDED FOR OBSTACLES (SEE LEGEND) THAT ARE LESS THAN 10' BELOW THE CONTROLLING SURFACE OR ABOVE. THE LOCATIONS OF OTHER OBSTACLES ARE DEPICTED BY BLACK DOTS FOR REFERENCE. CONSULT ADIP FOR DETAILED INFORMATION ON THESE FEATURES.
2. AREAS OF DENSE OBSTACLES ARE AGGREGATED BY CANOPY BOUNDARIES (TRANSITIONAL) OR GRIDS (HORIZONTAL/CONICAL). THE OBSTACLE ID NUMBER OF THE MOST PENETRATING OBSTACLE FOR EACH AREA IS LISTED ON THE PLAN VIEW AND REFERENCED IN THE OBSTRUCTION TABLES ON SHEETS 11, 12, 13, & 14.
3. FUTURE PAPI OBSTACLE CLEARANCE SURFACES FOR RUNWAYS 8 AND 26 ARE DEPICTED IN PROFILE VIEW FOR ILLUSTRATION PURPOSES ONLY. FEASIBILITY OF PAPI INSTALLATION AND OBSTACLE CLEARANCE REQUIREMENTS TO BE DETERMINED THROUGH ENGINEERING ANALYSIS.

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1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

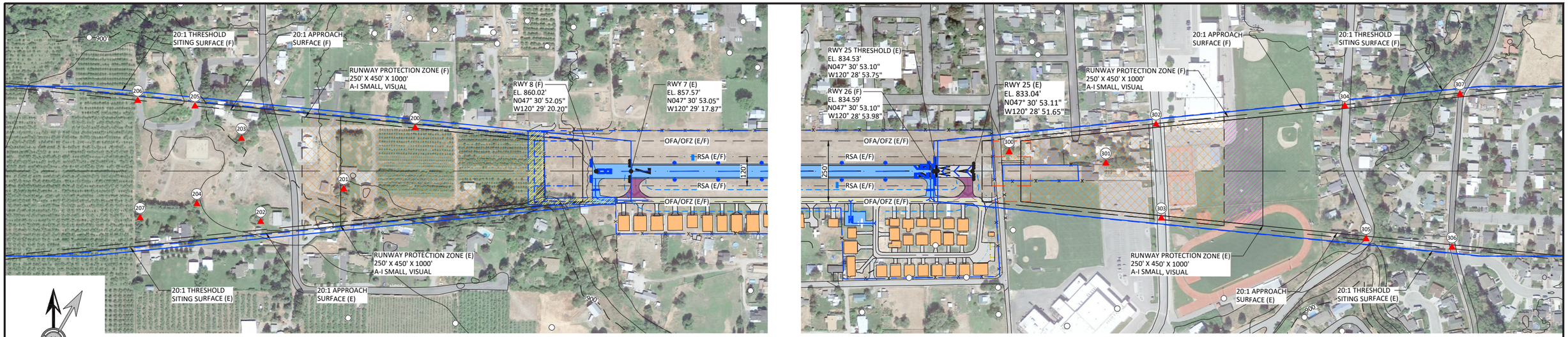
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

RUNWAY 8-26 APPROACH PLAN & PROFILE

FIGURE NO.

SHEET NO. 6 OF 14



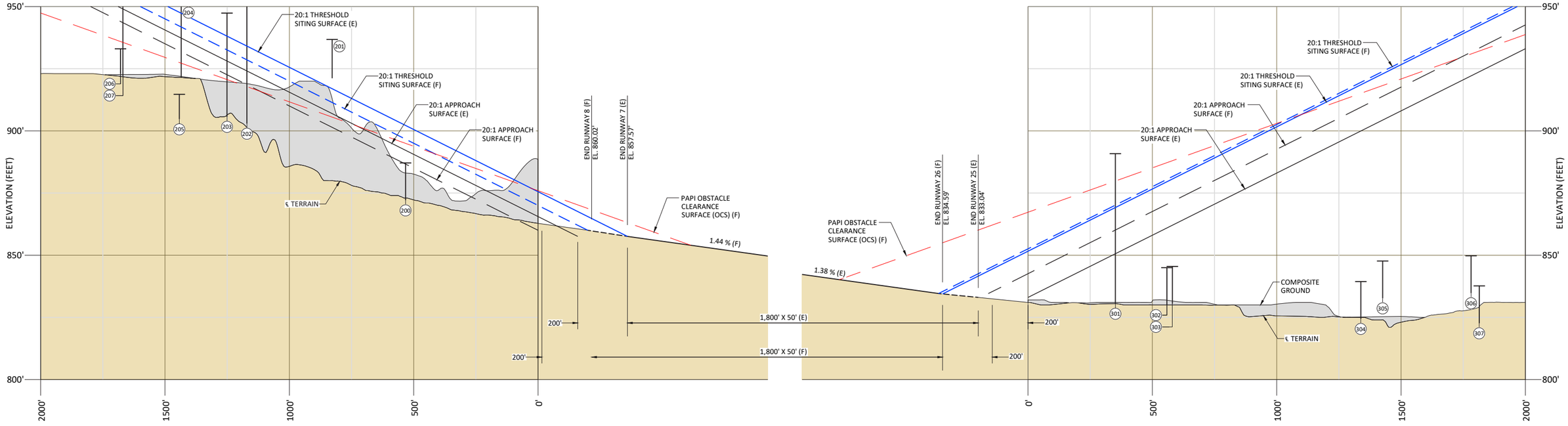
RUNWAY 7-25(E) 8-25(F) PLAN VIEW

0' 200' 400'

Scale: 1"=200'

LEGEND

- ▲ OBSTACLE
- ○ NON-LISTED OBSTACLE



RUNWAY 7-25(E) 8-25(F) PROFILE VIEW

0' 20' 40'

Vertical Scale: 1"=20'

0' 200' 400'

Horizontal Scale: 1"=200'

NOTES:

1. DISTANCES FOR NOTED OBSTRUCTIONS ARE BASED ON THE FUTURE RUNWAY CONFIGURATION. DIMENSIONS INCLUDE 200' DISTANCE FROM RUNWAY END TO BEGINNING OF APPROACH.
2. SEE SHEETS 11, 12, 13, AND 14 FOR OBSTRUCTION TABLES.
3. FUTURE PAPI OBSTACLE CLEARANCE SURFACES FOR RUNWAYS 8 AND 26 ARE DEPICTED IN PROFILE VIEW FOR ILLUSTRATION PURPOSES ONLY. FEASIBILITY OF PAPI INSTALLATION AND OBSTACLE CLEARANCE REQUIREMENTS TO BE DETERMINED THROUGH ENGINEERING ANALYSIS.

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541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN

DATE: MARCH 2024

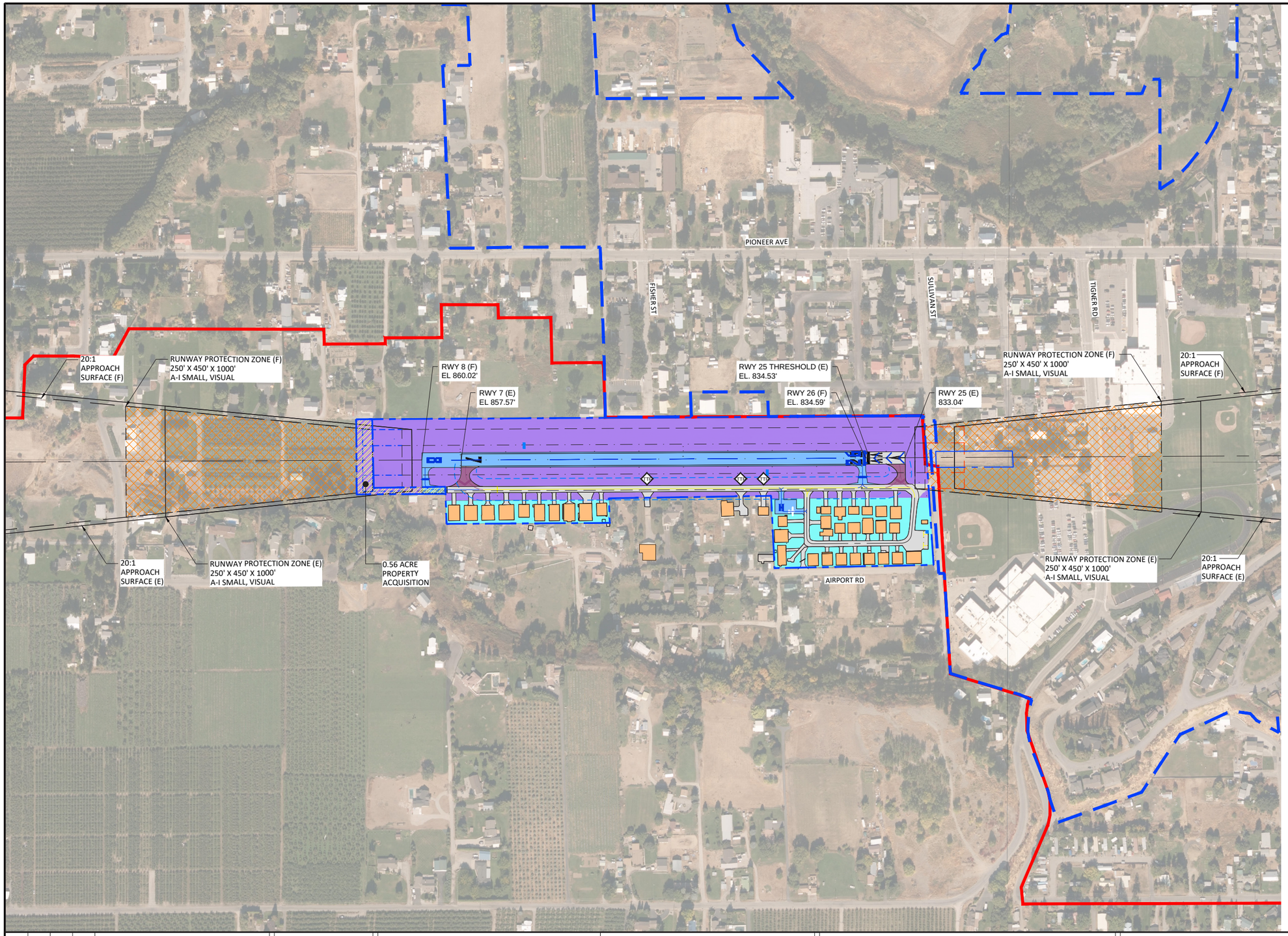
PROJECT NO: 12472.003.01

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

INNER PORTION RUNWAY 8-26 APPROACH SURFACES

FIGURE NO.

SHEET NO. 7 OF 14



AIRPORT LAND USE

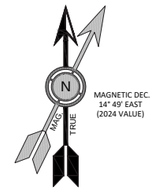
- AERONAUTICAL DEVELOPMENT (APPROX. 5.47 ACRES)
- AIRPORT OPERATIONS PROTECTED AREA (APPROX. 17.31 ACRES)
- FUTURE AVIGATION EASEMENT (APPROX. 14.93 ACRES)
- FUTURE PROPERTY ACQUISITION (APPROX. 0.56 ACRES)

LEGEND

- AIRPORT PROPERTY LINE (EXISTING)
- AIRPORT PROPERTY LINE (FUTURE)
- CASHMERE CITY LIMITS
- CASHMERE UGA

NOTES:

1. ZONING HEIGHT RESTRICTIONS: SEE CHELAN COUNTY - AIRPORT OVERLAY DISTRICT CHAPTER 11.74.
2. ON AIRPORT LAND USE IS FOR PLANNING PURPOSES ONLY AND DOES NOT RELATE TO THE COUNTY DESIGNATED ZONING OF RURAL PUBLIC (RP).



0' 600' 1,200'

Scale: 1"=600'

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APPROVAL DATE: _____

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CHELAN COUNTY APPROVAL

APPROVAL DATE: _____

SIGNATURE

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

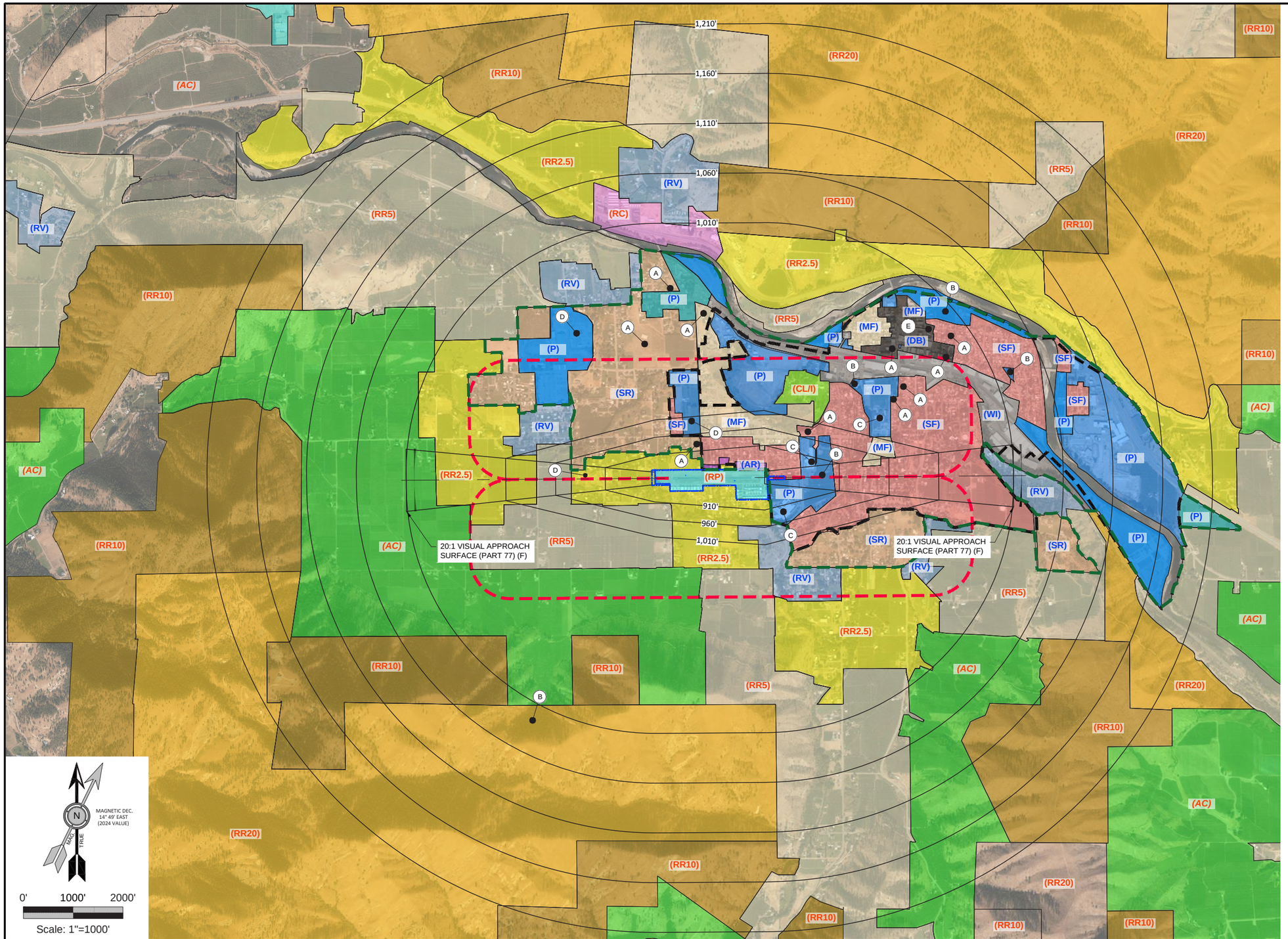
DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

ON AIRPORT LAND USE PLAN

FIGURE NO. -

SHEET NO. 8 OF 14



CHELAN COUNTY ZONING

- AGRICULTURAL (AC)
- RURAL VILLAGE (RV)
- RURAL COMMERCIAL (RC)
- RURAL PUBLIC (RP)
- MULTI FAMILY (MF)
- RURAL RESIDENTIAL 2.5 (RR2.5)
- RURAL RESIDENTIAL 5 (RR5)
- RURAL RESIDENTIAL 10 (RR10)
- RURAL RESIDENTIAL 20 (RR20)
- COMMERCIAL/LIGHT INDUSTRIAL (C/LI)

CITY OF CASHMERE ZONING

- AIRPORT RESIDENTIAL (AR)
- PUBLIC (P)
- WAREHOUSE INDUSTRIAL (WI)
- DOWNTOWN BUSINESS (DB)
- SUBURBAN RESIDENTIAL
- SINGLE FAMILY (SF)
- CITY LIMITS
- UGA

LEGEND

- EXISTING AIRPORT PROPERTY LINE
- FUTURE AIRPORT PROPERTY LINE
- ZONING BOUNDARY
- AIRPORT TRAFFIC PATTERN (TYP.)

PUBLIC FACILITY KEY

A	CHURCH
B	PARK
C	SCHOOL
D	CEMETERY
E	CASHMERE PUBLIC LIBRARY
F	CHELAN COUNTY PUBLIC WORKS

NOTE:
ZONING HEIGHT RESTRICTIONS: SEE CHELAN COUNTY - AIRPORT OVERLAY DISTRICT CHAPTER 11.74.

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APPROVAL DATE: _____
SIGNATURE

CHELAN COUNTY APPROVAL
APPROVAL DATE: _____
SIGNATURE

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN
DATE: MARCH 2024		PROJECT NO: 12472.003.01	

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

OFF AIRPORT LAND USE PLAN

FIGURE NO.

SHEET NO. 9 OF 14

LEGAL DESCRIPTIONS

PARCEL A - LOT 2, AS DELINEATED ON FREDRICK RINGSRUD SHORT PLAN NO.1819, CHELAN COUNTY WASHINGTON ACCORDING TO THE PLAT THEREOF, RECORDED IN VOLUME SP-6 OF SHORT PLATS, PAGE 9, BEING A PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19, E.W.M., CHELAN COUNTY, WASHINGTON.. SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

PARCEL B - NORTH 429 FOOT OF THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19 E.W.M. SITUATED IN THE COUNTY OF LEWIS, STATE OF WASHINGTON.

PARCEL C - WEST 348 FEET OF THE NORTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19 E.W.M. SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

PARCEL D - NORTH HALF OF THE SOUTHWEST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19 E.W.H., CHELAN COUNTY, WASHINGTON, EXCEPT THE WEST 348 FEET THEREOF, AND SUBJECT TO RIGHT OF WAY FOR ROAD ALONG THE SOUTH LINE THEREOF. SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

PARCEL E - NORTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19 E.W.H. SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

PARCEL F - A PORTION OF LOT 5, CASHMERE PARK ADDITION, CHELAN COUNTY WASHINGTON, ACCORDING TO THE RECORD PLAT THEREOF, MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT A MARKED STONE SET AT THE CENTER OF SECTION 5, T. 23 N., R. 19, E.W.M., CHELAN COUNTY, WASHINGTON, AND RUNNING TH. S.88°03-1/2' E. ALONG THE CENTER LINE OF PIONEER AVENUE AND THE EAST-WEST CENTER LINE OF SAID SEC. 5 FOR 1295.8 FEET TO AN IRON PIN AT THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION 5; THENCE RUNNING SOUTH 1°18' EAST ALONG THE WEST LINE OF SAID SUBDIVISION FOR 805.36 FEET TO THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE SOUTH 88° 12-1/2' EAST FOR 330 FEET; THENCE NORTH 1° 18' WEST FOR 66 FEET TO THE TRUE POINT OF BEGINNING OF THIS DESCRIPTION. SUBJECT TO RIGHTS OF WAY FOR ROADS. (TAX NO. 34 ON THE 1966 ROLLS.) TOGETHER WITH AN UNDIVIDED ONE-HALF INTEREST IN AND TO WATER WELL LOCATED ON THE NORTH BOUNDARY LINE..SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

PARCEL G - SOUTH HALF OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 23 NORTH, RANGE 19, E.W.M. SITUATED IN THE COUNTY OF CHELAN, STATE OF WASHINGTON.

NOTES:

1. PROPERTY OWNERSHIP DATA OBTAINED FROM PERVIOUS EXHIBIT "A" DRAWINGS (W&H PACIFIC 2/09) NO UPDATED PROPERTY DATA PROVIDED BY CHELAN COUNTY.
2. SEE SHEET 3 FOR FULL LEGEND.
3. CASHMERE-DRYDEN AIRPORT WAS ESTABLISHED IN 1949 BY CHELAN COUNTY AND WAS TRANSFERRED TO THE CASHMERE-DRYDEN AIRPORT DISTRICT IN 1951 OWNERSHIP PRIOR TO ITS ESTABLISHMENT IS UNKNOWN.

OWNERSHIP DATA TABLE

PARCEL	LAND OWNER	ACRES	RECORDING INFORMATION VOL., PAGE	INTEREST	PREVIOUS OWNER	ACQUISITION YEAR	PURPOSE
A	CHELAN COUNTY	1.94	911, 1435	FEE SIMPLE	FREDRICK AND NORMA RINGSRUD	MAY. 1998	AIRPORT PROPERTY
B	CHELAN COUNTY	3.84	476, 419	FEE SIMPLE	UNKOWN	JUL. 1951	AIRPORT PROPERTY
C	CHELAN COUNTY	2.66	476, 419	FEE SIMPLE	UNKOWN	JUL. 1951	AIRPORT PROPERTY
D	CHEALN COUNTY	2.34	476, 419	FEE SIMPLE	UNKOWN	JUL. 1951	AIRPORT PROPERTY
E	CHELAN COUNTY	5.00	476, 419	FEE SIMPLE	UNKOWN	JUL. 1951	AIRPORT PROPERTY
F	CHELAN COUNTY	0.47	690, 1267	FEE SIMPLE	WILLIAM D. & ROSEMARY L. BARNES	SEP. 1968	AIRPORT PROPERTY
G	CHELAN COUNTY	5.00	476, 419	FEE SIMPLE	UNKOWN	JUL. 1951	AIRPORT PROPERTY
H	ERICK J. RINGSRUD	0.37	N/A	FEE	N/A	TO BE ACQUIRED	RUNWAY SHIFT
I	HART FRED & MURLEEN J ETAL	0.19	N/A	FEE	N/A	TO BE ACQUIRED	RUNWAY SHIFT
	TOTAL EXISTING ACREAGE	**21.25**					
	TOTAL FUTURE ACREAGE	**21.81**					

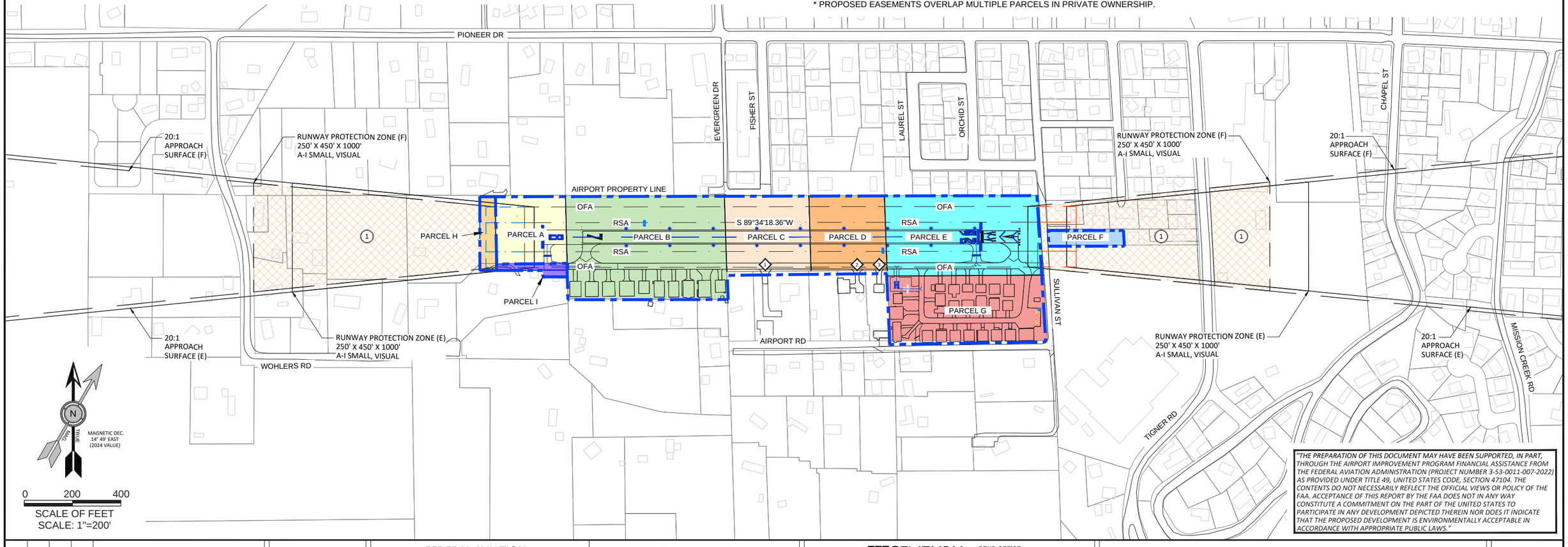
THROUGH THE FENCE ACCESS DATA TABLE

ACCESS POINT	GRANTOR	GRANTEE	INTEREST	AGREEMENT YEAR	EXPIRATION YEAR	PURPOSE
1	CHELAN COUNTY	ROSE & DREW VANDERHOFF	ACCESS FEE	APR. 2023	APR. 2033	AIRPORT ACCESS
2	CHELAN COUNTY	WILLIAM P. MCGLYNN, JERED PAINE	ACCESS FEE	SEP. 2022	SEP. 2032	AIRPORT ACCESS
3	CHELAN COUNTY	GERALD R. & WANDA L, RISELAND	ACCESS FEE	JAN. 2001	JAN. 2011	AIRPORT ACCESS

EASEMENT DATA TABLE

EASEMENT	GRANTOR	GRANTEE	INTEREST	AGREEMENT YEAR	PURPOSE
1	VARIES*	CHELAN COUNTY	AVIGATION EASEMENT	TO BE ACQUIRED	RPZ CONTROL

* PROPOSED EASEMENTS OVERLAP MULTIPLE PARCELS IN PRIVATE OWNERSHIP.



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CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

EXHIBIT A - AIRPORT PROPERTY PLAN

FIGURE NO.

SHEET NO. 10 OF 14

PART 77 RW 8 APPROACH SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
200	PRIMARY ROAD	7/25/2017	APPROACH 08	872.1	15.0	887.1	887.3	-0.2	NO OBSTRUCTION
201	TREE	7/25/2017	APPROACH 08	*	*	936.8	902.0	34.7	TO BE REMOVED
202	TREE	7/25/2017	APPROACH 08	*	*	965.2	919.2	46.0	TO BE REMOVED
203	TREE	7/25/2017	APPROACH 08	*	*	947.3	923.2	24.2	TO BE REMOVED
204	TREE	7/25/2017	APPROACH 08	*	*	958.8	932.4	26.5	TO BE REMOVED
205	SECONDARY ROAD	7/25/2017	APPROACH 08	904.7	10.0	914.7	932.8	-18.1	NO OBSTRUCTION
206	SECONDARY ROAD	7/25/2017	APPROACH 08	923.0	10.0	933.0	944.6	-11.6	NO OBSTRUCTION
207	TREE	7/25/2017	APPROACH 08	*	*	962.8	944.1	18.7	TO BE REMOVED
208	PRIMARY ROAD	7/25/2017	APPROACH 08	912.1	15.0	927.1	978.9	-51.9	NO OBSTRUCTION
209	PRIMARY ROAD	7/25/2017	APPROACH 08	951.0	15.0	966.0	978.8	-12.8	NO OBSTRUCTION
210	SECONDARY ROAD	7/25/2017	APPROACH 08	943.0	10.0	953.0	1029.3	-76.3	NO OBSTRUCTION

PART 77 RW 26 APPROACH SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
300	TREE	7/25/2017	APPROACH 26	*	*	871.9	839.4	32.5	TO BE REMOVED
301	TREE	7/25/2017	APPROACH 26	*	*	890.8	859.4	31.5	TO BE REMOVED
302	PRIMARY ROAD	7/25/2017	APPROACH 26	830.0	15.0	845.0	869.8	-24.8	NO OBSTRUCTION
303	PRIMARY ROAD	7/25/2017	APPROACH 26	830.5	15.0	845.5	870.8	-25.3	NO OBSTRUCTION
304	PRIMARY ROAD	7/25/2017	APPROACH 26	824.4	15.0	839.4	908.7	-69.3	NO OBSTRUCTION
305	PRIMARY ROAD	7/25/2017	APPROACH 26	832.7	15.0	847.7	913.1	-65.4	NO OBSTRUCTION
306	PRIMARY ROAD	7/25/2017	APPROACH 26	834.8	15.0	849.8	930.9	-81.2	NO OBSTRUCTION
307	PRIMARY ROAD	7/25/2017	APPROACH 26	822.7	15.0	837.7	932.5	-94.9	NO OBSTRUCTION
308	PRIMARY ROAD	7/25/2017	APPROACH 26	859.4	15.0	874.4	973.3	-98.9	NO OBSTRUCTION
309	PRIMARY ROAD	7/25/2017	APPROACH 26	866.4	15.0	881.4	987.2	-105.8	NO OBSTRUCTION
310	PRIMARY ROAD	7/25/2017	APPROACH 26	887.3	15.0	902.3	993.1	-90.8	NO OBSTRUCTION
311	PRIMARY ROAD	7/25/2017	APPROACH 26	904.2	15.0	919.2	1009.8	-90.7	NO OBSTRUCTION
312	TREE	7/25/2017	APPROACH 26	*	*	1063.2	1033.8	29.4	TO BE REMOVED
313	TREE	7/25/2017	APPROACH 26	*	*	1072.5	1036.8	35.7	TO BE REMOVED
314	POLE UTIL	7/25/2017	APPROACH 26	1021.9	40.3	1062.2	1040.7	21.6	TO BE LIGHTED
315	POLE UTIL	7/25/2017	APPROACH 26	1023.7	35.8	1059.5	1040.9	18.6	TO BE LIGHTED
316	POLE UTIL	7/25/2017	APPROACH 26	1023.6	34.1	1057.7	1041.1	16.6	TO BE LIGHTED
317	SECONDARY ROAD	7/25/2017	APPROACH 26	1026.1	10.0	1036.1	1041.4	-5.3	NO OBSTRUCTION
319	BUILDING	7/25/2017	APPROACH 26	1033.5	25.3	1058.7	1046.3	12.5	TO BE LIGHTED
320	TREE	7/25/2017	APPROACH 26	*	*	1065.9	1051.9	14.0	TO BE REMOVED
321	BUILDING	7/25/2017	APPROACH 26	1042.6	22.4	1064.9	1052.5	12.4	TO BE LIGHTED
322	PRIMARY ROAD	7/25/2017	APPROACH 26	871.3	15.0	886.3	1057.9	-171.6	NO OBSTRUCTION
323	TREE	7/25/2017	APPROACH 26	*	*	1080.2	1059.2	21.0	TO BE REMOVED
324	TREE	7/25/2017	APPROACH 26	*	*	1090.4	1063.9	26.5	TO BE REMOVED
325	TREE	7/25/2017	APPROACH 26	*	*	1082.0	1076.7	5.3	TO BE REMOVED
326	PRIMARY ROAD	7/25/2017	APPROACH 26	864.6	15.0	879.6	1084.6	-204.9	NO OBSTRUCTION
602	TREE	7/25/2017	APPROACH 26	*	*	1095.3	1045.0	50.2	TO BE REMOVED

PART 77 PRIMARY SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
100	TREE	7/25/2017	PRIMARY	868.7	60.0	928.7	859.8	68.9	TO BE REMOVED

PART 77 HORIZONTAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
314	POLE UTIL	7/25/2017	HORIZONTAL	1021.9	40.3	1062.2	1009.8	52.4	TO BE LIGHTED
315	POLE UTIL	7/25/2017	HORIZONTAL	1023.7	35.8	1059.5	1009.8	49.7	TO BE LIGHTED
316	POLE UTIL	7/25/2017	HORIZONTAL	1023.6	34.1	1057.7	1009.8	47.9	TO BE LIGHTED
317	SECONDARY ROAD	7/25/2017	HORIZONTAL	1026.1	10.0	1036.1	1009.8	26.3	TO BE LIGHTED
319	BUILDING	7/25/2017	HORIZONTAL	1033.5	25.3	1058.7	1009.8	48.9	TO BE LIGHTED
321	BUILDING	7/25/2017	HORIZONTAL	1042.6	22.4	1064.9	1009.8	55.1	TO BE LIGHTED
600	TREE	7/25/2017	HORIZONTAL	*	*	1285.5	1009.8	275.7	TO BE REMOVED
601	GROUND	7/25/2017	HORIZONTAL	*	*	1114.3	1009.8	104.4	TO BE LIGHTED
602	TREE	7/25/2017	HORIZONTAL	*	*	1095.3	1009.8	85.4	TO BE REMOVED
603	TANK	7/25/2017	HORIZONTAL	1084.6	42.4	1126.9	1009.8	117.1	TO BE LIGHTED
604	TREE	7/25/2017	HORIZONTAL	*	*	1098.1	1009.8	88.3	TO BE REMOVED
605	TREE	7/25/2017	HORIZONTAL	*	*	1048.4	1009.8	38.6	TO BE REMOVED
606	TREE	7/25/2017	HORIZONTAL	*	*	1279.8	1009.8	269.9	TO BE REMOVED
607	TREE	7/25/2017	HORIZONTAL	*	*	1355.3	1009.8	345.5	TO BE REMOVED
608	TREE	7/25/2017	HORIZONTAL	*	*	1153.2	1009.8	143.4	TO BE REMOVED
609	TREE	7/25/2017	HORIZONTAL	*	*	1125.3	1009.8	115.5	TO BE REMOVED
610	TREE	7/25/2017	HORIZONTAL	*	*	1165.9	1009.8	156.0	TO BE REMOVED
611	TREE	7/25/2017	HORIZONTAL	*	*	1241.6	1009.8	231.8	TO BE REMOVED
612	TREE	7/25/2017	HORIZONTAL	*	*	1038.7	1009.8	28.9	TO BE REMOVED
613	BUSH	7/25/2017	HORIZONTAL	*	*	1033.4	1009.8	23.6	TO BE REMOVED
614	TREE	7/25/2017	HORIZONTAL	*	*	1102.9	1009.8	93.1	TO BE REMOVED
615	TREE	7/25/2017	HORIZONTAL	*	*	1041.1	1009.8	31.3	TO BE REMOVED
616	TREE	7/25/2017	HORIZONTAL	*	*	1038.0	1009.8	28.1	TO BE REMOVED
617	TREE	7/25/2017	HORIZONTAL	*	*	1457.3	1009.8	447.5	TO BE REMOVED
618	TREE	7/25/2017	HORIZONTAL	*	*	1658.3	1009.8	648.4	TO BE REMOVED
619	TREE	7/25/2017	HORIZONTAL	*	*	1070.2	1009.8	60.4	TO BE REMOVED
620	TREE	7/25/2017	HORIZONTAL	*	*	1724.9	1009.8	715.1	TO BE REMOVED
621	TREE	7/25/2017	HORIZONTAL	*	*	1817.8	1009.8	808.0	TO BE REMOVED
622	TREE	7/25/2017	HORIZONTAL	*	*	1486.7	1009.8	476.9	TO BE REMOVED
623	TREE	7/25/2017	HORIZONTAL	*	*	1285.0	1009.8	275.2	TO BE REMOVED
624	TREE	7/25/2017	HORIZONTAL	*	*	1199.7	1009.8	189.8	TO BE REMOVED
625	TREE	7/25/2017	HORIZONTAL	*	*	1311.0	1009.8	301.1	TO BE REMOVED
626	TREE	7/25/2017	HORIZONTAL	*	*	1502.8	1009.8	493.0	TO BE REMOVED
627	TREE	7/25/2017	HORIZONTAL	*	*	1383.8	1009.8	374.0	TO BE REMOVED
628	TREE	7/25/2017	HORIZONTAL	*	*	1223.3	1009.8	213.5	TO BE REMOVED
629	TREE	7/25/2017	HORIZONTAL	*	*	1447.2	1009.8	437.4	TO BE REMOVED
630	TREE	7/25/2017	HORIZONTAL	*	*	1905.2	1009.8	895.3	TO BE REMOVED
631	TREE	7/25/2017	HORIZONTAL	*	*	1934.3	1009.8	924.4	TO BE REMOVED
632	TREE	7/25/2017	HORIZONTAL	*	*	1980.9	1009.8	971.1	TO BE REMOVED
633	TREE	7/25/2017	HORIZONTAL	*	*	1865.6	1009.8	855.8	TO BE REMOVED
634	TREE	7/25/2017	HORIZONTAL	*	*	1602.4	1009.8	592.5	TO BE REMOVED
635	POWER TRANSMISSION PYLON	7/25/2017	HORIZONTAL	1084.1	56.3	1140.4	1009.8	130.6	TO BE LIGHTED
636	POLE	7/25/2017	HORIZONTAL	1057.1	39.0	1096.2	1009.8	86.3	TO BE LIGHTED
637	POLE UTIL	7/25/2017	HORIZONTAL	992.5	39.4	1031.9	1009.8	22.1	TO BE LIGHTED
638	POLE UTIL	7/25/2017	HORIZONTAL	986.2	35.5	1021.7	1009.8	11.9	TO BE LIGHTED
639	POLE	7/25/2017	HORIZONTAL	1006.7	37.5	1044.2	1009.8	34.3	TO BE LIGHTED
640	WINDMILL	7/25/2017	HORIZONTAL	970.6	44.1	1014.7	1009.8	4.9	TO BE LIGHTED
641	POLE UTIL	7/25/2017	HORIZONTAL	980.1	21.5	1001.6	1009.8	-8.3	TO BE LIGHTED
642	POLE LIGHT	7/25/2017	HORIZONTAL	997.5	30.8	1028.2	1009.8	18.4	TO BE LIGHTED
643	POLE UTIL	7/25/2017	HORIZONTAL	988.8	31.9	1020.7	1009.8	10.8	TO BE LIGHTED
644	POLE UTIL	7/25/2017	HORIZONTAL	980.0	36.8	1016.9	1009.8	7.0	TO BE LIGHTED
645	WINDMILL	7/25/2017	HORIZONTAL	975.6	37.3	1012.9	1009.8	3.1	TO BE LIGHTED
646	POLE UTIL	7/25/2017	HORIZONTAL	1029.1	45.6	1074.6	1009.8	64.8	TO BE LIGHTED
647	POLE UTIL	7/25/2017	HORIZONTAL	1045.6	35.2	1080.7	1009.8	70.9	TO BE LIGHTED
842	TREE	7/25/2017	HORIZONTAL	*	*	1002.8	1009.8	-7.0	NO OBSTRUCTION

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CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRSPACE OBSTRUCTION DATA TABLES

FIGURE NO.

SHEET NO. 11 OF 14

PART 77 TRANSITIONAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
400	TREE	7/25/2017	TRANSITIONAL	*	*	1039.7	969.2	70.6	TO BE REMOVED
401	TREE	7/25/2017	TRANSITIONAL	*	*	972.5	945.5	27.0	TO BE REMOVED
402	TREE	7/25/2017	TRANSITIONAL	*	*	1002.6	940.2	62.4	TO BE REMOVED
403	TREE	7/25/2017	TRANSITIONAL	*	*	960.2	960.2	0.0	TO BE REMOVED
404	TREE	7/25/2017	TRANSITIONAL	*	*	960.7	930.1	30.6	TO BE REMOVED
405	TREE	7/25/2017	TRANSITIONAL	*	*	925.9	930.0	-4.1	NO OBSTRUCTION
406	TREE	7/25/2017	TRANSITIONAL	*	*	927.3	890.5	36.8	TO BE REMOVED
407	TREE	7/25/2017	TRANSITIONAL	*	*	963.9	965.3	-1.4	NO OBSTRUCTION
408	TREE	7/25/2017	TRANSITIONAL	*	*	915.7	888.3	27.4	TO BE REMOVED
409	TREE	7/25/2017	TRANSITIONAL	*	*	915.0	910.2	4.8	TO BE REMOVED
410	TREE	7/25/2017	TRANSITIONAL	*	*	996.1	965.0	31.1	TO BE REMOVED
411	TREE	7/25/2017	TRANSITIONAL	*	*	903.1	890.2	12.9	TO BE REMOVED
412	TREE	7/25/2017	TRANSITIONAL	*	*	899.8	864.8	35.0	TO BE REMOVED
413	TREE	7/25/2017	TRANSITIONAL	*	*	937.3	895.2	42.2	TO BE REMOVED
414	TREE	7/25/2017	TRANSITIONAL	*	*	918.6	903.2	15.3	TO BE REMOVED
415	TREE	7/25/2017	TRANSITIONAL	*	*	961.7	888.1	73.6	TO BE REMOVED
416	TREE	7/25/2017	TRANSITIONAL	*	*	956.5	921.5	35.0	TO BE REMOVED
417	TREE	7/25/2017	TRANSITIONAL	*	*	898.5	902.1	-3.6	NO OBSTRUCTION
418	TREE	7/25/2017	TRANSITIONAL	*	*	904.7	909.5	-4.8	NO OBSTRUCTION
419	TREE	7/25/2017	TRANSITIONAL	*	*	917.0	871.9	45.0	TO BE REMOVED
420	TREE	7/25/2017	TRANSITIONAL	*	*	917.0	871.9	45.0	TO BE REMOVED
421	TREE	7/25/2017	TRANSITIONAL	*	*	913.9	885.1	28.8	TO BE REMOVED
422	TREE	7/25/2017	TRANSITIONAL	*	*	911.1	907.6	3.5	TO BE REMOVED
423	TREE	7/25/2017	TRANSITIONAL	*	*	890.9	858.3	32.6	TO BE REMOVED
424	TREE	7/25/2017	TRANSITIONAL	*	*	911.8	893.9	17.9	TO BE REMOVED
425	BUILDING	7/25/2017	TRANSITIONAL	843.7	22.7	866.3	854.5	11.9	TO BE LIGHTED
426	TREE	7/25/2017	TRANSITIONAL	*	*	887.0	861.1	25.9	TO BE REMOVED
427	TREE	7/25/2017	TRANSITIONAL	*	*	905.1	908.0	-2.8	NO OBSTRUCTION
428	TREE	7/25/2017	TRANSITIONAL	*	*	936.0	920.5	15.5	TO BE REMOVED
429	TREE	7/25/2017	TRANSITIONAL	*	*	876.3	848.5	27.8	TO BE REMOVED
430	TREE	7/25/2017	TRANSITIONAL	*	*	898.4	868.2	30.3	TO BE REMOVED
431	TREE	7/25/2017	TRANSITIONAL	*	*	904.1	899.1	5.0	TO BE REMOVED
432	TREE	7/25/2017	TRANSITIONAL	*	*	889.3	846.1	43.2	TO BE REMOVED
433	TREE	7/25/2017	TRANSITIONAL	*	*	906.9	878.1	28.8	TO BE REMOVED
434	TREE	7/25/2017	TRANSITIONAL	*	*	906.9	878.1	28.8	TO BE REMOVED
435	TREE	7/25/2017	TRANSITIONAL	*	*	899.8	900.2	-0.4	NO OBSTRUCTION
436	TREE	7/25/2017	TRANSITIONAL	*	*	890.3	885.1	5.1	TO BE REMOVED
437	TREE	7/25/2017	TRANSITIONAL	*	*	887.0	842.6	44.3	TO BE REMOVED
438	POLE UTIL	7/25/2017	TRANSITIONAL	831.8	35.0	866.8	862.7	4.1	TO BE LIGHTED
439	TREE	7/25/2017	TRANSITIONAL	*	*	915.1	842.4	72.7	TO BE REMOVED
440	TREE	7/25/2017	TRANSITIONAL	*	*	915.1	842.4	72.7	TO BE REMOVED
441	TREE	7/25/2017	TRANSITIONAL	*	*	881.7	881.8	-0.1	NO OBSTRUCTION
442	TREE	7/25/2017	TRANSITIONAL	*	*	915.6	854.2	61.4	TO BE REMOVED
443	TREE	7/25/2017	TRANSITIONAL	*	*	989.7	968.9	20.8	TO BE REMOVED
444	TREE	7/25/2017	TRANSITIONAL	*	*	974.6	961.1	13.5	TO BE REMOVED
445	TREE	7/25/2017	TRANSITIONAL	*	*	978.8	972.0	6.8	TO BE REMOVED
446	TREE	7/25/2017	TRANSITIONAL	*	*	983.3	946.5	36.8	TO BE REMOVED
447	TREE	7/25/2017	TRANSITIONAL	*	*	999.8	990.3	9.5	TO BE REMOVED
448	TREE	7/25/2017	TRANSITIONAL	*	*	1007.2	958.7	48.5	TO BE REMOVED
449	TREE	7/25/2017	TRANSITIONAL	*	*	972.2	927.1	45.1	TO BE REMOVED
450	BUILDING	7/25/2017	TRANSITIONAL	920.6	15.6	936.2	908.5	27.6	TO BE LIGHTED
451	TREE	7/25/2017	TRANSITIONAL	*	*	958.9	909.9	49.0	TO BE REMOVED
452	TREE	7/25/2017	TRANSITIONAL	*	*	957.6	931.8	25.8	TO BE REMOVED
453	BUILDING	7/25/2017	TRANSITIONAL	917.6	20.7	938.4	903.1	35.2	TO BE LIGHTED
454	POLE UTIL	7/25/2017	TRANSITIONAL	919.4	34.0	953.5	928.2	25.3	TO BE LIGHTED
455	TREE	7/25/2017	TRANSITIONAL	*	*	968.3	894.6	73.7	TO BE REMOVED

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456	POLE UTIL	7/25/2017	TRANSITIONAL	919.4	33.4	952.8	919.8	33.0	TO BE LIGHTED
457	TREE	7/25/2017	TRANSITIONAL	*	*	982.5	871.2	111.3	TO BE REMOVED
458	TREE	7/25/2017	TRANSITIONAL	*	*	974.6	905.7	68.9	TO BE REMOVED
459	TREE	7/25/2017	TRANSITIONAL	*	*	930.0	933.0	-3.1	NO OBSTRUCTION
460	TREE	7/25/2017	TRANSITIONAL	*	*	985.5	892.2	93.3	TO BE REMOVED
461	TREE	7/25/2017	TRANSITIONAL	*	*	940.5	912.5	28.0	TO BE REMOVED
462	TREE	7/25/2017	TRANSITIONAL	*	*	921.3	872.8	48.5	TO BE REMOVED
463	TREE	7/25/2017	TRANSITIONAL	*	*	968.2	903.7	64.5	TO BE REMOVED
464	TREE	7/25/2017	TRANSITIONAL	*	*	931.0	905.1	26.0	TO BE REMOVED
465	BUILDING	7/25/2017	TRANSITIONAL	859.1	23.5	882.5	863.9	18.6	TO BE LIGHTED
466	TREE	7/25/2017	TRANSITIONAL	*	*	972.0	939.4	32.6	TO BE REMOVED
467	TREE	7/25/2017	TRANSITIONAL	*	*	917.5	885.4	32.2	TO BE REMOVED
468	TREE	7/25/2017	TRANSITIONAL	*	*	918.3	904.9	13.4	TO BE REMOVED
469	TREE	7/25/2017	TRANSITIONAL	*	*	921.4	928.9	-7.5	NO OBSTRUCTION
470	TREE	7/25/2017	TRANSITIONAL	*	*	958.8	951.8	7.1	TO BE REMOVED
471	HANGAR	7/25/2017	TRANSITIONAL	854.0	31.7	885.7	870.1	15.6	TO BE LIGHTED
472	TREE	7/25/2017	TRANSITIONAL	*	*	964.1	969.2	-5.1	NO OBSTRUCTION
473	TREE	7/25/2017	TRANSITIONAL	*	*	908.7	888.3	20.5	TO BE REMOVED
474	TREE	7/25/2017	TRANSITIONAL	*	*	959.7	948.5	11.2	TO BE REMOVED
475	BUILDING	7/25/2017	TRANSITIONAL	849.1	22.2	871.2	859.5	11.7	TO BE LIGHTED
476	TREE	7/25/2017	TRANSITIONAL	*	*	964.0	965.3	-1.3	NO OBSTRUCTION
477	TREE	7/25/2017	TRANSITIONAL	*	*	975.7	937.6	38.0	TO BE REMOVED
478	TREE	7/25/2017	TRANSITIONAL	*	*	935.9	870.1	65.8	TO BE REMOVED
479	TREE	7/25/2017	TRANSITIONAL	*	*	970.8	942.0	28.9	TO BE REMOVED
480	TREE	7/25/2017	TRANSITIONAL	*	*	976.8	973.1	3.7	TO BE REMOVED
481	TREE	7/25/2017	TRANSITIONAL	*	*	901.2	896.9	4.4	TO BE REMOVED
482	TREE	7/25/2017	TRANSITIONAL	*	*	891.8	851.3	40.5	TO BE REMOVED
483	TREE	7/25/2017	TRANSITIONAL	*	*	948.7	952.5	-3.9	NO OBSTRUCTION
484	TREE	7/25/2017	TRANSITIONAL	*	*	911.8	880.8	31.0	TO BE REMOVED
485	TREE	7/25/2017	TRANSITIONAL	*	*	990.7	973.0	17.8	TO BE REMOVED
486	TREE	7/25/2017	TRANSITIONAL	*	*	920.4	898.6	21.8	TO BE REMOVED
487	BUILDING	7/25/2017	TRANSITIONAL	839.2	28.2	867.4	851.9	15.5	TO BE LIGHTED
488	TREE	7/25/2017	TRANSITIONAL	*	*	894.6	882.7	11.8	TO BE REMOVED
489	TREE	7/25/2017	TRANSITIONAL	*	*	982.7	964.3	18.4	TO BE REMOVED
490	TREE	7/25/2017	TRANSITIONAL	*	*	867.5	851.1	16.4	TO BE REMOVED
491	TREE	7/25/2017	TRANSITIONAL	*	*	893.9	875.8	18.0	TO BE REMOVED
492	BEACON	7/25/2017	TRANSITIONAL	834.8	37.6	872.4	868.6	3.8	TO BE LIGHTED
493	POLE LIGHT	7/25/2017	TRANSITIONAL	833.6	34.7	868.2	846.2	22.0	TO BE LIGHTED
494	TREE	7/25/2017	TRANSITIONAL	*	*	908.7	904.2	4.5	TO BE REMOVED
495	BUILDING	7/25/2017	TRANSITIONAL	832.1	23.2	855.3	844.6	10.7	TO BE LIGHTED
496	TREE	7/25/2017	TRANSITIONAL	*	*	995.2	959.9	35.3	TO BE REMOVED
497	POLE LIGHT	7/25/2017	TRANSITIONAL	829.5	70.9	900.4	885.2	15.2	TO BE LIGHTED
498	TREE	7/25/2017	TRANSITIONAL	*	*	965.0	968.8	-3.8	NO OBSTRUCTION
499	FLAGPOLE	7/25/2017	TRANSITIONAL	905.8	47.1	952.9	941.9	11.0	TO BE LIGHTED

"THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION (PROJECT NUMBER 3-53-0011-007-2022) AS PROVIDED UNDER TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING.
0" ■■■■■■■■ 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

FEDERAL AVIATION ADMINISTRATION APPROVAL

APPROVAL DATE: _____

SIGNATURE

CHELAN COUNTY APPROVAL

APPROVAL DATE: _____

SIGNATURE

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE
SUITE #100
BEND, OR 97702
541.322.8962 OFFICE

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
JLS	JLS	DM	AS SHOWN

DATE: MARCH 2024

PROJECT NO: 12472.003.01

CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRSPACE OBSTRUCTION DATA TABLES

FIGURE NO.

SHEET NO. 12 OF 14

PART 77 CONICAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION
700	TREE	7/25/2017	CONICAL	*	*	1474.2	1204.3	270.0	TO BE REMOVED
701	TREE	7/25/2017	CONICAL	*	*	1718.5	1207.8	510.7	TO BE REMOVED
702	TREE	7/25/2017	CONICAL	*	*	1752.6	1208.1	544.5	TO BE REMOVED
703	TREE	7/25/2017	CONICAL	*	*	1452.7	1165.0	287.6	TO BE REMOVED
704	GROUND	7/25/2017	CONICAL	*	*	1606.3	1209.6	396.7	TO BE LIGHTED
705	TREE	7/25/2017	CONICAL	*	*	1674.9	1166.0	508.9	TO BE REMOVED
706	BUSH	7/25/2017	CONICAL	*	*	2244.0	1175.7	1068.3	TO BE REMOVED
707	TREE	7/25/2017	CONICAL	*	*	2409.6	1200.4	1209.2	TO BE REMOVED
708	TREE	7/25/2017	CONICAL	*	*	2216.9	1209.3	1007.6	TO BE REMOVED
709	TREE	7/25/2017	CONICAL	*	*	1841.5	1194.8	646.7	TO BE REMOVED
710	TREE	7/25/2017	CONICAL	*	*	2370.6	1186.1	1184.6	TO BE REMOVED
711	TREE	7/25/2017	CONICAL	*	*	2345.9	1182.6	1163.3	TO BE REMOVED
712	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	2213.9	54.8	2268.7	1174.6	1094.1	TO BE LIGHTED
713	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	2210.0	50.8	2260.7	1158.8	1101.9	TO BE LIGHTED
714	TREE	7/25/2017	CONICAL	*	*	1965.7	1127.3	838.5	TO BE REMOVED
715	TREE	7/25/2017	CONICAL	*	*	1552.6	1113.8	438.8	TO BE REMOVED
716	TREE	7/25/2017	CONICAL	*	*	1528.9	1158.3	370.6	TO BE REMOVED
717	TREE	7/25/2017	CONICAL	*	*	1571.0	1153.0	418.0	TO BE REMOVED
718	TREE	7/25/2017	CONICAL	*	*	1462.7	1160.4	302.3	TO BE REMOVED
719	TREE	7/25/2017	CONICAL	*	*	1556.8	1078.4	478.3	TO BE REMOVED
720	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1844.0	38.8	1882.8	1108.5	774.3	TO BE LIGHTED
721	TREE	7/25/2017	CONICAL	*	*	1984.0	1120.8	863.2	TO BE REMOVED
722	TREE	7/25/2017	CONICAL	*	*	1961.6	1125.8	835.7	TO BE REMOVED
723	TREE	7/25/2017	CONICAL	*	*	2092.4	1139.5	952.9	TO BE REMOVED
724	TREE	7/25/2017	CONICAL	*	*	2180.3	1162.6	1017.7	TO BE REMOVED
725	TREE	7/25/2017	CONICAL	*	*	1862.7	1180.7	682.0	TO BE REMOVED
726	GROUND	7/25/2017	CONICAL	*	*	1627.6	1194.5	433.1	TO BE LIGHTED
727	TREE	7/25/2017	CONICAL	*	*	1595.4	1185.7	409.8	TO BE REMOVED
728	TREE	7/25/2017	CONICAL	*	*	1464.4	1139.6	324.7	TO BE REMOVED
729	GROUND	7/25/2017	CONICAL	*	*	1792.1	1114.7	677.4	TO BE LIGHTED
730	GROUND	7/25/2017	CONICAL	*	*	1742.2	1093.1	649.2	TO BE LIGHTED
731	GROUND	7/25/2017	CONICAL	*	*	1615.5	1082.1	533.4	TO BE LIGHTED
732	GROUND	7/25/2017	CONICAL	*	*	1445.7	1062.1	383.5	TO BE LIGHTED
733	GROUND	7/25/2017	CONICAL	*	*	1482.3	1052.8	429.6	TO BE LIGHTED
734	TREE	7/25/2017	CONICAL	*	*	1564.7	1043.4	521.4	TO BE REMOVED
735	TREE	7/25/2017	CONICAL	*	*	1749.5	1202.0	547.5	TO BE REMOVED
736	TREE	7/25/2017	CONICAL	*	*	1432.4	1148.6	283.8	TO BE REMOVED
737	TREE	7/25/2017	CONICAL	*	*	1406.6	1112.6	294.1	TO BE REMOVED
738	GROUND	7/25/2017	CONICAL	*	*	1301.4	1057.4	243.9	TO BE LIGHTED
739	GROUND	7/25/2017	CONICAL	*	*	1258.4	1076.6	181.8	TO BE LIGHTED
740	TREE	7/25/2017	CONICAL	*	*	1386.3	1116.3	270.0	TO BE REMOVED
741	TREE	7/25/2017	CONICAL	*	*	1833.2	1172.7	660.5	TO BE REMOVED
742	GROUND	7/25/2017	CONICAL	*	*	1988.4	1200.2	788.2	TO BE LIGHTED
743	TREE	7/25/2017	CONICAL	*	*	1765.3	1201.2	564.1	TO BE REMOVED
744	GROUND	7/25/2017	CONICAL	*	*	1754.1	1180.9	573.2	TO BE LIGHTED
745	GROUND	7/25/2017	CONICAL	*	*	1597.5	1151.8	445.6	TO BE LIGHTED
746	GROUND	7/25/2017	CONICAL	*	*	1574.4	1187.9	386.5	TO BE LIGHTED
747	GROUND	7/25/2017	CONICAL	*	*	1547.8	1202.2	345.6	TO BE LIGHTED
748	GROUND	7/25/2017	CONICAL	*	*	1608.5	1174.6	433.9	TO BE LIGHTED
749	GROUND	7/25/2017	CONICAL	*	*	1516.2	1184.2	332.0	TO BE LIGHTED
750	GROUND	7/25/2017	CONICAL	*	*	1267.0	1176.9	90.2	TO BE LIGHTED
751	TREE	7/25/2017	CONICAL	*	*	1498.4	1184.3	314.1	TO BE REMOVED
752	TREE	7/25/2017	CONICAL	*	*	2025.8	1192.7	833.1	TO BE REMOVED
753	TREE	7/25/2017	CONICAL	*	*	1621.8	1151.8	470.0	TO BE REMOVED
754	TREE	7/25/2017	CONICAL	*	*	1203.6	1031.6	172.0	TO BE REMOVED

PART 77 CONICAL SURFACE OBSTRUCTIONS

755	TREE	7/25/2017	CONICAL	*	*	1736.5	1146.9	589.7	TO BE REMOVED
756	TREE	7/25/2017	CONICAL	*	*	2415.2	1206.9	1208.3	TO BE REMOVED
757	TREE	7/25/2017	CONICAL	*	*	2451.9	1195.8	1256.0	TO BE REMOVED
758	TREE	7/25/2017	CONICAL	*	*	1981.9	1163.3	818.6	TO BE REMOVED
759	GROUND	7/25/2017	CONICAL	*	*	1472.2	1116.9	355.3	TO BE LIGHTED
760	TREE	7/25/2017	CONICAL	*	*	1288.2	1093.4	194.8	TO BE REMOVED
761	TREE	7/25/2017	CONICAL	*	*	1183.6	1030.8	152.8	TO BE REMOVED
762	TREE	7/25/2017	CONICAL	*	*	1283.4	1053.2	230.3	TO BE REMOVED
763	TREE	7/25/2017	CONICAL	*	*	1282.2	1075.8	206.4	TO BE REMOVED
764	GROUND	7/25/2017	CONICAL	*	*	1371.2	1095.0	276.2	TO BE LIGHTED
765	BUSH	7/25/2017	CONICAL	*	*	1353.4	1083.2	270.3	TO BE REMOVED
766	GROUND	7/25/2017	CONICAL	*	*	1190.6	1020.3	170.3	TO BE LIGHTED
767	TREE	7/25/2017	CONICAL	*	*	1405.2	1034.7	370.5	TO BE REMOVED
768	TREE	7/25/2017	CONICAL	*	*	1715.9	1088.8	627.1	TO BE REMOVED
769	TREE	7/25/2017	CONICAL	*	*	1315.8	1064.0	251.8	TO BE REMOVED
770	TREE	7/25/2017	CONICAL	*	*	1833.4	1125.6	707.8	TO BE REMOVED
771	TREE	7/25/2017	CONICAL	*	*	2383.3	1180.0	1203.3	TO BE REMOVED
772	TREE	7/25/2017	CONICAL	*	*	2455.4	1197.7	1257.7	TO BE REMOVED
773	TREE	7/25/2017	CONICAL	*	*	2400.1	1191.8	1208.3	TO BE REMOVED
774	TREE	7/25/2017	CONICAL	*	*	2591.4	1176.2	1415.2	TO BE REMOVED
775	TREE	7/25/2017	CONICAL	*	*	2331.4	1132.4	1199.0	TO BE REMOVED
776	TREE	7/25/2017	CONICAL	*	*	2274.8	1112.1	1162.7	TO BE REMOVED
777	TREE	7/25/2017	CONICAL	*	*	2076.5	1055.5	1021.0	TO BE REMOVED
778	TREE	7/25/2017	CONICAL	*	*	1869.0	1033.9	835.1	TO BE REMOVED
779	GROUND	7/25/2017	CONICAL	*	*	1374.1	1092.9	281.2	TO BE LIGHTED
780	GROUND	7/25/2017	CONICAL	*	*	1588.6	1132.5	456.1	TO BE LIGHTED
781	BUSH	7/25/2017	CONICAL	*	*	1579.3	1163.8	415.5	TO BE REMOVED
782	BUSH	7/25/2017	CONICAL	*	*	1568.8	1166.7	402.1	TO BE REMOVED
783	TREE	7/25/2017	CONICAL	*	*	1676.0	1154.8	521.2	TO BE REMOVED
784	TREE	7/25/2017	CONICAL	*	*	1612.7	1135.2	477.5	TO BE REMOVED
785	TREE	7/25/2017	CONICAL	*	*	1415.2	1103.7	311.5	TO BE REMOVED
786	TREE	7/25/2017	CONICAL	*	*	1901.0	1012.2	888.8	TO BE REMOVED
787	TREE	7/25/2017	CONICAL	*	*	1706.5	1047.3	659.2	TO BE REMOVED
788	TREE	7/25/2017	CONICAL	*	*	2291.6	1066.5	1225.1	TO BE REMOVED
789	TREE	7/25/2017	CONICAL	*	*	2420.1	1089.4	1330.6	TO BE REMOVED
790	TREE	7/25/2017	CONICAL	*	*	2667.6	1130.8	1536.8	TO BE REMOVED
791	TREE	7/25/2017	CONICAL	*	*	2750.5	1157.8	1592.7	TO BE REMOVED
792	TREE	7/25/2017	CONICAL	*	*	2609.2	1182.8	1426.4	TO BE REMOVED
793	TREE	7/25/2017	CONICAL	*	*	2594.0	1203.6	1390.4	TO BE REMOVED
794	TREE	7/25/2017	CONICAL	*	*	2777.1	1174.9	1602.1	TO BE REMOVED
795	TREE	7/25/2017	CONICAL	*	*	2431.9	1128.0	1303.9	TO BE REMOVED
796	TREE	7/25/2017	CONICAL	*	*	2306.8	1124.0	1182.8	TO BE REMOVED
797	TREE	7/25/2017	CONICAL	*	*	2164.0	1076.9	1087.1	TO BE REMOVED
798	TREE	7/25/2017	CONICAL	*	*	1900.8	1058.5	842.3	TO BE REMOVED
799	TREE	7/25/2017	CONICAL	*	*	1847.0	1022.5	824.6	TO BE REMOVED
800	GROUND	7/25/2017	CONICAL	*	*	1823.4	1014.0	809.4	TO BE LIGHTED
801	GROUND	7/25/2017	CONICAL	*	*	1666.9	1013.3	653.6	TO BE LIGHTED
802	GROUND	7/25/2017	CONICAL	*	*	1626.5	1011.7	614.9	TO BE LIGHTED
803	GROUND	7/25/2017	CONICAL	*	*	1518.5	1012.0	506.5	TO BE LIGHTED
804	TREE	7/25/2017	CONICAL	*	*	1297.2	1102.2	195.0	TO BE REMOVED
805	TREE	7/25/2017	CONICAL	*	*	1624.6	1143.6	481.0	TO BE REMOVED
806	TREE	7/25/2017	CONICAL	*	*	1734.8	1151.0	583.8	TO BE REMOVED
807	TREE	7/25/2017	CONICAL	*	*	1715.2	1149.8	565.3	TO BE REMOVED
808	TREE	7/25/2017	CONICAL	*	*	1770.9	1191.9	579.0	TO BE REMOVED
809	TREE	7/25/2017	CONICAL	*	*	1814.3	1179.7	634.6	TO BE REMOVED
810	GROUND	7/25/2017	CONICAL	*	*	1617.8	1150.3	467.5	TO BE LIGHTED
811	TREE	7/25/2017	CONICAL	*	*	1356.0	1118.9	237.1	TO BE REMOVED
812	TREE	7/25/2017	CONICAL	*	*	1314.1	1066.6	247.5	TO BE REMOVED
813	TREE	7/25/2017	CONICAL	*	*	1363.8	1067.3	296.5	TO BE REMOVED
814	GROUND	7/25/2017	CONICAL	*	*	1440.7	1063.7	377.0	TO BE LIGHTED
815	TREE	7/25/2017	CONICAL	*	*	1533.7	1106.3	427.4	TO BE REMOVED
816	TREE	7/25/2017	CONICAL	*	*	1663.3	1113.0	550.3	TO BE REMOVED
817	TREE	7/25/2017	CONICAL	*	*	1864.3	1133.0	731.4	TO BE REMOVED
818	TREE	7/25/2017	CONICAL	*	*	2301.2	1151.5	1149.7	TO BE REMOVED
819	TREE	7/25/2017	CONICAL	*	*	2380.5	1157.5	1223.0	TO BE REMOVED
820	TREE	7/25/2017	CONICAL	*	*	2670.5	1204.8	1465.7	TO BE REMOVED
821	TREE	7/25/2017	CONICAL	*	*	2364.1	1194.4	1169.7	TO BE REMOVED

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CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRSPACE OBSTRUCTION DATA TABLES

FIGURE NO.

SHEET NO. 13 OF 14

PART 77 CONICAL SURFACE OBSTRUCTIONS

822	TREE	7/25/2017	CONICAL	*	*	2568.9	1192.0	1376.8	TO BE REMOVED
823	TREE	7/25/2017	CONICAL	*	*	2521.5	1168.5	1353.0	TO BE REMOVED
824	TREE	7/25/2017	CONICAL	*	*	2416.6	1159.4	1257.2	TO BE REMOVED
825	TREE	7/25/2017	CONICAL	*	*	2036.4	1143.9	892.5	TO BE REMOVED
826	TREE	7/25/2017	CONICAL	*	*	1927.2	1131.4	795.8	TO BE REMOVED
827	TREE	7/25/2017	CONICAL	*	*	1886.3	1133.4	752.9	TO BE REMOVED
828	TREE	7/25/2017	CONICAL	*	*	1691.2	1138.6	552.5	TO BE REMOVED
829	TREE	7/25/2017	CONICAL	*	*	1532.0	1130.8	401.2	TO BE REMOVED
830	TREE	7/25/2017	CONICAL	*	*	1396.6	1171.8	224.9	TO BE REMOVED
831	TREE	7/25/2017	CONICAL	*	*	1547.1	1203.8	343.2	TO BE REMOVED
832	TREE	7/25/2017	CONICAL	*	*	1541.7	1206.9	334.8	TO BE REMOVED
833	TREE	7/25/2017	CONICAL	*	*	1430.9	1198.2	232.7	TO BE REMOVED
834	TREE	7/25/2017	CONICAL	*	*	1346.9	1169.2	177.8	TO BE REMOVED
835	TREE	7/25/2017	CONICAL	*	*	1493.4	1181.5	311.9	TO BE REMOVED
836	TREE	7/25/2017	CONICAL	*	*	1701.7	1167.9	533.8	TO BE REMOVED
837	TREE	7/25/2017	CONICAL	*	*	1664.1	1165.5	498.5	TO BE REMOVED
838	TREE	7/25/2017	CONICAL	*	*	1872.4	1189.3	683.1	TO BE REMOVED
839	TREE	7/25/2017	CONICAL	*	*	2132.3	1207.0	925.3	TO BE REMOVED
840	BUILDING	7/25/2017	CONICAL	1126.2	31.2	1157.4	1150.7	6.8	TO BE LIGHTED
841	BUILDING	7/25/2017	CONICAL	1148.6	22.7	1171.3	1125.2	46.0	TO BE LIGHTED
843	BUILDING	7/25/2017	CONICAL	1400.7	27.5	1428.2	1163.1	265.1	TO BE LIGHTED
844	POLE UTIL	7/25/2017	CONICAL	1366.3	39.3	1405.6	1153.9	251.7	TO BE LIGHTED
845	POLE UTIL	7/25/2017	CONICAL	1372.0	33.8	1405.8	1147.3	258.5	TO BE LIGHTED
846	POLE UTIL	7/25/2017	CONICAL	1370.7	34.4	1405.2	1138.1	267.1	TO BE LIGHTED
847	BUILDING	7/25/2017	CONICAL	1362.5	32.3	1394.8	1151.3	243.5	TO BE LIGHTED
848	SECONDARY ROAD	7/25/2017	CONICAL	1364.2	10.0	1374.2	1137.8	236.4	TO BE LIGHTED
849	SECONDARY ROAD	7/25/2017	CONICAL	1358.6	10.0	1368.6	1129.2	239.4	TO BE LIGHTED
850	BUILDING	7/25/2017	CONICAL	1359.0	25.8	1384.8	1122.0	262.8	TO BE LIGHTED
851	BUILDING	7/25/2017	CONICAL	1352.3	21.2	1373.5	1119.8	253.7	TO BE LIGHTED
852	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1223.9	52.0	1275.8	1119.5	156.3	TO BE LIGHTED
853	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1552.8	27.1	1580.0	1102.5	477.4	TO BE LIGHTED
854	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1695.5	38.3	1733.9	1096.3	637.5	TO BE LIGHTED
855	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1750.2	39.9	1790.1	1097.6	692.5	TO BE LIGHTED
856	POWER TRANSMISSION LINE	7/25/2017	CONICAL	1795.6	44.2	1839.8	1101.5	738.3	TO BE LIGHTED
857	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	1865.2	64.0	1929.1	1112.2	817.0	TO BE LIGHTED
858	POWER TRANSMISSION LINE	7/25/2017	CONICAL	1857.4	99.3	1956.7	1119.0	837.7	TO BE LIGHTED
859	POWER TRANSMISSION LINE	7/25/2017	CONICAL	1904.8	95.6	2000.4	1126.4	874.0	TO BE LIGHTED
860	POWER TRANSMISSION LINE	7/25/2017	CONICAL	2046.6	51.5	2098.1	1139.7	958.3	TO BE LIGHTED
861	POWER TRANSMISSION PYLON	7/25/2017	CONICAL	2122.4	53.3	2175.7	1147.9	1027.8	TO BE LIGHTED
862	POWER TRANSMISSION LINE	7/25/2017	CONICAL	2123.4	113.9	2237.3	1183.9	1053.4	TO BE LIGHTED
863	POWER TRANSMISSION LINE	7/25/2017	CONICAL	2132.2	115.4	2247.6	1194.4	1053.2	TO BE LIGHTED
864	ANTENNA	7/25/2017	CONICAL	1636.7	35.2	1671.9	1176.9	495.0	TO BE LIGHTED
865	BUILDING	7/25/2017	CONICAL	1163.1	19.5	1182.6	1042.7	139.9	TO BE LIGHTED
866	BUILDING	7/25/2017	CONICAL	1167.9	18.5	1186.4	1050.2	136.2	TO BE LIGHTED
867	POLE UTIL	7/25/2017	CONICAL	1067.2	35.2	1102.4	1018.1	84.3	TO BE LIGHTED
868	POLE UTIL	7/25/2017	CONICAL	1109.4	39.9	1149.3	1035.6	113.6	TO BE LIGHTED
869	BUILDING	7/25/2017	CONICAL	1225.2	28.7	1253.9	1051.2	202.7	TO BE LIGHTED
870	BUILDING	7/25/2017	CONICAL	1205.5	37.6	1243.1	1048.9	194.1	TO BE LIGHTED
871	BUILDING	7/25/2017	CONICAL	1157.6	20.8	1178.5	1049.7	128.8	TO BE LIGHTED
872	BUILDING	7/25/2017	CONICAL	1163.4	40.6	1204.0	1057.1	146.9	TO BE LIGHTED
873	BUILDING	7/25/2017	CONICAL	1223.5	36.9	1260.3	1062.0	198.3	TO BE LIGHTED
874	BUILDING	7/25/2017	CONICAL	1172.1	18.0	1190.2	1063.9	126.3	TO BE LIGHTED
875	BUILDING	7/25/2017	CONICAL	1155.4	27.7	1183.1	1062.2	120.9	TO BE LIGHTED

PART 77 CONICAL SURFACE OBSTRUCTIONS

876	POLE UTIL	7/25/2017	CONICAL	1149.3	36.4	1185.6	1044.5	141.1	TO BE LIGHTED
877	BUILDING	7/25/2017	CONICAL	1258.7	31.5	1290.1	1069.0	221.2	TO BE LIGHTED
878	BUILDING	7/25/2017	CONICAL	1281.0	29.6	1310.6	1065.9	244.7	TO BE LIGHTED
879	CELL TOWER	7/25/2017	CONICAL	1495.9	86.9	1582.8	1136.6	446.2	TO BE LIGHTED
880	POLE	7/25/2017	CONICAL	1237.5	32.7	1270.2	1097.4	172.8	TO BE LIGHTED
881	BUILDING	7/25/2017	CONICAL	2612.5	9.8	2622.3	1169.0	1453.3	TO BE LIGHTED
882	BUILDING	7/25/2017	CONICAL	2504.3	33.0	2537.3	1187.2	1350.1	TO BE LIGHTED
883	POLE UTIL	7/25/2017	CONICAL	1199.3	38.4	1237.6	1087.7	149.9	TO BE LIGHTED
884	POLE UTIL	7/25/2017	CONICAL	1176.1	36.3	1212.4	1085.0	127.3	TO BE LIGHTED

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CASHMERE-DRYDEN AIRPORT
CHELAN COUNTY

AIRSPACE OBSTRUCTION DATA TABLES

FIGURE NO.

SHEET NO. 14 OF 14

Appendix A

Environmental Review Memo

Draft

CASHMERE-DRYDEN AIRPORT

Airport Layout Plan Update Environmental Overview

Prepared for
Century West Engineering Corporation

October 20, 2022

ESA

Draft

CASHMERE-DRYDEN AIRPORT

Airport Layout Plan Update Environmental Overview

Prepared for
Century West Engineering Corporation

October 20, 2022

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ESA

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Table 1. Federal or State Protected Fish and Wildlife Species that May Occur in the Vicinity of the Airport
Table 2. Migratory Bird Habitat In The Project Area

Acronyms and Abbreviations

Airport	Cashmere-Dryden Airport
CO	Carbon Monoxide
DPS	Distinct Population Segment
DOT	Department of Transportation
EFH	Essential Fish Habitat
EJSCREEN	Environmental Justice Screening and Mapping Tool
EPA	U.S. Environmental Protection Agency
ESA	Environmental Science Associates
ESU	Evolutionarily Significant Unit
F	degrees Fahrenheit
FAA	Federal Aviation Administration
FBO	Fixed Based Operator
FEMA	Federal Emergency Management Agency
HUC	Hydrologic Unit Code
IPaC	Information for Planning and Consulting
MBTA	Migratory Bird Treaty Act
MSA	Magnuson-Stevens Act
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOx	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NWI	National Wetlands Inventory
O3	Ozone
PAHs	polycyclic aromatic hydrocarbons
Pb	Lead
PCBs	polychlorinated biphenyls
PCE	tetrachloroethene
PHS	Priority Habitat and Species
PM10 and PM2.5	particulate matter
SO2	Sulfur Dioxide
TCE	trichloroethene
TMDL	Total Maximum Daily Load
TRI	Toxic Release Inventory
TSDF	treatment, storage, and disposal facility
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife

AIRPORT LAYOUT PLAN UPDATE

Environmental Overview

Building off of previous environmental work completed for the Cashmere-Dryden Airport (Airport), Environmental Science Associates (ESA) has prepared this Environmental Overview for the Airport Layout Plan Update. The purpose of this Environmental Overview is to describe the environmental conditions of the Airport and identify any known or potential environmental conditions or issues that could be affected by proposed development at the Airport.

Utilizing available data and information, the contents and organization of this Environmental Overview are based on the National Environmental Policy Act (NEPA) Environmental Impact Categories outlined in Federal Aviation Administration (FAA) Order 1050.1F Environmental Impacts: Policies and Procedures. ESA performed a desktop analysis for the following environmental impact categories described in the FAA 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.
- Water Resources (including wetlands, floodplains, surface waters, water quality, stormwater, groundwater, and wild and scenic rivers).

LOCATION

The Airport is located in the City of Cashmere, Washington at (**Figure 1**). The city of Cashmere is located in Chelan County and has a population of approximately 3,721 people (City of Cashmere 2022). The city is generally bordered by the Wenatchee River and U.S. Highway 2 to the north and east, and the Cascade mountains to the west. The Airport is generally bordered by residential development on the north, Sullivan Street to the east, Airport Road to the south, and residential and agricultural land to the west.

AIR QUALITY

Local air quality is generally described by the concentration of various pollutants in the atmosphere. The significance of a pollution concentration is determined by comparing it to state and federal air quality standards. In 1971, the U.S. Environmental Protection Agency (EPA) established standards that specify the maximum permissible short-term and long-term

SOURCE: Imagery: Maxar, 2020; Hydrography: WADNR 2021; ESA, 2022

Cashmere-Dryden Airport Layout

Figure 1
Project Area

ESA

concentrations of various air contaminants. The National Ambient Air Quality Standards (NAAQS) consist of primary and secondary standards for six criteria pollutants: Ozone (O3), Carbon Monoxide (CO), Sulfur Dioxide (SO2), Nitrogen Oxide (NOx), Particulate matter (PM10 and PM2.5), and Lead (Pb).

Based on both federal and state air quality standards, a specific geographic area can be classified as either an "attainment," "maintenance," or "non-attainment" area for each pollutant. The threshold for non-attainment designation varies by pollutant. The Airport is in a portion of Chelan County, Washington, that attains NAAQS (Ecology 2022).

According to the EPA's Environmental Justice Screening and Mapping Tool (EJSCREEN), a tool created to highlight locations that may be candidates for further environmental review, the Airport property falls within a census block where all air quality-related environmental hazard indexes including Particulate Matter 2.5 and Ozone are between the 28th and 50th percentile nationwide. The Airport property scores between the 57th and the 68th percentile (EPA 2022a).

The climate in Chelan County is wet (i.e., greater than 0.04 inches of rain) from October through June, with snowfall accumulating from December through March. The summer months from July through September are dry with little rainfall and high temperatures. National Oceanic and Atmospheric Administration (NOAA) data from 2014 to 2022 indicates that the annual average temperatures in Cashmere have a high of 72 degrees Fahrenheit (F) and a low of 30 degrees F. The coldest temperatures occur in December and January when the average daily low is 26 degrees F and the average daily high is 36 degrees F (NOAA 2022). The highest temperatures are in July and August when the average daily high is 86 degrees F and the average daily low is 67 degrees F (NOAA 2022). The average annual precipitation is 11.0 inches, with the wettest month typically being November with an average of 1.7 inches and the driest month being August with an average of 0.40 inches (NOAA 2022).

BIOLOGICAL RESOURCES

Biological resources are valued for their intrinsic aesthetic, economic, and recreational qualities and include fish, wildlife, plants, and their respective habitats. Categories of biological resources evaluated in this document include:

- General terrestrial and aquatic plant and animal species (non-listed);
- State or federally listed threatened or endangered species;
- Species proposed for listing and candidates for listing;
- Migratory birds; and
- Environmentally sensitive and critical habitats.

General Biological Resources

Bird species in the vicinity include migratory waterfowl along the Wenatchee River, raptors including hawks, falcons, and eagles, and passerines (eBird 2022). The Wenatchee River provides habitat for several different species of salmon and trout (PHS 2022).

The Airport is inside City limits. Habitat on the airport is limited for wildlife value and consists of mowed herbaceous areas. Additionally, the Airport is actively mowed and managed to discourage wildlife usage to prevent wildlife hazards.

Endangered Species Act

U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) are charged with overseeing the requirements of the *Endangered Species Act*, specifically Section 7, which sets forth requirements for consultation to determine if a proposed action "may affect" a federally endangered or threatened species. If an agency determines that an action "may affect" a federally protected species, then Section 7(a)(2) requires the agency to consult with the agencies to ensure that any action the agency authorizes, funds, or carries out is not likely to jeopardize the continued existence of any federally-listed endangered or threatened species, or result in the destruction or adverse modification of critical habitat.

Table 1 lists species protected under the Endangered Species Act that potentially occur in the vicinity of the Airport. **Appendix A** includes the official federal species list from the USFWS, provided by the Information for Planning and Consultation (IPaC) system.

Environmentally Sensitive and Critical Habitats

The Wenatchee River approximately 0.5 miles north of the Airport contains critical habitat for Chinook salmon Upper Columbia River Evolutionary Significant Unit (ESU), steelhead Upper Columbia River Distinct Population Segment (DPS), and bull trout (NOAA Fisheries 2022a). Critical habitat for the Wenatchee mountains checkerwillow is found approximately 4.5 miles south west of the Airport (USFWS 2022c). There is no critical habitat mapped on the Airport.

The Magnuson-Stevens Fishery Conservation and Management Act (MSA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires federal agencies to consult with the National Marine Fisheries Service (NMFS) on activities that may adversely affect Essential Fish Habitat (EFH). The objective of this EFH assessment is to determine whether or not the proposed action(s) "may adversely affect" designated EFH for relevant commercially, federally managed fisheries species within the proposed action area. EFH for relevant federally managed commercial fish species protected by the MSA is found in the Wenatchee River for Pacific Salmon which includes Chinook salmon and Coho salmon (NOAA Fisheries 2022b).

TABLE 1
FEDERAL OR STATE PROTECTED FISH AND WILDLIFE SPECIES THAT MAY OCCUR IN THE VICINITY OF THE AIRPORT

Species	Status[2]	Habitat Requirements	Occurrence in Vicinity of Airport
Mammals			
Canada lynx *(Lynx canadensis)*	FT	Range from classic boreal forest zone into the subalpine forest of the western United States.	There are no recorded sightings in the vicinity of the Airport and there is no suitable habitat on the Airport.
Gray wolf *(Canis lupus)*	FE	Can live in a variety of habitats but are most common in relatively flat forested areas, rolling hills, or open spaces such as river valleys and basins.	The nearest wolf sightings are greater than 5 miles away from the airport outside of the city.
North American wolverine *(Gulu gulu)*	FC	Remote and inhospitable places at high elevations away from human populations.	There are no recorded sightings in the vicinity of the Airport and there is no suitable habitat on the Airport.
Birds			
Northern spotted owl *(Strix occidentalis caurina)*	FE	For nesting (multi-storied, mixed species forest, large overstory trees, moderate-to-high forest canopy closure.	There is one recorded site in the Township, but no suitable habitat is present on the Airport.
Yellow-billed cuckoo *(Coccyzus americanus)*	FT	Large blocks of riparian habitats (particularly woodlands containing cottonwoods and willows) with patch sizes of at least 200 acres.	There are no recorded sightings in the vicinity of the Airport and there is no suitable habitat on the Airport.
Fish[1]			
Bull trout *(Salvelinus confluentus)*	FT	Streams with clean gravel substrates and cold water temperatures (less than 9ºC/48ºF)	Present in the Wenatchee River. There is no suitable habitat on the Airport.
Chinook salmon (O*ncorhynchus tshawytscha)* Upper Columbia River spring-run ESU	FT	Spawning habitat typically consists of riffles and the tailouts of pools with clean substrates dominated by cobbles. These habitats are located in the mainstem of rivers and large tributaries	Present in the Wenatchee River. There is no suitable habitat on the Airport.
Steelhead (*Oncorhynchus mykiss*) (Upper Columbia River DPS)	FT	Spawning habitat typically consists of riffles and the tailouts of pools with clean substrates dominated by cobbles in the mainstem of river and most tributaries	Present in Bender Creek, Mission Creek, and the Wenatchee River. There is no suitable habitat on the Airport.
Plants			
Showy stickseed *(Hackelia bella)*	FE	Found in loose, well-drained, granitic weathered and broken rock fragmented soils in Ponderosa Pine Forests at an elevation at about 1,600 feet (ft)	Suitable habitat is present along the Wenatchee River. There is no suitable habitat on the Airport.
Wenatchee mountains checkerwillow *(Sidalcea oregana var. calva)*	FE	Found in mid-elevation wetlands and moist meadows within Chelan County in eastern Washington State	Critical habitat is mapped 4.5 miles to the southwest of the Airport. There is no suitable habitat on the Airport.

Insects			
Monarch butterfly *(Danaus plexippus)*	FC	Found along arid riparian habitats in the Columbia Basin and require their host plant, milkweed, for feeding and breeding	May be present along the Wenatchee River. There is no suitable habitat on the Airport.

NOTES:
[1] DPS = Distinct Population Segment.
ESU = Evolutionary Significant Unit
[2] Endangered Species Act listing status: FC = Federal Candidate; FT = Federally Threatened; FE= Federally Endangered; ST= State Threatened.

SOURCE: USFWS 2022b

The Washington Department of Fish and Wildlife's Priority Habitats and Species (PHS) Program is the agency's primary means of transferring fish and wildlife information from our resource experts to local governments, landowners, and others who use it to protect habitat. PHS information is used primarily by cities and counties to implement and update land use plans and development regulations under the Growth Management Act and Shoreline Management Act. Landowners also use PHS as they consider ways to develop and conserve their property. Chelan County Presumptive Shrubsteppe is mapped on Airport property and in the surrounding vicinity. This habitat feature is noted as being the general location of shrubsteppe habitat that should be confirmed or refuted with site scale information for land use decision. Based on aerial photo interpretation, it does not appear that this habitat type actually exists on the Airport. Additionally, there are no critical areas identified on Airport property.

Bald and Golden Eagle Protection Act

Bald eagles and golden eagles are protected under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). The act's primary purpose is the protection of nesting sites. Bald eagles generally construct nests in large trees near waterways, and golden eagles nest in cliff habitats adjacent to flat open land. There is one golden eagle record in the vicinity of the Airport, although no nesting habitat for either species occur at the Airport.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS (USFWS 2022a). Protected MBTA resources generally include native birds and their active nests and young. Under the requirements of the MBTA, all project proponents are responsible for complying with the appropriate regulations protecting birds when planning and developing a project.

Table 2 lists the Birds of Conservation Concern protected under the Migratory Brid Treaty Act of 1918 (MBTA, U.S. Code [U.S.C.] §§ 703-712) that could potentially occur in the vicinity of the project area (USFWS 2022b). Suitable breeding habitat occurs in the project area for six of the species of migratory birds listed as Birds of Conservation Concern.

TABLE 2

MIGRATORY BIRD HABITAT IN THE PROJECT AREA

Species	Breeding Season	Nesting Habitat Requirements	Probability of Presence in the Project Area
Evening grosbeak	May 15 – Aug 10	Mixed conifer forests, but will used broadleaved trees for nesting and foraging.	May 22 – Jul 31
American white pelican	Apr 1 – Aug 31	Isolated islands in lakes and feeding on shallow lakes, rivers, and marshes.	Apr 7-14
Black swift	Jun 7 – Sept 15	Nest site is on ledge sheltered by overhang or in protected crevice on cliffs. Nest sites are often behind waterfalls, in spots where nest is continuously damp from spray.	May 14- - Sept 15
Cassin's finch	May 7 – July 28	Breeds mostly in mountain forests of conifers, especially spruce and fir, also in pine and Douglas-fir in some areas and sometimes in pinyon-juniper woods. Often at very high elevations, near treeline in mountains	Year round
Lewis's woodpecker,	Apr 15 – Sept 30	Three important habitats for Lewis's Woodpeckers include open ponderosa pine forest, open riparian woodland dominated by cottonwood, and logged or burned pine forest. Their breeding distribution is widely associated with ponderosa pine distribution in western North America.	May
Olive-sided flycatcher	May 20 – Aug 31	Breeds in coniferous forests.	May - July
Rufous hummingbird	April 15 – Jul 15	Mixed pine/oak and oak forests. Nests are built in shrubs or conifers.	Apr – Sept

SOURCE: USFWS 2022b

The nesting season for migratory birds occurs between March 1 and September 15. The U.S. Department of Interior's legal opinion on the MBTA states, *"the take [killing] of birds resulting from an activity is not prohibited by the Migratory Bird Treaty Act when the underlying purpose of that activity is not to take birds"* (December 2017). There is no suitable breeding habitat for any of the species of migratory birds listed as Birds of Conservation Concern at the Airport.

DEPARTMENT OF TRANSPORTATION ACT, SECTION 4(f)

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 park, recreation area, or waterfowl and wildlife refuge 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. The following list summarizes the nearest properties of each type that may be protected under Section 4(f) of the DOT Act.

- Properties Listed on the National Register of Historic Places:
    - There are no properties listed on the National Register of Historic Places on or adjacent to the Airport. The nearest historical site is Cottage House Historical District in the historic city of Cashmere, approximately 0.8 miles north east of Airport property (NPS 2022).
- Recreation Areas:
    - The Cashmere Pond Wildlife Area and Swakane Wildlife Area are located less than 1.0 mile north of the Airport along the Wenatchee River.
- Wildlife Refuge:
    - Cashmere Pond is part of the Chelan Wildlife Area which is located in Chelan County, and includes approximately 31,000 acres of land. Cashmere Pond is the nearest wildlife area to the Airport and the remainder of the Chelan Wildlife Area is found several miles north of the Airport.
- Locally Owned Park:
    - John Simpson Memorial Park is owned by the city of Cashmere and is approximately 700 feet east of the Airport.
- Other Considerations – School Playgrounds. Publically-owned school playgrounds, running tracks, ball fields, etc. also provide substantial walk-on recreational opportunities for the surrounding community and may qualify as Section 4(f) properties. The project sponsor must coordinate with the officials with jurisdiction in order to assess whether the property should be considered under Section 4(f).
    - Cashmere High School is located immediately to the east of the Airport.
- Other Considerations – Cemeteries. Cemeteries would only be considered Section 4(f) properties if they are determined to be on or eligible for the NR as historic sites deriving significance from association with historic events, from age, from the presence of graves of persons of transcendent importance, or from distinctive design features.
    - Cashmere Cemetery is owned by the City of Cashmere and is approximately 700 feet north of the Airport.
    - Brisky Treadwell Cemetery is owned by the City of Cashmere and approximately 0.3 miles west of the Airport.

HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

Federal, state, and local laws regulate the use, storage, transport, and disposal of hazardous materials. According to the EPA's EJSCREEN, the closest Superfund site is located approximately 60 miles southwest of Airport property. The site is located at Grant County

International Airport (EJSCREEN 2022). The closest brownfield site is located at 0.40 miles north in the town of Cashmere on Sunset Highway (EJSCREEN 2022). EJSCREEN also reports four EPA hazardous waste treatment, storage, and disposal facilities (TSDF) within a 5-mile radius of the Airport. The four sites are located to the east near the city of Wenatchee.

According to the EPA's Toxic Release Inventory (TRI) Search Plus Tool there are 3 TRI sites within a 5 mile radius of the Airport and all three are located east near the city of Wenatchee, Pollution prevention (P2), also known as "source reduction", is any practice that reduces, eliminates, or prevents the creation of pollution prior to recycling, treatment, disposal, or release into the environment (EPA 2022b). There are no pollution prevention sites in Chelan County.

There are no fueling facilities available at the Airport and no aboveground storage tank fueling facilities, or recently decommissioned fueling facility with underground storage tanks.

NATURAL RESOURCES AND ENERGY SUPPLY

Utilities at the Airport include water, sewer, and electric. The City of Cashmere provides water and wastewater services on the Airport property and surrounding areas within the city limits. Electricity for the Airport and surrounding areas is provided by Chelan County Public Utility District.

WATER RESOURCES

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.*"

National Wetlands Inventory (NWI) mapping within the vicinity of the Airport is shown on **Figure 2**.

An intermittent riverine wetland is located approximately 800 feet west of the western boundary of the Airport and is the nearest wetland to the property (NWI 2022). This intermittent waterbody connects to Brender Creek and the Wenatchee River further downstream. To the north of the Airport approximately 0.2 miles is a freshwater forested/shrub wetland which is in the floodplain of Brender Creek.

SOURCE: Imagery: Maxar, 2021; National Wetlands Inventory: 2021; ESA, 2022

Cashmere-Dryden Airport Layout

Figure 2
Project Area and National Wetlands Inventory

ESA

Floodplains

Executive Order 11988, Floodplain Management, 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 no areas of 100-year floodplains on Airport property.

The Airport is located outside of the FEMA flood control zones and the City of Cashmere flood control boundary. To the east of the Airport is Mission Creek which has a mapped floodway in the City of Cashmere but does not reach Airport property. Chelan County has listed the Airport and its surrounding areas to the south and west as low flood hazard risk (FEMA 2022).

Surface Waters

The Airport property is in the Wenatchee/Upper Columbia River drainage basin defined by the 6-digit Hydrologic Unit Code (HUC6) 170200. There are no surface water mapped on Airport property (USGS 2022). Surface waters to the west near the intermittent riverine wetland approximately 800 feet west of the Airport boundary flow into Brender Creek via Peshashtin Ditch, which then flows downstream into the Wenatchee River. To the east, surface water flows into Mission Creek which then flows into the Wenatchee River. All surface waters within the vicinity of the Airport eventually flow into the Wenatchee River to the north.

Water Quality

Many of the surface waters in the vicinity of the Airport property are contaminated and listed on the 303(d) list (Ecology 2007). Contaminated surface waters in the vicinity of the Airport include:

- Wenatchee River
- Mission Creek
- Peshashtin Creek/Ditch
- Brender Creek

A Total Maximum Daily Load (TMDL) describes the maximum amount of a pollutant allowed in a water body and serves as the starting point or planning tool for restoring water quality. TMDLs actively apply to the 303(d) impaired waters listed above for water temperature. Those compromised waters above in the vicinity of the Airport property include critical habitat for federally listed Chinook salmon, steelhead, and bull trout populations.

Stormwater

There do not appear to be any existing stormwater facilities onsite. Stormwater appears to runoff paved surfaces onto herbaceous-vegetated areas and allowed to infiltrate.

Groundwater

There are no sole source aquafers in the vicinity of the Airport (EPA 2022c). The City of Cashmere maintains a well located at the southeast corner of the Cashmere-Dryden Airport in a

concrete masonry unit (CMU) block building that also houses the electrical and mechanical equipment. The well was drilled to a depth of 140 feet in 1978.

National Wild and Scenic Rivers

There are no designated Wild and Scenic Rivers nearby to the Airport. The nearest designated segment of a Wild and Scenic River is the Middle Fork of the Snoqualmie River approximately 50 miles west of the Airport (USFWS 2022d).

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Appendix A
USFWS Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
Phone: (360) 753-9440 Fax: (360) 753-9405

In Reply Refer To: October 14, 2022
Project Code: 2023-0004815
Project Name: Cashmere-Dryden Airport Layout Plan Update

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Washington Fish And Wildlife Office
510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263
(360) 753-9440

Project Summary

Project Code: 2023-0004815
Project Name: Cashmere-Dryden Airport Layout Plan Update
Project Type: Airport - Maintenance/Modification
Project Description: Environmental update to the Airport Layout Plan
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@47.515533649999995,-120.48400049030482,14z

Counties: Chelan County, Washington

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Canada Lynx *Lynx canadensis* Population: Wherever Found in Contiguous U.S. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3652	Threatened
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS
Bull Trout *Salvelinus confluentus*	Threatened

Population: U.S.A., conterminous, lower 48 states
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/8212

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

Flowering Plants

NAME	STATUS
Showy Stickseed *Hackelia venusta*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/5210

Wenatchee Mountains Checkermallow *Sidalcea oregana var. calva*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/7222

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Environmental Science Associates
Name: Chris Beck
Address: 5309 Shilshole Avenue NW
Address Line 2: Suite 200
City: Seattle
State: WA
Zip: 98107
Email cbeck@esassoc.com
Phone: 5303914585

Lead Agency Contact Information

Lead Agency: Federal Aviation Administration

Appendix B

Cultural Resources Survey

Archaeological Investigations Northwest, Inc.

3510 N.E. 122nd Ave. • Portland, Oregon 97230
Phone (503) 761-6605 • Fax (503) 761-6620

Vancouver Phone (360) 696-7473
E-mail: ainw@ainw.com
Web: www.ainw.com

MEMO

Date: November 3, 2022

To: Samantha Peterson, Aviation Planner/Project Manager, Century West Engineering

From: Khrystyne Tschinkel, Ph.D., R.P.A., Supervising Archaeologist
Samantha Gordon, M.S., Architectural Historian
Jason A. Cowan, M.A., R.P.A., Senior Archaeologist

Re: Cashmere – Dryden Airport
Cashmere, Chelan County, Washington
Cultural Resources Review
AINW Report No. 4891

INTRODUCTION

Century West is updating the Cashmere-Dryden Airport Layout Plan which will be used to shape future land acquisitions, hangar construction, and other airport projects. The Cashmere-Dryden Airport is located in the City of Cashmere, Chelan County, Washington. It is in Section 5, Township 23 North, Range 19, East, Willamette Meridian (Figures 1 and 2). Century West has requested Archaeological Investigations Northwest, Inc. (AINW), conduct a cultural resource background review of the 23.4-acre airport (study area) to provide information and recommendations that can be incorporated into the Airport Layout Plan.

Records examined during this background review indicate that there are no previously recorded archaeological sites, historic buildings, or historic structures in study area. However, the study area has not been surveyed for cultural resources, and maps and aerial photography indicate that there are buildings and structures at the airport that are more than 50 years of age. If individual projects are proposed in association with the Airport Layout Plan, compliance-level cultural resource investigations are recommended. This includes conducting archaeological surveys of areas where ground disturbance is proposed, documenting historic resources (i.e., buildings or structures more than 50 years old) on one or more Washington State historic property inventory forms prior to changes to these built resources, and determining cultural resource eligibility for listing in the National Register of Historic Places (NRHP) in consultation with the Federal Aviation Administration and the Washington State Department of Archaeological and Historic Preservation (DAHP).

BACKGROUND REVIEW

AINW reviewed records available at DAHP as well as materials in the AINW library to create a profile of the previously conducted cultural resource surveys near the Cashmere-Dryden Airport and to determine the specific locations, types, and significance of resources previously identified near or at the airport. Historical maps of the area, General Land Office (GLO) maps from the Bureau of Land Management, local Chelan County historic resource inventories, aerial photography, and primary historical sources were also examined. The Washington Information System for Architectural and Archaeological Records Data (WISAARD) predictive model depicts the study area as having a very high probability of archaeological resources.

Historic Period Maps and Documents

Semi-permanent Euroamerican incursion into the Wenatchee Valley began with North West Fur Company fur traders trapping and trading with Indigenous peoples circa 1811 (Washington Writers' Program 1941:296). Further semi-permanent and permanent occupancy in the Wenatchee Valley was driven by a minor circa 1860 gold rush that brought Euroamerican and Chinese miners and associated infrastructure into the area (Washington Writers' Program 1941:296-297).

An 1884 survey shows Mission Creek and another small tributary of the Wenatchee River north and east of the study area and an unnamed road in the approximate modern location of the airport. However, no Donation Land Claims or associated buildings are noted (GLO 1884). The western half of the study area was part of a 360-acre land grant for the Northern Pacific Railroad Company that was issued to the company in 1899 (Bureau of Land Management [BLM] 1899, 2021; Washington Writers' Program 1941:297). The eastern half of the study area was in a 180-acre property claimed by Mary Batvia and her unnamed, deceased husband in 1903 (BLM 1903, 2021). Land northwest of the study area was claimed by Squire Stewart in 1901 and land east of the study area was claimed by Joseph A. Murphy in 1908 (BLM 1901, 1908, 2021).

Cashmere, originally named Mission because of a Catholic mission established in 1887 to proselytize native people, was platted in 1892 and renamed in 1904 after India's Vale of Cashmere (Arksey 2008; Meany 1928:30, 168). The earliest available U.S. Geological Survey (USGS) map of the area, dating to 1901, shows the Great Northern Railway (later Northern Pacific) line running northwest to southeast to the north of the study area (USGS 1901). Streets marked on this early map are in the approximate location of the modern Pioneer Avenue and Tigner Road; a few buildings are noted along Pioneer Avenue and Tigner Road, though no development is depicted in the study area (USGS 1901). By the mid-twentieth century, Cashmere was a small town with a population of under 1,500 people (Washington Writers' Program 1941:315). Its economy was initially driven by agriculture, primarily apple and other fruit orchards.

The Cashmere Chamber of Commerce considered establishing an airport for two decades until voters finally decided in favor of the project in 1948 (*Cashmere Valley Record* 1928, 1935, 1941, 1945, 1948). The Cashmere-Dryden airport site began development in 1949. The site was formerly dedicated to orchards, some of which were owned by Earl Schmitten, and a frame house to the east. The airport was dedicated

in 1950 (*Cashmere Valley Record* 1949, 1950a, 1950b). The runway was completed and an approach road graded in 1952. The airport served as an auxiliary airport for the U.S. Forest Service (*Cashmere Valley Record* 1952).

The approximately 20-acre Cashmere-Dryden Airport is captured in historic-period aerial photographs but does not appear on USGS maps until 1972, where it is labeled as a landing strip (Historic Aerials 2022a; USGS 1957, 1968). Assessment of aerial photography reveals that five buildings, four of which are houses, were constructed south of the runway and Airport Road by 1967 (Historic Aerials 2022a, 2022b) (Figure 2). In 1968, a well was dug north of the airport's west end, and an additional hangar was constructed (*Cashmere Valley Record* 1968a, 1968b). Also in 1968, a house, auxiliary improvements, and trees east of the runway were demolished to remove the hazard posed to the short runway (*Cashmere Valley Record* 1968c). Airport lighting was improved in 1985, and the landing strip was repainted in 1993 and repaved in 2001 (*Cashmere Valley Record* 1985, 1993; Pancoast 2001).

Previous Cultural Resource Studies

No previously conducted archaeological survey overlaps with the study area. No archaeological resources have been previously identified in the study area. A review of records available in WISAARD shows that over 31 cultural resource surveys have been conducted within 1.6 kilometers (km) (1 mile [mi]) of the study area. These surveys identified four archaeological sites and two archaeological isolates. The sites and projects most germane to the current project are discussed below.

Cultural Surveys

Four cultural resource surveys have been done within 650 meters (m) (0.4 mi) of the study area.

- The closest survey was conducted 125 m (410 ft) east of the study area (Rust et al. 2009). The survey encountered no subsurface pre-contact or historic resources. The survey consisted of four shovel tests excavated at 20-m (66-ft) intervals over approximately 0.5 acre. Shovel tests were dug to 40 centimeters (cm) (15.7 inches [in]) and augured to a maximum depth of 200 cm (80 in).
- A survey was conducted 300 m (984 ft) north of the study area (Clennon and Anderson 2020). This survey encountered no surface or subsurface pre-contact or historic resources. The survey consisted of pedestrian survey and 16 shovel tests excavated on a 30-m (98-ft) grid over 2.9 acres. Shovel tests were dug to 100 cm (40 in).
- A survey was conducted 630 m (2,067 ft) north of the study area (Ellis 2011). This survey encountered no surface or subsurface pre-contact or historic resources. The survey consisted of pedestrian survey and shovel tests over about 21 acres. Twenty shovel tests were dug to 100 cm (40 in) when possible.
- A survey was conducted 650 m (2,132 ft) west-southwest of the study area, to record a known irrigation ditch, the Peshastin Irrigation District Ditch (Freiberg and Nelson 2009). They survey consisted of a pedestrian survey over 0.2 acres; it encountered no other surface pre-contact or historic resources. The ditch was recommended to be eligible for listing in the NRHP.

Archaeological Resources

Four archaeological sites and two isolates have been recorded within 1.6 km (1 mi) of the study area. None of these resources are affected by current airport operations.

- Site 45CH222 is approximately 805 m (2,641 ft) east of the study area. It is a Native American burial site with one non-adult and three adult remains. Associated funerary items including shell beads and a chipped stone knife were also recorded. The site form notes that the density of remains indicate a larger burial complex (Mattson 1973).
- Site CH00763 is a historic debris landfill approximately 970 m (3,182 ft) north of the study area (Freiberg and Bishop 2008c). The concentration of historic (1947-1959) debris includes bottles, glass, spark plugs, building tiles, battery, cans, and iron fragments. The site has been determined potentially eligible for listing in the NRHP (Freiberg and Bishop 2008c).
- Site 45CH311 is approximately 1.04 km (0.65 mi) north of the study area on the northern bank of the Wenatchee River. The site is a burial of a single Native American non-adult with funerary items including a marine shell (possible gorget), leather, and metal (Welch 1987).
- Isolate CH00762, a pre-contact flaked cobble, is approximately 1.17 km (0.73 mi) north of the study area (Freiberg and Bishop 2008b). The flake was identified on the surface exposed at the edge of a gouged machinery track. As an isolated artifact, it is not eligible for listing in the NRHP.
- Site CH00764 is approximately 1.29 km (0.80 mi) north of the study area. It is the remains of historic bridge built across the Wenatchee River between 1904 and 1907 (Freiberg and Bishop 2008d). Debris includes remnants of a wall, chamber, footing, and gravel. The site has been determined to be not eligible for listing in the NRHP (Freiberg and Bishop 2008d).
- Isolate CH00761, pre-contact petrified wood debitage, is approximately 1.29 km (0.8 mi) north of the study area (Friberg and Bishop 2008a). The petrified wood was identified in the upper 20 cm (8 in) below the ground surfaced exposed during shovel testing. Five additional shovel test probes were placed within a 15-m (50-ft) radius of the positive shovel test, and they encountered no further archaeological resources. As an isolated artifact, it is not eligible for listing in the NRHP.

Built Environment

Current maps show 35 buildings and one structure (the airport runway) in the study area (Figure 2). One of the buildings and the runway are more than 50 years old. The other 34 buildings have construction dates ranging from the early 1980s through the early 2000s (Historic Aerials 2022a, 2022b, 2022c, 2022d, 2022e). Neither the historic-period building nor the historic-period structure in the study area have been previously recorded in WISAARD or Chelan County's local inventory of historic public works.

There are three previously recorded historic resources within 304 m (1,000 ft) of the study area. The circa 1908 bungalow at 916 Pioneer Avenue (Property ID 582947), located approximately 105 m (345 ft) north of the Cashmere-Dryden Airport, is the nearest previously documented historic resource. However, no determination has been made as to its NRHP eligibility. The circa 1948 Vorhees Property at 327 Tigner Road (Property ID 90498), located approximately 204 m (670 ft) from the airport study area, was

previously determined to be not eligible for listing in the NRHP. The circa 1961 Cashmere Care Center at 817 Pioneer Avenue (Property ID 724451), located approximately 304 m (1,000 ft) from the study area, was previously determined to be not eligible for listing in the NRHP.

WISAARD shows that the study area has two historic cemeteries within 1.0 km (0.62 mi). The Brisky-Treadwell Cemetery (CH00590) is located 450 m (1,476 ft) west of the study area and is listed in the Washington Heritage Register. The Brisky and Treadwell families were early pioneers in the Cashmere area. The Cashmere Cemetery (CH00732) is located 215 m (705 ft) north of the study area.

SUMMARY AND RECOMMENDATIONS

AINW has completed a cultural resource background records search for the Cashmere-Dryden Airport project. The search found that parcels surrounding the study area had been surveyed. However, no surveys have been done inside the study area. Four archaeological sites and two isolates are within 1.6 km (1 mile) of the study area.

There are no previously documented historic resources within the study area. The airport was established in 1952 at the former location of orchards, and there is one building and one structure (the airport runway) within the study area that were constructed over 50 years ago.

AINW recommends compliance-level cultural resource investigations occur when individual projects are proposed in association with the Airport Layout Plan. This includes conducting archaeological surveys with subsurface testing in areas where ground disturbance is proposed, documenting buildings and structures more than 50 years old in the study area in WISAARD, and determining eligibility for listing in the NRHP in consultation with the Federal Aviation Administration and DAHP for cultural resources found during these investigations. AINW also recommends that in the case of a federal nexus, the Cashmere-Dryden Airport be investigated for its potential to meet the minimum eligibility requirements for listing in the NRHP as a historic district to assist in compliance with Section 106 of the National Historic Preservation Act and to meet current reporting standards of DAHP.

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1941 Cashmere airport. 8 May:7.
1945 Wind sock being put on air port. 30 August:4.
1948 Airport wins; light vote on project here. 4 November:1.
1949 New addtion proposed for town Monday. 15 September:1.
1950a Call for bids. 6 April:9.
1950b We're going to celebrate. 8 June:8.
1952 Cashmere airport improved. 4 September:1.
1968a Safer airport on way. 3 October:1.
1968b New hanger rises at CashmereAirport. 25 July8.
1968c No. 9 well being readied. 28 March:1.
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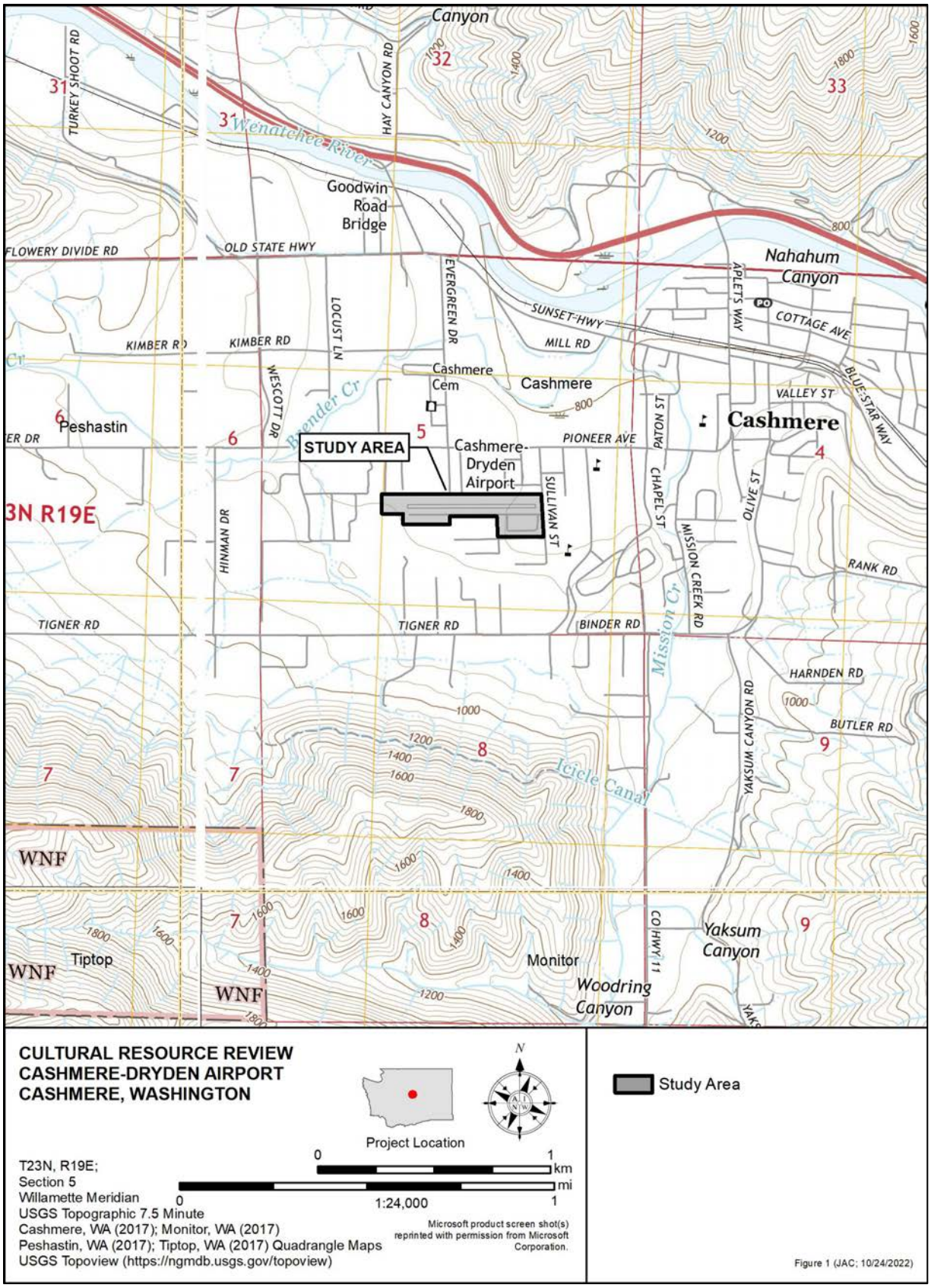

Figure 1. Location of the Cashmere-Dryden Airport study area in Cashmere, Washington.

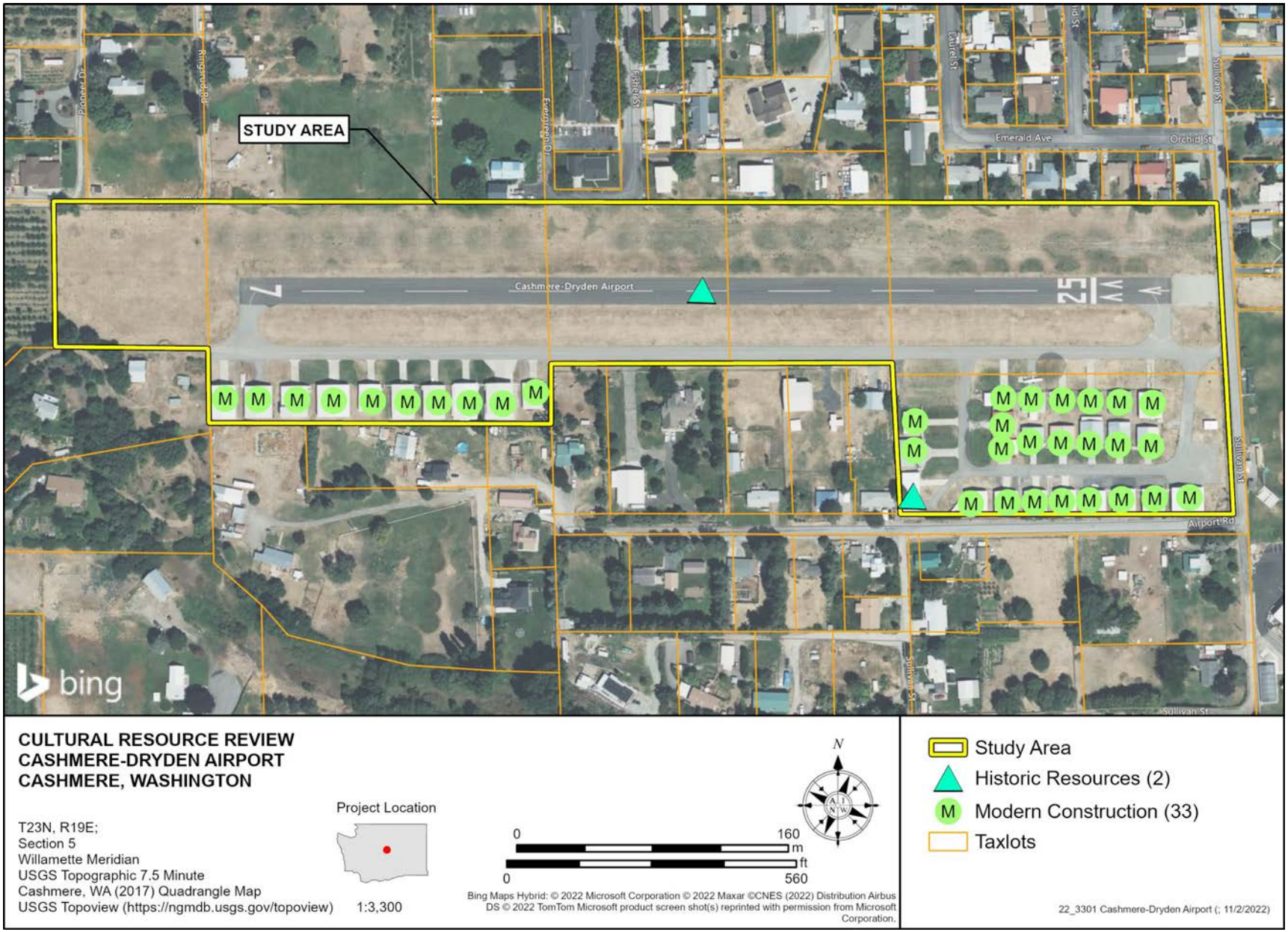

Figure 2. Aerial overview of the Cashmere-Dryden Airport study area.

Appendix C

Zoning Ordinances

Chapter 11.08
RURAL RESIDENTIAL/RESOURCE—1 DWELLING UNIT PER 20 ACRES (RR20)

Sections:

11.08.010 Permitted, accessory and conditional uses.

11.08.020 Standards.

11.08.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-114 (part), 8/29/06; Res. 2006-45 (part), 4/4/06; Res. 2005-66 (part), 6/28/05; Res. 2004-84 (part), 7/27/04; Res. 2003-96 (part), 7/22/03; Res. 2003-93 (part), 7/22/03; Res. 2002-8 (part), 1/15/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

11.08.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum lot size: twenty acres, which measures to the centerline of adjoining public rights-of-way, which may be modified one time for:

(A) Cluster subdivisions and planned developments; or

(B) Fractional lot, no less than fifty percent of the minimum area of the district, within a major or minor plat; or

(C) Fractional lot for boundary line adjustment meeting the criteria of Section 12.18.030; or

(D) Lot size reduction for existing dwellings, under the criteria listed in subsection (9) of this section.

(2) Minimum lot width: two hundred feet at the front building line.

(3) Maximum building height: thirty-five feet.

(4) Maximum lot coverage: buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), and riparian and shoreline areas, or as increased by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: five feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from the property line or fifty-five feet from the street centerline, whichever is greater.

(6) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling unit;

(B) One space per five beds and one space per staff person for adult family homes;

(C) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended.

(8) Accessory uses which support, promote, or sustain agricultural operations and production as a secondary, subordinate, and/or supplemental element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2) must be on the same parcel (or have adjacent or contiguous ownership) as the agriculture use that they are supporting.

(9) Lot Size Reduction for Existing Dwellings. To support long-term residential living, maintenance of existing housing and affordable housing options throughout the county. The owner of land may segregate, one time only, property into one additional lot when meeting the following criteria, except for those properties within the Icicle Valley Design Review Overlay District, Chapter 11.72:

(A) The parcel, prior to land division, shall not be divisible by subdivision (short or major), cluster subdivision (short or major) or through a certificate of exemption process, as defined by Title 12, excluding “laws of descent.”

(B) The proposed lot has adequate access.

(C) The size of the proposed lot is the minimum area reasonably necessary to support the existing single-family residence and associated accessory uses. If wells and/or septic systems are adjacent to the existing single-family residence, lot size should include these facilities. If wells and/or septic are not adjacent, then easements shall be provided.

(D) Land division process shall be completed through Title 12 short plat provisions.

(10) Lot Size Reduction for Existing Dwellings. In certain rural residential/resource districts for agriculture and timber uses. Land located on “farm and agricultural land” or “timber land” as defined in RCW 84.34.020 may be segregated one time only when meeting the following criteria:

(A) Land is a minimum of five acres.

(B) When proposed lot size is the minimum necessary to incorporate legally constructed dwellings and accessory uses existing prior to September 9, 1997. This provision does not apply to accessory dwelling units, dependent care housing or farm worker housing.

(C) The proposed lot has adequate access.

(D) The lot size meets the provisions of the Chelan-Douglas health district.

(E) Division is completed through a short subdivision process in Title 12. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2012-46 (Att. A) (part), 5/15/12; Res. 2011-86 (Att. A) (part), 10/4/11: Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2002-8 (part), 1/15/02: Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

The Chelan County Code is current through Resolution 2024-40, passed May 30, 2024.

Disclaimer: The Clerk of the Board's office has the official version of the Chelan County Code. Users should contact the Clerk of the Board's office for ordinances passed subsequent to the ordinance cited above.

County Website: https://www.co.chelan.wa.us/
County Telephone: (509) 667-6220

Codification services provided by General Code

Chapter 11.10
RURAL RESIDENTIAL/RESOURCE—1 DWELLING UNIT PER 10 ACRES (RR10)

Sections:

11.10.010 Permitted, accessory and conditional uses.

11.10.020 Standards.

11.10.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-45 (part), 4/4/06; Res. 2005-66 (part), 6/28/05; Res. 2004-84 (part), 7/27/04: Res. 2004-16, 1/27/04; Res. 2003-96 (part), 7/22/03; Res. 2002-8 (part), 1/15/02: Res. 2002-6 (part), 1/15/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

11.10.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum lot size: ten acres, which measures to the centerline of adjoining public rights-of-way, which may be modified one time for:

(A) Cluster subdivisions and planned developments; or

(B) Fractional lot, no less than fifty percent of the minimum area of the district, within a major or minor plat; or

(C) Fractional lot for boundary line adjustment meeting the criteria of Section 12.18.030; or

(D) Lot size reduction for existing dwellings, under the criteria listed in subsection (9) of this section.

(2) Minimum lot width: one hundred fifty feet at the front building line.

(3) Maximum building height: thirty-five feet.

(4) Maximum Lot Coverage. Buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as increased by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: five feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from the property line or fifty-five feet from the street centerline, whichever is greater.

(6) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling unit.

(B) One space per five beds and one space per staff person for adult family homes.

(C) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended.

(8) Accessory uses which support, promote, or sustain agricultural operations and production as a secondary, subordinate, and/or supplemental element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2) must be on the same parcel (or have adjacent or contiguous ownership) as the agriculture use that they are supporting.

(9) Lot Size Reduction for Existing Dwellings. To support long-term residential living, maintenance of existing housing and affordable housing options throughout the county. The owner of land may segregate, one time only, property into one additional lot when meeting the following criteria, except for those properties within the Icicle Valley Design Review Overlay District, Chapter 11.72:

(A) The parcel, prior to land division, shall not be divisible by subdivision (short or major), cluster subdivision (short or major) or through a certificate of exemption process, as defined by Title 12, excluding “laws of descent.”

(B) The proposed lot has adequate access.

(C) The size of the proposed lot is the minimum area reasonably necessary to support the existing single-family residence and associated accessory uses. If wells and/or septic systems are adjacent to the existing single-family residence, lot size should include these facilities. If wells and/or septic are not adjacent, then easements shall be provided.

(D) Land division process shall be completed through Title 12 short plat provisions.

(10) Lot Size Reduction for Existing Dwellings. In certain rural residential/resource districts for agriculture and timber uses. Land located on “farm and agricultural land” or “timber land” as defined in RCW 84.34.020 may be segregated one time only when meeting the following criteria:

(A) Land is a minimum of five acres.

(B) When proposed lot size is the minimum necessary to incorporate legally constructed dwellings and accessory uses existing prior to September 9, 1997. This provision does not apply to accessory dwelling units, dependent care housing or farm worker housing.

(C) The proposed lot has adequate access.

(D) The lot size meets the provisions of the Chelan-Douglas health district.

(E) Division is completed through a short subdivision process in Title 12. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2012-46 (Att. A) (part), 5/15/12; Res. 2011-86 (Att. A) (part), 10/4/11: Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2002-8 (part), 1/15/02; Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

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County Telephone: (509) 667-6220

Codification services provided by General Code

Chapter 11.12
RURAL RESIDENTIAL/RESOURCE—1 DWELLING UNIT PER 5 ACRES (RR5)

Sections:

11.12.010 Permitted, accessory and conditional uses.

11.12.020 Standards.

11.12.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-45 (part), 4/4/06; Res. 2005-66 (part), 6/28/05; Res. 2004-84 (part), 7/27/04; Res. 2004-16, 1/27/04; Res. 2003-96 (part), 7/22/03; Res. 2002-8 (part), 1/15/02; Res. 2002-6 (part), 1/15/02; Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

11.12.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum lot size: five acres, which measures to the centerline of adjoining public rights-of-way, which may be modified one time for:

(A) Cluster subdivisions and planned developments; or

(B) Fractional lot, no less than fifty percent of the minimum area of the district, within a major or minor plat; or

(C) Fractional lot for boundary line adjustment meeting the criteria of Section 12.18.030; or

(D) Lot size reduction for existing dwellings, under the criteria listed in subsection (9) of this section.

(2) Minimum lot width: one hundred feet at the front building line.

(3) Maximum building height: thirty-five feet.

(4) Maximum Lot Coverage. Buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as modified by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: five feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from the property line or fifty-five feet from the street centerline, whichever is greater.

(6) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling unit.

(B) One space per five beds and one space per staff person for adult family homes.

(C) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended.

(8) Accessory uses which support, promote, or sustain agricultural operations and production as a secondary, subordinate, and/or supplemental element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2) must be on the same parcel (or have adjacent or contiguous ownership) as the agriculture use that they are supporting.

(9) Lot Size Reduction for Existing Dwellings. To support long-term residential living, maintenance of existing housing and affordable housing options throughout the county. The owner of land may segregate, one time only, property into one additional lot when meeting the following criteria, except for those properties within the Icicle Valley Design Review Overlay District, Chapter 11.72:

(A) The parcel, prior to land division, shall not be divisible by subdivision (short or major), cluster subdivision (short or major) or through a certificate of exemption process, as defined by Title 12, excluding “laws of descent.”

(B) The proposed lot has adequate access.

(C) The size of the proposed lot is the minimum area reasonably necessary to support the existing single-family residence and associated accessory uses. If wells and/or septic systems are adjacent to the existing single-family residence, lot size should include these facilities. If wells and/or septic are not adjacent, then easements shall be provided.

(D) Land division process shall be completed through Title 12 short plat provisions.

(10) Lot Size Reduction for Existing Dwellings. In certain rural residential/resource districts for agriculture and timber uses. Land located on “farm and agricultural land” or “timber land” as defined in RCW 84.34.020 may be segregated one time only when meeting the following criteria:

(A) Land is a minimum of five acres.

(B) When proposed lot size is the minimum necessary to incorporate legally constructed dwellings and accessory uses existing prior to September 9, 1997. This provision does not apply to accessory dwelling units, dependent care housing or farm worker housing.

(C) The proposed lot has adequate access.

(D) The lot size meets the provisions of the Chelan-Douglas health district.

(E) Division is completed through a short subdivision process in Title 12. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2012-46 (Att. A) (part), 5/15/12; Res. 2011-86 (Att. A) (part), 10/4/11: Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2002-8 (part), 1/15/02: Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

The Chelan County Code is current through Resolution 2024-40, passed May 30, 2024.

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11.14.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-45 (part), 4/4/06; Res. 2005-66 (part), 6/28/05; Res. 2004-84 (part), 7/27/04; Res. 2002-8 (part), 1/15/02; Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

11.14.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum lot size: two and one-half acres, which measures to the centerline of adjoining public rights-of-way, which may be modified one time for:

(A) Cluster subdivisions and planned developments; or

(B) Fractional lot, no less than fifty percent of the minimum area of the district, within a major or minor plat; or

(C) Fractional lot for boundary line adjustment meeting the criteria of Section 12.18.030; or

(D) Lot size reduction for existing dwellings, under the criteria listed in subsection (9) of this section.

(2) Minimum lot width: one hundred feet at the front building line.

(3) Maximum building height: thirty-five feet.

(4) Maximum Lot Coverage. Buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as increased by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: five feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from the property line or fifty-five feet from the street centerline, whichever is greater.

(6) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling.

(B) One space per five beds and one space per staff person for adult family homes.

(C) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended.

(8) Accessory uses which support, promote, or sustain agricultural operations and production as a secondary, subordinate, and/or supplemental element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2) must be on the same parcel (or have adjacent or contiguous ownership) as the agriculture use that they are supporting.

(9) Lot Size Reduction for Existing Dwellings. To support long-term residential living, maintenance of existing housing and affordable housing options throughout the county. The owner of land may segregate, one time only, property into one additional lot when meeting the following criteria:

(A) The parcel, prior to land division, shall not be divisible by subdivision (short or major), cluster subdivision (short or major) or through a certificate of exemption process, as defined by Title 12, excluding “laws of descent.”

(B) The proposed lot has adequate access.

(C) The size of the proposed lot is the minimum area reasonably necessary to support the existing single-family residence and associated accessory uses. If wells and/or septic systems are adjacent to the existing single-family residence, lot size should include these facilities. If wells and/or septic are not adjacent, then easements shall be provided.

(D) Land division process shall be completed through Title 12 short plat provisions. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2011-86 (Att. A) (part), 10/4/11: Res. 2010-68 (part), 7/13/10; Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2002-8 (part), 1/15/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

Chapter 11.20
RURAL VILLAGE (RV)

Sections:

11.20.010 Permitted, accessory and conditional uses.
11.20.020 Standards.

11.20.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-22 (part), 2/7/06; Res. 2005-66 (part), 6/28/05; Res. 2002-8 (part), 1/15/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

11.20.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum Lot Size. Lot size, which measures to include ten percent of the adjoining public rights-of-way, shall be in accordance with the Chelan-Douglas health district standards for public or community water and sewage disposal; however, in no case shall lot size be less than twelve thousand square feet for single-family; requiring minimum lot size for a duplex structure to be not less than fifteen thousand and fifty square feet; and requiring three thousand and fifty additional square feet to the minimum required lot size for each additional dwelling unit for multifamily dwelling unit structures, except for cluster subdivisions approved pursuant to Title 12 of the Chelan County Code or planned development districts approved pursuant to Chapter 11.76 of this title.

(2) Minimum lot width: seventy feet at the front building line for an interior lot, eighty feet for a corner lot.

(3) Maximum building height: thirty-five feet.

(4) Maximum Lot Coverage. Buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as increased by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: five feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from property line or fifty-five feet from street centerline, whichever is greater.

(6) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling unit.

(B) One space per five beds and one space per staff person for adult family homes.

(C) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2006-22 (part), 2/7/06; Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

Chapter 11.24
RURAL COMMERCIAL (RC)

Sections:

11.24.010 Permitted, accessory and conditional uses.

11.24.020 Standards.

11.24.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2007-53 (part), 3/27/07; Res. 2002-105 (part), 7/16/02; Res. 2002-8 (part), 1/15/02; Res. 2002-6 (part), 1/15/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

11.24.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum Lot Size. Lot size shall be in accordance with the Chelan-Douglas health district standards for public or community water and sewage disposal.

(2) Minimum lot width: twenty-five feet.

(3) Maximum building height: thirty-five feet.

(4) Maximum lot coverage: no maximum is required, provided all applicable standards are complied with, including without limitation parking, landscaping and other dimensional requirements.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian or shoreline areas, or as increased by the provisions of this title:

(A) Front yard: ten feet from the front property line or forty feet from the street centerline, whichever is greater.

(B) Rear yard: zero feet, except thirty feet from the rear property when the lot abuts any district other than a commercial or industrial district.

(C) Side yard: zero feet, except thirty feet from the side property line when the lot abuts any zone other than a commercial or industrial district.

(6) Off-street parking requirements in this district shall be as follows:

(A) One space per three hundred square feet of floor area for retail sales.

(B) One space per unit for RV parks.

(C) One space per room and one-half space per staff person for lodging facilities.

(D) One space per three hundred square feet of floor area for personal and professional services.

(E) One space per one hundred square feet of floor area for eating and drinking establishments.

(F) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(7) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

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Chapter 11.28
RURAL PUBLIC LANDS AND FACILITIES (RP)

Sections:

11.28.010 Permitted, accessory and conditional uses.
11.28.020 Standards.

11.28.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2007-53 (part), 3/27/07; Res. 2002-105 (part), 7/16/02; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

11.28.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum Lot Size. Lot size shall be in accordance with the Chelan-Douglas health district standards for public or community water and sewage disposal.

(2) Maximum building height: fifty feet.

(3) Maximum lot coverage: no maximum is required, provided all applicable standards are complied with, including without limitation parking, landscaping and other dimensional requirements.

(4) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as increased by the provisions of this title:

(A) Front yard: Fifteen feet from the front property line or forty-five feet from the street centerline, whichever is greater.

(B) Rear yard: ten feet.

(C) Side yard: ten feet.

(5) Off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(6) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended. (Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

Chapter 11.30
COMMERCIAL AGRICULTURAL LANDS (AC)

Sections:

11.30.010 Permitted, accessory and conditional uses.

11.30.020 Standards.

11.30.010 Permitted, accessory and conditional uses.

Permitted, accessory and conditional uses in this district shall be as identified in Chapter 11.04, District Use Chart, of this title. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable provisions of the Chelan County Code are met. (Res. 2007-98 (part), 7/2/07: Res. 2006-74 (part), 6/6/06; Res. 2005-66 (part), 6/28/05; Res. 2002-8 (part), 1/15/02: Res. 2001-60 (part), 4/17/01: Res. 2000-129 (part), 10/17/00).

11.30.020 Standards.

All development in this zone shall meet the applicable provisions of the Chelan County Code, including without limitation the following:

(1) Minimum lot size: ten acres, which measures to the centerline of adjoining public rights-of-way, which may be modified one time for:

(A) Cluster subdivisions and planned developments; or

(B) Fractional lot, no less than fifty percent of the minimum area of the district, within a major or minor plat; or

(C) Fractional lot for boundary line adjustment meeting the criteria of Section 12.18.030; or

(D) Lot size reduction for existing dwellings, under the criteria listed in subsection (10) of this section.

(2) Minimum lot width: one hundred fifty feet at the front building line.

(3) Maximum building height: thirty-five feet, except as provided for in Section 11.88.170.

(4) Maximum Lot Coverage. Buildings and structures shall not occupy more than thirty-five percent of the lot area.

(5) Minimum Setback Distances. Minimum setback requirements shall be as provided in this section except when abutting commercial agricultural lands (AC), riparian and shoreline areas, or as modified by the provisions of this title:

(A) Front yard: twenty-five feet from the front property line or fifty-five feet from the street centerline, whichever is greater.

(B) Rear yard: twenty feet from the rear property line.

(C) Side yard: ten feet from the side property line. On corner lots the street side yard shall be a minimum of twenty-five feet from the property line or fifty-five feet from the street centerline, whichever is greater.

(6) Setbacks from Agriculture. No new dwelling unit shall be placed within one hundred feet of a property zoned as commercial agricultural lands (AC).

(A) Measurement. The entire width of any public right-of-way may be used as part of the setback area. In no case shall the setback from a public right-of-way be less than fifty-five feet from centerline or twenty-five feet from the front property line, whichever is greater. See Graphic G-2 in Appendix A.

(B) Administrative Modifications. The granting of a modification request must be necessary for the reasonable use of the land or building and the modification as granted by the administrator shall be the minimum necessary to accomplish this purpose. The decision of the administrator shall be appealable to the Chelan County hearing examiner.

(i) For lots/parcels legally created prior to the effective date of these provisions (September 9, 1997) the administrator may modify the required setback from land in agricultural use up to twenty percent.

(C) Waivers. Agricultural setbacks for dwelling units may be waived on an existing parcel within or adjacent to the commercial agricultural zoning district when a written waiver, signed by both the subject property owner and the adjacent property owner, is notarized, reviewed and approved by the department and recorded with the Chelan County auditor’s office (resulting in a notice to title). Where such a waiver is implemented, the setbacks identified within this chapter shall be utilized as the minimum standards.

(i) Where a waiver has been granted, enlargement of the dwelling or request for additional dwellings, within the one-hundred-foot setback, shall require a new waiver, consistent with subsection (6)(C) of this section.

(D) Existing Dwellings. For existing dwelling units, not placed with a waiver, the setback shall be defined by the exiting dwelling.

(7) Off-street parking requirements in this district shall be as follows:

(A) Two spaces per single-family dwelling unit;

(B) Other off-street parking and loading shall be provided as prescribed in Chapter 11.90 of this title.

(8) Landscape standards shall be provided as prescribed in Chapter 15.50 of Title 15, Development Standards, as amended.

(9) Chelan County requires that all plats, short plats, binding site plans, development permits, and building permits issued for development activities within five hundred feet of land designated as agricultural, forest, or mineral resource lands contain a notice that the subject property is within or near designated long-term commercial lands on which a variety of commercial activities may occur that are not compatible with residential development for certain periods of limited duration.

(10) Lot Size Reduction for Existing Dwellings. The owner of land with agricultural uses may segregate, one time only, the property into one additional lot subject to the following criteria:

(A) The initial parcel shall be a minimum of five acres prior to any segregation.

(B) When proposed lot size is the minimum necessary to incorporate legally constructed dwellings and accessory uses, on lots recorded prior to September 9, 1997. This provision does not apply to accessory dwelling units, dependent care housing or farm worker housing.

(C) The proposed lot has adequate access.

(D) The lot size meets the provisions of the Chelan-Douglas health district.

(E) Division is completed through a short subdivision process in Title 12.

(11) Additional Public Notice Provisions. Upon receipt of an application for all plats, short plats, conditional use permits, variances and similar land use applications, the county shall provide notice of the application to adjacent property owners and all owners of property located within one thousand feet of the proposed subdivision or development per the provisions of Section 14.08.050.

(12) All applications related to the following types of land uses shall meet with the agricultural review committee (ARC) to review proposed projects, identify possible impacts, outline possible mitigation measures, and make a formal recommendation to Chelan County staff prior to rendering a decision on the application or setting a public hearing. ARC review and recommendation shall be based on the agricultural good neighbor practices adopted by the Chelan County board of county commissioners, Chapter 10.30. All recommendations are for the consideration and final determination of the decision-making body.

(A) Food service associated with a use or activity allowed pursuant to this chapter are those services which are incidental or accessory to a permitted use or value-added food items produced from agricultural products grown on the applicant's farm and may include sales of ancillary prepackaged foods or beverages that are not prepared on the premises for on-site consumption.

(B) Education services located on a farm shall be a subordinate element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2).

(C) Ancillary entertainment/special events, including weddings/receptions, catered functions and musical events, shall be consistent with the character of permitted activities and uses.

(D) Accessory uses which support, promote, or sustain agricultural operations and production as a secondary, subordinate, and/or supplemental element of the operation of an ongoing agricultural activity as defined by RCW 84.34.020(2). Accessory commercial or retail uses shall predominantly sell regionally produced agricultural products from one or more producers, products derived from regional agricultural production, agriculturally related experiences, or products produced on site. Accessory commercial retail uses shall offer for sale products or services produced on site. (Res. 2018-8 (Att. A) (part), 1/30/18; Res. 2017-119 (Att. B) (part), 12/19/17; Res. 2015-73 (Atts. A, B) (part), 8/4/15; Res. 2011-86 (Att. A) (part), 10/4/11: Res. 2009-122 (Exh. A) (part), 11/3/09; Res.

2008-141 (part), 10/7/08; Res. 2008-13 (part), 2/5/08; Res. 2007-98 (part), 7/2/07: Res. 2006-74 (part), 6/6/06; Res. 2001-60 (part), 4/17/01; Res. 2000-129 (part), 10/17/00).

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Chapter 11.74

AIRPORT OVERLAY DISTRICT (AOD)

Sections:
11.74.010 Authority.
11.74.020 Applicability.
11.74.030 Exemptions.
11.74.040 Airport overlay districts established.
11.74.050 Development standards.
11.74.060 Review procedures.
11.74.070 Application requirements.

11.74.010 Authority.

(1) This chapter is adopted pursuant to the requirements of RCW 36.70A.510 and 36.70.547 wherein counties within which general aviation airports are located and operated for the benefit of the general public, whether publicly owned or privately owned public use, shall through its comprehensive plan and development regulations, discourage the siting of incompatible uses adjacent to such airports.

(2) RCW 36.70A.200 identifies airports as essential public facilities and requires local jurisdictions to provide a process for identifying and siting essential public facilities. The Chelan County zoning maps identify the existing airports located within Chelan County. (Res. 2000-129 (part), 10/17/00).

11.74.020 Applicability.

(1) The provisions of this chapter apply to all lands and all zoning districts lying within the boundaries of the airport overlay districts as shown on the Chelan County zoning maps. Airport overlay districts in Chelan County include lands lying outside of existing city limits incorporating and adjacent to the Cashmere Dryden Airport, the Chelan Municipal Airport, the Lake Wenatchee State Airport, and the Stehekin Airfield.

(2) All land uses, buildings, structures, features, including vegetation, and lighting located within the airport overlay district are subject to the provisions of this chapter with the exceptions of those listed in Section 11.74.030. (Res. 2000-129 (part), 10/17/00).

11.74.030 Exemptions.

The following structures, uses or activities are exempt from the provisions of this chapter when permitted in the underlying zoning district:

(1) Necessary Aviation Facilities. Any aviation use or air navigation or landing facility or device approved by the Federal Aviation Administration (FAA).

(2) Shielded Objects. Any structure or object that is shielded by existing structures of a permanent and substantial character or by natural terrain of equal or greater height and located in an area of established development where the structure so shielded would not further adversely affect air navigation safety. A determination that a structure or object is shielded will be subject to approval of the administrator.

(3) Temporary Uses. Temporary, lawful uses, such as but not limited to carnivals, religious assembly, or outdoor entertainment, limited to a period of operation of five days.

(4) Existing Uses. Any existing use, lot, building, structure or feature, including vegetation, legally existing prior to the effective date of the resolution codified in this chapter shall be considered a legal nonconforming use. No such nonconforming use shall be changed, however, in any manner that would result in a greater degree of nonconformity with respect to this chapter.

(5) Agricultural Uses. Nonresidential agricultural uses, structures or buildings are allowed; provided, that they do not penetrate the airspace zones established herein or create other safety impacts.

(6) Other Uses. Other uses may be exempt when determined by the administrator to be minor or incidental in nature and do not compromise the intent of this chapter. (Res. 2000-129 (part), 10/17/00).

11.74.040 Airport overlay districts established.

(1) The airport overlay district (AOD) identifies a series of imaginary air surfaces and aircraft accident safety zones within the area influenced by airports and lying outside of incorporated city limits. The imaginary surfaces and safety zones are based upon Title 14 Code of Federal Regulations, Subchapter C, Part 77, Objects Affecting Navigable Airspace, and data from the National Transportation Safety Board (NTSB), analyses performed on the NTSB data, case law, other general resource areas, and an analysis of the existing land use patterns and land use designations established in the Chelan County comprehensive plan.

(2) The imaginary air surfaces are those air spaces above and around airports that require protection from potential obstructions that might interfere with airport traffic. The size of the imaginary surfaces is based upon the category of each runway. The outer limit of the imaginary surfaces included in the airport overlay district is shown on the Chelan County zoning maps. Imaginary surfaces include the following:

(A) Horizontal Surface. A horizontal plane one hundred fifty feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of five thousand feet (for utility or visual runways) radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs.

(i) The established airport elevations for airports in Chelan County are as follows:

(a) Cashmere-Dryden Airport—eight hundred fifty-three feet above mean sea level.

(b) Chelan Municipal Airport—one thousand two hundred sixty-three feet above mean sea level.

(c) Lake Wenatchee State Airport—one thousand nine hundred thirty-six feet above mean sea level.

(d) Stehekin Airfield—one thousand two hundred thirty feet above mean sea level.

(B) Conical Surface. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20:1 for a horizontal distance of four thousand feet.

(C) Primary Surface. A two-hundred-fifty-foot-wide surface for utility runways having only visual approaches longitudinally centered on the runway. When the runway has a specially prepared hard surface, the primary surface extends two hundred feet beyond each end of that runway. When the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

(D) Approach Surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface expanding uniformly to a width of one thousand two hundred fifty feet (for utility runways with only visual approaches). The approach surface extends for a horizontal distance of five thousand feet at a slope of 20:1 for all utility and visual runways.

(E) Transitional Surfaces. These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7:1 from the sides of the primary surface and from the sides of the approach surfaces.

(3) The aircraft accident safety zone, as shown on the Chelan County zoning maps, includes areas surrounding airports that encompasses potential accident areas based upon analysis of accident locations near airports, historically. The aircraft accident safety zone includes the following:

(A) Runway Protection Zone 1. An area extending out from the end of the primary surface for one thousand feet with a width of four hundred fifty feet at the end away from the primary surface and centered on the extended runway centerline.

(B) Inner Safety Zone 2. An area adjacent to the end of the runway protection zone four hundred fifty feet wide and one thousand five hundred feet in length, centered on the extended runway centerline.

(C) Inner Turning Zone 3. An area composed of a sixty-degree sector centered on the end of the primary surface with an arc radius of two thousand five hundred feet.

(D) Outer Safety Zone 4. An area adjacent to the end of the inner safety zone four hundred fifty feet wide and two thousand five hundred feet in length, centered on the extended runway centerline.

(E) Sideline Safety Zone 5. An area adjacent to the primary surface extending five hundred feet perpendicular to the centerline of the runway and extending parallel to the primary surface and until the intersection with Runway Protection Zone 1 and Inner Turning Zone 3. (Res. 2000-129 (part), 10/17/00).

11.74.050 Development standards.

Except as noted in Section 11.74.030, the following standards shall be applied to all lands within the airport overlay district:

(1) With the exception of those necessary and incidental to airport operations, no uses shall be permitted that allow buildings, structures, vegetation or other development that penetrates the imaginary air surfaces described in Section 11.74.040(2).

(2) No uses shall be allowed that cause electrical interference with the operation of radio or electronic signals at the airport or between the airport and aircraft.

(3) No structure, device or other object shall be placed that makes it difficult for pilots to distinguish between airport lights and other lights, impairs visibility, or otherwise endangers the takeoff, landing or maneuvering of aircraft.

(4) No use, building or structure shall emit smoke, steam, ash, dust, vapor, gas or other emissions that may conflict with operations at the airports.

(5) No use shall be made of the land within Runway Protection Zone 1, Inner Safety Zone 2, Inner Turning Zone 3, Outer Safety Zone 4 or Sideline Safety Zone 5 that promotes areas of standing water one-half acre or larger in size.

(6) No use, building or structure shall be permitted within Runway Protection Zone 1, Inner Safety Zone 2, Inner Turning Zone 3, Outer Safety Zone 4 or Sideline Safety Zone 5 that promotes large concentrations or bulk storage of hazardous or flammable materials.

(7) Land uses that promote large assemblies of people such as multifamily housing, hospitals, churches, schools, etc., shall be prohibited within Runway Protection Zone 1, Inner Safety Zone 2, Inner Turning Zone 3, Outer Safety Zone 4 or Sideline Safety Zone 5.

(8) A note shall be recorded with the county auditor for each lot when subdivision, short subdivision, binding site plan, building permit or other development activity is located within the horizontal surface. Additionally the note shall specifically state when the properties are located within the approach surfaces of airport runways. The statement shall essentially read as follows:

> The subject property is located within an Airport Overlay District (AOD) in which a variety of aviation activities occur. Such activities may include but are not limited to noise, vibration, chemicals, odors, hours of operation and other associated activities.

(Res. 2000-129 (part), 10/17/00).

11.74.060 Review procedures.

(1) All land use and building permit applications within any portion of the airport overlay district (AOD) shall be subject to the application and review procedures prescribed in Title 14, Development Permit Procedures and Administration, of the Chelan County Code.

(2) No use, building, structure, or development activity on lands within the AOD district shall be established, altered or relocated except as authorized by this chapter and shall be processed in accordance with the applicable provisions of the underlying zone. (Res. 2000-129 (part), 10/17/00).

11.74.070 Application requirements.

In addition to that information required pursuant to Title 14, Development Permit Procedures and Administration, Chelan County Code, all development applications within the AOD district shall provide information sufficient to determine the maximum finished elevation of all vegetation, buildings and structures relative to established airport elevations. Additionally, the review authority may require the applicant to submit either or both of the following:

(1) A certificate from a licensed engineer or registered land surveyor that clearly states that no airspace obstruction will result from the proposed use;

(2) The maximum elevation of proposed buildings, structures or vegetation based on the established airport elevation. Elevations shall be determined by an engineer or land surveyor. (Res. 2000-129 (part), 10/17/00).

Chapter 17.20
SF – SINGLE-FAMILY RESIDENTIAL

Sections:

17.20.010 Purpose.
17.20.020 Permitted, accessory, conditional and prohibited uses.
17.20.030 Development standards.
17.20.040 Performance standards.

17.20.010 Purpose.

The purpose of the single-family zoning district is to provide an area for low density residential uses, particularly single-family homes, where city water and sewer service is available, consistent with the goals and policies of the Cashmere urban area comprehensive plan. This district retains and enhances established neighborhoods, as well as providing guidance to the development of new areas, making them compatible and consistent with existing development. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.20.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.20.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum lot area: 7,000 square feet.

B. The maximum building height: two stories, or in any event not greater than 30 feet.

C. The maximum lot coverage including all accessory buildings: 35 percent of the total lot area.

D. Minimum yard areas are as follows:

1. Projection from Buildings. Cornices, eaves, gutters, sunshades and other similar architectural features may not project more than two feet into a required yard setback.

2. Front yard: 25 feet from the front property line or 50 feet from the centerline of the street right-of-way, whichever is greater.

a. On corner lots there shall be two front yards and at least one rear yard.

b. On through lots there shall be two front yards.

c. In areas where an existing residential dwelling(s) located on an immediately abutting or adjoining lot(s) has a front yard of less than the required depth for the district, the front yard area may have a depth equal to one-third of the total lot width.

3. Rear yard: 10 feet from the rear property line. Accessory buildings, other than accessory dwellings, may be built within a rear yard, provided the required maximum lot coverage is not exceeded and the building is not closer than five feet to the rear lot line nor closer than five feet to the side lot line; and provided, that accessory buildings or structures located within a rear yard area adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

4. Side yard: five feet from the side property line. For all lots, if the building is oriented in such a way as the front and/or rear door(s) is facing a side yard, that side yard area shall be a minimum of 20 feet from the side property line. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.20.040 Performance standards.

Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

Chapter 17.22
MF – MULTIFAMILY RESIDENTIAL

Sections:

17.22.010 Purpose.
17.22.020 Permitted, accessory, conditional and prohibited uses.
17.22.030 Development standards.
17.22.040 Performance standards.

17.22.010 Purpose.

The purpose of the multifamily zoning district is to provide an area for moderate density residential uses such as duplex and apartment units, as well as single-family residences and manufactured homes, consistent with the goals and policies of the Cashmere urban area comprehensive plan. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.22.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.22.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum Lot Area.

1. Single-family dwelling: 7,000 square feet.

2. Duplex dwelling: 8,500 square feet.

3. Multifamily dwelling (attached or detached): 8,500 square feet for the first two dwelling units and 2,500 additional square feet for each additional unit.

B. The maximum building height: three stories, or in any event not greater than 40 feet.

C. The maximum lot coverage including all accessory buildings: 50 percent of the total lot area.

D. Minimum yard areas are as follows:

1. Projection from Buildings. Cornices, eaves, gutters, sunshades and other similar architectural features may not project more than two feet into a required yard setback.

2. Front yard: 20 feet from the front property line.

a. On corner lots, there shall be two front yards and at least one rear yard.

b. On through lots, there shall be two front yards.

c. In areas where existing residential dwelling(s) located on an immediately abutting or adjoining lot(s) has a front yard of less than the required depth for the district, the front yard area may have a depth equal to one-third of the total lot width.

3. Rear yard: 10 feet from the rear property line. Accessory buildings, other than accessory dwellings, may be built within a rear yard, provided the required maximum lot coverage is not exceeded, and the building is not closer than five feet to the rear lot line nor closer than five feet to the side lot line; and provided, that accessory buildings or structures located within a rear yard area adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

4. Side yard: five feet for a one- or two-story structure, or 10 feet for a three-story structure, all measurements to be measured from the side property line. For all lots, if the building is oriented in such a way as the front and/or rear door(s) is facing a side yard, that side yard area shall be a minimum of 20 feet from the side property line.

E. In any case where a plat has been accepted prior to May 10, 1999, or a plat has been accepted prior to 1959, in which platted lots do not conform with the requirements of this section, the proposal shall comply with the CMC for appropriate area necessary to comply with all applicable provisions, including without limitation requirements for off-street parking, ingress/egress, lot coverage, landscaping, etc. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.22.040 Performance standards.

All development in this district shall comply with the following performance standards:

A. Open Space/Recreation. Multifamily development shall provide common open space/recreation areas on site for use and enjoyment of owners and residents within the development, according to the following minimum provisions:

1. The area required for open space/recreation shall be 15 percent of the overall site area, with a minimum total area of 5,000 square feet, consisting of usable open space, critical areas and buffers and perimeter landscaping. Of the overall total open space areas, 75 percent must be usable open space.

2. Usable open space includes open play areas and outdoor recreational features, trails and paths, community gardens, and other similar types of areas. It shall be located and designed to be conveniently accessible to all residents from the interior of the development, and it shall be at a grade and with dimensions suitable for recreation use.

3. The open space/recreation areas shall be consistently maintained and shall be preserved through appropriate legal measures ensuring the continuation of the open space/recreation area, and prohibiting current and future owners from partitioning the open space/recreation areas and from converting the areas to other uses.

4. Open space/recreation areas do not include the following: parking lots, driveways, private/public street rights-of-way, required storage areas, etc.

B. Buffering/Landscaping. Multifamily development shall provide landscaping as described in Chapter 17.56 CMC, Landscaping Standards, and when multifamily development is occurring adjacent to a single-family residential or suburban residential district, a sight-obscuring fence, or approved alternative method, shall be placed in addition to the landscaping provisions of Chapter 17.56 CMC.

C. Refuse Storage. For multifamily development, all outdoor trash, garbage and refuse storage areas shall be located outside of required yard areas, and shall be screened on all sides from public view and, at a minimum, be enclosed in sight-obscuring wood, concrete or masonry wall or fence and landscaping on all sides.

D. General Storage. For multifamily development, storage of personal property and materials, of residents as well as managers and owners of the development, shall be located outside of required front yard areas, and it shall be entirely within an enclosed building.

E. Vehicle Storage. For multifamily development, storage of recreational vehicles, boats, and similar off-road vehicles not used for daily transportation, of residents as well as managers and owners of the development, shall be prohibited unless a fully enclosed building is provided on site specifically for that purpose.

F. Signs. All signs permitted under this section shall comply with the applicable provisions of the CMC.

G. Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

Chapter 17.24
SR – SUBURBAN RESIDENTIAL

Sections:

17.24.010 Purpose.
17.24.020 Permitted, accessory, conditional and prohibited uses.
17.24.030 Development standards.
17.24.040 Performance standards.

17.24.010 Purpose.

The purpose of the suburban residential zoning district is to maintain low density residential uses within the urban growth area, consistent with the goals and policies of the Cashmere urban area comprehensive plan. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.24.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.24.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum Lot Area.

1. Single-family dwelling: 10,000 square feet where city wastewater service is available, or the minimum required according to Chapter 246-272 WAC and health district standards based on the soil's ability to treat effluent and type of water supply, but in no case less than the minimum required above.

2. Duplex dwelling: 15,000 square feet where city wastewater service is available, or the minimum required according to Chapter 246-272 WAC and health district standards based on the soil's ability to treat effluent and type of water supply, but in no case less than the minimum required above.

B. The maximum building height: two stories, or in any event not greater than 30 feet.

C. The maximum lot coverage including all accessory buildings: 35 percent of the total lot area.

D. Minimum yard areas are as follows:

1. Projection from Buildings. Cornices, eaves, gutters, sunshades and other similar architectural features may not project more than two feet into a required yard setback.

2. Front yard: 25 feet from the front property line or 50 feet from the centerline of the street right-of-way, whichever is greater.

a. On corner lots there shall be two front yards and at least one rear yard.

b. On through lots there shall be two front yards.

c. In areas where existing residential dwelling(s) located on an immediately abutting or adjoining lot(s) has a front yard of less than the required depth for the district, the front yard area may have a depth equal to one-third of the total lot width.

3. Rear yard: 10 feet from the rear property line. Accessory buildings, other than accessory dwellings, may be built within a rear yard, provided the required maximum lot coverage is not exceeded and the building is not closer than five feet to the rear lot line nor closer than five feet to the side lot line; and provided, that accessory buildings or structures located within a rear yard area adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

4. Side yard: five feet from the side property line. For all lots, if the building is oriented in such a way as the front and/or rear door(s) is facing a side yard, that side yard area shall be a minimum of 20 feet from the side property line.

E. In any case where a plat has been accepted prior to May 10, 1999, or a plat has been accepted prior to 1959, in which platted lots do not conform with the requirements of this section, the proposal shall comply with the CMC for appropriate area necessary to comply with all applicable provisions, including without limitation requirements for off-street parking, ingress/egress, lot coverage, landscaping, etc. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.24.040 Performance standards.

All development in this district shall comply with the following performance standards:

A. Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes.

B. Signs. All signs permitted under this section shall comply with the applicable provisions of the CMC. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

Chapter 17.26
AR – AIRPORT RESIDENTIAL

Sections:

17.26.010 Purpose.
17.26.020 Permitted, accessory, conditional and prohibited uses.
17.26.030 Development standards.
17.26.040 Performance standards.

17.26.010 Purpose.

The purpose of the airport residential zoning district is to maintain low density residential uses within the urban growth area, consistent with the goals and policies of the Cashmere urban area comprehensive plan. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.26.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.26.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum Lot Area.

1. Single-family dwelling: 10,000 square feet where city wastewater service is available, or the minimum required according to Chapter 246-272 WAC and health district standards based on the soil's ability to treat effluent and type of water supply.

2. Duplex dwelling: 15,000 square feet where city wastewater service is available, or the minimum required according to Chapter 246-272 WAC and health district standards based on the soil's ability to treat effluent and type of water supply.

B. The maximum building height: two stories, or in any event not greater than 30 feet.

C. The maximum lot coverage including all accessory buildings: 40 percent of the total lot area.

D. Minimum yard areas are as follows:

1. Projection from Buildings. Cornices, eaves, gutters, sunshades and other similar architectural features may not project more than two feet into a required yard setback.

2. Front yard: 25 feet from the front property line or 50 feet from the centerline of the street right-of-way, whichever is greater.

a. On corner lots there shall be two front yards and at least one rear yard.

b. On through lots there shall be two front yards.

c. In areas where existing residential dwelling(s) located on an immediately abutting or adjoining lot(s) has a front yard of less than the required depth for the district, the front yard area may have a depth equal to one-third of the total lot width.

3. Rear yard: 10 feet from the rear property line. Accessory buildings, other than accessory dwellings, may be built within a rear yard, provided the required maximum lot coverage is not exceeded and the building is not closer than five feet to the rear lot line nor closer than five feet to the side lot line; and provided, that accessory buildings or structures located within a rear yard area adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

4. Side yard: five feet from the side property line. For all lots, if the building is oriented in such a way as the front and/or rear door(s) is facing a side yard, that side yard area shall be a minimum of 20 feet from the side property line. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.26.040 Performance standards.

All development in this district shall comply with the following performance standards:

A. Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes.

B. Signs. All signs permitted under this section shall be in accordance with Chapter 17.60 CMC, Signs.

C. Airplane hangars for personal use shall comply with the following minimum provisions:

1. Maximum width of the structure shall be 45 feet.

2. Maximum height of the structure shall be as for all structures.

3. Minimum yard areas and maximum lot coverage shall be as for all structures. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

Chapter 17.30
DB – DOWNTOWN BUSINESS

Sections:

17.30.010 Purpose.

17.30.020 Permitted, accessory, conditional and prohibited uses.

17.30.030 Development standards.

17.30.040 Performance standards.

17.30.050 Multifamily development – Non-core area.

17.30.010 Purpose.

The purpose of the downtown business zoning district is to provide an area for existing and future retail commercial activities. This district establishes opportunities for safe, aesthetically pleasing, accessible commercial development that contributes to a sound economic base for the community. It is intended that this district be a quality environment that appeals to all manner of consumers, including pedestrian shoppers, and is therefore appealing to new businesses. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.30.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.30.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum lot area: that area necessary to comply with all applicable provisions, including without limitation requirements for off-street parking, ingress/egress, lot coverage, landscaping, etc.

B. The maximum building height: three stories, or in any event not greater than 40 feet, including all signs or decorations.

C. The maximum lot coverage including all accessory buildings: 80 percent of the total lot area.

D. Minimum Yard Areas.

1. Front yard: equal to adjacent commercial buildings or zero feet where no adjacent buildings occur.

2. Rear yard: zero feet from the rear property line; provided, that buildings or structures located adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

3. Side yard: zero feet where common wall construction is used, or five feet from the side property line.

4. Where development occurs adjacent to a residential district, the rear and side yard areas shall be 15 feet from the rear and side property lines. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.30.040 Performance standards.

All development within this district shall comply with the following performance standards, unless alternative standards for specific uses in specific areas within this district are set forth in CMC 17.30.050, in which case the provisions of CMC 17.30.050 shall apply:

A. Permitted Multifamily Dwelling Development. Multifamily dwelling development shall be incorporated in the principal commercial structure and shall be located above street grade. No more than one-half of the non-main street fronting main floor (street grade level) of the principal commercial structure may be used for parking.

B. Permitted Existing Single-Family Dwelling and Duplex Dwelling Development. Where an existing single-family dwelling or duplex dwelling exists as of the date of adoption of the ordinance codified in this title, said single-family dwelling or duplex dwelling shall be allowed to expand, remodel, or rebuild, and shall be allowed those accessory uses permitted in the single-family district, provided all such development complies with the standards in CMC 17.20.030 and 17.20.040.

C. Buffering/Landscaping. When commercial development is occurring adjacent to a residential district, a sight-obscuring fence, or approved alternative methods, shall be installed to screen the commercial activities from the residential area.

D. Refuse Storage. All outdoor trash, garbage and refuse storage areas shall be screened on all sides from public view and, at a minimum, be enclosed in sight-obscuring wood, concrete or masonry wall or fence.

E. General Storage. Storage of materials and merchandise, other than for display purposes, shall be located outside of required yard areas, and it shall be entirely within an enclosed building.

F. Signs. All signs permitted under this section shall be in accordance with Chapter 17.60 CMC, Signs.

G. Parking. Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes.

H. Landscaping. Landscaping shall be provided in accordance with Chapter 17.56 CMC, Landscaping Standards. (Ord. 1289 § 2, 2020; Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.30.050 Multifamily development – Non-core area.

A. The provisions in this section shall apply to those areas in the non-core downtown business DB zoning district areas. The non-core downtown business DB zoning district areas are those areas not identified in the description of the core DB district areas. The core DB district areas are as follows:

1. Cottage Avenue. All property from Aplets Way to Maple Street on both sides of Cottage Avenue to the alley on the north and to the alley on the south.

2. Aplets Way. All property on the west side of Aplets Way that is within 96 feet of the Aplets Way right-of-way. All property on the east side of Aplets Way that is within 185 feet of the Aplets Way right-of-way.

3. Elberta Avenue. All property from Aplets Way to Woodring Street on both sides of Elberta Avenue to the alley on the north and to the alley on the south.

B. Multifamily development (three dwelling units or more) is permitted within the non-core areas zoned DB downtown business zoning district as the primary property use.

C. All non-core DB downtown business zoning district property developed primarily for multifamily use shall be developed with a seven-foot front yard setback, five-foot side yard setbacks, and a five-foot rear yard setback. Corner lots shall be required to have two front yard setbacks.

D. Off-street parking requirements for non-core DB zoning district property developed primarily for multifamily use shall be as follows:

1. For each studio or one-bedroom apartment, one parking space; and

2. For each apartment containing more than a single bedroom, single kitchen, single bathroom, and single living area, two off-street parking spaces.

The parking provisions set forth herein shall supersede and have priority over the application of the parking requirements, regulations, reduction credits and all other provisions of Chapter 17.54 CMC or other CMC provisions relating to parking.

E. Except as otherwise provided in this section, all other provisions of this chapter shall apply to the development of non-core DB downtown business zoning district property. (Ord. 1289 § 3, 2020).

The Cashmere Municipal Code is current through Ordinance 1327, passed April 22, 2024.

Disclaimer: The city clerk's office has the official version of the Cashmere Municipal Code. Users should contact the city clerk's office for ordinances passed subsequent to the ordinance cited above.

City Website: https://cityofcashmere.org/
City Telephone: (509) 782-3513

Codification services provided by General Code

Chapter 17.40
WI – WAREHOUSE INDUSTRIAL

Sections:

17.40.010 Purpose.
17.40.020 Permitted, accessory, conditional and prohibited uses.
17.40.030 Development standards.
17.40.040 Performance standards.

17.40.010 Purpose.

The purpose of the warehouse industrial zoning district is to provide an area that protects existing industrial uses, as well as establishing opportunities for further industrial development. This district supplies sufficient area, organized in a concentrated, positive working environment, to accommodate a broad range of industrial type activities. It is intended that this district provide flexibility in development that encourages usual as well as innovative activities that enhance the economic stability of the community, while still providing protection to the immediate, surrounding properties. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.40.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.40.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum lot area, lot depth, lot width: that area necessary to comply with all applicable provisions, including without limitation requirements for off-street parking, ingress/egress, lot coverage, landscaping, etc.

B. The maximum building height: three stories, or in any event not greater than 40 feet (existing allows 80 feet) including all signs or decorations. Where development occurs adjacent to a residential or public district, the maximum building height for all structures and storage of materials shall be 30 feet.

C. The maximum lot coverage including all accessory buildings: 80 percent of the total lot area.

D. Minimum Yard Areas.

1. Front, Side and Rear Yards. No yard area is required except that where roof construction would result in snow sloughing off the roof onto pedestrian and/or vehicle travel ways, there shall be either a minimum yard area of eight feet, or adequate structural features, as determined by the city, to ensure the safe travel of pedestrians and vehicles on public streets, alleys, sidewalks and other public rights-of-way.

2. Where development occurs adjacent to a residential district, the rear and side yard areas shall be 30 feet. (Ord. 1265 § 1, 2018; Ord. 1264 § 1 (Exh. A), 2017; Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.40.040 Performance standards.

All development within this district shall comply with the following performance standards:

A. Buffering/Landscaping. When development is occurring adjacent to a residential district, a sight-obscuring fence shall be installed to screen activities from the residential area.

B. Refuse Storage. All outdoor trash, garbage and refuse storage areas shall be screened on all sides from public view and, at a minimum, be enclosed in sight-obscuring wood, concrete or masonry wall or fence.

C. General Storage. Storage of materials and merchandise shall be located outside of required yard areas.

D. Signs. All signs permitted under this section shall be in accordance with Chapter 17.60 CMC, Signs.

E. Parking. Shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes.

F. Landscaping shall be provided in accordance with Chapter 17.56 CMC, Landscaping Standards. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

The Cashmere Municipal Code is current through Ordinance 1327, passed April 22, 2024.

Disclaimer: The city clerk's office has the official version of the Cashmere Municipal Code. Users should contact the city clerk's office for ordinances passed subsequent to the ordinance cited above.

City Website: https://cityofcashmere.org/
City Telephone: (509) 782-3513

Codification services provided by General Code

Chapter 17.48
P – PUBLIC

Sections:

17.48.010 Purpose.
17.48.020 Permitted, accessory, conditional and prohibited uses.
17.48.030 Development standards.
17.48.040 Performance standards.

17.48.010 Purpose.

The purpose of the public district is to help further the enhancement of existing, publicly held properties, and to promote privately owned properties to develop into community-oriented uses, particularly those of a recreational nature. Providing adequate land area for needed public and recreational land uses is integral in maintaining the pattern and ratio of land uses within the community. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.48.020 Permitted, accessory, conditional and prohibited uses.

Permitted, accessory, conditional and prohibited uses in this district shall be as identified in Chapter 17.18 CMC, District Use Chart. Said uses shall be allowed, as indicated in the district use chart, only after the provisions of this chapter and all other applicable city of Cashmere rules and regulations are complied with. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.48.030 Development standards.

Development in this district shall meet all of the applicable provisions of this title and all other rules, regulations and provisions of the city of Cashmere, and shall comply with the following:

A. Minimum lot area, lot depth, lot width: that area necessary to comply with all applicable provisions, including without limitation requirements for off-street parking, ingress/egress, lot coverage, landscaping, etc.

B. The maximum building height: three stories, or in any event not greater than 40 feet, including all signs or decorations. Where development is adjacent to a residential district, the maximum building height shall be two stories or in any event not greater than 30 feet.

C. The maximum lot coverage including all accessory buildings: 80 percent of the total lot area.

D. Minimum Yard Areas.

1. Front yard: zero feet from the front property line.

2. Rear yard: zero feet from the rear property line; provided, that buildings or structures located adjacent to a platted alley right-of-way shall not be closer than eight feet from the rear lot line.

3. Side yard: zero feet from the front property line.

4. Where development occurs adjacent to a residential district, the rear and side yard areas shall be 30 feet. (Ord. 1265 § 2, 2018; Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

17.48.040 Performance standards.

All development within this district shall comply with the following performance standards:

A. Buffering/Landscaping. When development is occurring adjacent to a residential district, a sight-obscuring fence shall be installed to screen activities from the residential area.

B. Refuse Storage. All outdoor trash, garbage and refuse storage areas shall be screened on all sides from public view and, at a minimum, be enclosed in sight-obscuring wood, concrete or masonry wall or fence.

C. General Storage. Storage of materials and merchandise shall be located outside of required yard areas.

D. Signs. All signs permitted under this section shall be in accordance with Chapter 17.60 CMC, Signs.

E. Parking. Parking shall be provided in accordance with Chapter 17.54 CMC, Off-Street Parking, and all other applicable provisions of this title and other city of Cashmere codes.

F. Landscaping. Landscaping shall be provided in accordance with Chapter 17.56 CMC, Landscaping Standards. (Ord. 1234 § 3 (Exh. F), 2014; Ord. 1138 § 1 (Exh. A), 2008; Ord. 1097 § 1, 2007; Ord. 1039 § 1, 2004).

Appendix D

Grant Assurances

FAA
Airports

ASSURANCES

AIRPORT SPONSORS

A. General.

1. These assurances shall be complied with in the performance of grant agreements for airport development, airport planning, and noise compatibility program grants for airport sponsors.
2. These assurances are required to be submitted as part of the project application by sponsors requesting funds under the provisions of Title 49, U.S.C., subtitle VII, as amended. As used herein, the term "public agency sponsor" means a public agency with control of a public-use airport; the term "private sponsor" means a private owner of a public-use airport; and the term "sponsor" includes both public agency sponsors and private sponsors.
3. Upon acceptance of this grant offer by the sponsor, these assurances are incorporated in and become part of this Grant Agreement.

B. Duration and Applicability.

1. **Airport development or Noise Compatibility Program Projects Undertaken by a Public Agency Sponsor.**

   The terms, conditions and assurances of this Grant Agreement shall remain in full force and effect throughout the useful life of the facilities developed or equipment acquired for an airport development or noise compatibility program project, or throughout the useful life of the project items installed within a facility under a noise compatibility program project, but in any event not to exceed twenty (20) years from the date of acceptance of a grant offer of Federal funds for the project. However, there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport. There shall be no limit on the duration of the terms, conditions, and assurances with respect to real property acquired with federal funds. Furthermore, the duration of the Civil Rights assurance shall be specified in the assurances.

2. **Airport Development or Noise Compatibility Projects Undertaken by a Private Sponsor.**

   The preceding paragraph (1) also applies to a private sponsor except that the useful life of project items installed within a facility or the useful life of the facilities developed or equipment acquired under an airport development or noise compatibility program project shall be no less than ten (10) years from the date of acceptance of Federal aid for the project.

3. **Airport Planning Undertaken by a Sponsor.**

   Unless otherwise specified in this Grant Agreement, only Assurances 1, 2, 3, 5, 6, 13, 18, 23, 25, 30, 32, 33, 34, and 37 in Section C apply to planning projects. The terms, conditions, and

assurances of this Grant Agreement shall remain in full force and effect during the life of the project; there shall be no limit on the duration of the assurances regarding Exclusive Rights and Airport Revenue so long as the airport is used as an airport.

C. Sponsor Certification.

The sponsor hereby assures and certifies, with respect to this grant that:

1. General Federal Requirements

It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance, and use of Federal funds for this Grant including but not limited to the following:

FEDERAL LEGISLATION

a. 49 U.S.C. subtitle VII, as amended.
b. Davis-Bacon Act, as amended — 40 U.S.C. §§ 3141-3144, 3146, and 3147, et seq.[1]
c. Federal Fair Labor Standards Act – 29 U.S.C. § 201, et seq.
d. Hatch Act – 5 U.S.C. § 1501, et seq.[2]
e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, 42 U.S.C. § 4601, et seq.[1, 2]
f. National Historic Preservation Act of 1966 – Section 106 – 54 U.S.C. § 306108.[1]
g. Archeological and Historic Preservation Act of 1974 – 54 U.S.C. § 312501, et seq.[1]
h. Native Americans Grave Repatriation Act – 25 U.S.C. § 3001, et seq.
i. Clean Air Act, P.L. 90-148, as amended – 42 U.S.C. § 7401, et seq.
j. Coastal Zone Management Act, P.L. 92-583, as amended – 16 U.S.C. § 1451, et seq.
k. Flood Disaster Protection Act of 1973 – Section 102(a) - 42 U.S.C. § 4012a.[1]
l. 49 U.S.C. § 303, (formerly known as Section 4(f)).
m. Rehabilitation Act of 1973 – 29 U.S.C. § 794.
n. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin).
o. Americans with Disabilities Act of 1990, as amended, (42 U.S.C. § 12101 et seq.) (prohibits discrimination on the basis of disability).
p. Age Discrimination Act of 1975 – 42 U.S.C. § 6101, et seq.
q. American Indian Religious Freedom Act, P.L. 95-341, as amended.
r. Architectural Barriers Act of 1968, as amended – 42 U.S.C. § 4151, et seq.[1]
s. Powerplant and Industrial Fuel Use Act of 1978 – Section 403 – 42 U.S.C. § 8373.[1]
t. Contract Work Hours and Safety Standards Act – 40 U.S.C. § 3701, et seq.[1]
u. Copeland Anti-kickback Act – 18 U.S.C. § 874.[1]

v. National Environmental Policy Act of 1969 – 42 U.S.C. § 4321, et seq.[1]

w. Wild and Scenic Rivers Act, P.L. 90-542, as amended – 16 U.S.C. § 1271, et seq.

x. Single Audit Act of 1984 – 31 U.S.C. § 7501, et seq.[2]

y. Drug-Free Workplace Act of 1988 – 41 U.S.C. §§ 8101 through 8105.

z. The Federal Funding Accountability and Transparency Act of 2006, as amended (P.L. 109-282, as amended by section 6202 of P.L. 110-252).

aa. Civil Rights Restoration Act of 1987, P.L. 100-259.

bb. Build America, Buy America Act, P.L. 117-58, Title IX.

EXECUTIVE ORDERS

a. Executive Order 11246 – Equal Employment Opportunity[1]

b. Executive Order 11990 – Protection of Wetlands

c. Executive Order 11998 – Flood Plain Management

d. Executive Order 12372 – Intergovernmental Review of Federal Programs

e. Executive Order 12699 – Seismic Safety of Federal and Federally Assisted New Building Construction[1]

f. Executive Order 12898 – Environmental Justice

g. Executive Order 13166 – Improving Access to Services for Persons with Limited English Proficiency

h. Executive Order 13985 – Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government

i. Executive Order 13988 – Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation

j. Executive Order 14005 – Ensuring the Future is Made in all of America by All of America's Workers

k. Executive Order 14008 – Tackling the Climate Crisis at Home and Abroad

FEDERAL REGULATIONS

a. 2 CFR Part 180 – OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement).

b. 2 CFR Part 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. [4, 5]

c. 2 CFR Part 1200 – Nonprocurement Suspension and Debarment.

d. 14 CFR Part 13 – Investigative and Enforcement Procedures.

e. 14 CFR Part 16 – Rules of Practice for Federally-Assisted Airport Enforcement Proceedings.

f. 14 CFR Part 150 – Airport Noise Compatibility Planning.

g. 28 CFR Part 35 – Nondiscrimination on the Basis of Disability in State and Local Government Services.

h. 28 CFR § 50.3 – U.S. Department of Justice Guidelines for the Enforcement of Title VI of the Civil Rights Act of 1964.

i. 29 CFR Part 1 – Procedures for Predetermination of Wage Rates.[1]

j. 29 CFR Part 3 – Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States.[1]

k. 29 CFR Part 5 – Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction (Also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act).[1]

l. 41 CFR Part 60 – Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and Federally-assisted contracting requirements).[1]

m. 49 CFR Part 20 – New Restrictions on Lobbying.

n. 49 CFR Part 21 – Nondiscrimination in Federally-Assisted Programs of the Department of Transportation - Effectuation of Title VI of the Civil Rights Act of 1964.

o. 49 CFR Part 23 – Participation by Disadvantage Business Enterprise in Airport Concessions.

p. 49 CFR Part 24 – Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally-Assisted Programs.[1, 2]

q. 49 CFR Part 26 – Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

r. 49 CFR Part 27 – Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance.[1]

s. 49 CFR Part 28 – Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities Conducted by the Department of Transportation.

t. 49 CFR Part 30 – Denial of Public Works Contracts to Suppliers of Goods and Services of Countries That Deny Procurement Market Access to U.S. Contractors.

u. 49 CFR Part 32 – Governmentwide Requirements for Drug-Free Workplace (Financial Assistance).

v. 49 CFR Part 37 – Transportation Services for Individuals with Disabilities (ADA).

w. 49 CFR Part 38 – Americans with Disabilities Act (ADA) Accessibility Specifications for Transportation Vehicles.

x. 49 CFR Part 41 – Seismic Safety.

FOOTNOTES TO ASSURANCE (C)(1)

[1] These laws do not apply to airport planning sponsors.

[2] These laws do not apply to private sponsors.

[3] 2 CFR Part 200 contains requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation shall

apply where applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

[4] Cost principles established in 2 CFR part 200 subpart E must be used as guidelines for determining the eligibility of specific types of expenses.

[5] Audit requirements established in 2 CFR part 200 subpart F are the guidelines for audits.

SPECIFIC ASSURANCES

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in this Grant Agreement.

2. Responsibility and Authority of the Sponsor.

a. Public Agency Sponsor:

It has legal authority to apply for this Grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

b. Private Sponsor:

It has legal authority to apply for this Grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this Grant Agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

3. Sponsor Fund Availability.

It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this Grant Agreement which it will own or control.

4. Good Title.

a. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.

b. For noise compatibility program projects to be carried out on the property of the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

5. Preserving Rights and Powers.

a. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this Grant Agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere

with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary.

b. Subject to the FAA Act of 2018, Public Law 115-254, Section 163, it will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this Grant Agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this Grant Agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this Grant Agreement.

c. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.

d. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non-compliance with the terms of the agreement.

e. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.

f. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to ensure that the airport will be operated and maintained in accordance with Title 49, United States Code, the regulations and the terms, conditions and assurances in this Grant Agreement and shall ensure that such arrangement also requires compliance therewith.

g. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.

6. Consistency with Local Plans.

The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

7. Consideration of Local Interest.

It has given fair consideration to the interest of communities in or near where the project may be located.

8. Consultation with Users.

In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.

9. Public Hearings.

In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

10. Metropolitan Planning Organization.

In projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.

11. Pavement Preventive Maintenance-Management.

With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.

12. Terminal Development Prerequisites.

For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under 49 U.S.C. § 44706, and all the security equipment required by rule or regulation, and has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.

13. Accounting System, Audit, and Record Keeping Requirements.

a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this Grant, the total cost of the project in connection with which this Grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The

accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.

b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this Grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this Grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

14. Minimum Wage Rates.

It shall include, in all contracts in excess of $2,000 for work on any projects funded under this Grant Agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor under 40 U.S.C. §§ 3141-3144, 3146, and 3147, Public Building, Property, and Works), which contractors shall pay to skilled and unskilled labor, and such minimum rates shall be stated in the invitation for bids and shall be included in proposals or bids for the work.

15. Veteran's Preference.

It shall include in all contracts for work on any project funded under this Grant Agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in 49 U.S.C. § 47112. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

16. Conformity to Plans and Specifications.

It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this Grant Agreement, and, upon approval of the Secretary, shall be incorporated into this Grant Agreement. Any modification to the approved plans, specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this Grant Agreement.

17. Construction Inspection and Approval.

It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.

18. Planning Projects.

In carrying out planning projects:

a. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.

b. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.

c. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.

d. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.

e. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.

f. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.

g. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.

h. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.

19. Operation and Maintenance.

a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state, and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for:

   1. Operating the airport's aeronautical facilities whenever required;

   2. Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and

   3. Promptly notifying pilots of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood, or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or

facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.

b. It will suitably operate and maintain noise compatibility program items that it owns or controls upon which Federal funds have been expended.

20. Hazard Removal and Mitigation.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

22. Economic Nondiscrimination.

a. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.

b. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to:

   1. Furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and

   2. Charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.

c. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.

d. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.

e. Each air carrier using such airport (whether as a tenant, non-tenant, or subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable

classifications such as tenants or non-tenants and signatory carriers and non-signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.

f. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees (including, but not limited to maintenance, repair, and fueling) that it may choose to perform.

g. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.

h. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.

i. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.

23. Exclusive Rights.

It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:

a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and

b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.

24. Fee and Rental Structure.

It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for

which a Grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.

25. Airport Revenues.

a. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph:

   1. If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.

   2. If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor’s acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.

   3. Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at 49 U.S.C. § 47102), if the FAA determines the airport sponsor meets the requirements set forth in Section 813 of Public Law 112-95.

b. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.

c. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of 49 U.S.C. § 47107.

26. Reports and Inspections.

It will:

a. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the

public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;

b. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;

c. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this Grant Agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; and

d. in a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:

   1. all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and

   2. all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.

27. Use by Government Aircraft.

It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that:

a. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or

b. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.

28. Land for Federal Facilities.

It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

29. Airport Layout Plan.

a. Subject to the FAA Reauthorization Act of 2018, Public Law 115-254, Section 163, it will keep up to date at all times an airport layout plan of the airport showing:

1. boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto;

2. the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities;

3. the location of all existing and proposed non-aviation areas and of all existing improvements thereon; and

4. all proposed and existing access points used to taxi aircraft across the airport's property boundary.

Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.

b. Subject to the FAA Reauthorization Act of 2018, Public Law 115-254, Section 163, if a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the owner or operator will, if requested, by the Secretary:

1. eliminate such adverse effect in a manner approved by the Secretary; or

2. bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary's design standards beyond the control of the airport sponsor.

30. Civil Rights.

It will promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, color, and national origin (including limited English proficiency) in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4); creed and sex (including sexual orientation and gender identity) per 49 U.S.C. § 47123 and related requirements; age per the Age Discrimination Act of 1975 and related requirements; or disability per the Americans with Disabilities Act of 1990 and related requirements, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any program and activity conducted with, or benefiting from, funds received from this Grant.

a. Using the definitions of activity, facility, and program as found and defined in 49 CFR §§ 21.23(b) and 21.23(e), the sponsor will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non-discrimination requirements imposed by or pursuant to these assurances.

b. Applicability

   1. Programs and Activities. If the sponsor has received a grant (or other federal assistance) for any of the sponsor's program or activities, these requirements extend to all of the sponsor's programs and activities.

   2. Facilities. Where it receives a grant or other federal financial assistance to construct, expand, renovate, remodel, alter, or acquire a facility, or part of a facility, the assurance extends to the entire facility and facilities operated in connection therewith.

   3. Real Property. Where the sponsor receives a grant or other Federal financial assistance in the form of, or for the acquisition of real property or an interest in real property, the assurance will extend to rights to space on, over, or under such property.

c. Duration.

   The sponsor agrees that it is obligated to this assurance for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the assurance obligates the sponsor, or any transferee for the longer of the following periods:

   1. So long as the airport is used as an airport, or for another purpose involving the provision of similar services or benefits; or

   2. So long as the sponsor retains ownership or possession of the property.

d. Required Solicitation Language. It will include the following notification in all solicitations for bids, Requests For Proposals for work, or material under this Grant Agreement and in all proposals for agreements, including airport concessions, regardless of funding source:

   "The (**[Selection Criteria: Sponsor Name]**), in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders or offerors that it will affirmatively ensure that for any contract entered into pursuant to this advertisement, [select businesses, or disadvantaged business enterprises or airport concession disadvantaged business enterprises] will be afforded full and fair opportunity to submit bids in response to this invitation and no businesses will be discriminated against on the grounds of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability in consideration for an award."

e. Required Contract Provisions.

   1. It will insert the non-discrimination contract clauses requiring compliance with the acts and regulations relative to non-discrimination in Federally-assisted programs of the Department of Transportation (DOT), and incorporating the acts and regulations into the contracts by reference in every contract or agreement subject to the non-discrimination in Federally-assisted programs of the DOT acts and regulations.

2. It will include a list of the pertinent non-discrimination authorities in every contract that is subject to the non-discrimination acts and regulations.

3. It will insert non-discrimination contract clauses as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.

4. It will insert non-discrimination contract clauses prohibiting discrimination on the basis of race, color, national origin (including limited English proficiency), creed, sex (including sexual orientation and gender identity), age, or disability as a covenant running with the land, in any future deeds, leases, license, permits, or similar instruments entered into by the sponsor with other parties:

    a. For the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and

    b. For the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.

f. It will provide for such methods of administration for the program as are found by the Secretary to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the acts, the regulations, and this assurance.

g. It agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the acts, the regulations, and this assurance.

31. Disposal of Land.

a. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order:

    1. Reinvestment in an approved noise compatibility project;

    2. Reinvestment in an approved project that is eligible for grant funding under 49 U.S.C. § 47117(e);

    3. Reinvestment in an approved airport development project that is eligible for grant funding under 49 U.S.C. §§ 47114, 47115, or 47117;

    4. Transfer to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport; or

    5. Payment to the Secretary for deposit in the Airport and Airway Trust Fund.

    If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development

project that would otherwise be eligible for grant funding or any permitted use of airport revenue.

b. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, upon application to the Secretary, be reinvested or transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order:

    1. Reinvestment in an approved noise compatibility project;
    2. Reinvestment in an approved project that is eligible for grant funding under 49 U.S.C. § 47117(e);
    3. Reinvestment in an approved airport development project that is eligible for grant funding under 49 U.S.C. §§ 47114, 47115, or 47117;
    4. Transfer to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport; or
    5. Payment to the Secretary for deposit in the Airport and Airway Trust Fund.

c. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.

d. Disposition of such land under (a), (b), or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.

32. Engineering and Design Services.

If any phase of such project has received Federal funds under Chapter 471 subchapter 1 of Title 49 U.S.C., it will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services in the same manner as a contract for architectural and engineering services is negotiated under Chapter 11 of Title 40 U S.C., or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.

33. Foreign Market Restrictions.

It will not allow funds provided under this Grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by

the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.

34. Policies, Standards, and Specifications.

It will carry out any project funded under an Airport Improvement Program Grant in accordance with policies, standards, and specifications approved by the Secretary including, but not limited to, current FAA Advisory Circulars (https://www.faa.gov/airports/aip/media/aip-pfc-checklist.pdf) for AIP projects as of [Selection Criteria: Project Application Date].

35. Relocation and Real Property Acquisition.

a. It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B.

b. It will provide a relocation assistance program offering the services described in Subpart C of 49 CFR Part 24 and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24.

c. It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.

36. Access By Intercity Buses.

The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.

37. Disadvantaged Business Enterprises.

The sponsor shall not discriminate on the basis of race, color, national origin, or sex, in the award and performance of any DOT-assisted contract covered by 49 CFR Part 26, or in the award and performance of any concession activity contract covered by 49 CFR Part 23. In addition, the sponsor shall not discriminate on the basis of race, color, national origin or sex in the administration of its Disadvantaged Business Enterprise (DBE) and Airport Concessions Disadvantaged Business Enterprise (ACDBE) programs or the requirements of 49 CFR Parts 23 and 26. The sponsor shall take all necessary and reasonable steps under 49 CFR Parts 23 and 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts, and/or concession contracts. The sponsor's DBE and ACDBE programs, as required by 49 CFR Parts 26 and 23, and as approved by DOT, are incorporated by reference in this agreement. Implementation of these programs is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the sponsor of its failure to carry out its approved program, the Department may impose sanctions as provided for under Parts 26 and 23 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. § 1001 and/or the Program Fraud Civil Remedies Act of 1986 (31 U.S.C. §§ 3801-3809, 3812).

38. Hangar Construction.

If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.

39. Competitive Access.

a. If the airport owner or operator of a medium or large hub airport (as defined in 49 U.S.C. § 47102) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that:

   1. Describes the requests;
   2. Provides an explanation as to why the requests could not be accommodated; and
   3. Provides a time frame within which, if any, the airport will be able to accommodate the requests.

b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.

Appendix E

FAA Approval Letter

U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Colorado · Idaho · Montana · Oregon · Utah
Washington · Wyoming

Seattle Airports District Office
2200 S 216th Street, Rm 1W-422
Des Moines, WA 98198

April 24, 2023

Ms. Gina Smith
Manager - Cashmere-Dryden Airport
408 Elberta Avenue
Cashmere, WA 98815

Cashmere Dryden Airport (8S2), Washington
Approval of Forecast

Dear Ms. Smith:

The Federal Aviation Administration (FAA), Seattle Airports District Office has reviewed the aviation forecast for Cashmere Dryden Airport (8S2) master plan update with airport layout plan. The FAA approves the forecast for airport planning purposes based on the information summarized below:

Cashmere-Dryden Airport (8S2)

Planning Interval	Year	2022 Airport Layout Plan Operations	FAA TAF Operations	AF/TAF (% Difference)
Base Year	2022	4,290	3,075	28.32%
Base Year +5 (Short Term)	2027	4,645	3,075	33.80%
Base Year +10 (Intermediate Term)	2032	4,819	3,075	36.19%
Base Year +15 (Long Term)	2042	5,000	3,075	38.50%

Source: Century West Engineering ~Cashmere (8S2) Master Plan Update – Chapter 3: Aviation Forecast; April 21, 2023

1. The difference between the FAA Terminal Area Forecast (TAF) and Cashmere Airport forecast for total operations to-date is higher than the 10 percent allowance for the 5-year planning horizon, and higher than 15 percent allowance for the 10-year planning horizon.

Planning Interval	Year	2022 Airport Layout Plan Based Aircraft	FAA TAF Based Aircraft	AF/TAF (% Difference)
Base Year	2022	39	37	5.13%
Base Year +5 (Short Term)	2027	42	37	11.90%
Base Year +10 (Intermediate)	2032	44	37	15.91%
Base Year +15 (Long Term)	2037	45	37	17.78%

Source: Century West Engineering ~Cashmere (8S2) Master Plan Update – Chapter 3: Aviation Forecast; April 24, 2023

2. The difference between the TAF and Cashmere airport's forecast for based aircraft to-date is also higher than the 10 percent allowance for 5-year plans, and higher than the 15 percent allowance for the 10-year planning horizon.

The forecast is based on reasonable planning assumptions, current airport data and acceptable methodologies. However, consideration must still be given to the significant impacts of COVID-19 on current aviation activity and the historical changes at the airport which resulted in lower than normal confidence in future growth projections.

The FAA approves the A-I (small) family of single-engine piston aircraft typified by Cessna 172, for existing and future critical aircraft.

The forecast approval does not provide justification for future airport development. Justification for future projects will be based on activity levels at the time the future project is requested for development, rather than this forecast approval. Further documentation of actual activity levels reaching the required planning levels will be needed prior to FAA participation in funding for eligible future projects.

If you have questions, please call me at 206 231-3498

Sincerely,

Community Planner, SEA - 637
Seattle Airports District Office

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PORTLAND

WASHINGTON
SPOKANE
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FEDERAL WAY
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IDAHO
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