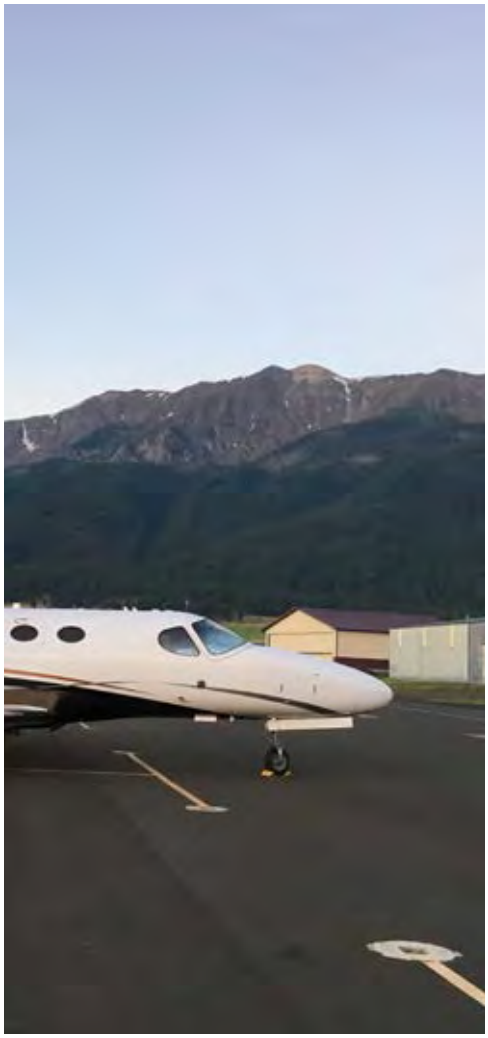
JOSEPH STATE AIRPORT

AIRPORT MASTER PLAN

Joseph, OR
January 2022







CENTURY WEST ENGINEERING

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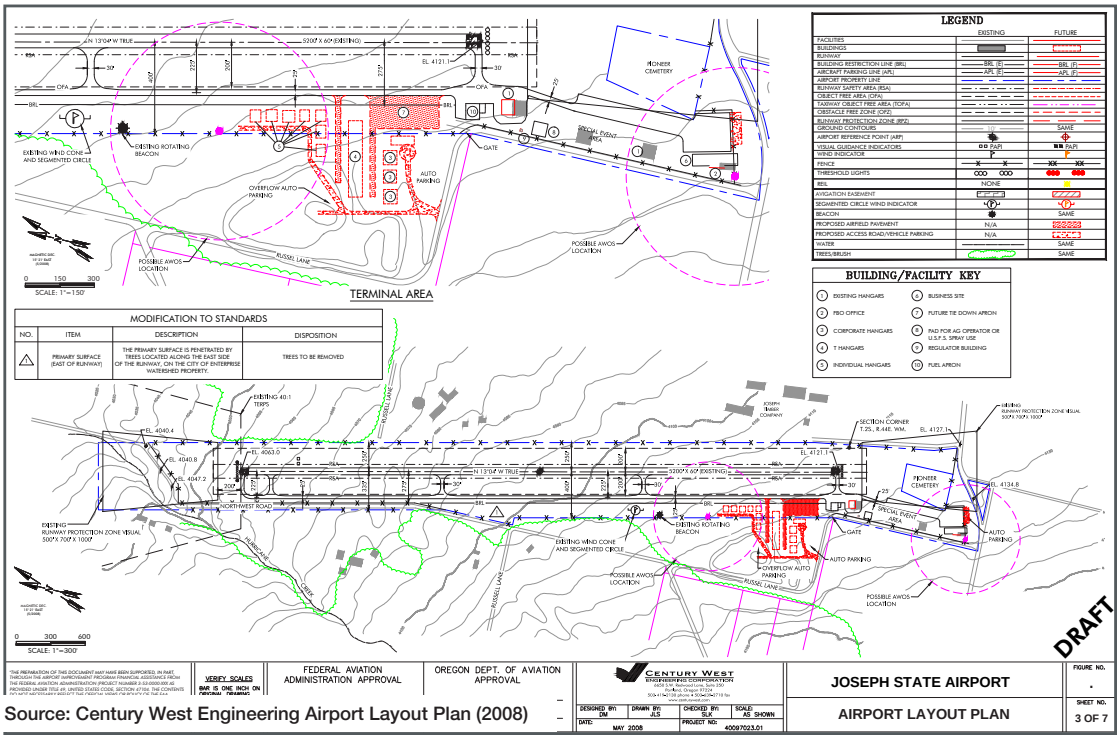
Chapter 1
Introduction



The Oregon Department of Aviation (ODA) is preparing an Airport Master Plan Update for Joseph State Airport (JSY) in cooperation with the Federal Aviation Administration (FAA) to address the Airport's needs for the next twenty years. The Airport Master Plan will provide 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 Airport Master Plan 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 will also address 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.



Source: Century West Engineering Airport Layout Plan (2008)

Project Need

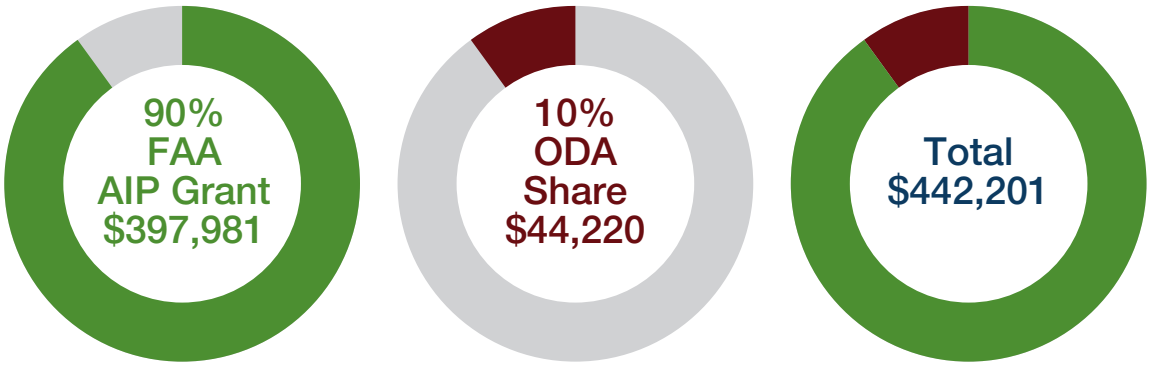
The FAA requires airport sponsors (in this case ODA) to periodically update their master plans as conditions change in order to maintain current planning. Activity at the Airport has increased as the local community and surrounding area have grown. Over the last twenty years, the communities of Joseph and Enterprise have grown, and Wallowa County has become an increasingly popular recreation and tourism destination.

As many of the previous airport master plan recommendations have been implemented in response to this demand, the need now exists to update the long-term planning for the Airport and reevaluate several concepts presented in the previous master planning effort. In addition to addressing changing local conditions, updated FAA standards and current trends within the aviation industry also need to be reflected in updated airport planning.

This project replaces the 1993 Airport Master Plan and a 2008 update of the ALP drawing. These documents serve as a primary source for inventory data. However, several projects completed since the last master plan provide updated facility data. Where available, more current or comprehensive data are included in the report to illustrate current conditions. Existing airfield facilities were examined during on-site inspections to update facility inventory data. The consultants also worked closely with airport staff to review the current facility and operational data maintained by ODA.

Project Funding

Funding for the Airport Master Plan Update is being provided through an FAA Airport Improvement Program (AIP) grant of $397,981 (90%) and $44,220 (10%) provided by ODA. The total project cost of $442,201 includes ODA staff administration time to support the planning process. The AIP is 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 Master Plan

The primary goal of the master plan is to provide the framework and vision needed to guide future development at the Joseph State Airport. The FAA sets out goals and objectives each master plan should meet 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 issue 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 conformance issues 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 City/County oversight of the airport to remove barriers to appropriate growth at the airport.

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

THE FAA ROLE IN THE AIRPORT MASTER PLAN

FAA *Advisory Circular (AC) 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 master plan study must focus on the specific needs of the airport for which a plan is being prepared.

The recommendations contained in an airport master plan represent the views, policies and development plans of the airport sponsor and do not necessarily represent the views of the FAA. Acceptance of the master 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 master plan to ensure that sound planning techniques have been applied. However, the FAA only approves the Aviation Activity Forecasts and Airport Layout Plan.

Planning Process

The three phase planning process is designed to provide multiple feedback loops intended to maintain the flow of information and ideas among the community and project 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
- Existing Conditions and Facilities
- 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 in sequence with the development of community generated ideas, solutions, and development alternatives.

Analysis

- Define Updated Airfield Design Standards
- Perform Demand/Capacity Analysis
- Define Facility Goals and Requirements
- Identify & Prepare Development Alternatives
- Evaluate Development Alternatives

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 and workable CIP; and current ALP drawings that graphically depict existing conditions at the airport and proposed development projects.

Analysis

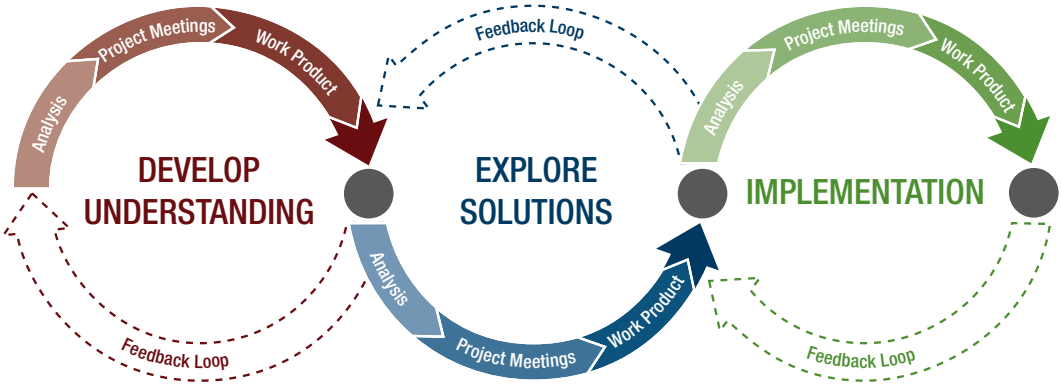
- Develop Strategies & Actions
- Develop CIP/Phasing/Financial Plan
- Develop ALP Drawing Set

Project Meetings

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

Work Product

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



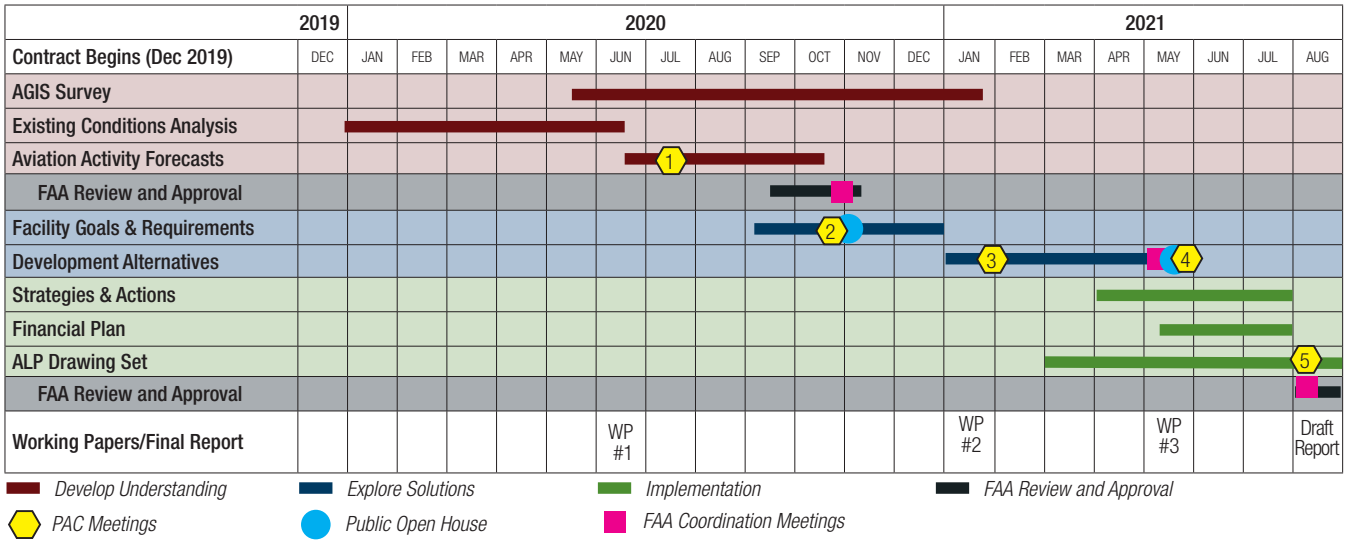
Framework of the Airport Master Plan

The framework of the Airport Master Plan 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 based upon an airport-urban interface model intended to analyze the regional setting of the Airport, its landside and airside elements, and 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 the preferred development alternative for the Airport that is compatible with its adjacent urban and rural environments.

	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 Instrument Flight Procedures Runway/Helipad Taxiways/Taxilanes Pavement Condition Airfield Lighting and NAVAIDS	Aprons/Tiedowns Terminal Building Hangars Airport Fencing Airport Surface Roads Vehicle Parking Utilities FBO Facilities Aircraft Fueling	Airport Ownership & Management Airport Financials Airport Rates and Charges Local Rules & Regulations Oregon Aviation Laws FAA Compliance Overview
Explore Solutions				
Implementation				

Project Schedule

The Joseph State Airport Master Plan schedule is expected to occur over the course of 18-24 months. Phase 1 - Develop Understanding will take approximately 6-7 months, excluding the AGIS element; Phase 2 - Explore Solutions will take approximately 8-9 months; and Phase 3 - Implementation will take approximately 8-9 months including 3 months for FAA review and approvals. Final FAA approvals may require additional time depending on staff workload.



Public Involvement Process

A comprehensive and engaging public involvement process is a key element to a successful master planning process. Numerous opportunities for public input are built in to the master planning process for Joseph State Airport, including five Planning Advisory Committee (PAC) meetings, two Public Open House meetings, and regular updates through the project website. All master plan draft chapters are provided to the public on the project website when they are submitted to FAA for review and comment. Additional coordination involving the FAA, ODA, and the project planning team includes scheduled twice-monthly conference calls during the course of the project to address key issues as they are encountered. A summary of public participation for this project is provided in **Appendix G**.

PLANNING ADVISORY COMMITTEE (PAC) MEETINGS

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 and/or County were identified as members of the PAC. The FAA Seattle Airports District Office (ADO) project manager will interact with the project team throughout the project, and may attend one or more of the PAC meetings. The FAA has primary responsibility for technical review, comment, and project approval.

2021 Note: The original proposed PAC meeting schedule was impacted by the COVID-19 stay at home orders. Some meetings were rescheduled and restructured as remote meetings (video conferences) due to the State of Oregon restrictions on in-person meetings.

An outline of the PAC meetings is provided below:

PAC Meeting #1

PAC Meeting #1 is an interactive discussion with the PAC that addresses the existing conditions of the Airport, community, and aviation industry. Potential issues and opportunities will be identified and discussed, and the framework for the aviation forecasts that will be submitted to the FAA for review and approval will be established.

PAC Meeting #2 / Public Open House

Presentation of multi-step public review process used to identify and verify the facility goals and requirements necessary to satisfy future demands on the Airport reflected in the updated aviation activity forecasts. An updated assessment of all applicable FAA airport design standards will provide the basis for identifying facility conformance issues to be addressed in the master plan.

PAC Meeting #3

The facility goals and requirements discussed in PAC #2 will serve as the building blocks for the development of three preliminary alternative concepts capable of satisfying future demand. Preliminary development alternatives concepts will be presented to the PAC for review and comment.

PAC Meeting #4 / Public Open House

The input provided in PAC #3 is used to refine the concepts presented in PAC #4 and at the public open house. Based on technical evaluations, public input and coordination with local officials, the process will lead to the selection of a preferred alternative by ODA that will be presented for additional public review and comment.

PAC Meeting #5

Facilitate an interactive discussion and presentation with the PAC of an implementation program with recommended strategies and actions for future land use, transportation, and environmental requirements; a realistic and workable CIP; and current ALP drawings that graphically depict existing conditions at the airport, as well as proposed development projects.

Known Issues & Opportunities

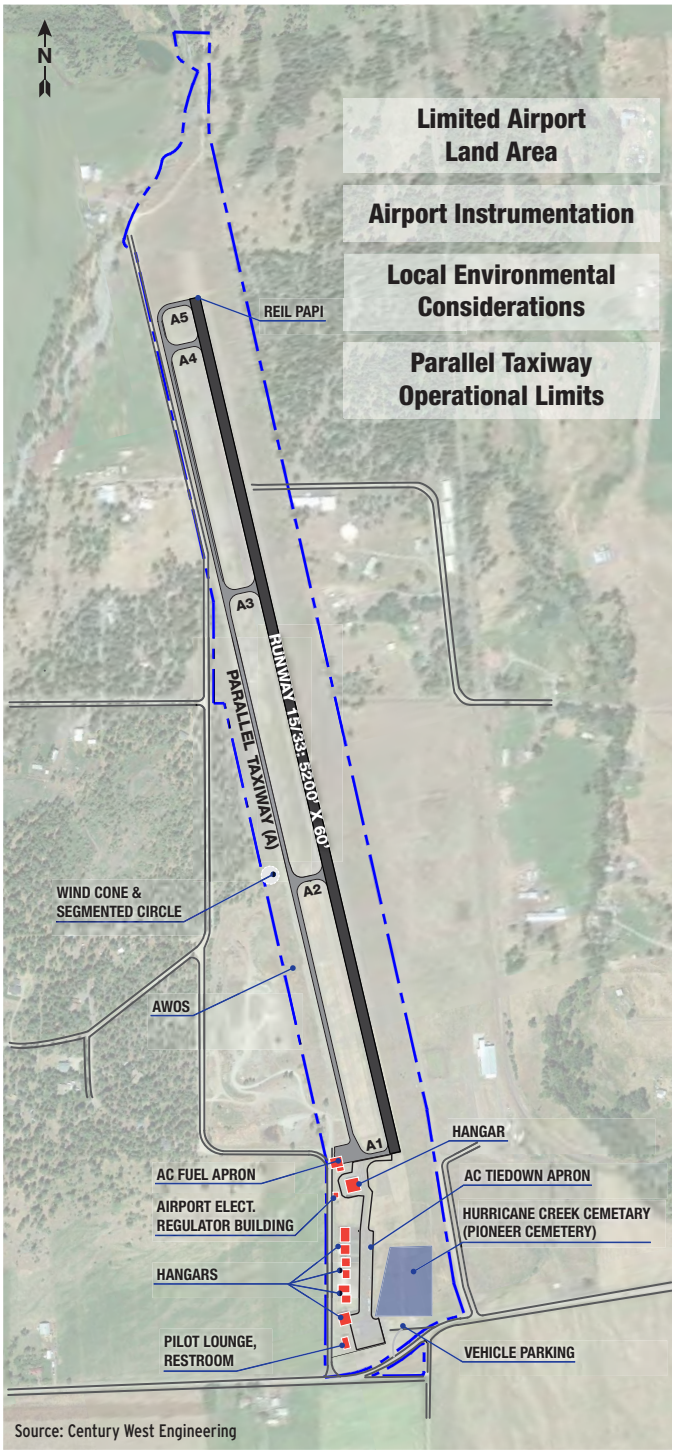
At the outset of the Airport Master Plan, several issues/opportunities were identified by airport management and the planning team as potential focus areas within the overall planning evaluation. These are briefly summarized below:

LIMITED AIRPORT LAND AREA – KNOWN ISSUE #1

The available land development area at the Airport is limited. The majority of the site has been developed to include the runway, runway protection zones and other runway protected surfaces, a full-length parallel taxiway, aircraft parking and fueling aprons, the pilot building, and hangar sites. ODA indicates that they currently have one readily-developed site available that may accommodate two conventional hangars; lease negotiations are currently under way. The current configuration and topography of the airport site does not provide other areas suitable for constructing hangars or expanding aircraft apron. A detailed review of the existing south landside development area will be performed with the goal of identifying infill opportunities and potential reconfigurations to maximize efficient use of the limited space. Acquisition of additional property to accommodate longer-term landside needs will be evaluated based on the master plan's long-term forecast demand.

AIRPORT INSTRUMENTATION – KNOWN ISSUE #2

The addition of instrument approach and departure capabilities has been identified by ODA, medical evacuation (MEDEVAC) operators, and local hospital officials as a critical need. The Airport currently operates under visual flight rules (VFR) only, and MEDEVAC access can become limited as weather conditions deteriorate. An airports global information system (AGIS) survey is being completed in conjunction with the master plan. The AGIS survey is required by FAA to initiate their technical feasibility analyses and procedure design processes. The master plan will address all related issues that need to be incorporated into facility planning.



Source: Century West Engineering

LOCAL ENVIRONMENTAL CONSIDERATIONS AND OTHER SITE CONSTRAINTS – KNOWN ISSUE #3

Joseph State Airport is located in an area of significant environmental and cultural sensitivity. Among the issues affecting activities at the Airport include direct proximity to a major drinking water aquifer (City of Enterprise), a local creek, cemetery located on site (within an existing runway protection zone (RPZ)), and the unique natural setting of the Wallowa Lake area and the Wallowa Valley.

PARALLEL TAXIWAY OPERATIONAL LIMITS (OBSTRUCTIONS) – KNOWN ISSUE #4

The parallel taxiway for Runway 15/33 has an area of limited aircraft wingtip clearance caused by rising terrain adjacent to a boundary fence constructed on the airport property line along the northern 1/3 of the taxiway. Larger aircraft taxiing to the north end of the runway typically back-taxi approximately 1,700 feet on the runway from Taxiway A3 to the Runway 15 end.

OPPORTUNITIES

1. Investment in targeted facility improvements at Joseph State Airport will improve transportation access and contribute to growth in key economic segments for the local community and greater Wallowa County.

2. An upgrade in instrumentation at Joseph State Airport will significantly improve existing Wallowa County critical patient transport capabilities and outcomes.

3. Joseph State Airport has the unique ability to provide a real-world aeronautical experience for the existing high school aviation technology program through its facilities and connections to industry professionals.

4. Events such as the annual Wallowa County Fly-In and gatherings of back county aviation groups contribute to the Airport's unique profile and have the potential of expanding.

5. Joseph State Airport's geographic location and facilities are strategic in the region's coordinated aerial wildfire response.

Chapter 2

Existing Conditions Analysis



Photo Credit: **Andy McKee**

The Existing Conditions Analysis documents existing airfield facilities and conditions that affect the operation and development of the Joseph State Airport (JSY) within the context of the regional setting, landside, airside, and administrative functions. The existing conditions analysis utilized the 1993 Airport Master Plan[1] and other subsequent work products in addition to numerous meetings with tenants, stakeholders, and ODA staff to support the effort. The findings documented in the Existing Conditions Analysis chapter will be used to support subsequent studies and recommendations throughout the development of the master plan.

Regional Setting

The Regional Setting section is comprised primarily of the those features that provide a better understanding of the social, economic, and environmental impacts airports can have in a region, county, and city. This section of the existing conditions analysis includes a discussion of the location & vicinity of Joseph State Airport, as well as the socio-economic conditions, airport history, airport role, area airports, historic airport operations, relevant studies, environmental data, local surface transportation, and land use on and around the Airport.

LOCATION & VICINITY

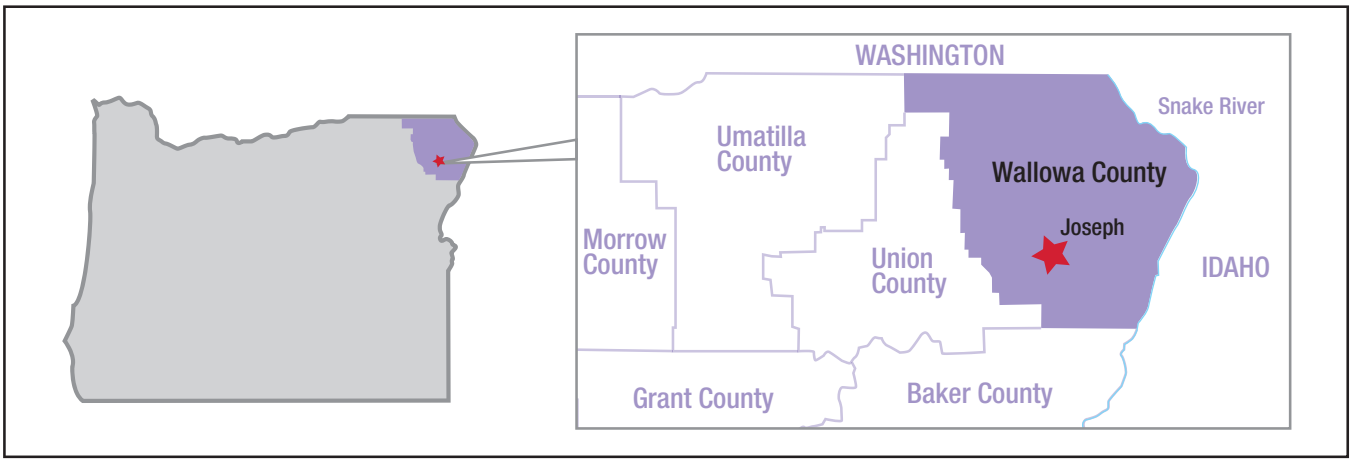
Joseph State Airport is located about 1 mile west of Joseph, Oregon and is solely owned and operated by the Oregon Department of Aviation (ODA). The Airport is located outside the Joseph city limits and urban growth boundary (UGB) in unincorporated Wallowa County. Airport elevation is 4,121 feet above mean sea level (MSL), with nearby terrain rising to more than 9,800 feet MSL within 7 nautical miles (south).

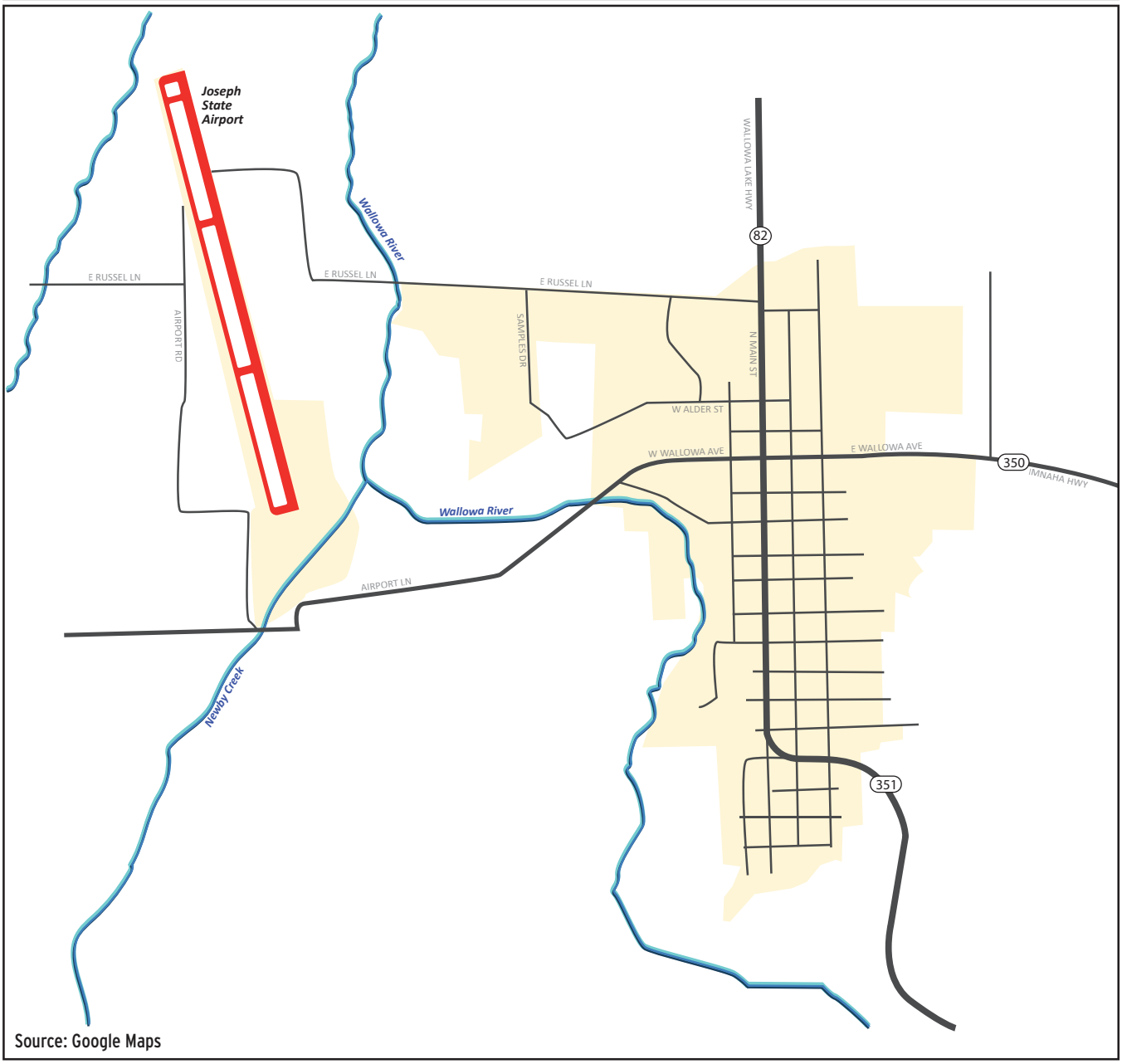
Wallowa County is located in the Northeastern corner of Oregon, bordering the States of Washington and Idaho on its north and east boundaries, and three adjacent Oregon counties (Union, Umatilla, and Baker) to the south and west. Enterprise is the county seat, located 6 miles north of Joseph.

State Highway 82 connects Joseph and Enterprise with several smaller communities along the Wallowa River, before heading west and south to La Grande. State Highway 3 extends north from Joseph and Enterprise into southeast Washington, where it becomes Washington Highway 129. Highway 129 connects to U.S. Highway 12 near Asotin and Clarkston, and Lewiston, Idaho. U.S. Highway 12 is major east-west route that extends from Washington to Michigan.

1 Joseph State Airport Master Plan (Robert O. Brown Airport Consultant, August 1993)

FIGURE 2-1: LOCATION AND VICINITY MAP





Source: Google Maps

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 Joseph State Airport.

Population

Recent historic population trends in Wallowa County have been mixed. The county has experienced several minor upward and downward movements within a small net increase since the previous airport master plan was completed in 1993. Since 1990, county population has increased by approximately 3.5 percent (+239), or about 0.12 percent annually. The 2019 population estimate for Wallowa County is above the 2010 Census (+142, +2.00%), but below the 2000 Census (-76, -1.1%). The trends within the incorporated and unincorporated areas of the county are similar. Over the last 30 years, Joseph and Enterprise combined, have consistently accounted for about 44 percent of county population, while unincorporated Wallowa County has remained steady at about 42 percent.

TABLE 2-1: HISTORIC POPULATION

	1990	2000	2010	2015	2019
Oregon	2,847,000	3,431,085	3,837,300	4,013,845	4,236,400
Wallowa County	6,911 (100%)	7,226 (100%)	7,008 (100%)	7,100 (100%)	7,150 (100%)
Joseph	1,073 (16%)	1,054 (16%)	1,081 (16%)	1,095 (15%)	1,120 (16%)
Enterprise	1,905 (28%)	1,895 (28%)	1,940 (28%)	1,940 (27%)	1,985 (28%)
Unincorporated	2,954 (42%)	3,145 (42%)	2,966 (42%)	3,040 (43%)	2,990 (42%)

Source: US Decennial Census; Portland State University (PSU) Annual Certified Population Estimates

Area Tourism

Despite relatively flat population growth, Wallowa County has seen significant growth in visitor activity and part-year residents. Local officials report increases in vacation home/cabin rentals including Airbnb, and other lodging accommodations. A variety of recreational segments contribute to a growing year-round visitor activity: camping, water sports, hunting, winter sports, etc.

Area Demographics

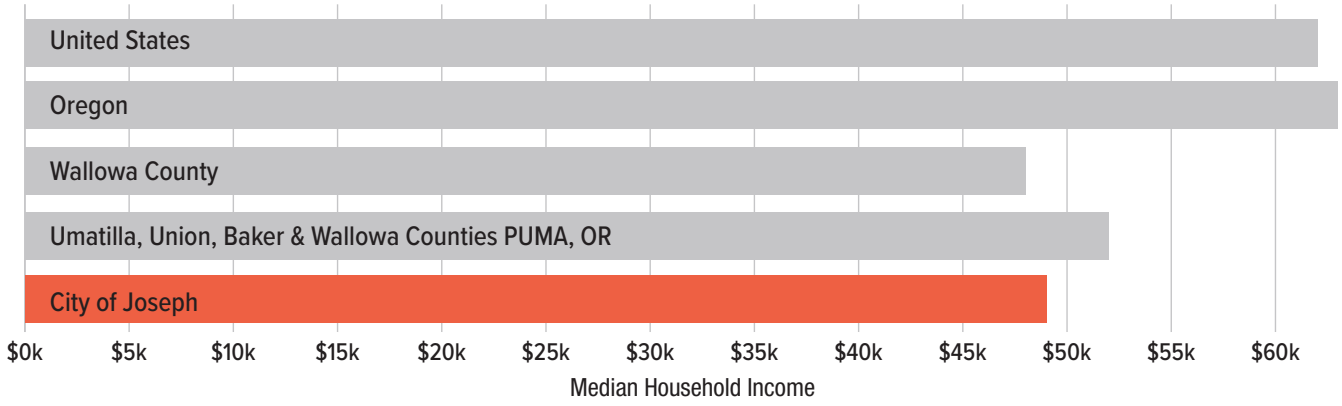
Wallowa County has a diverse blend of private (75%) and government (25%) employment. The median household income for the county is approximately 27 percent lower than the state. It also has a slightly higher percentage of persons in poverty than the state. The unemployment rate for the county has trended alongside the state, and varies throughout the year, with low months (≈3%) and high months (≈14%).

TABLE 2-2: WALLOWA COUNTY DEMOGRAPHICS[1]

Demographic	Data
Population (2019)	7,208
Ethnicity (2019)	Caucasian (92.8%); Hispanic or Latino (3.4%); Two or More Races (2.3%); American Indian and Alaska Native (1.0%); Other (<1%) (Wallowa County)
Median Household Income (2018)	$44,953 (Wallowa County); $59,393 (Oregon)
Persons in Poverty (%) (2018)	14.5% (Wallowa County); 12.6% (Oregon)
Persons Under 18 (%)	18.6% (Wallowa County); 12.6% (Oregon)
Persons 65 and Over (%)	29.2% (Wallowa County); 12.6% (Oregon)
Total Employment (2017)[2]	2,631 (Wallowa County)
Unemployment Rate (%)	Wallowa County / Oregon 14.1% / 14.2% (April 2020) 6.9% / 3.3% (January 2020) 3.2% / 3.5% (September 2019)

[1] U.S. Census Bureau QuickFacts Wallowa County. Population Estimates July 1, 2019
[2] Oregon QCEW Employment and Wages by Industry

TABLE 2-3: MEDIAN HOUSEHOLD INCOME



Source: censusreporter.org

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 cover 90% of eligible costs of planning and development projects. According to the *2018 National Plan of Integrated Airport Systems (2019-2023), Report to Congress*, Joseph State Airport is classified as a Local General Aviation Airport and as such, supports regional economies by connecting communities to statewide and interstate markets.

State Role

The Oregon Department of Aviation (ODA) has developed and regularly updates the Oregon Aviation Plan (OAP) to provide guidance on preserving the State's system of airports. The OAP presents a framework for improving the system for continued support of communities and economic development. The most recent update to the OAP (OAP v6.0) classifies Joseph State Airport as a Category IV- Local General Aviation Airport. Category IV airports support primarily single-engine aircraft with capabilities of accommodating smaller multi-engine aircraft. These airports support local air transportation needs and special-use aviation activities.

AIRPORT HISTORY

Local officials indicate that Joseph State Airport began as a small airstrip built in 1945, which is also the year the Chief Joseph Days Rodeo was established. Both celebrated their 75th anniversary in 2020. The airport activation date listed in the AirNav.com database is October, 1945.

Property records indicate that the original part of the Joseph airport (approximately 73.8 acres) was sold by the City of Joseph to the State of Oregon Board of Aeronautics on April 14, 1964 for one dollar ($1.00). Joseph State Airport was expanded to its current form by acquiring several smaller parcels using FAA funds (1995, 1996 grant years). Current airport acreage is approximately 106.40 acres.[2] The existing airport site includes an inholding of privately-owned land (Hurricane Creek/Pioneer Cemetery, Silver Lake Lodge #84 IOOF) and an easement for a Wallowa County 60-foot wide road right of way (Woodland Drive and Airport Lane) that travels through the north and south sections of the Airport.

2 Joseph State Airport – Exhibit A Property Plan (Century West, September 2010)

The following description is based on the historical account contained in the 1993 Joseph State Airport Master Plan[3]:

> The airports in Joseph and Enterprise have served the Wallowa Valley since the 1940s. Over time, both airports experienced challenges that limited their development. Over a period of several years, a plan was formulated replace the two existing airports with a larger, more capable facility midway between Joseph and Enterprise.
>
> Two studies were completed in the 1980s to evaluate the feasibility of developing a new airport to serve Joseph and Enterprise, and to close the two existing airports. The second study, completed in 1986, involved an extensive public outreach effort and included an evaluation of approximately twenty potential sites. The study compared the highest ranked new site with Joseph State Airport and recommended that both the existing airport and the new site be retained as future development options, depending on the direction of local economic development activities. At the time, discussions about the development of a new destination resort in the Wallowa Valley were contributing to interest in developing a new expanded airport. However, by the early 1990s economic development interests changed and the local community determined that improving Joseph State Airport was the best path forward for maintaining an FAA-eligible airport to serve the local area.

When the last master plan was written in 1993, airfield facilities at Joseph State Airport included a single 3,800'x50' paved runway with a low-intensity runway lighting system (LIRL), a small aircraft apron and access taxiway connecting to the Runway 33 end, and two existing hangars. A business site was identified in the location of the existing mobile home/pilot lounge with adjacent auto parking. On the basis of the master plan recommendations, the Airport site was transformed into its current form over the next ten years, which required significant property acquisition and relocation/realignment of existing county roads.

Since the mid-1990s, ODA has reconstructed the runway (increased width and length), and subsequently rehabilitated the runway pavement, replaced all airfield lighting, added a full length parallel taxiway, reconstructed the aircraft tiedown apron and access taxiway, accommodated demand for new hangar siting, and added an aircraft fueling facility and automated weather observation system. As indicated in **Table 2-4** below, federal funding over the last 20 years has supported a variety of improvements and upgrades totaling about $3.3 million.

TABLE 2-4: 20-YEAR FAA GRANT HISTORY

	Fiscal Year	State Apportionment	Total Federal
Install Perimeter Fencing	2003	$5,867	$24,133
Install Airfield Guidance Signs	2003	$6,090	$16,090
Install Runway Vertical/Visual Guidance System	2003	$7,820	$32,180
Construct Taxiway	2003	$282,403	$1,161,981
Update Airport Master Plan Study	2007	$0	$15,000
Install Weather Reporting Equipment	2007	$0	$85,000
Install Miscellaneous NAVAIDS	2007	$0	$25,621
Rehabilitate Runway	2009	$0	$40,000
Install Weather Reporting Equipment	2009	$0	$204,612
Install Miscellaneous NAVAIDS	2009	$0	$74,000
Rehabilitate Apron	2011	$0	$150,000
Rehabilitate Runway	2011	$0	$1,217,415
Rehabilitate Taxiway	2011	$0	$150,000
Install Perimeter Fencing	2013	$0	$30,000
Remove Obstructions	2013	$0	$125,000
Install Perimeter Fencing	2014	$0	$50,000
Remove Obstructions	2014	$0	$262,183
Update Airport Master Plan Study	2019	$0	$397,981
Total		**$300,000**	**$3,294,004**

3 Summary of 1994 Joseph State Airport Master Plan Prepared by Century West Engineering

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 30-minute travel time have less impact on local airport activity due largely to the redundancy provided by closer facilities. With numerous airports nearby, 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.

Joseph State Airport is located within the local airport service area summarized in **Table 2-5** and depicted in **Figure 2-2**.

Wallowa County is relatively remote, consisting of several small communities scattered along a system of state highways and county roads. Joseph and Enterprise are located 65-70 miles from the nearest Interstate highway (I-84). The two communities, and their respective airports, are located within a few miles of each other. The communities account for nearly half of Wallowa County's population, a large portion of its annual visitors, and the two local airports account for the majority of FAA registered aircraft in Wallowa County.

The lengthy driving distances and travel times between communities in northeastern Oregon contribute to increased dependence on general aviation. This includes business, personal and recreation transportation, but also includes activities such as medical patient transports. The combined service area for Joseph State Airport and Enterprise Municipal Airport is physically isolated to the extent that most demand for basic services (AvGas, hangar space, and aircraft maintenance) is met locally. Other services such as specialized aircraft maintenance or fuel (e.g., Jet Fuel) may be acquired at other airports in the service area, or beyond the local service area (enroute) depending on the direction of travel. Specialized activities and local tourism also draw users from greater distances.

A review of the FAA aircraft registration data (FAA Registry 6/22/20) lists of a total of 47 registered aircraft with Wallowa County addresses: Joseph (15); Enterprise (28); Wallowa (3); and Lostine (1). While the address of an aircraft owner does not always correspond to their home airport location, both the total number of Wallowa County registered aircraft and their geographic distribution closely correlate to the aircraft based at Joseph State Airport and Enterprise Municipal Airport. The aircraft ownership data suggests that the majority of local users of Joseph State Airport will live or work within 30 minutes of the Airport.

It is important to note that the 5,200-foot runway length available at Joseph State Airport allows the Airport to accommodate a larger segment of general aviation activity than nearby Enterprise Municipal Airport. Although all of the aircraft currently based at Joseph State Airport and Enterprise Municipal Airport are small single-engine piston, Joseph's longer runway has the ability to accommodate multi-engine piston and turbine aircraft, including business jets. The potential addition of instrument capabilities at Joseph State Airport also differentiates the two airports.

Enterprise Municipal Airport (8S4)

Enterprise Municipal Airport is located approximately 6 road miles/3.9 nautical (air) miles north of Joseph State Airport. The Airport has one lighted asphalt runway: 12/30 (2,850'x50'). The Airport supports mostly small single-engine aircraft and has 100LL aviation fuel. Based on recent FAA 5010 data, Enterprise accommodates 4,850 operations annually and has 31 based aircraft. Enterprise is not included in the NPIAS and does not receive FAA funding.

Memaloose Airport (25U)

Memaloose Airport is located approximately 52 road miles/24 nautical (air) miles east of Joseph State Airport, near Imnaha. The Airport has one unlighted dirt runway: 17/35 (3,330'x120') and several hard-surfaced helicopter pads. Memaloose is owned by the U.S. Government (USDA Forest Service) and supports a Helitack base for aerial wildfire response. The Airport is open to the public (seasonal, no services) and supports mostly small single-engine aircraft and Type 2 (medium) helicopters. Based on recent FAA 5010 data, Memaloose accommodates 600 operations annually and has 0 based aircraft. Memaloose is not included in the NPIAS and does not receive FAA funding.

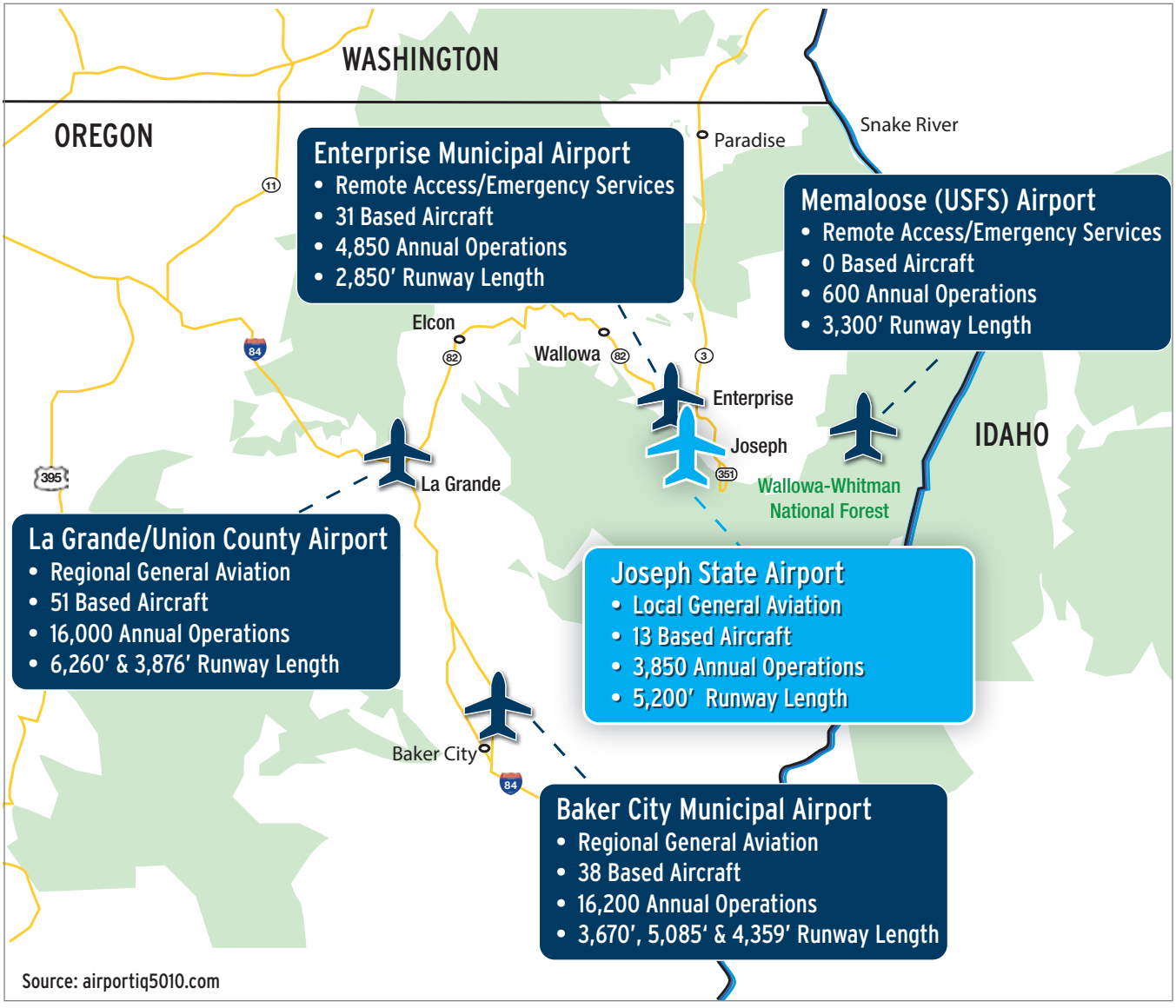
La Grande/Union County Airport (LGD)

La Grande/Union County Airport is located approximately 70 road miles/32 nautical (air) miles west of Joseph State Airport. The Airport has two asphalt runways: 16/34 (3,876'x60') and 12/30 (6,260'x100') that are capable of accommodating a wide range of general aviation and larger aircraft. The Airport accommodates a U.S. Forest Service fire center and aerial tanker retardant base. The Airport has a full-service fixed base operator (FBO) with both 100LL AVGAS and jet fuel available. Based on recent FAA 5010 data, LGD accommodates approximately 16,000 annual operations and 51 based aircraft. LGD is the closest NPIAS airport to Joseph State Airport and it also receives FAA funding.

Baker City Municipal Airport (BKE)

Baker City Municipal Airport is located approximately 106 road miles/39 nautical (air) miles southwest of Joseph State Airport. The Airport has three paved runways: 08/28 (3,670'x140'), 13/31 (5,085'x100'), and 17/35 (4,359'x75'). The Airport has a full-service fixed base operator (FBO) with both 100LL AVGAS and jet fuel available. Based on recent FAA 5010 data, BKE accommodates approximately 16,200 annual operations and 32 based aircraft. BKE is included in the NPIAS and receives FAA funding.

FIGURE 2-2: AREA AIRPORTS



SUMMARY OF AIRPORT OPERATIONS DATA

Joseph State Airport accommodates a wide variety of aeronautical activity, including small single- and multi-engine aircraft, as well as some smaller business class turbine aircraft (business jets and turboprops), and helicopters. The Airport accommodates seasonal wildfire response helicopters and fixed-wing medical evacuation flights on an as-needed basis.

Joseph State Airport's based aircraft count was updated by airport management in April 2020 (13 aircraft). The 1993 Airport Master Plan listed a total of 6 based aircraft (single-engine piston) at the Airport. All of the current based aircraft are single engine piston. In 2020, Joseph State Airport had eight hangars (including one under construction), up from two in 1993.

The 2020 "validated" count in the FAA's *www.basedaircraft.com* database and the FAA 5010 Airport Record form for Joseph State Airport and the other nearby airports are summarized in **Table 2-5.**

TABLE 2-5: FAA 5010 DATA

	Joseph State Airport (JSY)	Enterprise Muni. Airport (8S4)	La Grande – Union Cty. Airport (LGD)	Memaloose (USFS) Airport (25U)	Baker City Muni. Airport (BKE)
Air Carrier	0	0	0	0	0
Air Taxi	250	450	2,500	150	3,600
GA Local	600	1,000	4,000	0	3,000
GA Itinerant	3,000	3,400	9,000	450	9,500
Military	0	0	500	0	100
TOTAL OPERATIONS	**3,850**	**4,850**	**16,000**	**600**	**16,200**
TOTAL BASED AIRCRAFT	**13**	**31**	**51**	**0**	**38**
Single Engine	13	27	44	0	32
Multi Engine	0	0	3	0	3
Jet	0	0	0	0	0
Helicopters	0	0	4	0	3
Glider	0	0	0	0	0
Military	0	0	0	0	0
Ultra-Light	0	4	0	0	0

Source: https://www.gcr1.com/5010WEB/

Table 2-6 summarizes the estimated airport activity listed on the current FAA 5010 Airport Record form and the 1993 Airport Master Plan. It is important to note that aircraft takeoffs and landings (operations) at non-towered airports, including Joseph State, are not routinely recorded. As such, flight activity is estimated through a variety of methods. A quick comparison of current and 1993 estimated operations and based aircraft yields activity ratios (number of takeoffs and landings per based aircraft) of 298 and 330, respectively, both of which are within the range of activity often found at community general aviation airports.

Based aircraft and operations data will be examined further in Chapter 3: Aviation Activity Forecasts.

TABLE 2-6: ESTIMATED AIRCRAFT OPERATIONS (JOSEPH STATE)

	1993 Master Plan	FAA 5010-1 Airport Master Record
General Aviation (Local)	650	600
General Aviation (Itinerant)	1,330	3000
Air Taxi	-	250
Military	-	0
TOTAL OPERATIONS	**1,980**	**3,850**

Source: 1993 Airport Master Plan Forecast and FAA 5010-1 (Operations for 12 Months Ending 08/27/2018).

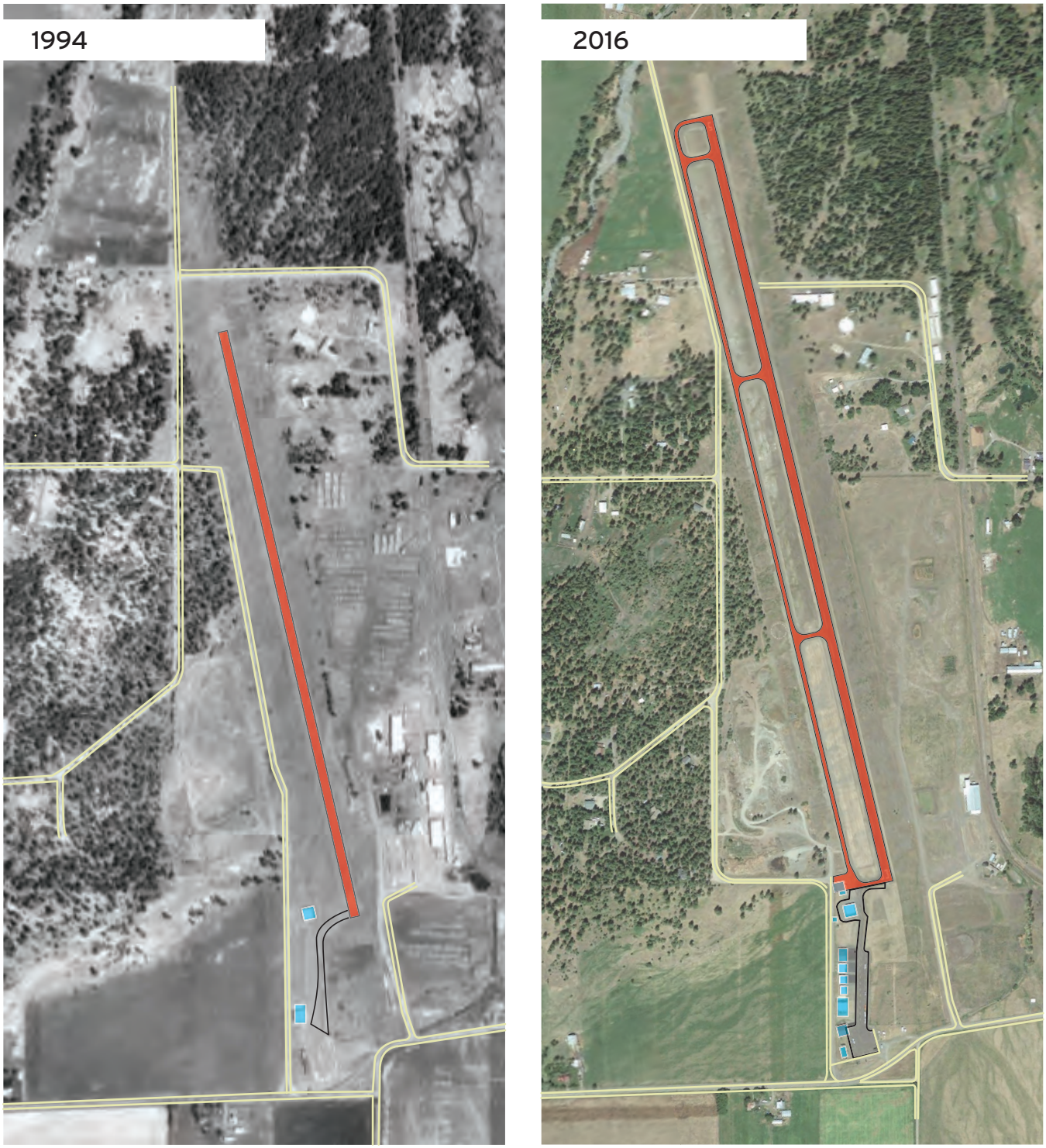
RELEVANT STUDIES

1993 Joseph State Airport Master Plan (AMP)

The 1993 Airport Master Plan provided a detailed assessment of site-specific airport development needs and recommended facilities that has guided development of Joseph State Airport for the nearly 30 years. Most of the recommended improvements summarized below occurred in the 1996-2003 time period, and produced the Airport site and airfield configuration that currently exists:

- **Property Acquisition:** A total of 11 parcels were recommended for acquisition to allow expansion of the existing airport site, realignment of existing roads, and development of the new runway-taxiway system (completed);
- **Surface Access Roads:** Sections of Russell Lane and Woodland Road that formed the previous north and northwest airport boundary were recommended to be vacated in conjunction with property acquisition noted above (completed);
- **Surface Access Roads:** A new roadway connection to Hurricane Creek Market Road and a realignment of Woodland Drive was recommended to maintain access to land parcels on the west side of the Airport in conjunction with direct access via Russel Lane being eliminated (completed);
- **Runway:** Replacing the existing runway (3,800' x 50') with a newly constructed 5,200' x 60' runway (completed);
- **Parallel Taxiway:** A full length west parallel taxiway was recommended for long-term development (the northern 300 feet of the west parallel taxiway was constructed as an aircraft turnaround when the 5,200-foot runway was constructed; the remaining section of the parallel taxiway was constructed in a separate project);
- **Runway Lighting:** Upgrade existing low intensity runway lighting (LIRL) with medium-intensity runway lighting (MIRL) (completed);
- **Runway Lighting/Visual Aids** (all completed):
  - » Add runway end identifier lights (REIL) and precision approach path indicator (PAPI) for Runway 15;
  - » Relocate the segmented circle to the west side of the runway;
  - » Install a rotating beacon on the west side of the runway; and
  - » Install a lighted wind cone on the west side of the runway (inside the relocated segmented circle).
- **Weather Observation System:** An Automated Weather Observation System (AWOS) was recommended as a long-term improvement (completed);
- **Instrument Approach:** The addition of non-precision instrument approach was identified as a possible improvement, which supported the recommendation to provide the REILs and AWOS noted earlier (not completed);
- **Terminal Area (Planned):** Future aircraft apron, FBO facilities, and aircraft hangars recommended west of the future parallel taxiway, near the current Taxiway A1 and A2. The majority of the development was located in area of proposed property acquisition (City of Joseph gravel pit site). (The proposed acquisition of the City of Joseph 6.6-acre parcel and the subsequent site redevelopment was not completed); and
- **Terminal Area (Actual):** The apron located near the south end of the runway was retained. A change in the taxiway connection to the south apron was recommended in conjunction with a relocation of the Runway 33 threshold approximately 100 feet north. The south apron and the adjacent hangar development area were identified as "special event areas." A business site, auto parking, and two existing hangars were identified in the area. One future AG aircraft pad was planned in this area.
  - » *(All landside facilities at the airport are located in the south apron/hangar area. ODA opted to maximize use of the existing development area rather than pursuing acquisition and redevelopment of the adjacent City of Joseph parcel in the late 1990s and existing configurations for apron, access taxiway, hangar sites, and aircraft fueling apron were developed.)*

FIGURE 2-3: JOSEPH STATE AIRPORT
AIRFIELD DEVELOPMENT SINCE 1993 AIRPORT MASTER PLAN



Runway 15/33
3,800 x 50'

Runway 15/33
5,200 x 60'

Source: Google Earth

OREGON AVIATION PLAN (OAP)

In 2018, ODA updated the Oregon Aviation Plan (OAP) for the state airport system which includes 95 airports, one heliport, and one seaplane base. The statewide study area included both commercial service and general aviation airports.

Airport designation generally reflects the type of aircraft and customers the airport serves as well as the characteristics of the airport's service area. In the OAP update, Joseph State Airport remained a Category IV - Local General Aviation Airport, as defined in previous OAPs.

As a Category IV airport, the OAP has identified certain facilities and services that should ideally be in place. These objectives are considered the "minimums" to which the airport should be developed. The existing facilities at Joseph State Airport appear to meet minimum standards, as they pertain to the Airport's Category IV role in the OAP. A review of OAP minimum standards compliance will be summarized in the updated facility requirements assessment (Chapter 4).

As part of the OAP update, annual economic impacts for 97 statewide airports was also estimated. The total annual sales/output for Joseph State Airport was estimated to include $4.34 million in direct sales/output, and $3.49 million of indirect or induced output, for a total of $7.83 million. Total full-time employment related to all tenants and visitors accounted for 49 jobs with an estimated payroll of $848,628.

ENVIRONMENTAL DATA

Physical Geography

The region's geography is rugged, consisting of the Blue Mountains in Union County, with prominent canyons and valleys carved by rivers and glacial moraines. Joseph and Enterprise are located on a broad glacial outwash plain that gently rises until reaching the base of the Wallowa Mountains and Wallowa Lake. Wallowa Lake was formed by a rising glacial moraine that created a natural dam as part of a geological fault line that uplifted the mountains several thousand feet above the valley floor. The Wallowa River flows from Wallowa Lake north and west, eventually connecting with the Minam River before joining into the Grande Ronde River. The Grande Ronde River runs north from La Grande to the Wallowa River, and the water continues north and joins the Snake River about 5 miles north of the Oregon border. Hells Canyon and the Snake River are located on the eastern edge of Wallowa County, forming the border with Idaho.

Local Climate Analysis

Joseph has a relatively dry mountainous climate at an elevation of nearly 4,000 feet. The temperature varies between 19-degrees to 83-degrees throughout the year. Summers are warm and short, spanning from mid-June to mid-September with the hottest month in August. Joseph receives small amounts of precipitation throughout the year, with the rainiest seasons being spring and fall. The month of May brings the highest amount of rain with an average of 1.8 inches, followed by April and November. The summer season is dry averaging less than a half-inch monthly between July and September. Annual snowfall averages about 36 inches.

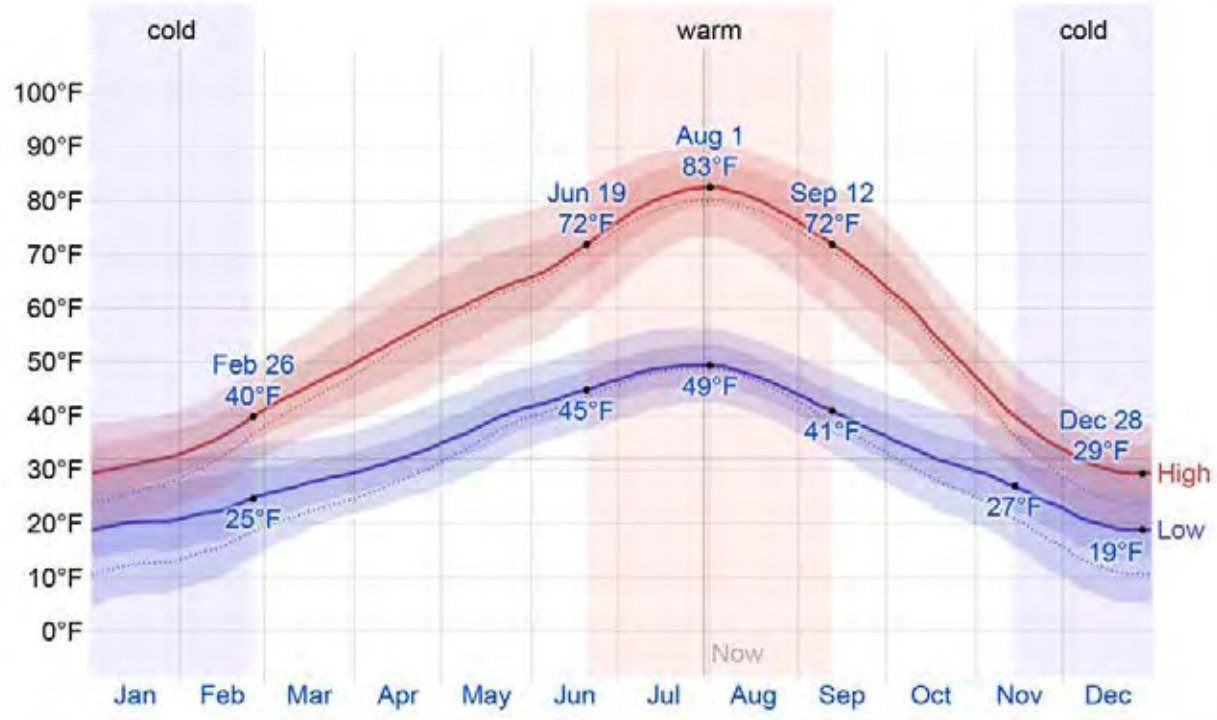
Wind Analysis

Historical on-site wind data are not available for Joseph State. In 2020, ODA began collecting this data for future use. Once sufficient data has been collected, it will be used to create a supplemental wind rose for the Airport. The FAA requires wind roses developed for use on ALP drawing sets to provide a minimum of ten years of data. In cases where on-site observation data is limited, FAA recommends using a wind rose from a nearby airport to approximate wind coverage. The FAA recognizes that these data are approximate and may account for unique terrain or localized weather patterns.

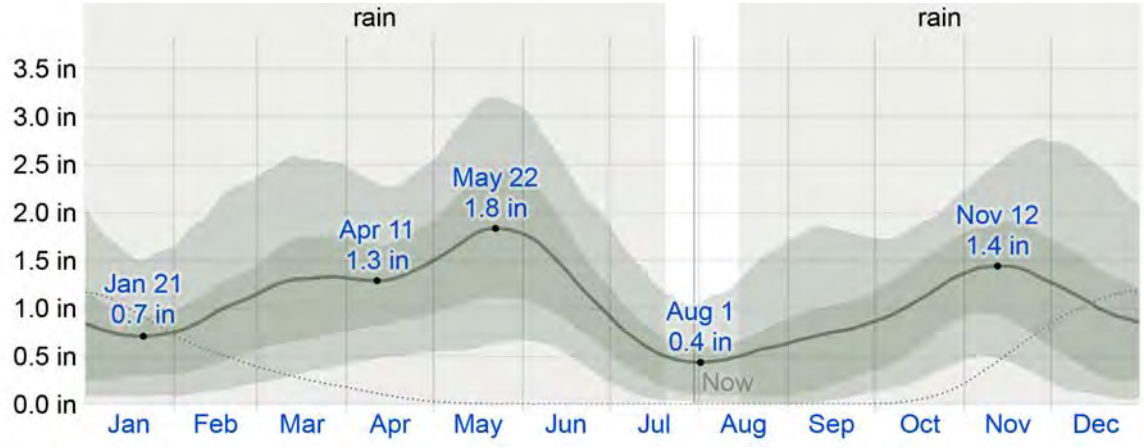
The nearest National Weather Service (NWS) tabulated wind data source acceptable to FAA is located at La Grande/Union County Airport. However, unique geography and distance make use of La Grande wind data less effective for evaluating wind conditions at Joseph State Airport. Disclaimers and notations will be added to the ALP, until a new wind rose can be developed with on site data.

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

Average Annual Temperature, Joseph, OR



Average Annual Precipitation, Joseph, OR



Source: weatherspark.com

Airport Solid Waste and Recycling

INTRODUCTION

This section discusses solid waste generation at the Airport, and the recycling options available. The section follows Federal Aviation Administration (FAA) guidance established in 2014 for preparing airport recycling and solid waste management plans as an element of airport master plan updates. The FAA guidance was in response to Section 133 of the *FAA Modernization and Reform Act of 2012*[4]**:**

> *"SEC. 133. RECYCLING PLANS FOR AIRPORTS. Section 47106(a) is amended— ...(6) if the project is for an airport that has an airport master plan, the master plan addresses issues relating to solid waste recycling at the airport, including—*
>
> *(A) the feasibility of solid waste recycling at the airport;*
>
> *(B) minimizing the generation of solid waste at the airport;*
>
> *(C) operation and maintenance requirements;*
>
> *(D) the review of waste management contracts; and*
>
> *(E) the potential for cost savings or the generation of revenue."*

This section is organized around the following:

- Waste Audit;
- Local Recycling Management and Programs;
- Recycling Feasibility;
- Plan to Minimize Solid Waste Generation;
- Operational and Maintenance Requirements;
- Waste Management Contracts;
- Potential for Cost Savings or Revenue Generation; and
- Future Development and Recommendations.

WASTE AUDIT

Airport Solid Waste And Recycling

This section provides a summary of the solid waste generated at Joseph State Airport and recycling practices in anticipation of identifying any opportunities for reducing waste at the Airport.

No state or federal requirements apply to the waste generated on the Airport. Airport tenants are responsible for disposal of their own waste and any hazardous materials, as stipulated in their leases with ODA. ODA is responsible for collection of waste in common areas; waste cans are provided for public use at the pilot building and the fueling apron.

Tenants and users of the Joseph State Airport create a limited amount of waste on site. Specific sources of on-site waste include aircraft storage hangars, aircraft maintenance hangars, the pilot building, the aircraft fueling area, and the aircraft parking apron. Private hangars and buildings can create a variety of waste, depending on the function of the building. Common items may include household/office types of trash, used oil and aircraft parts.

Recycling collection bins are not currently available at the Airport or at the adjacent transfer station.

Existing Solid Waste Facilities

Wallowa County has four solid waste sites with Oregon Department of Environmental Quality (DEQ) permits.[5] A separate Wallowa County recycling center is located in Enterprise that does not require a DEQ permit. The facilities are summarized in **Table 2-7**.

4 112th Congress, Report 112-381, Conference Report H.R. 658 (February 1, 2012)

5 Oregon DEQ Website: Active Permitted Facilities in Oregon (https://www.oregon.gov/deq/mm/swpermits)

TABLE 2-7: SOLID WASTE FACILITIES – WALLOWA COUNTY

DEQ Permit	Facility Name	Location	Type
#261	Ant Flat Landfill	Ant Flat Road, Enterprise	Landfill, Recycling
#266	Joseph Transfer Station	Airway Road, Joseph	Transfer
#296	Lostine Transfer Station	Lostine	Transfer
#288	Wallowa Transfer Station	Wallowa	Transfer
--	Recycle Center	Fish Hatchery Lane, Enterprise	Recycling

Waste Disposal

No state or federal requirements apply to the waste that is generated on the Airport. Each individual tenant is responsible for disposal of their own waste and any hazardous materials.

Rahn's Sanitary, a private company, provides contract solid waste collection and disposal services in Wallowa County, including the operation of the county landfill and local transfer stations. The company provides scheduled solid waste collection services at Joseph State Airport through individual service agreements.

Curbside recycling services are not currently available at the Airport, or elsewhere in Wallowa County.

Based on the availability of local resources, individual airport tenants and airport management have three options available for managing their solid waste generation:

1. On-Site Collection - direct contract with Rahn's Sanitary
   - » Weekly, twice monthly, monthly service.
2. Transfer Station - self-haul
   - » The nearest facility (Joseph Transfer Station) is located less than ½ mile from the Airport terminal area. The facility is open two days (9 hours) per week.
3. County Land Fill (Enterprise) - self-haul
   - » The Ant Flat Landfill is located 10 miles from the Airport. The facility is open four days (22 hours) per week.

The Joseph Transfer Station is the nearest off-site solid waste facility. The transfer station is located adjacent to the Airport and accepts household garbage only. The station is equipped with covered dumpsters (6 yard) and has limited hours of operation (waste collection on Saturdays and Sundays; weekly transfers to landfill on Monday). It is also assumed that some airport tenants may combine their limited airport-generated solid waste with existing commercial or residential collection service, within the limits of their service agreements.

Construction Waste

Construction waste is the responsibility of the contractor for each specific project on Airport. At Joseph State Airport, several projects included in the 20-year capital improvement program provide potential opportunities for recycling:

- Runway Rehabilitation (grind and overlay);
- Parallel Taxiway Rehabilitation (grind and overlay);
- Parallel Taxiway Exit Connectors Rehabilitation (grind and overlay);
- South Apron and Access Taxilane Rehabilitation (grind and overlay);
- Main Apron Rehabilitation (grind and overlay);
- Fuel Apron/Parallel/Taxiway A1 Reconfiguration (pavement removal); and
- Replacement of existing electrical systems (wiring, components for runway lights, PAPI, REIL, beacon).

LOCAL RECYCLING MANAGEMENT AND PROGRAMS

Wallowa County offers basic recycling services, through its drop-off Recycle Center and Ant Flat Landfill, both located in Enterprise. These services, and the provisions for collection of hazardous waste, tires, and paint are

described later in the chapter. Curbside recycling services are not currently available at the Airport, or elsewhere in Wallowa County.

The State of Oregon provides regulatory guidance for recycling management and solid waste programs that apply to Wallowa County.

State of Oregon

In 1983, the *Recycling Opportunity Act* was the first law in the U.S. to require that people statewide be provided with an opportunity to recycle. This statute established solid waste management policies for waste prevention, reuse and recycling. In order to conserve energy and natural resources the statute uses a solid waste management hierarchy:

- Reduce the amount of waste generated;
- Reuse materials for their original intended use;
- Recycle what can't be reused;
- Compost what can be reused or recycled;
- Recover energy from what cannot be reused, recycled, or composted;
- Dispose of residual materials safely.

The *Recycling Opportunity Act* also required that:

- Wasteshed counties, except for the City of Milton-Freewater and the greater Portland Tri-County Area known as the Metro Wasteshed, to have recycling depots; and
- Cities with populations over 4,000 to provide monthly curbside recycling collection service to all garbage service customers (not applicable to Joseph).

The 1991 *Oregon Recycling Act* (Senate Bill 66) strengthened the states recycling requirements and created a recovery goal of 50 percent by year 2000. This statute also established a household hazardous waste program; required recycled content in glass containers, directories and newsprint publications; established requirements for recycling rigid plastic containers to promote market development; and required the Department of Environmental Quality to calculate annual recovery rates and develop a solid waste management plan. In 2005, House Bill 3744 established a new wasteshed goal and extended Oregon's statewide recovery goals of 45 percent in 2005 and 50 percent in 2009.

RECYCLING FEASIBILITY

Wallowa County operates a Recycle Center, and accepts some recyclable items at the Ant Flat Landfill, both located in Enterprise. Curbside recycling services are not currently available at the Airport, or elsewhere in Wallowa County. **Table 2-8** lists the recyclable materials accepted at these facilities.[6]

TABLE 2-8: WALLOWA COUNTY RECYCLABLE ITEMS

Accepted Items (Recycle Center)	
– Corrugated Cardboard, Brown Paper Bags	– Aluminum and Tin
– Newspaper and Non-Corrugated Boxes (i.e. cereal & beverage boxes)	– Glass
	– Most Plastics (#1, 2)
Accepted Items (Ant Flat Landfill)	
– Scrap Metal	– Televisions
– Wood Waste	– Laptop Computers
– Yard Debris	– Computer Monitors
– Car Batteries	

6 https://co.wallowa.or.us/public-works/solid-waste/recycle-center/

The Wallowa County Solid Waste website lists two Household Hazardous Waste Collection Days per month at the County Public Works Shop in Enterprise. Accepted items include: LED/fluorescent bulbs, small household batteries, chemicals, cleaners, pesticides and herbicides, and unknowns. Wallowa County follows all applicable solid water disposal restrictions when accepting these items and ensures that they are properly packaged for transport disposal. Items not accepted include tires and paint, however, these items are accepted by local tire and hardware stores.

PLAN TO MINIMIZE SOLID WASTE GENERATION

ODA utilizes current Wallowa County Solid Waste programs and facilities that encourage recycling. Airport tenants are encouraged to obtain information at the Wallowa County Public Works, Solid Waste Division website.

Methods To Reduce Solid Waste

There are limited opportunities to reduce solid waste generation at the Airport, since little waste is produced and there are no on-site recycling services available. However, ODA should still establish a goal to reduce the amount of solid waste generated at the Airport.

While ODA is not responsible for waste generated by airport tenants, informational brochures on recycling opportunities could be distributed to all the airport tenants to encourage them to recycle their waste at existing county facilities. Local efforts to expand recycling opportunities by providing common collection bins, or add single point recycling to curbside solid waste service, may eventually increase the percentage of recycled materials and reduce the county's overall waste stream.

Operational and Maintenance Requirements

Operational and maintenance requirements at the Airport are minimal. ODA is responsible for mowing the airfield and the clippings are left in place.

WASTE MANAGEMENT CONTRACTS

The standard ODA *Non-Commercial Site Lease* language requires tenants to maintain their facilities and control waste. Similar conditions apply to commercial site leases. The following lease sections are related to solid waste and hazardous materials.

> *18. MAINTENANCE OF THE PREMISES*
>
> *LESSEE shall keep the Premises in a safe and reasonably clean and neat condition at all times, shall maintain the landscaping of the Premises, and shall not permit the growth of noxious weeds or the accumulation of rubbish, junk, aircraft or automobile parts or any other material on the Premises.*
>
> *19. HAZARDOUS SUBSTANCES*
>
> *LESSEE shall not store or allow any hazardous substance as defined in OAR 738-005-0010 (67) or petroleum products to be released on the Premises or on Airport property other than that necessary for the conduct of Lessee's business. LESSEE shall recycle petroleum products and dispose of hazardous substances in accordance with Oregon Department of Environmental Quality's rules and regulations, which are available to LESSEE by contacting the Oregon Department of Environmental Quality. All costs associated with the use of hazardous substances or petroleum products, including costs of cleanup, removal, remediation, and compliance with federal, state and local environmental requirements, are the sole responsibility of LESSEE and LESSEE shall indemnify and hold AVIATION harmless from any costs, fees, penalties or other expense incurred by AVIATION in connection with remediation of hazardous substances on the Premises. All hazardous substances and petroleum products must be used, handled, cleaned up, removed and remediated in accordance with federal, state and local requirements.*

Although tenants are responsible for their own waste from the hangar, the leases do not establish tenant recycling requirements. Proceeds from airfield rents are used for general airport maintenance and cleaning services.

As noted earlier, on-site recycling collection services are not currently available in Wallowa County. In the event that services area expanded in the future, ODA may consider updating its leases to require tenant recycling in conjunction with their solid waste management (self-haul or on-site pick up).

POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

The potential for cost savings is limited since individual tenants are responsible for costs associated with solid waste disposal and recycling. Revenue generation is also limited due to the small amount of waste generated. Any potential for additional revenue would accrue to the individual tenants since they contract with the waste disposal and recycling provider.

FUTURE DEVELOPMENT

Future development projects at the Airport include tenant improvements, landside and airside facility development, and rehabilitation projects. The demolition and waste associated with each of these projects would be the responsibility of the contractor performing the work. ODA requires all demolition waste to be taken to the transfer station or landfill, unless it could be recycled on-site for a future project.

Opportunities to recycle airfield construction waste (old asphalt pavement) through grinding and compaction for use on new or replacement airfield surfaces and service roads may also be considered. Recycling of obsolete electrical components replaced during construction may also exist.

A periodic review of the Airport's solid waste policies should be considered to address future development needs.

Recommendations

IMMEDIATE

Continue the existing practice of leaving airfield mowing clippings in-place for natural composting. This practice preserves the aesthetics of the infield area and provides needed nutrients to the turf. The practice also eliminates the cost and carbon footprint of off-site transport for disposal, and saves money on disposal fees.

The historical practice of recycling asphalt for airfield construction projects should be maintained where feasible. The practice eliminates the cost and carbon footprint of off-site transport for disposal, saves money on disposal fees, and has the potential of reducing new imported materials for construction.

SHORT-TERM

Consider adding a statement to tenant leases with information about recycling options available in Wallow County, and encourage tenants to recycle and minimize waste. Informational brochures on recycling opportunities could be distributed to all of the hangar tenants to encourage them to recycle their waste.

ONGOING

Periodically reevaluate the Airport's (ODA's) solid waste program and policies, especially after development has occurred. An increase in hangars or businesses at the Airport may increase the amount of waste generated. Work with local community to expand options for collection of common household recyclables (glass, aluminum, paper, cardboard, etc.), including the addition of collection bins at the Joseph Transfer Site or on-site for curbside collection.

MODIFICATIONS TO SPECIFICATIONS

Language in construction contract documents could be added that encourages contractors to recycle waste and to minimize waste steams caused by construction activities as much as practical.

Environmental Conditions

The Airport Master Plan 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 is provided in Chapter 5 – Alternatives Analysis. These assessments are summarized below and the full technical memorandums are provided in **Appendix A and B.**

NEPA REVIEW

An environmental screening for the following environmental impact categories were included as part of the Airport Master Plan and are summarized in the following sections:

- Section 4(f) of the U.S. Department of Transportation Act
- Federally-listed Endangered and Threatened Species and Critical Habitats
- Wetlands and Waters of the U.S.
- Floodplains
- Stormwater
- Water Quality
- Air Quality
- Hazardous Materials & Cleanup

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

There are no Section 4(f) properties within the Airport APE or adjoining lands. Section 4(f) lands include park and recreation lands, wildlife, waterfowl refuges, and historic sites during transportation project development.

Federally-listed Endangered and Threatened Species and Critical Habitats

The environmental review found the following endangered and species and critical habitats:

- Fishes - Three federally listed fish species, all Threatened, occur within the vicinity of the APE including: bull trout (Salvelinus confluentus), steelhead (Oncorhynchus mykiss), Snake River Basin distinct population segment (DPS), and Chinook salmon (Oncorhynchus tshawytscha), Snake River Spring/Summer-run evolutionarily significant unit (ESU). There is critical habitat for bull trout and steelhead within Hurricane Creek, which flows to the west of the airport.
- Amphibians – There are no federally listed amphibians or reptiles near the APE.
- Mammals – There is one federally listed mammal with potential to occur within a two-mile radius of the APE, the gray wolf (Canis lupus, Endangered). In addition, the North American wolverine (Gulo gulo luscus), which is Proposed Threatened, could occur within a two-mile radius of the APE. However, there is no Critical Habitat for either of these species exists within the APE.Plants – There are two federally listed plants that occur in the region; both are listed as Threatened including the Macfarlane's four-o'clock (Mirabilis macfarlanei) and Spalding's catchfly (Silene spaldingii). There is no designated Critical Habitat for these plant species in the APE.
- Birds – There are no federally listed bird species or designated Critical Habitat occur in the APE.

Wetlands

There are three streams that surround the Airport's property including: Hurricane Creek, which flows to the west of the Airport and adjoins the northwest corner of the property; the Wallowa River, approximately 0.25 east of the Airport; and Newby Creek, a minor tributary of the Wallowa River, adjacent to the southeastern corner of the Airport property. The NWI map classifies these streams as Riverine Wetlands. There are three small ponds are located on the property adjacent to the Airport on the east and two of these ponds and one small pond is located on the property adjacent to the Airport. The pond indicated to the west appears to be erroneously designated by the NWI and is associated with a quarry-created depression. The ponds mapped to the east of the airport are presumed to be seasonally wet, likely holding water in the spring after snowmelt or heavy rains.

FIGURE 2-4: ENDANGERED SPECIES & CRITICAL HABITAT MAP

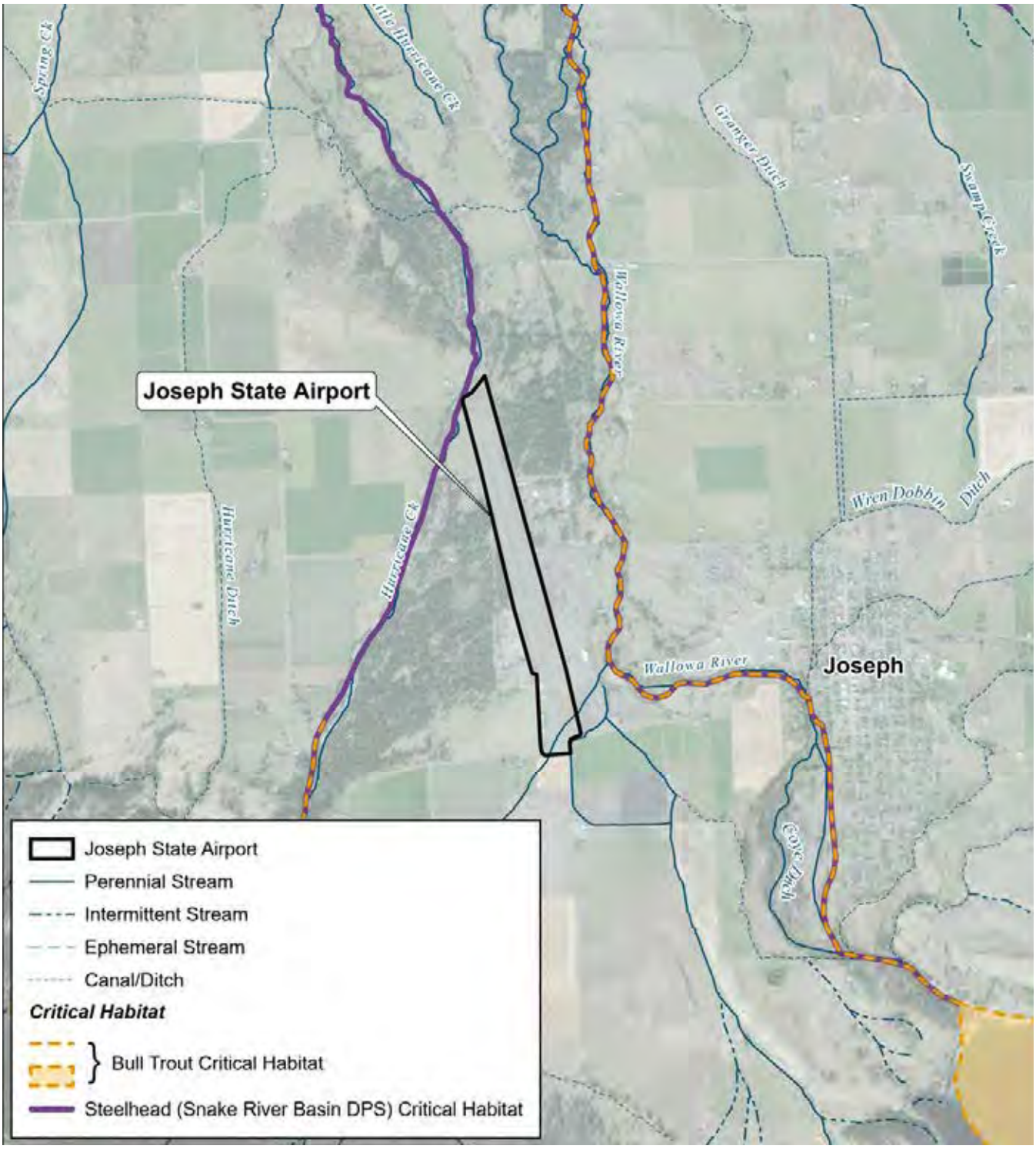
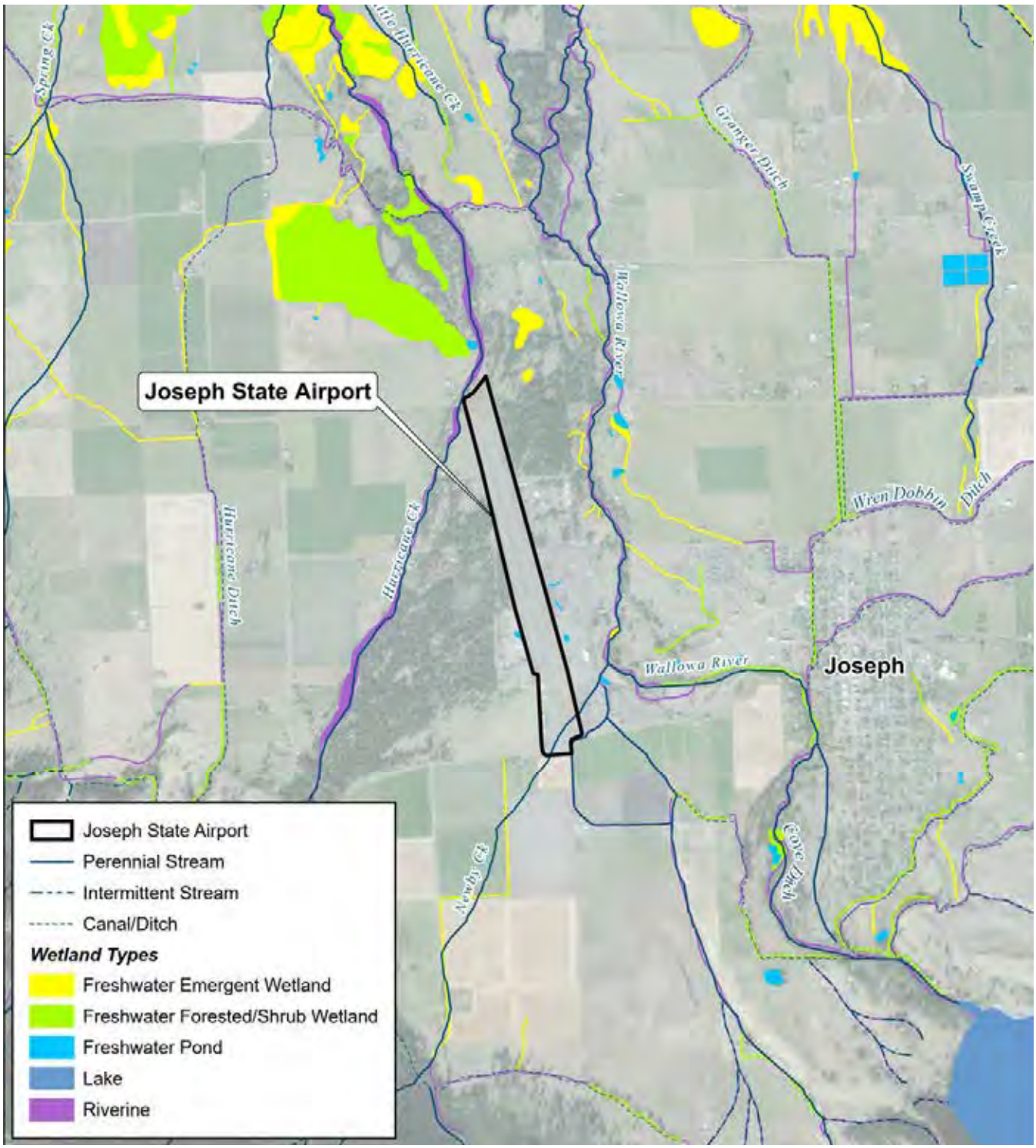


FIGURE 2-5: WATERS & WETLANDS MAP



Waterways

The Airport APE is located in the Wallowa Lake-Wallowa River Watershed. There are three streams surrounding the Airport including Hurricane Creek, the Wallowa River, and Newby Creek, and all three are classified as perennial. The Wallowa River feeds into Hurricane Creek at river mile (RM) 39.8, west of the Town of Enterprise, and ultimately flows to the Grand Ronde River.

Floodplains

The Airport APE is located in an upland area on a broad, gently sloping plain and the FEMA NFHL does not identify mapped floodplains, floodways, or other flood hazard areas within the APE. According to FEMA Flood Insurance Rate Map[7], the airport is located in Flood Hazard Zone X. Zone X denotes areas that are determined to be outside the 500-year floodplain.

Stormwater

Stormwater treatment and conveyance infrastructure within the APE is limited to sheetflow conveyance to on-airport ditches and grassed infield and runway safety areas. No direct discharge points to nearby waterways or ditches draining to waterways occur or are associated with airport stormwater conveyance.

Water Quality

Hurricane Creek and the Wallowa River are listed as water quality limited on the DEQ's list. The Wallowa River is listed as water quality limited for sedimentation, fecal coliform, pH, and dissolved oxygen, with TMDLs approved. Hurricane Creek is listed as water quality limited for sedimentation with TMDL needed; however, the Oregon Department of Environmental Quality (DEQ) Integrated Report Assessment Database List recommends no action.

The Airport APE is located within the City of Enterprise watershed. A variety of state and federal laws exist to govern activity within this area to protect water quality. Wallowa County has also created an overlay zone for this area to protect the watershed.

Air Quality

The Airport is outside of designated air quality maintenance and air quality non-attainment areas as regulated and administered by the DEQ.

Hazardous Materials & Cleanup Sites

A query of the DEQ Leaking Underground Storage Tank (LUST) Database identified one previous record of a leaking underground storage tank at Joseph State Airport. During a February, 1995 Phase I site investigation in support of airport expansion, an underground storage tank was identified and the previous property owner was required to decommission the tank prior to airport acquisition of the property. A Phase II site assessment following decommissioning identified gasoline or diesel contamination at the former tank location. The site subsequently underwent remediation and on June 13, 2006, DEQ issued a letter determination that No Further Action is required and the incident is now closed.

A query of the Oregon DEQ database for Environmental Cleanup Site Information was conducted on July 7, 2019, which identified no records of environmental cleanup sites within or adjacent to the Airport APE. However, several suspected contamination sites were identified as detailed in **Table 2-9.**

7 FEMA Flood Insurance Rate Map (FIRM) number 41063C0614B, effective February 17, 1988.

TABLE 2-9: DEQ ENVIRONMENTAL CLEANUP SITE INFORMATION RECORD WITHIN THE JOSEPH STATE AIRPORT APE

ECSI Site ID	Site	Address	City	Zip	County	Action Underway or Needed
5191	Grote Aviation	Joseph Airport	Joseph	97846	Wallowa	Site Screening recommended (EV)
3897	Joseph Airfield - DDT Spraying Unit	Airport Ln. & Hurricane Creek Rd.	Joseph	97846	Wallowa	Site Screening recommended (EV)
908	Joseph Disposal Site	Airport Rd.	Joseph	97846	Wallowa	Site Screening recommended (EV)
5490	Joseph Gravel Pit	Airway Rd. & Woodland Dr.	Joseph	97846	Wallowa	Site Screening recommended (EV)
968	Sequoia Forest Industries	83395 Airport Ln	Joseph	97846	Wallowa	Site Screening recommended (EV)

CULTURAL RESOURCES ANALYSIS

The Master Plan Update has identified several improvements that are needed for the Airport to meet facility objectives. These projects are summarized in Chapter 6 (Implementation). As part of the master planning scope of work, Historical Research Associates, Inc. (HRA) completed a cultural resources desktop assessment of the project area to review previous cultural resources work, determine if cultural resources have been identified within the project area, and to ascertain the likelihood of encountering archaeological resources during future projects. ODA has not yet determined a project area of potential effects (APE); however, for the purposes of the desktop review, Century West Engineering provided HRA with a proposed area of potential impacts (API) that measures approximately 115 acres. The cultural resources assessment technical memorandum is provided in Appendix B and briefly summarized below.

Background research identified two previous cultural resources surveys that have been conducted (in 1993 and 2013, respectively) within the airport footprint, and one potential cultural resource (a rock pile/rock wall) and historic-period cemetery are recorded within the API. The previous surveys were pedestrian only, and no subsurface investigations have been completed to determine potential for buried deposits. There are currently no plans for construction in the vicinity of the recorded rock pile/wall, however it is recommended that the area be revisited by archaeologists to determine if the resource is considered archaeological. If so, additional documentation, submittal of an Oregon State site form, and preliminary determination of eligibility to the National Register of Historic Places (NRHP) and project impacts are needed.

The proposed airport improvements are not expected to impact the Joseph Pioneer/Hurricane Creek Cemetery. If it is determined that future project actions will impact the area surrounding the rock pile/wall or the cemetery, additional recordation and investigations may be required. In order to avoid effects to previously unrecorded cultural resources during project construction, HRA recommends a pedestrian survey of portions of the API not surveyed in 2013, as well as shovel probe investigations in areas where ground disturbance is planned outside of existing roadbeds and taxiways.

HRA also conducted a review of historic-period architectural resources within the API. Of the approximately eight buildings on the airport property, two may date to the historic period. For architectural resources, HRA recommends, based on project actions, that the Joseph State Airport be surveyed at a compliance level. Compliance surveys are intended to be a first look at historic-period architectural resources. They record basic information to assess potential eligibility for listing in the NRHP, either individually or as a contributing resource to a historic district.

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

NOISE CONTOURS

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

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 Joseph State Airport.

Joseph State Airport is located in an area of Class G airspace up to 1200 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 the airport. However, 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).

Special Use Airspace

Two areas of special use airspace (U.S. Forest Service Wilderness Areas) are located in the vicinity of the Joseph State Airport: The Eagle Cap Wilderness Area less than two miles south of the airport, which extends south and to the west. The Hells Canyon Wilderness Area is located 22 miles east at its nearest point, following the Snake River along the Oregon/Idaho border.

Pilots are requested to maintain a minimum of 2,000 feet AGL of wildlife refuges, parks, and forest service areas.

Controlled & Uncontrolled Airspace

Joseph State is an uncontrolled field and pilots use the airport Unicom/common traffic advisory frequency (CTAF) for communications on the ground and in the vicinity of the airport.

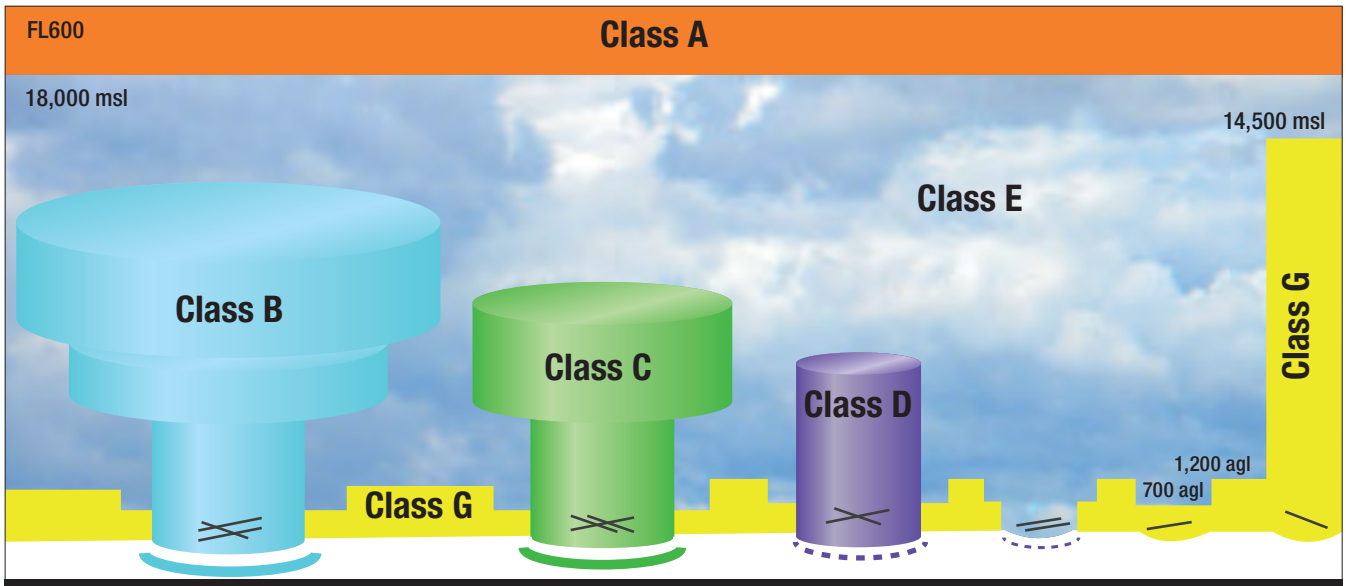
Navigational Aids and Airways

The nearest electronic navigational aid is the La Grande non-directional beacon (NDB) (LGD 296 kHz), located 30 nautical miles west of Joseph State Airport. The nearest instrument airways are located northwest, southwest, and east of the airport. The airways extend from ground based navigational aids or airway intersections located in Baker City, La Grande, Lewiston and McCall (Idaho). The minimum enroute altitudes for the nearest sections of the airways are 12,000 feet MSL.

Airspace - FAR Part 77, Terps, And Runway End 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 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. *Airport Cooperative Research Program (ACRP) Report 38 - Understanding Airspace, Objects, and Their Effects on Airports* provides a comprehensive description of the regulations, standards, evaluation criteria, and processes designed to protect the airspace surrounding airports and is summarized below for additional context of airspace evaluation and design to serve the Joseph State Airport.

FIGURE 2-6: AIRSPACE CLASSIFICATIONS



COMMUNICATION REQUIREMENTS AND WEATHER MINIMUMS

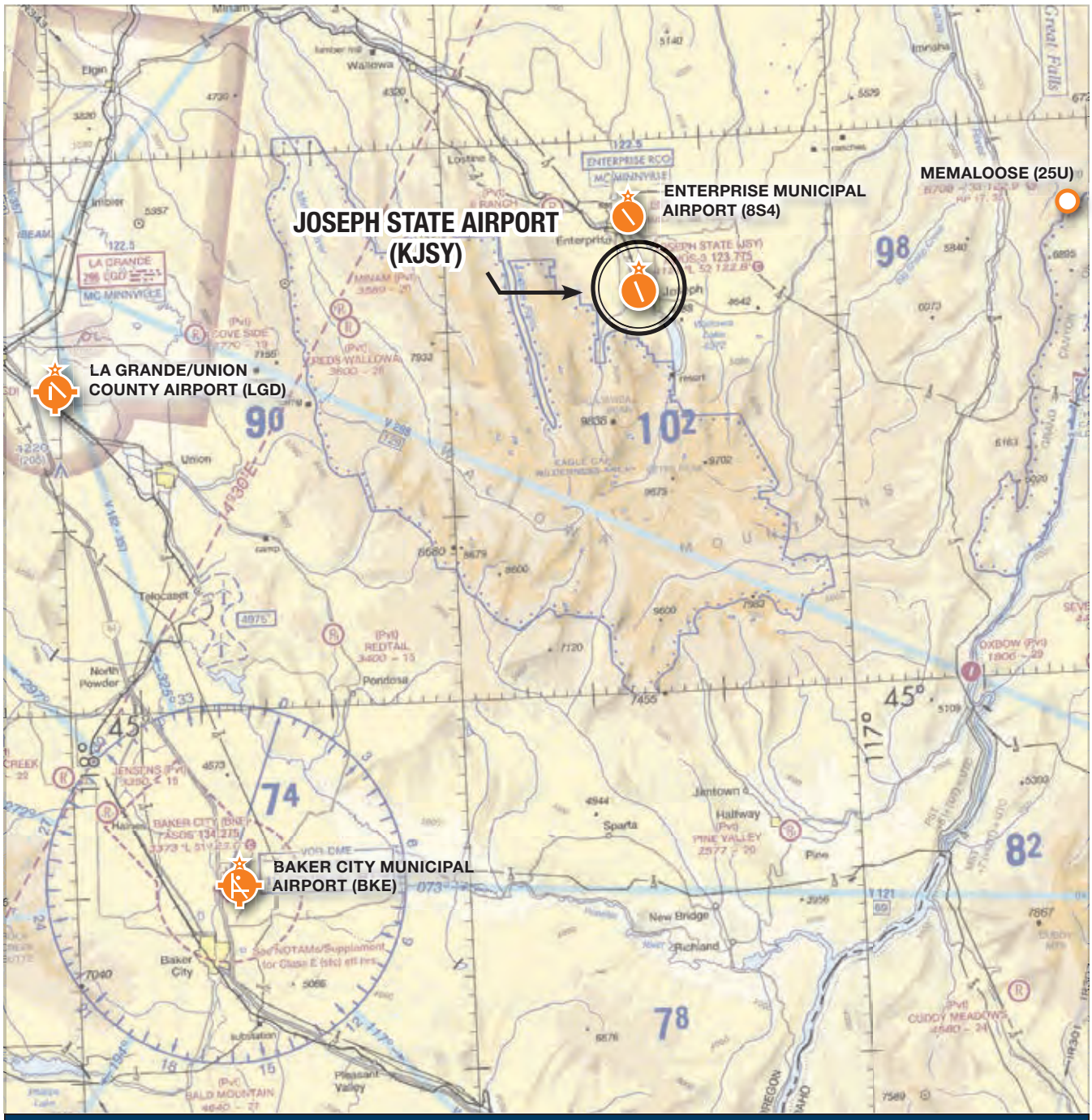
	Class A	Class B	Class C	Class D	Class E	Class G
Airspace Class Definition	Generally airspace above 18,000 feet MSL up to and including FL 600.	Generally multi-layered airspace from the surface up to 10,000 feet MSL surrounding the nation's busiest airports	Generally airspace from the surface to 4,000 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.

FIGURE 2-7: AREA AIRSPACE - SEATTLE SECTIONAL CHART



FAR Part 77—Objects Affecting Navigable Airspace

This FAR is the central regulation governing airspace protection, with cross-references to many other criteria documents. It sets forth the requirements for notifying the FAA of proposed construction; defines obstruction criteria; and describes aeronautical studies required to assess hazard status.

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

This Order, along with several derivative orders in the 8260 series and other related orders, define criteria that FAA flight procedure designers utilize when designing instrument flight procedures. Airspace protection requirements for instrument flight procedures are one of the types of obstruction standards referenced in FAR Part 77; they are also one of the most common criteria analyzed for hazard status in aeronautical studies.

The potential development of instrument approach and departure procedures at the Joseph State Airport will reflect obstruction clearance requirements for the applicable TERPS surfaces defined for each end of Runway 15/33.

FAA AC 150/5300-13A—Airport Design

This Advisory Circular (AC) is the principal document utilized by the FAA, airport sponsors, and planning consultants when planning and designing new airports or modifications to airports. Airspace clearances for key runway end features are defined in the AC's discussion of Runway End Siting Surfaces.

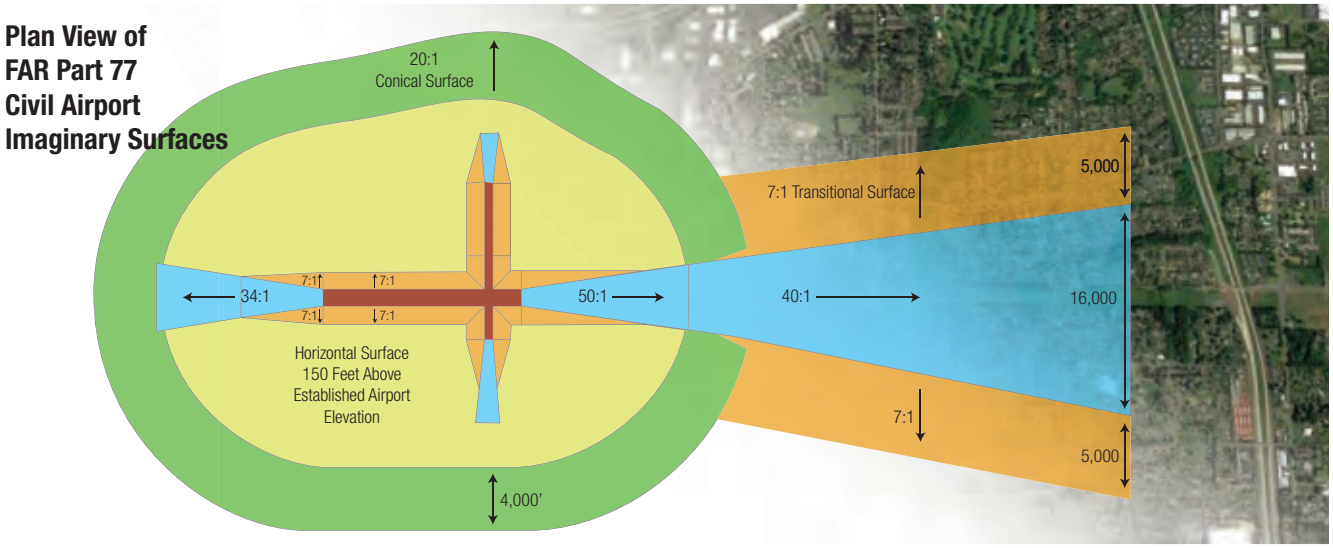
This AC is periodically updated and has undergone extension revision since the last master plan was completed. A comprehensive review of current FAA design standards will be provided in the facility requirements chapter of the master plan update to identify any existing facilities that do not conform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

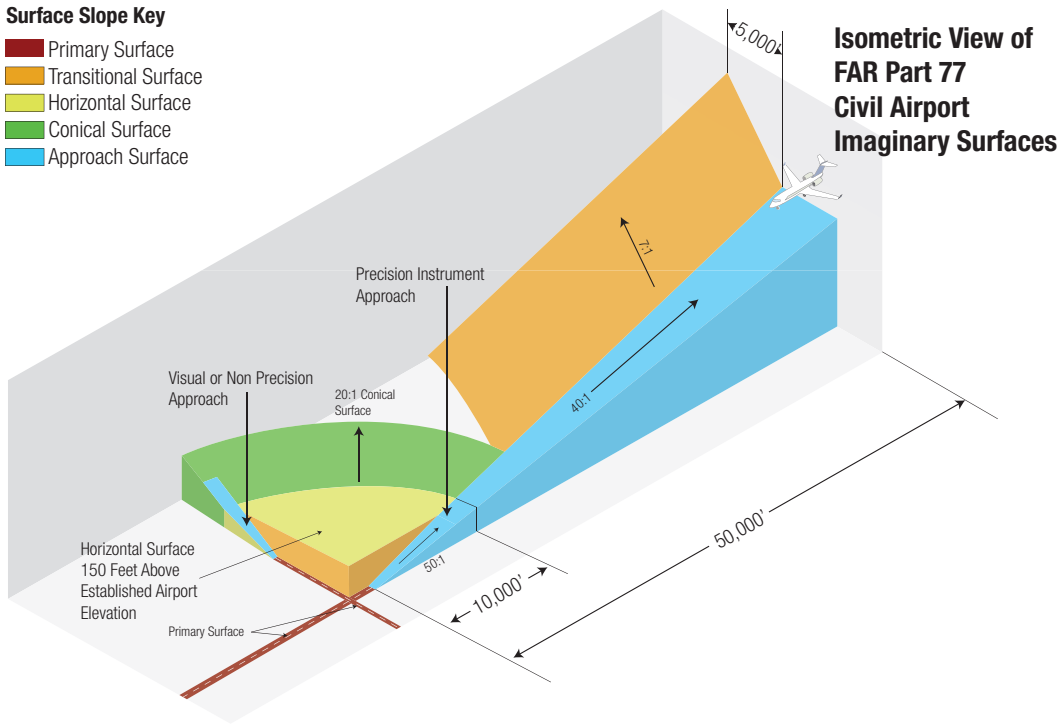
Instrument Flight Procedures

The Joseph State Airport currently is not equipped with instrument approach procedures. The Airport Master Plan update includes an Airport Geographic Information System (AGIS) survey, which is the first step in evaluating the potential for obtaining an approach in the future. Further detail of the Airport's need and ability to obtain an approach will be included in the Facility Requirements.

Instrument approach and departure procedures are developed by the FAA using electronic navigational aids to guide aircraft through a series of prescribed maneuvers in and out of an airport's terminal airspace. Procedures are designed to enable continued airport operation during instrument meteorological conditions (IMC), but are also used during visual conditions, particularly in conjunction with an instrument flight plan. The capabilities of each instrument approach are defined by the technical performance of the procedure platform (ground based navigational aids or satellite navigational aids) and the presence of nearby obstructions, which may affect the cloud ceiling and visibility minimums for the approach, and the routing for both the approach and missed approach procedure segments. The aircraft approach speed and corresponding descent rate may also affect approach minimums for different types of aircraft.

FIGURE 2-8: FAR PART 77 AIRSPACE





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

Source: Joseph State Airport Layout Plan, Airspace Plan; FAR Part 77

LAND USE & ZONING ANALYSIS

Joseph State Airport is located in unincorporated Wallowa County, about ¼-mile west of the Joseph city limits and urban growth boundary (UGB). All land use actions related to the airport site, and its immediate surroundings are under Wallowa County jurisdiction. The Wallowa County zoning ordinance articles associated with the Airport are summarized below and provided in **Appendix C**. The Airport's FAR Part 77 airspace extends over areas of Wallowa County and City of Joseph jurisdiction. Each jurisdiction is responsible for protection of the FAR 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 Oregon airport land use protections within their respective jurisdictions.

City of Joseph

The nearest City of Joseph-zoned lands are approximately ¼ mile east of Joseph State Airport, and are zoned Industrial. The city's urban core is located within one mile of the Airport, and includes commercial, residential, industrial, and urban growth area zones.

Wallowa County

Wallowa County utilizes a consolidated County Comprehensive Land Use Plan to guide both long-range planning and development administrative functions. Within this document, 57 specific articles guide development within individual land use definitions (zones), overlay zones and several place-specific zones. The Plan also provides guidance for specific applications such as parking, signs, subdivisions, and salmon habitat restoration.

Joseph State Airport has three zoning designations: the main section of the airport is zoned **Industrial (M-1)** (Wallowa County Comprehensive Plan - Article 22); the northern section of the airport and small inholding (Pioneer Cemetery) are zoned **Exclusive Farm Use (EFU)** (WCCP Article 15); and a small section on the west side of the airport is zoned **Rural Residential (R-1)** (WCCP Article 17). The zones (articles), their intended purposes, and permitted uses are defined by Wallowa County code and are summarized below.

The purpose of the M-1 zone is to "provide areas for industrial activities, which may require large land areas and to preserve those areas from being developed with such uses as residential that would inhibit or eliminate the future potential for industrial development." The M-1 zone does not include airports among the listed permitted uses or conditional uses. However, the provisions of the zone allowing "other industrial uses…" appears to adequately capture airport uses such as hangar construction, which requires county building permit approval.

The northern area of EFU and R-1 zoned parcels were included in expansion of the airport site in the mid-1990s. Based on currently Wallowa County zoning maps, these parcels do not appear to have been re-zoned when acquired and developed as part of the airport. The purpose of EFU zoning is "to protect and maintain agricultural lands for farm use, consistent with existing and future needs for agricultural products." EFU zoning is compatible with airports, and prevents residential encroachment. Additional research will be conducted to identify any land use goal exceptions or other approvals for development of airfield facilities on EFU- or R-1-zoned land. See below for R-1 zone description.

Airport Vicinity Zoning

Wallowa County zoning in the vicinity of Joseph State Airport is a mixture of EFU, R-1, M-1, and **Recreation Residential (R-2)** (WCCP Article 18).

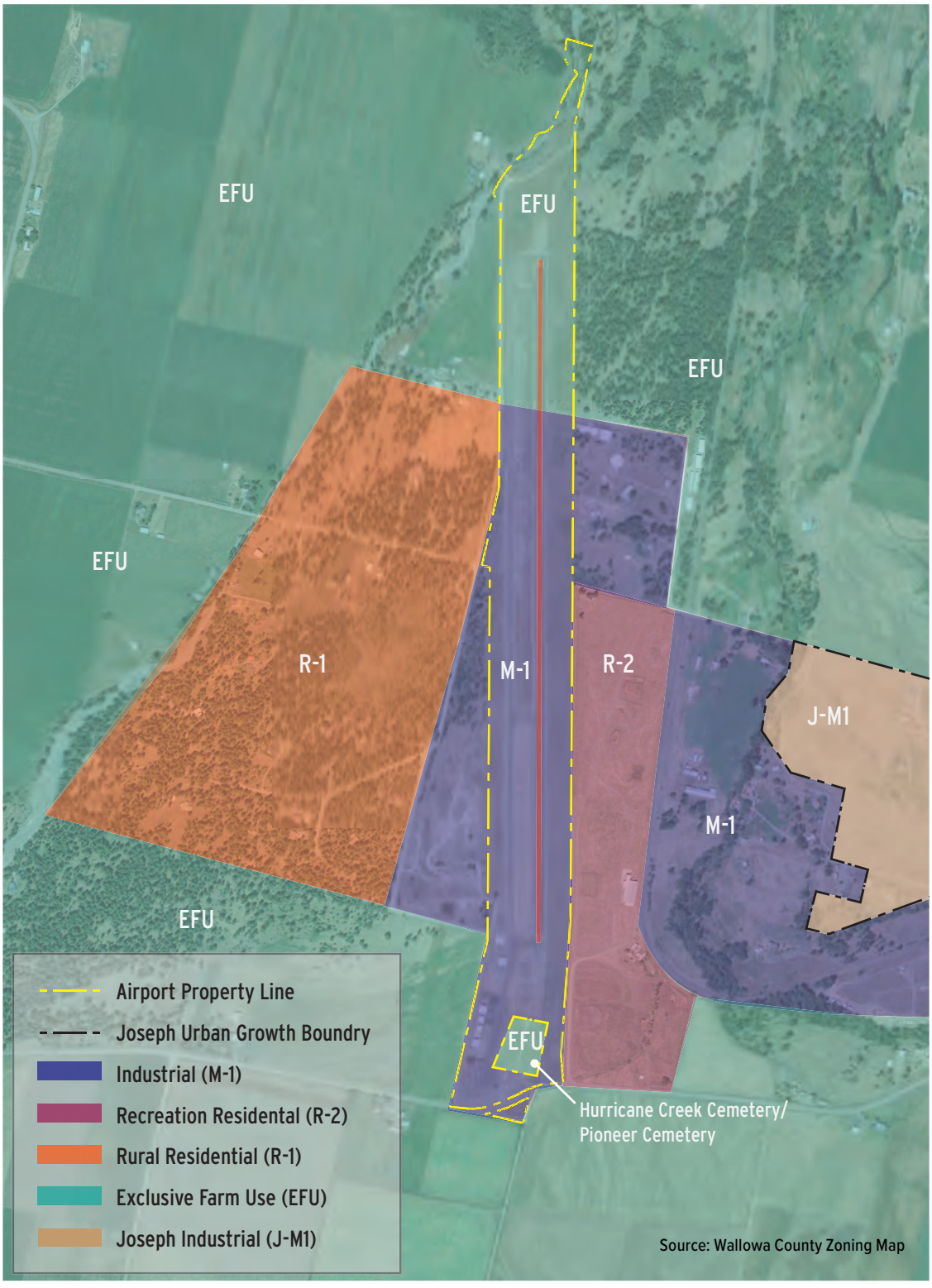
As noted above, EFU zoning "protects and maintains agricultural lands for farm use, consistent with existing and future needs for agricultural products." EFU zoning is compatible with airports, and prevents residential encroachment.

The purpose of R-1 zoning is "to provides areas suitable for small acreage parcels and to maintain a buffer between urban and farm or forest uses." The R-1 zone results in low-density rural residential development in the vicinity of the Airport. Although large lot rural residential land uses are generally compatible with low levels of airport noise, consistent with a rural setting, the potential for noise conflicts exist and should be effectively managed by airport management on an ongoing basis.

A large area of land abutting the southeast side of the Airport is zoned R-2. This area is part of the former mill site and the current zoning is intended to support future redevelopment consistent with the desired urban-rural interface. The purpose of the R-2 zone is "to provide minimum standards for residential development and

recreational uses in areas of Wallowa County that visitors from outside of the county are attracted to for natural or man-made amenities." The R-2 zone includes eight listed permitted uses, including single-family dwellings and short term rental of non-commercial residential dwellings. A commercial real estate sign posted on the 60-acre parcel lists several prospective uses: Airpark/Residential; Convention Facility; RV Park; and Survival Property/ Ranch. Additional research will be conducted to evaluate the potential of the R-2 zone assigned to the adjacent parcel to support airport-related development.

FIGURE 2-9: AIRPORT & VICINITY ZONING

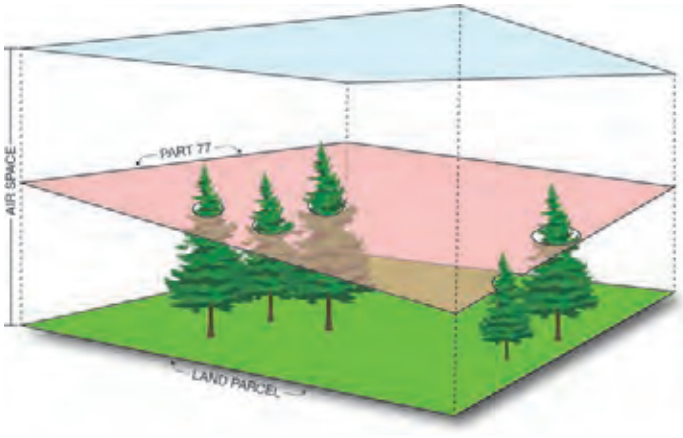


AIRPORT OVERLAY ZONING

Wallowa County's Airport Protection Zone (Article 29) applies to Joseph State Airport. This zone includes overlay protections for the runway protection zones (RPZ) and the Federal Aviation Regulation (FAR) Part 77 Airspace (airport imaginary surfaces) defined for the runway. The compatible land use table identifies limitation and restrictions on allowed uses for the RPZ, Approach Surface, Horizontal Surface, and Conical Surface. The zone was updated in 2003 and incorporates significant State of Oregon airport land use protections.

The City of Joseph Zoning Ordinance does not include airport overlay zoning, or any other provisions intended to protect the airspace surfaces associated with Joseph State Airport. Portions of the FAR Part 77 transitional, horizontal, and conical surfaces for Runway 15/33 extend over areas of City of Joseph land use jurisdiction. Options for the City of Joseph to develop an ordinance that is compatible with existing county overlay zoning will be reviewed in the implementation section of the master plan. As noted earlier, each local land use authority in the vicinity of an airport has responsibility for ensuring that proposed development is coordinated with the FAA in advance of approval through the FAA Form 7460-1 process. This obligation exists regardless of whether the jurisdiction has established airport overlay zoning.





Compatible Land Use Planning

The table below retrieved from the Oregon Department of Aviation´s Airport Land Use Compatibility Guidebook identifies land uses that are generally compatible or incompatible within airport safety areas and Part 77 surfaces like those depicted for the Joseph State Airport

Compatible Land Uses per FAR Part 77 Surfaces and FAA Safety Areas

Legend:
C Generally compatible land use
NC Incompatible land use
• Not clearly compatible or incompatible, requires specific study

Criteria for Compatibility:
1: Does not exceed height standards
2: Does not attract large concentrations of people
3: Does not create a bird attractant
4: Does not cause a distracting light/glare
5: Does not cause a source of smoke
6: Does not cause an electrical interference
7: Does meet compatible DNL sound levels

Land Uses	Primary Surface	Transitional Surface	Horizontal Surface	Conical Surface	Approach Surface	Runway Protection Zone
Residential						
Residential, other than those listed below	NC	NC	•	C	•	NC
Mobile home parks	NC	NC	•	C	•	NC
Transient lodgings	NC	NC	•	C	•	NC
Public Use						
Places of public assembly (schools, hospitals, churches, auditoriums)	NC	NC	•	C	NC	NC
Government services	NC	•	C	C	•	NC
Transportation (parking, highways, terminals)	NC	•	C	C	•	•
Commercial Use						
Offices, business and professional	NC	•	C	C	•	NC
Wholesale & retail - building materials, hardware and farm equipment	•	•	C	C	•	NC
Retail trade - general	NC	•	C	C	•	NC
Utilities	NC	•	•	•	•	•
Communication	NC	•	•	•	•	NC
Manufacturing & Production						
Manufacturing - general	NC	•	•	•	•	NC
Agricultural (except livestock) and forestry	•	•	C	C	•	•
Livestock farming and breeding	NC	•	•	C	•	NC
Mining and fishing, resource production and extraction	NC	NC	•	•	•	NC
Recreational						
Outdoor sports arenas and spectator sports	NC	NC	•	•	NC	NC
Nature exhibits and zoos	NC	NC	•	C	NC	NC
Amusement park, resorts and camps	NC	NC	C	C	NC	NC
Golf courses	NC	NC	C	C	NC	NC
Parks	NC	•	•	•	•	•

Source: Airport Land Use Compatibility Guidebook, January, 2003

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. Joseph State Airport operates in day and night visual flight rules (VFR) conditions. The Airport does not currently have any instrument procedures; the addition of instrument capabilities is identified as a high priority that will be examined in the facility requirements and alternatives analyses of the master plan.

RUNWAY

Joseph State Airport has one paved runway (15/33) that is oriented in a north-south direction (150-330 magnetic degree bearing). Runway 15/33 is 5,200 x 60 feet with a full-length parallel taxiway (Taxiway A) on the west 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, good condition.
- **Runway Markings:** Both ends of Runway 15/33 have visual markings, consisting of runway numbers and a centerline stripe. The runway markings were observed to be in good condition during recent site visits. All runway markings are consistent with FAA standards for configuration, color (white paint), and approach type.
- **Runway Gradient:** The most recent (2008) Airport Layout Plan (ALP) indicates that Runway 15/33 has a gradient of 1.12 percent with its high point located at the south end (Rwy 33 threshold).
- **MIRL:** Runway 15/33 is equipped with a Medium Intensity Runway Lighting (MIRL) system, which includes white edge lights (with amber lights located near the runway ends to indicate runway remaining) and split lens (green/red) 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 MIRL is pilot-activated using the common traffic advisory frequency (CTAF) 122.8 MHz. The current MIRL system was installed when the runway was extended to 5,200 feet (1995 FAA grant).
- **REIL:** Runway 15 is equipped with Runway End Identifier Lights (REIL), which consist of two high-intensity sequenced strobe lights located near the corners of the runway end. REILS assist pilots in establishing visual contact with the runway environment during periods of darkness or reduced visibility. The REIL is pilot-activated using the CTAF 122.8 MHz. The REIL was installed when the runway was extended to 5,200 feet (1995 FAA grant).
- **Visual Guidance Indicator (VGI):** Runway 15 is equipped with a 2-light Precision Approach Path Indicator (PAPI). The PAPI projects 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. The Runway 15 PAPI glide path is set at 4 degrees, to clear close-in obstructions (trees) which is slightly steeper than the standard 3-degree PAPI glide path. The PAPI is pilot-activated using the CTAF 122.8 MHz. The PAPI was installed in as part of a larger FAA project (2003 FAA grant).
- **Taxiway Lighting:** Taxiway A and the south apron access taxilane are equipped with retroreflective edge markers (stake-mounted cylinders). The five exit taxiways (A1-A5) are equipped with blue-lens fixtures that are part of the MIRL system. The edge lights are installed on the fillets and at each end of the runway to increase taxiway visibility for pilots during runway operations.
- **Other Lighting:** Limited overhead lighting is available in the terminal area, fueling area, and in various hangar areas. Some hangars also have exterior wall-mounted flood lights.

TABLE 2-10: RUNWAY DATA SUMMARY

Runway 15/33	
Dimensions	5,200’ x 60’
Bearing	N 13° 04’ W (True)
Effective Gradient	1.12%
Surface/Condition	Asphalt/Good
Weight Bearing Capacity	12,500 pounds - Single Wheel Gear
Markings	Visual/Basic Runway designation numbers, centerline stripe
Lighting	Medium Intensity Runway Edge Lighting (MIRL) Runway 15: Precision Approach Slope Indicator (PAPI) 2-Light (4.0 degree glide path) Runway 15: Runway End Identifier Lights (REIL)
Signage	Mandatory, Location, Directional

Source: Joseph State Airport, FAA Airport Master Record (5010), Effective Date 01/02/2020

TAXIWAYS & TAXILINES

All currently developed areas of Joseph State Airport have paved taxiway or taxilane access. The west parallel taxiway (Taxiway A) has five 90-degree exit taxiway connections (A1-A5, south to north) to the runway. Taxiway A is 25 feet wide and has a runway centerline-to-centerline separation of 225 feet. The southern 170 feet of Taxiway A angles toward the runway to Taxiway A1, where it meets the access taxilane for the south apron adjacent to the aircraft fueling apron. The south access taxiway/taxilane initially has a 200-foot runway centerline separation at the Runway 33 threshold, before angling away from the runway.

All taxiways and taxilanes at the Airport have centerline stripes. All of the exit taxiways are marked with aircraft hold lines 125 feet from runway centerline, which coincides with the edge of the runway obstacle free zone (ROFZ) and the location of mandatory instruction signs. Taxiways A2, A3, and A4 also have lead-in lines that extend from the west edge of the runway centerline (from both directions) to the taxiway centerlines.

The south aircraft apron is accessed from a taxilane that extends from the south end of the Taxiway A at Taxiway A1. The taxilane provides access to the main tiedown apron and the hangar development area. Taxilane markings (yellow) include a centerline stripe and segmented (dashed) edge lines to distinguish the taxilane and adjacent apron areas. The taxiways are unlighted and are equipped with retroreflective edge markers.

PAVEMENT CONDITION

The ODA Pavement Evaluation Program (PEP) systematically identifies maintenance, repair, and rehabilitation projects needed to sustain functional pavements at Oregon airports. The PEP provides a thorough evaluation of current conditions and future projections of condition in terms of pavement condition indices (PCI) for all eligible pavements on all paved airports across the state. For NPIAS airports like Joseph State Airport that receive federal money, this work assists airport sponsors in meeting their FAA grant assurances.

The most recent Pavement Condition Index (PCI) survey for Joseph State Airport was performed in June 2017. The survey was performed using the Pavement Condition Index (PCI) methodology developed by the U.S. Army Corps of Engineers, and outlined in the current edition of *ASTMD-5340, Standard Test Method for Airport Condition Index Surveys*.

Most of the pavements (96.6 percent) at Joseph State Airport were rated Good or Satisfactory in the 2017 inspection survey. The remaining 3.4 percent of the pavements (asphalt apron located adjacent to concrete fueling apron and Taxiway A3) were rated Fair.

The pavement ratings are consistent with pavement age and use. All of the airfield's pavement was constructed, and/or rehabilitated/reconstructed, since the master plan was completed in 1993. The current 5,200-foot runway was originally constructed in 1996-97 (complete reconstruction of the former 3,800 x 50' asphalt runway). The north section of the parallel taxiway (between Taxiways A4 and A5) was also constructed in 1996-97 to provide an aircraft turnaround at the north end of the runway. The south apron and access taxiway were reconstructed/reconfigured in 1998. Taxiway A and Taxiway Connectors A1-A3 were constructed in 2003.

Major pavement reconstruction work was completed in 2011 including the runway, south tiedown apron, apron access taxiway, the northern 280 feet of Taxiway A, and Taxiways A1, A4, and A5. The aircraft fueling apron was constructed in 2002.

AIRSIDE SUPPORT FACILITIES

Support facilities generally include airside support facilities such as airfield lighting, signage, weather reporting equipment and visual aids.

Joseph State Airport accommodates day and night operations in visual meteorological conditions (VMC) and the corresponding visual flight rules (VFR) for aircraft.

All airside support facilities were inspected during site visits conducted in February 2020.

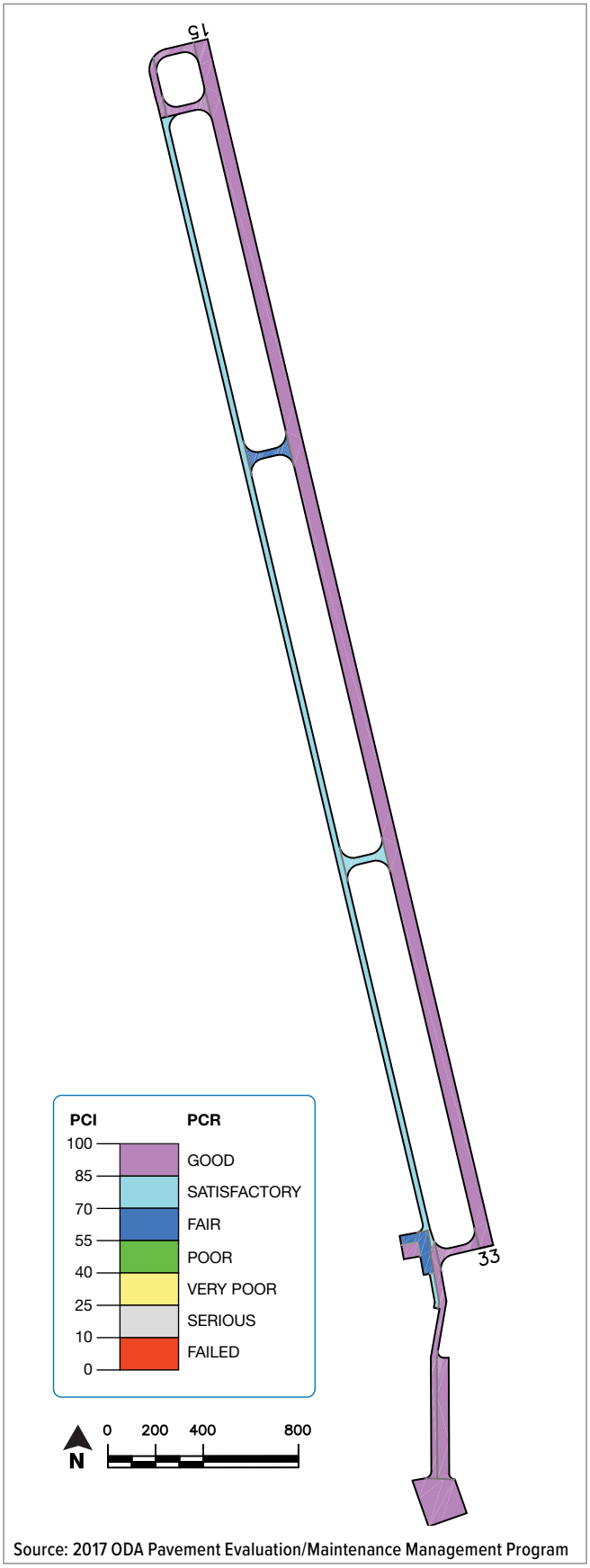
Airport Lighting

The Airport has a rotating beacon located on the west side of the airfield, adjacent to Taxiway A, between Taxiways A1 and A2. The beacon is mounted on the support tower for the Airport's automated weather system. The beacon operates on a dusk-dawn photocell switch and was observed to function normally.

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.

The Airport has one lighted wind cone located in the segmented circle on the west side of Taxiway A, just north of the Taxiway A2. The wind cone pole is equipped with a red obstruction light. The internal wind cone lighting and the obstruction light were observed to operate normally. The wind cone was damaged (torn); airport management indicated that the damage was recent and replacement was in the works.

FIGURE 2-10: PAVEMENT CONDITIONS



Source: 2017 ODA Pavement Evaluation/Maintenance Management Program

A second, unlighted wind cone, is located approximately 850 feet south of the end of Runway 33, near the southeast corner of the Airport. The unlighted wind cone was observed to be in good condition.

The airfield lighting observed during recent site visits appeared to be in good condition and fully operational.

Airfield Signage

The runway-taxiway system has mandatory instruction signs (red background with white letters/numbers) marking the aircraft holding positions at each of the taxiway connections with the runway, the two-panel signs also include taxiway designations with yellow background and black numbers/letters.

Weather Reporting

Joseph State Airport has an automated weather observation system (AWOS-3) that provides 24-hour weather information. The AWOS-3 provides altimeter setting, wind data, temperature, dewpoint, density altitude, visibility, and cloud/ceiling data. The AWOS-3 is accessed by radio (123.775MHz) or telephone (541) 432-0458.

Landside Elements

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

APRONS & TIEDOWN AREAS

Joseph State Airport has two main apron areas: Aircraft Tiedown Apron and the Aircraft Fueling Apron, both located near the south end of Runway 15/33. The aircraft tiedown apron is located at the southwest corner of the airport and has a single taxiway/taxilane connection to the south end of Taxiway A. The asphalt-surfaced apron was reconstructed in 2011 and has an area of approximately 56,626 square feet. The apron is configured with 19 small airplane tiedowns around its perimeter, with aircraft parked facing the adjacent taxilane.

The fueling apron is located near the intersection of Taxiway A and A1. The fueling apron consists of a 60x70-foot Portland cement concrete (PCC) section (4,200 square feet). A section of asphalt apron borders the PCC apron on its north and east sides to allow aircraft maneuvering from the adjacent parallel taxiway. The fueling apron was constructed in 2002 and has an overall area of approximately 18,120 square feet.

AIRPORT PERIMETER FENCING

The perimeter of Joseph State Airport is fully fenced. The majority of the fencing is 6-foot wildlife fence, topped with barbed wire strands. The south end of the Airport has 6-foot chain link fence topped with 3 strands of barbed wire. This fence section extends from near the southwest corner of the Airport to the southeast corner. Airport management has reported animals occasionally breach the fence. The perimeter of the Hurricane Creek/Pioneer Cemetery, located near the south end of Airport, is fully fenced with 5-foot chain link that ties into the 6-foot chain link fence that runs along the south end of the Airport.

The Airport has two vehicle gates located in the terminal area. One gate (manual) is located near the southeast corner of the main tiedown apron; the second gate (electric key code) is located on the west side of Airport, near the aircraft fueling apron.

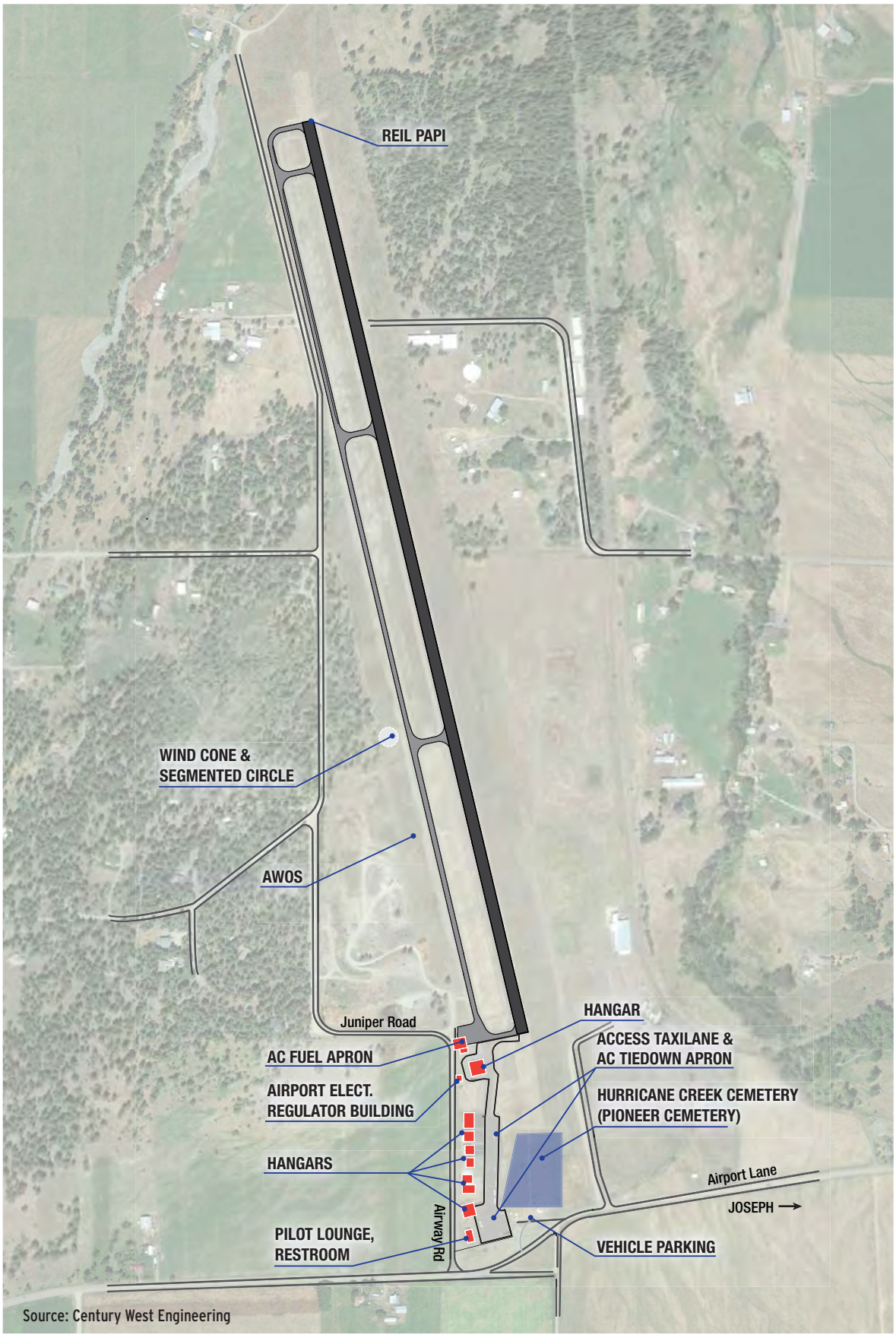
AIRPORT SURFACE ROAD ACCESS

Vehicle access to the Airport is provided landside facilities from Airport Lane/Hurricane Creek Road and Airway Road. The south airport entrance is 1.1 miles from the intersection of West Wallowa Avenue and North Main Street (State Hwy 82) in Joseph.

VEHICLE PARKING

Designated automobile parking areas on the Airport are located at the south end of the airport (outside the fence) and adjacent to the mobile home (Pilot Building) located near the southwest corner of the main apron. Additional vehicle parking area is provided adjacent to individual hangars.

FIGURE 2-11: AIRPORT EXISTING FACILITIES



AIRCRAFT FUEL

Joseph State Airport has 100-octane low lead (100LL) aviation gasoline (AVGAS) available. ODA owns and maintains the fuel storage and dispensing system that includes one above ground double-wall tank (10,000 gallons) and a 24-hour credit card payment system for self-fueling. The fixed-point fueling system is located north of the hangar area and south tiedown apron. The tank has a 50/50 internal partition that allows for storage of two separate grades of fuel. Airport management reports that the split tank has been configured with both AVGAS and jet fuel in the past, but is currently used only for AVGAS storage. The aircraft fueling system includes a containment area for the tank, a Portland cement concrete (PCC) fueling apron, and overhead lighting.

A Spill, Prevention, Control, and Countermeasure (SPCC) Plan was prepared for Joseph State Airport in 2010. The SPCC Plan describes measures implemented by ODA to prevent oil discharges from occurring, and to prepare ODA to respond in a safe, effective, and timely manner to mitigate the impacts of a discharge.

HANGARS

Joseph State Airport currently has eight existing hangars, including seven conventional hangars and one multi-unit (4) hangar. The hangars are located along the west side of the south tiedown apron and south taxilane.

Airport maintenance equipment and a snow plow are stored outside, adjacent to the hangars and the south tiedown apron.

Other buildings located in the south landside area include the airport electrical regulator building, a double-wide mobile home used as a pilot lounge/FBO (restroom), and two small sheds.

A memorial plaque and flag pole honoring twenty-seven Wallowa County service members who lost their lives in World War II (1941-1945) is located near the south entrance to the airport (erected by the Joseph Oregon Chamber of Commerce).

UTILITIES

The developed areas of Joseph State Airport have water, electrical, and telephone service. The following text describes and depicts the locations of the major utilities serving the Airport.

POWER

Pacific Power provides electric power to Joseph and the surrounding area. Above-ground power lines extend along Airport Lane and Airway Road, with overhead drops connecting to each hangar and building. The airport's electrical regulator building is located adjacent to Airport Lane and is also served with an overhead supply connection. Underground electrical supply lines extend from the regulator building the runway lighting, airport beacon, AWOS, and lighted wind cone.

WATER

The Airport is located approximately .25 to 1-mile outside of the City of Joseph's service area for water. An existing on-airport well provides water to the mobile home/pilot building and commercial hangars.

SANITARY SEWER

Joseph State Airport is not served by Sanitary Sewer. The nearest City of Joseph service point is about 1 mile north/east of the Airport. The Airport has a single septic tank/drain field installed adjacent to the mobile home/pilot lounge located at the south apron. There are currently eight individual hangars located in the area immediately west of the south apron; some of these hangars may have restrooms and individual septic systems.

STORMWATER

There are no stormwater systems located on-airport. The runway and taxiways are designed for stormwater to run off the edges of the pavement into adjacent swales.

NATURAL GAS

Natural gas is not available at the Airport. Several tenants use propane heat; tanks are filled locally by either Wallowa County Grain Growers or Ed Staub and Sons.

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

Joseph State Airport is owned and operated by the Oregon Department of Aviation (ODA), which manages a group of 28 airports from its office in Salem. ODA's State Airports Manager is responsible for the day-to-day management of the airports. The State Airports Manager is supported by other ODA staff located in Salem, in addition to contractors who perform airfield maintenance, snow removal services and mowing, as needed. The ODA-owned aviation fuel system, including coordinating purchases and deliveries, is managed by the State Airports Manager with local contractor support. Airport tenants are responsible for managing their facilities and leased areas to meet the requirements defined in their leases.

AIRPORT FINANCE

The Airport operates as an enterprise 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 lease rents and fuel sales. The primary expenditures for the Airport include airport administration, maintenance, and facility improvements. Joseph State's capital improvement projects are typically funded through FAA grants with a local match, or through ODA's grant programs.

Fiscal year 2019 operating revenue and expense budgets for Joseph State Airport are summarized in **Table 2-11.**

AIRPORT RATES AND CHARGES

ODA's rates and charges for Joseph State Airport includes an improved and unimproved site lease rates, as well as tiedown fees and fuel flowage fees. The state airports also have access fees, which vary by aircraft weight. In addition, ODA receives aircraft registration fees by aircraft type. **Table 2-12** summarizes current ODA rates and charges, adopted in 2021.

TABLE 2-11: AIRPORT FINANCIALS (FY2019 BUDGET)

AIRPORT EXPENSES	
Fuels & Lubricants / Fuels & Utilities	$58,247.86
Telecommunications	$3,176.74
Travel	$204.22
Agency Program Services & Attorney General	$539.79
Facility Maintenance	$1,450.00
Facility Rentals & Taxes	$235.84
Other Services, Supplies, and Expenses	$4,957.12
Labor	$18,659.99
TOTAL AIRPORT OPERATING EXPENSES	**$87,471.56**
AIRPORT REVENUES	
Access Fees	$180.00
5010 Inspections	$650.00
Land Leases	$5,539.51
Hangar Fees	$174.65
Fuel Sales	$58,344.09
TOTAL AIRPORT OPERATING REVENUES	**$64,888.25**
NET OPERATING INCOME (LOSS)	**($22,583.31)**

Source: ODA Budget FY2019 Actuals

TABLE 2-12: AIRPORT RATES AND CHARGES SUMMARY

RATES AND CHARGES	
Tiedown Fees (Monthly, non-commercial)	$17.50
Fuel Flowage Fee (Per Gallon)	$0.08
Improved Site Lease Rate (Sq/Ft) (Per Month)	$0.1433
Unimproved Site Lease Rate (Sq/Ft) (Per Month)	$0.05

Source: ODA State Airport Rates 2021

RULES AND REGULATIONS

ODA 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 airport management "Best Practices" is recommended to address FAA compliance requirements and avoid noncompliance, which could have significant consequences.

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

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

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

Airport Compliance with Grant Assurances

As a recipient of both federal and state airport improvement grant funds, the sponsor is contractually bound to various obligations referred to as "Grant Assurances", developed by the FAA and ODA. 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 Oregon) 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 City to preserve and maintain the nation's airports as a valuable national transportation asset, as mandated by Congress.

FAA Grant Assurances

The FAA's Airport Compliance Program defines the interpretation, administration, and oversight of federal sponsor obligations contained in grant assurances. The Airport Compliance Manual defines policies and procedures for the Airport Compliance Program. Although it is not regulatory or controlling 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 Airport Compliance Manual states the FAA Airport Compliance Program is: "...designed to monitor and enforce obligations agreed to by airport sponsors in exchange for valuable benefits and rights granted by the United States

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

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

- Airports should be safe and efficient, located at optimum sites, and be developed and maintained to appropriate standards;
- Airports should be operated efficiently both for aeronautical users and the government, relying primarily on user fees and placing minimal burden on the general revenues of the local, state, and federal governments;
- Airports should be flexible and expandable, able to meet increased demand and accommodate new aircraft types;
- Airports should be permanent, with assurance that they will remain open for aeronautical use over the long-term;
- Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents in neighboring areas;
- Airports should be developed in convert 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.

In accordance with FAA policy, airport sponsors should have a clear understanding of and comply with all assurances. The following sections describe the selected assurances in more detail.

Project Planning, Design, And Contracting

Sponsor Fund Availability (Assurance #3)

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

Consistency with Local Plans (Assurance #6)

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

Accounting System Audit and Record Keeping (Assurance #13)

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

General Airport Assurances

Good Title (Assurance #4)

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

Preserving Rights and Powers (Assurance #5)

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

Airport Layout Plan (ALP) (Assurance #29)

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 alternation back to the original condition or jeopardize future grant funding.

Disposal of Land (Assurance #31)

Land purchased with the financial participation of an FAA grant cannot be sold or disposed of by the airport sponsor without FAA concurrence. 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. ODA prepares and updates pavement reports for Joseph State. These reports identify the maintenance of all pavements funded with federal financial assistance and provides a pavement condition index (PCI) rating (0 to 100) for various sections of aprons, runways, and taxiways; including, a score for overall airport pavements.

Operations and Maintenance (Assurance #19)

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

Compatible Land Use (Assurance #21)

Land uses around an airport should be planned and implemented in a manner that ensures surrounding development and activities are compatible with the airport. Joseph State Airport is located outside of the Joseph city limits in unincorporated Wallowa County. The airport sponsor should work with land use authority (Wallowa County) to ensure that zoning protects the airport from incompatible land uses. Incompatible land uses around airports represents one of the greatest threats to the future viability of airports.

Day-To-Day Airport Management

Economic Non-Discrimination (Assurance #22)

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

Exclusive Rights (Assurance #23)

No exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services

to the public. However, an exception may be made if the airport sponsor can prove that permitting a similar business would be unreasonably costly, impractical, or result in a safety concern, the sponsor may consider granting an exclusive right.

Leases and Finances

Fee and Rental Structure (Assurance #24)

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

Airport Revenue (Assurance #25)

Revenue generated by airport activities must be used to support the continued operation and maintenance of the airport. Use of airport revenue to support or subsidize non-aviation activities or to fund other city non-airport operations is not allowed and is considered revenue diversion. Revenue diversion compliance is closely monitored by FAA for all airports accepting FAA funds.

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

OREGON AVIATION LAWS

The Oregon Department of Aviation (ODA) has created both the Oregon Administrative Rules (OAR) and Oregon Revised Statutes (ORS) to govern airports within the state.

Oregon Administrative Rules (OAR)

- OAR Chapter 660, Division 13 – Airport Planning
- OAR Chapter 660, Division 13 – Exhibits
- OAR Chapter 738 – ODA
- Non-Commercial Leasing Policy
- Commercial Leasing Policy
- Category II Minimum Standards Policy
- Category IV Minimum Standards Policy
- Category V Minimum Standards Policy
- Insurance Requirements

Oregon Revised Statutes (ORS)

- ORS 197 – Land Use Planning I
- ORS 197A – Land Use Planning II
- ORS 319 – Aviation Fuel Tax
- ORS 835 – Aviation Administration
- ORS 836 – Airports and Landing Fields
- ORS 837 – Aircraft Operations
- ORS 838 – Airport Districts

Chapter 3

Aviation Activity Forecasts

COVID-19 IMPACTS ON AVIATION ACTIVITY FORECASTS

This forecast was prepared during the first full year of the COVID-19 pandemic. The disruption of airport activity experienced throughout the U.S. airport system related to COVID-19 in 2020 is unprecedented and has led to a significant decline in activity that is not consistent with recent historic trends. Although the limits of the current disruption have yet to be defined, it is believed that the underlying elements of demand within general aviation will remain largely intact until all public health constraints are fully addressed and economic conditions gradually return to normal.

Two notable conditions are defined in these forecasts:

1. 2019 is used as the base year for the updated twenty-year aviation activity forecasts. 2019 is the last full calendar year of documented activity and it also represents a reasonable "pre-COVID" indication of current conditions. The 2020-2040 airport master plan forecast window is maintained, with forecasts provided in five-year increments beginning in 2025.

2. The forecasts assume that current COVID-19 impacts on aviation activity at Joseph State Airport will not affect the 2025 forecast, or beyond.

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, 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.

Note: The forecasts presented in this chapter were reviewed and approved by the FAA Seattle Airports District Office (11/12/20; see **Appendix D**.

Introduction

This chapter provides updated aviation activity forecasts for Joseph State Airport (JSY) for the twenty-year master plan horizon (2020-2040). The most recent Federal Aviation Administration (FAA) approved aviation activity forecasts for Joseph State Airport were developed in the 1993 Airport Master Plan.

The forecasts presented in this chapter are consistent with the current and historic role as a local general aviation airport. The forecasts are unconstrained and assume the Oregon Department of Aviation (ODA) will be able to make the facility improvements necessary to accommodate the anticipated demand unless specifically noted. ODA will consider if any unconstrained demand will not or cannot be reasonably met through the evaluation of airport development alternatives later in the master plan.

The Airport is currently capable of accommodating a full range of general aviation activity, including business class turboprops, business jets and helicopters in Visual Meteorological Conditions (VMC). Joseph State Airport is designated a **Category IV – Local General Aviation** airport in the 2019 Oregon Aviation Plan (OAP v6.0). The definition for Category IV airports is: *"These airports support primarily single-engine general aviation aircraft but*

are capable of accommodating smaller twin-engine general aviation aircraft. These airports support local air transportation needs and special-use aviation activities."

The federal airport system, referred to as the National Plan of Integrated Airport Systems (NPIAS), Joseph State Airport as a **"Basic" Nonprimary General Aviation** airport. The role of Basic airports in the NPIAS is defined as follows: *"Provides a means for general aviation flying and links the community to the national airport system. These airports support general aviation activities such as emergency response, air ambulance service, flight training, and personal flying. Most of the flying at basic airports is self-piloted for business and personal reasons using propeller driven aircraft. They often fulfill their role with a single runway or helipad, and minimal infrastructure."*

FAA Forecasting Process

The FAA provides aviation activity forecasting guidance for airport master planning projects. *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.
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 percent) from the TAF. When there is a greater than 10 percent 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; and
- 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 per year). 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 local communities and rippled throughout general aviation. However, the 10-year period of sustained economic growth leading into 2020 significantly improved conditions favorable to general aviation.

The FAA's current long-term Aerospace Forecast, Fiscal Years 2020-2040 was released in 2019. The forecast reflects overall strength in both the U.S. and regional economies and sustained, modest growth in aviation activity over the long-term. The FAA Aerospace Forecast has not yet been updated to reflect COVID-19. It is anticipated that the FAA's 2021-2041 Aerospace Forecast will reflect areas of depressed general aviation activity in the near term. It is reasonable to assume that general aviation will return to pre-COVID activity levels later in the forecast period, before resuming previously-forecast growth. It appears that long-term growth in general aviation, although positive, may be tempered by the impacts of COVID-19 for the foreseeable future.

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 Joseph State Airport extends beyond the local community of Joseph and includes nearby Enterprise (county seat, located 8 miles from JSY) and greater Wallowa County. Within Wallowa County, Joseph and Enterprise, and their surrounding areas represent nearly half of the county population. For the purpose of forecasting aviation activity, an evaluation of Wallowa County and associated cities' population trends provides a reasonable indication of activity.

2000-2019

Between 2000 and 2019, Wallowa County experienced significant fluctuations in population, which resulted in a nominal decrease of about 1 percent (net loss of 76 residents). Within this 19-year period, two distinctly different trends are observed. The period between 2000 and 2010 showed a significant decline (-3% overall; net decrease of 218 residents), while the period between 2010 and 2019 showed significant increases (+2% overall; net gain of 142 residents).

The populations of Joseph and Enterprise have consistently grown since the 2000 Census (+5.3% overall; net increase of 156 residents), and have avoided the fluctuations experienced county-wide noted above. The established growth in Joseph and Enterprise, although modest, represents a positive factor that may contribute to the ability to sustain and grow future aviation activity at Joseph State Airport.

2010-2019

Wallowa County's population has grown by about 2 percent (net gain of 142 residents) since the 2010 Census. Annual population growth between 2010 and 2019 (0.22% average annual growth rate (AAGR)) trailed the statewide population growth (1.12% AAGR), which is generally consistent for eastern Oregon counties. During this period, Joseph and Enterprise grew by 2.8% overall (net gain of 84 residents), outpacing county-wide growth with average annual growth of 0.40 percent and 0.26 percent, respectively.

Recent historical population data and average growth rates for Wallowa County, its incorporated cities, unincorporated areas, and Oregon are summarized in **Table 3-1.**

TABLE 3-1: WALLOWA COUNTY POPULATION SUMMARY (HISTORICAL)

	AAGR[1]	2010	2015	2016	2017	2018	2019
Oregon	1.12%	3,831,074	4,013,845	4,076,350	4,141,100	4,195,300	4,236,400
Wallowa County	0.22%	7,008	7,100	7,140	7,195	7,175	7,150
Joseph UGB	0.40%	1,081	1,095	1,100	1,120	1,120	1,120
Enterprise UGB	0.26%	1,940	1,940	1,985	1,985	1,985	1,985
Lostine UGB	0.10%	213	215	215	215	215	215
Wallowa (City) UGB	0.43%	808	810	805	805	805	840
Unincorporated (Outside UGBs)	0.09%	2,966	3,040	3,035	3,070	3,050	2,990

Source: U.S. Census Bureau (2010), PSU Population Research Center (2015-2019) 1. AAGR 2010-2019
[1]Portland State University Population Research Center (PSRC), U.S. Census 2010, 2000

The Population Research Center at Portland State University (PRC-PSU) prepares long-term population forecasts for the state of Oregon, counties, and cities. The 2019-2069 PSU Coordinated Population Forecast is used to support his forecast update. The document includes population forecasts for Wallowa County, its established Urban Growth Boundaries (UGB) for incorporated cities, and the area outside UGBs.

The PRC-PSU forecast uses a 2010 base year and provides projections from 2019 to 2069 with intermediate time points at 5-year intervals starting in 2020. The 2040 projection coincides with the end of the current airport master planning period (2020-2040) and provides relevant information about long term expectations for the population of the Joseph and Enterprise UGBs and the rest of Wallowa County.

The PRC forecast projects a decline in Wallowa County population through 2040 (-6.6% overall; AAGR -0.23%), although the Joseph and Enterprise UGBs are projected to increase by 2.8 percent and 2.2 percent respectively, which translates into average growth of about 0.1 percent annually.

The State of Oregon population is forecast to increase at annual rate of approximately 0.90 percent during the same period, reaching an overall population of over 5 million. A detailed summary of the PRC-PSU population forecasts for the State, County, UGBs, and the area outside UGBs is presented in **Table 3-2**.

TABLE 3-2: POPULATION FORECAST SUMMARY

	AAGR[1]	2010	2020	2025	2030	2035	2040
Oregon	0.92%	3,831,074	4,288,000	4,497,000	4,694,000	4,878,000	5,044,000
Wallowa County	-0.23%	7,008	6,885	6,772	6,695	6,612	6,545
Joseph UGB	0.09%	1,093	1,095	1,102	1,108	1,117	1,124
Enterprise UGB	0.07%	1,954	1,968	1,968	1,976	1,987	1,996
Lostine UGB	-0.16%	241	236	232	230	231	230
Wallowa (City) UGB	-0.24%	914	887	863	856	853	850
Outside UGB Areas	-0.60%	2,806	2,700	2,607	2,524	2,424	2,345

Source: Population Research Center, Portland State University, June 30th, 2019.
[1]AAGR 2010-2040

EMPLOYMENT

State of Oregon Employment Department (OED) data indicates the total employment for Wallowa County in 2019 was 6,661. In that same year the average income among all industries was $36,224 compared to the Oregon average of $54,480. Employment counts and average annual wages for Wallowa County are summarized in **Table 3-3.**

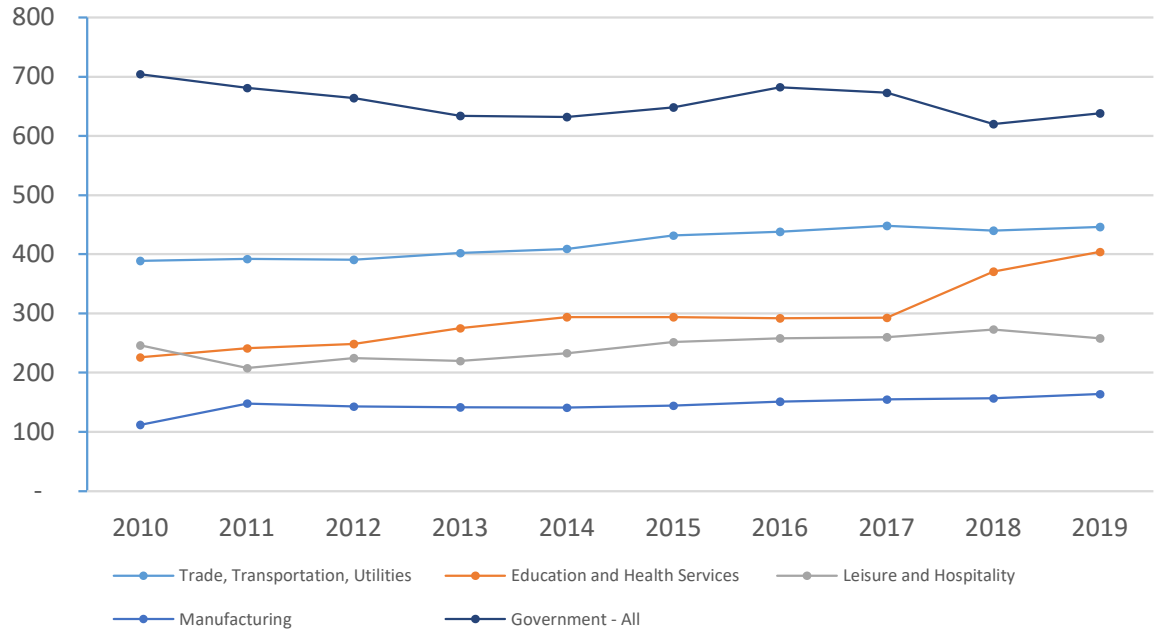
TABLE 3-3: WALLOWA COUNTY EMPLOYMENT & WAGES

	Employment	Average Wages	
	Wallowa County	Wallowa County	Oregon
2010	2,334	$28,154	$41,669
2011	2,332	$28,684	$43,077
2012	2,293	$29,862	$44,229
2013	2,322	$30,015	$45,008
2014	2,383	$30,919	$46,516
2015	2,495	$32,231	$48,322
2016	2,558	$33,692	$49,467
2017	2,572	$36,394	$51,117
2018	2,582	$36,394	$53,053
2019	2,636	$37,253	$55,019

Source: Oregon Employment Department, QCEW

Wallowa County employment by industry has remained relatively stable since 2010, as depicted in **Figure 3-1** Total nonfarm employment in Wallowa County increased at 1.37% annually on average, with most employment sectors experiencing modest growth or decline. Leading growth sectors included Education and Health Services; Trade, Transportation and Utilities; Natural Resources and Mining; and Manufacturing. Employment sectors experiencing a net loss of jobs include Financial Activities; Professional and Business Services; and Information. Government employment declined by about 9 percent (-66 jobs) between 2010 and 2019. Government accounted for 30 percent of total nonfarm employment in 2010, but declined to 24 percent in 2019.

FIGURE 3-1: WALLOWA COUNTY EMPLOYMENT & WAGES



Source: Oregon Employment Department, QCEW

The OED predicts that Oregon will see a 12 percent growth in total job growth between 2017 and 2027. For the six-county region of Baker, Grant, Harney, Malheur, Union, and Wallowa, the OED projects 7% growth over the same period. Net industry employment for the six-county region is expected to grow by 2,840, with considerable growth in Construction (25%), Leisure and Hospitality (15%), and Private Educational and Health Services (12%). The six-county projected employment numbers are presented in **Figure 3-2.**

FIGURE 3-2: PROJECTED EMPLOYMENT NUMBERS BY INDUSTRY

Industry Employment Forecast, 2017-2027
Baker, Grant, Harney, Malheur, Union, and Wallowa Counties

	2017	2027	Change	% Change
Total Employment	38,960	41,800	2,840	7%
Total payroll employment	37,090	39,730	2,640	7%
Total private	27,750	30,150	2,400	9%
Natural resources and mining	2,830	2,990	160	6%
Mining and logging	390	400	10	3%
Construction	1,290	1,610	320	25%
Manufacturing	3,200	3,490	290	9%
Trade, transportation, and utilities	7,420	7,670	250	3%
Wholesale and retail trade	6,090	6,330	240	4%
Transportation, warehousing, and utilities	1,330	1,340	10	1%
Information	440	410	-30	-7%
Financial activities	920	960	40	4%
Professional and business services	1,500	1,610	110	7%
Private educational and health services	5,240	5,890	650	12%
Leisure and hospitality	3,480	4,000	520	15%
Other services	1,430	1,520	90	6%
Government	9,340	9,580	240	3%
Federal government	1,250	1,250	0	0%
State government	1,980	2,040	60	3%
Local government	6,110	6,290	180	3%
Local education	3,730	3,830	100	3%
Self-employment	1,870	2,070	200	11%

Source: Chris Rich, Regional Economist, Christopher.M.Rich@oregon.gov.
Published June 26, 2018 (Qualityinfo.org, accessed 9/10/20)

TOURISM AND VISITOR ACTIVITY

The economy of Wallowa County has a unique tourism/visitor component. Wallowa County's natural setting and small communities draw visitors from throughout the region and beyond at rates above the region as a whole. Local officials report the number of visitors has grown steadily in recent years, which has led to a significant increase in real estate vacation rentals (AirBNB, Vrbo, etc.) and other overnight lodgings. A variety of outdoor recreation opportunities also contributes to growing visitor numbers associated with park attendance (camping) and RVs.

A review of the *Wallowa County Trend Analysis* (7/22/20 draft)[1] highlights the impacts of Travel & Tourism on visitor spending, tax revenues, and local employment for Wallowa County. The following conclusion from the study underscores the importance of this segment of the local economy:

1 Wallowa County Community Development Department, Draft Document 7/22/20

"The growth in the number of jobs is particularly revealing. In less than a decade the industry has added 180 jobs. In the numbers there is a clear trend and the earnings and tax revenue reflect this reality as well. Despite the restriction in travel because of the pandemic, there is no systemic reason to suspect that the importance of travel and tourism will decrease. Instead, the industry is poised to continue to grow and be an increasingly important part of the County's economy."

A March 2019 study, *Oregon Travel Impacts - Statewide Estimates 1992-2018,* provides the data reflected in the county's trend analysis study and provides additional details related to travel and visitor volume in Wallowa County: [2]

"Visitors who stay in private homes typically comprise the largest share of overnight visitor volume. Visitors who stay overnight in commercial lodging typically have the greatest economic impact. There is substantial variation among destinations, however. Most rural and suburban areas have high shares of private home visitation. Urban areas tend to have greater shares of hotel/motel stays."

The increases in activity experienced at Joseph State Airport over the last ten years appear to be consistent with these trends and other similarly positive economic data, and do not appear to be strongly influenced by the nominal changes in population experienced over the last ten years.

Figures 3-3 through 3-5 illustrate recent visitor-related trends in Wallowa County documented in these studies.

FIGURE 3-3: WALLOWA COUNTY OVERNIGHT VISITOR VOLUME

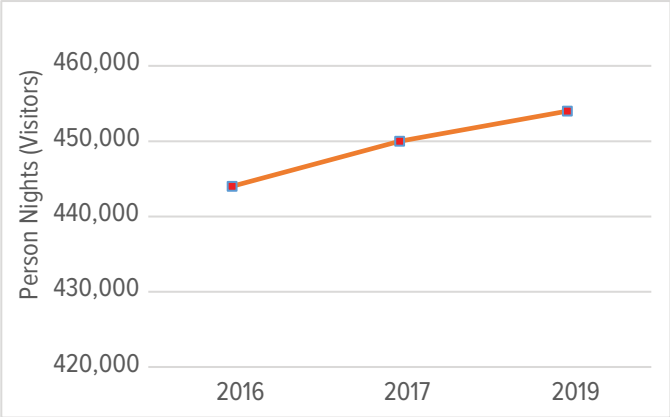


FIGURE 3-4: WALLOWA COUNTY VISITOR SPENDING

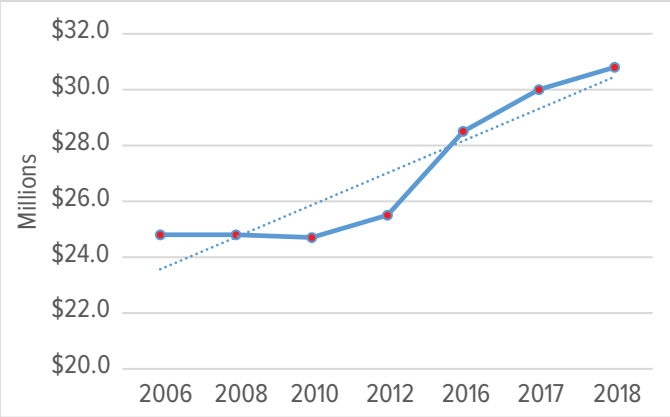
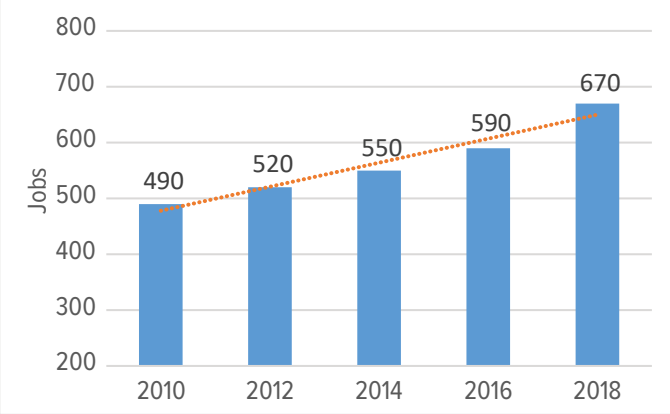


FIGURE 3-5: WALLOWA COUNTY VISITOR/TRAVEL EMPLOYMENT (JOBS)



Figures 3-3 through 3-5 Source: Oregon Travel Impacts Statewide Estimates 1992-2018p (Dean Runyan Associates (March 2019)).

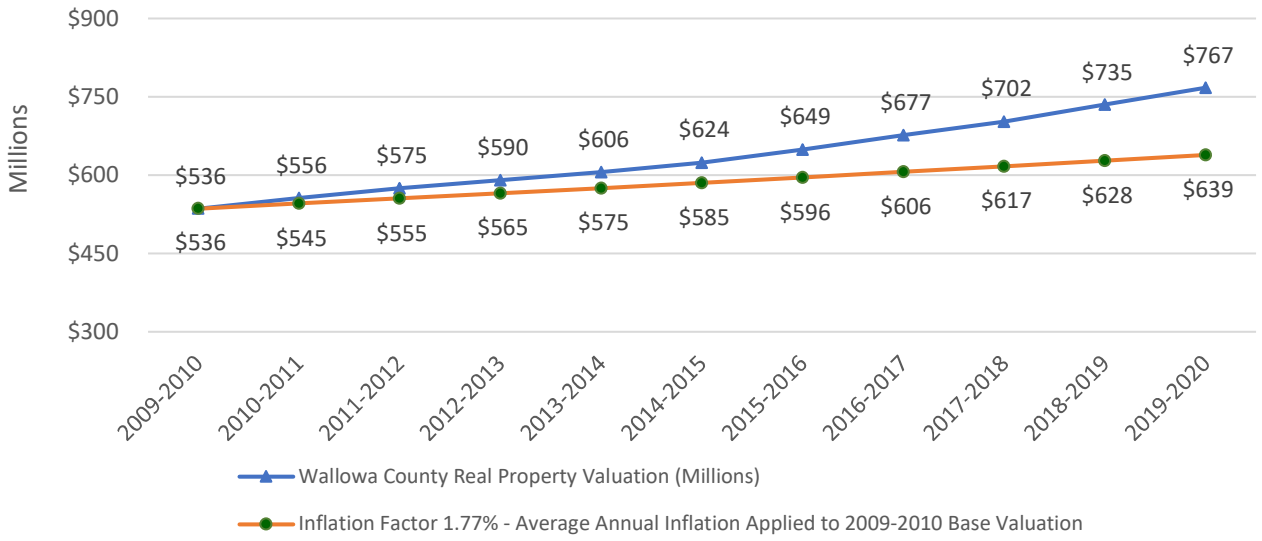
2 Oregon Travel Impacts Study Prepared for the Oregon Tourism Commission; Dean Runyan Associates, March 2019

REAL PROPERTY VALUATION (ASSESSED)

The increase in visitor activity noted earlier coincides with a reported increase in vacation rental properties, second home ownership, and a growing retiree population in Wallowa County. These factors suggest positive economic conditions that may influence activity at Joseph State Airport. A review of Wallowa County real property tax assessments was conducted for 2009-2019 to help quantify the financial impact of new construction and other improvements that contribute to property valuations.[3]

A summary of historic Wallowa County real property valuations is provided in **Figure 3-6.** The assessed values are not adjusted to account for inflation (actual tax revenues). However, to illustrate the effects of inflation on valuation over time, a second data set was created that applied the average annual inflation rate (1.77%)[4] to the 2009-2010 base year valuation. This approximates the net increase in valuation after inflation has been considered, which provides a better indication of actual property improvements (e.g., new construction). For rough comparison, the unadjusted real property valuation in Wallowa County increased at an average annual rate of 3.65 percent over the last ten years, which is more than double the average inflation rate. It is notable that this trend occurred during a period where county-wide population declined at a rate of about 0.2 percent per year, and Joseph and Enterprise averaged less than 0.1 percent annual population growth. As with employment, changes in real property valuation in recent years have outpaced local population growth and provide a broad indication of local economic conditions.

FIGURE 3-6: WALLOWA COUNTY REAL PROPERTY VALUATIONS



Source: Wallowa County Assessor (2009-19 Valuations); Inflation Data (OED) applies to baseline valuation by Century West

Current Aviation Activity

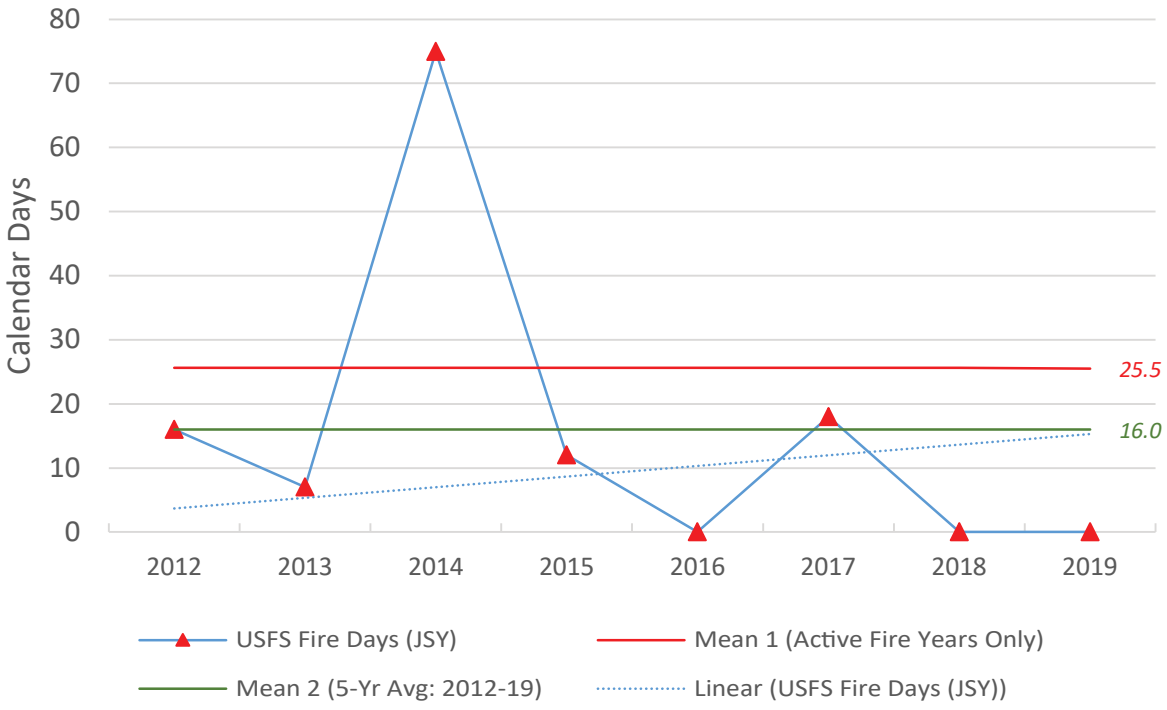
Updated estimates of existing based aircraft and aircraft operations (takeoffs and landings) was prepared based on airport records and data provided by individual operators at Joseph State Airport. Since air traffic counts are not available to document the majority of flight activity at the Airport, an FAA-recommended operations per based aircraft (OPBA) formula was applied to the 2019/2020 verified based aircraft count to approximate this segment of activity. Consistent with FAA NPIAS guidance, the recommended multiplier (250 OPBA) for a Basic General Aviation airport was used. In addition to the basic flight activity, three individual activity segments (medevac, aerial firefighting, and the annual Wallowa Fly-In) were identified for specific evaluation based on their unique operational characteristics and the ability to obtain accurate activity data from the operators. The activity for these segments is described below.

3 Wallowa County Assessors' Office - Summary of Assessment & Tax Roll (Assessment Year 2009-2010 to 2019-2020)
4 U.S. Inflation Rates, U.S. Department of Labor CPI

AERIAL FIREFIGHTING

Joseph State Airport is used on a regular basis to support aerial response during wildfire season. The US Department of Agriculture- Forest Service (USDA-FS) district offices in La Grande coordinates aerial fire resources in the national forests and other federal lands in the region. The Oregon Department of Aviation (ODA) has operational agreement in place with USDA-FS to allow fire operations to be quickly positioned at the Airport, as-needed for a standard daily fee. The use varies from year to year, based on the severity of fires in the region and the required response. ODA records of "active fire days" at Joseph State Airport were reviewed from 2012 to 2019 to roughly gauge the typical frequency of activity. As illustrated in **Figure 3-7**. Joseph State Airport accommodated USDA-FS aircraft operations in five of the most recent eight years of data.

FIGURE 3-7: JOSEPH STATE AIRPORT – ACTIVE USFS FIRE OPERATION DAYS



Source: Oregon Department of Aviation Records

Over the 8-year period, Joseph State Airport averaged 16 days per year with active USDA-FS aircraft operations, although in active fire years, the average number of days increased to 26. The crews assigned to the forward base normally overnight in Joseph, often at the rodeo grounds. The flight operations resulting from this activity is primarily helicopter with one or two fixed wing aircraft providing air tactical support or aerial supervision. The fixed-wing aircraft are typically multi-engine turboprops (Aero Commander 690), but may also include single-engine or multi-engine piston aircraft (Cessna 182, 206, Beech Baron, typ.). According to USDA-FS staff, the typical fire response involves positioning 3 to 9 Type I-III helicopters (see examples in **Figure 3-8**) at Joseph State Airport during the event.

The number of helicopter trips per day depends on access to fuel (either at the Airport or remotely positioned to allow refueling closer to the fire) and the distance from the Airport to the fire. According the USDA-FS managers, the number of round trips per day, per helicopter, can range from 1 to 4, with 3 to 9 aircraft in service. Based on variety of operating parameters, fire-related helicopter activity during a "typical" active fire day is estimated to range from 12 to 48 operations per day. An upper-mid range average is 40 operations per day, which generates approximately 640 operations over the typical 16 days in the fire season. The highest number of active fire days recorded at the Airport in recent years was in 2014, with a total of 75 days. The flight activity related to this would have ranged from 900 to 3,600 helicopter operations. The mean volume of 640 annual helicopter operations and 80 fixed-wing operations was used to estimate current airport fire activity presented in **Figure 3-9.**

FIGURE 3-8: USFS AERIAL FIREFIGHTING HELICOPTER CATEGORIES

Type I	Type II	Type III
		
Aircraft Types: Heavy Lift Internal Tanks or External Water Buckets Examples: Kaman K-Max, Sikorsky S-61, S-64, S-70, Boeing Vertol/Chinook	**Aircraft Types:** Medium External Water Buckets, Rappelling, and Crew Transport Examples: Bell 205, 212, UH-1H	**Aircraft Types:** Light Crew Transport, External Water Buckets Examples: Bell 206, 407, MD500D

Source: Century West Engineering, Images: Wikepedia

Annual Wallowa Fly-In

The annual Wallowa County Fly-in, sponsored by the North East Oregon Aviation Foundation, began in 2008 and has steadily grown its attendance. The two-day July event now attracts about 150 aircraft to the Airport from around the region. It is estimated that the event currently generates 400 operations, consisting primarily of participant aircraft arrivals and departures, with additional flights (sightseeing, aerial performances, etc.) in the local area and traffic pattern. The event attracts a wide range of aircraft type from small single-engine aircraft, antique aircraft including warbirds, jets (L39, typ.), large propeller aircraft (DC-3, typ.), and helicopters (civilian/military). This flight activity accounts for nearly 10 percent of the (2019) baseline operations estimate, as presented in Figure 3-9. The 2020 event was cancelled due to COVID-19, but is planned to resume in 2021. It is assumed that the event will continue and grow along with the other general aviation activity at the Airport.



Photo: Cindy Sloan

Medevac Flights

Wallowa County currently generates approximately 200 medical patient transports (transfers) out of the county each year. Common cases include heart attacks, strokes, and serious injuries (trauma) caused by a variety of accidents. The medical needs of the county reflect both local demographics and its large number of visitors throughout the year. The choice of transport mode is made by local medical professionals depending on the needs of each patient, while considering a variety of logistical factors.

Wallowa Memorial Hospital reports that a total of 594 patients were transported during the most recent three year period (2017-2019). A summary of historic critical patient transfer and aircraft activity is provided in **Tables 3-4 and 3-5.** Patient transfers during this period were evenly split between ambulances (49%) and aircraft (51%). However, hospital officials indicate an average of 16 patients per year are transported by ambulance due to the weather conditions that prevented aircraft flights. Without the current instrument/weather operational limits, aircraft would account for approximately 59 percent of the hospital's total patient transfers. Based on current patient levels alone, (instrument flight rule (IFR) capable) fixed-wing activity at Joseph State Airport would increase by 32 annual operations.

TABLE 3-4: CRITICAL PATIENT TRANSFERS

Critical Patient Transfers Wallowa Memorial Hospital (2017-2019)	Total Patient Transfers	Ambulance	Air
Total (3 years)	594	292	302
Annual Transfers (Average)	198	97	101
Mode Split	100%	49%	51%

Source: Wallowa Memorial Hospital

TABLE 3-5: MEDEVAC AIRCRAFT ACTIVITY

Air Transfers Wallowa Memorial Hospital (2017-2019)	Fixed Wing (JSY)	Helicopter (JSY)	Helicopter (WMH, Other)	Total
Total Transfers (3 years)	60	48	193	302
Aircraft Operations (3 years)	121	97	387	604
Annual Aircraft Operations (Average)	40	32	129	201

Source: Century West Engineering
Helicopter Operations Split: 80% WMH/20% JSY; numbers may not sum due to rounding

Most local medevacs are provided by Life Flight Network aircraft (fixed-wing and helicopter) based in La Grande. Based on available data, fixed-wing aircraft currently account for 20 percent of total medevac flights, and helicopters account for 80 percent. All fixed wing medevac flights are accommodated at Joseph State Airport based on its runway capabilities. Helicopter flights are divided between the Airport (estimated 20 percent) and Wallowa Memorial Hospital or other remote locations for in field transfers (estimated 80 percent). Helicopter transport directly to/from the hospital is preferred when possible because it eliminates an additional ambulance transport to the Airport. Helicopter use of Joseph State Airport occurs when required by the specifics of patient transport, including the location of the emergency call. As noted earlier, Life Flight's La Grande-based helicopters are limited to visual flight rules (VFR) operations, which would necessitate use of their fixed-wing aircraft during poor weather if Joseph State Airport supported instrument flight operations.

Common Medevac Aircraft - Rotor & Fixed Wing





Source: lifeflight.org

Wallowa County currently has two ambulances equipped for patient transport outside the immediate area. The roundtrip transit time from the local area to La Grande averages 2.5 to 3 hours, but the time can increase significantly during the winter months. In addition to a longer transport time for patients, a single out-of-county ambulance transfer reduces the county-wide EMS service level to one ambulance. This is a significant system capacity issue that needs to be considered when weighing the importance of upgrading the all-weather capabilities at Joseph State Airport to improve existing emergency medical capabilities.

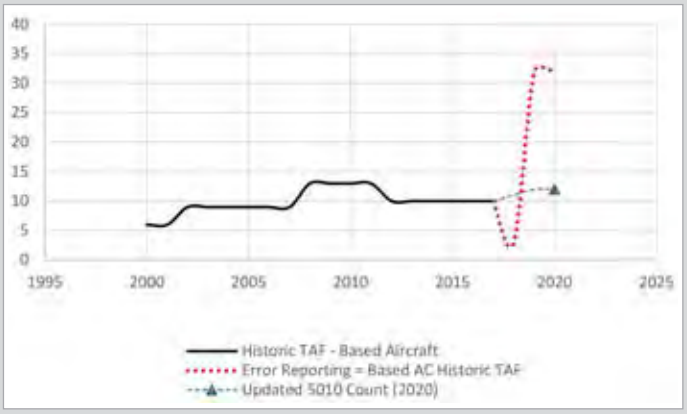
FIGURE: 3-9 AIRPORT ACTIVITY SUMMARY

Page 2-8 in the Existing Conditions Analysis provides a summary of previous estimates of Aircraft Operations and Based Aircraft from available source. The following activity summary provides an updated assessment that will serve as the baseline for the new aviation activity forecasts for the 2020-2040 Airport Master Plan Update.

Based Aircraft and Operations

Aircraft Type	Updated Airport Count[1] (2020)	Airport Master Record[2] (12 months ending 6/18/2020)	1993 ALP Update Report[3]
Single Engine	12	13	6
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	12	13	6
Annual Operations	**4,192**	**3,850**	**1,980**

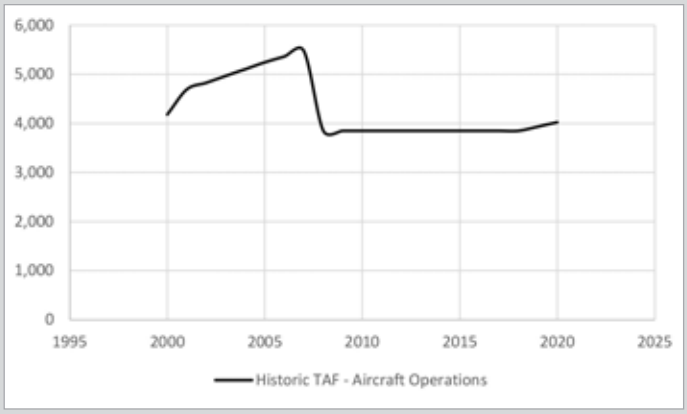
1. www.BasedAircraft.com (Validated June, 2020)
2. Airport Master Record (5010) June 18, 2020
3. Airport Layout Plan Report – Joseph State Airport Layout Plan Update (Final Report, August 1993, R.O. Brown)



Operations Estimate (2019)

Operator	A/C Type	ARC	Annual Operations
Medevac[1]	Pilatus PC-12	A-II	40
	Augusta Westland AW119Kx	Heli	32
Wallowa Fly-In[2]	Varies	A-I to A-III	400
USFS Fire[1,3]	K-Max, S-64	Heli	640
	Aero Comm. 690	B-II	80
Other Local & Transient Activity[3]	SE Piston	A-I	2,820
	ME Piston	B-I	90
	Turboprop	B-I	15
	Jet	B-II	15
	Helicopter	Heli	60
TOTAL OPS - ALL			4,192
TOTAL OPS - A-I			3,212
TOTAL OPS - B-I			113
TOTAL OPS - A-II			40
TOTAL OPS - B-II			95
TOTAL OPS - HELI			732
TOTAL OPS - ALL A/C			**4,192**

1. Operations counts provided by aircraft operators.
2. Includes private contract AC and USFS aircraft
3. Operations are estimates using 250 OPBA applied to based aircraft counts and are exclusive of counts provided by operators.



Updated Aviation Activity Forecasts

The historic based aircraft and operations numbers contained in the *FAA Terminal Area Forecast (TAF)* are estimates provided through airport management updates to the *5010 Airport Master Record*. Airport sponsor inputs are not always validated by the FAA when incorporated into the TAF. In this case, errors in the 5010 based aircraft data have been identified for 2017 and 2018 based on comparisons with reliable indicators of based aircraft totals at the Airport. As such, an accurate count of 12 based aircraft for Joseph State Airport was verified by airport management in 2020. The updated count was validated in the FAA's National Aircraft Registry (www.basedaircraft.com) and updated in the FAA 5010 Airport Record. The aircraft operations data in the TAF was unaffected by the erroneous based aircraft data.

Updated activity forecasts were developed using these updated estimates and are presented in the following sections.

The recommended master plan forecasts were compared to the TAF (*APO TAF Detail Report 2019-2045*, Issued January 2020) by FAA when presented for review and approval. Additional information about the TAF based aircraft and operations comparison is presented at the end of the chapter.

BASED AIRCRAFT

Six new based aircraft forecasts were developed based on previously established models. Growth trends established by those models were applied to the updated based aircraft count presented earlier (see **Figure 3-9**).

Terminal Area Forecast 16-year (modified) Historic Trend

The TAF historic based aircraft totals for Joseph State Airport from 2000 to 2016 appears to be relatively consistent with actual based aircraft totals and documented hangar construction. As noted earlier, the data anomalies for 2017 and 2018 make valid assessments of these most recent years impossible. Based on these factors, a modified 16-year historic TAF trends analysis was developed for Joseph State Airport, which reflects an annual growth rate of 3.2 percent. When applied to the updated based aircraft counts over the course of the planning period, this model projects that there will be 23 based aircraft at the Airport in 2040, an increase of 11 aircraft. This net gain equates to a near doubling (+91%) of based aircraft over the planning period.

Modified FAA Aerospace General Aviation (GA) Fleet Model

The FAA performs annual assessments of U.S. aviation activity through the *FAA Aerospace Forecast*. The twenty-year forecasts are updated annually by evaluating recent events and established trends affecting a wide range of commercial and general aviation segments. The current version, *FAA Aerospace Forecast - Fiscal Years (2020-2040)*, provides projections of key activity segments in 5-year increments beginning with the 2020 forecast.

A Modified FAA Aerospace GA Fleet Model was developed to use growth rates for each aircraft classification established in the forecast to project counts for each type of aircraft for the 20-year current planning period. Furthermore, this model developed for the Joseph State Airport assumes that at such times that a single-engine piston aircraft is projected to be removed from the Airport's fleet, it will be replaced by a light sport aircraft (LSA) and/or experimental aircraft which are cheaper to buy, own and operate, and are rapidly growing in popularity nationwide. This assumption is supported by the anticipated 0.9 percent decrease in single-engine pistons and the projected 3.60 percent increase in LSAs nationwide.

The Modified FAA Aerospace GA Fleet Model, when applied to all aircraft, projects an average annual growth rate of 1.96 percent. This results in 18 based aircraft in 2040, an increase of 6 aircraft (50 percent) over the planning period.

FAA Northwest Mountain Region Trend

The *FAA Terminal Area Forecast (2019-2045)* for the Northwest-Mountain Region projects that the based aircraft fleet will grow at an average annual rate of 0.91 percent between 2018 and 2040. This rate represents the third highest rate among the nine FAA regions. It is also greater than the annual projected growth rate for the nation (0.84 percent) for the same period. This indicates that although the forecast rate of growth is modest, the region is expected to be among the strongest in the nation for general aviation based aircraft fleet growth over the next twenty years.

When applied to the current based aircraft counts, this model predicts a total of 14 based aircraft at Joseph State Airport by 2040. This represents an increase of 2 aircraft (17 percent) over the planning period.

Oregon Aviation Plan (OAP v6.0) Top-Down Forecast

OAP v6.0 presents a preferred 2015-2035 statewide based aircraft forecast that utilizes a modified top-down methodology. This model projects that Oregon's based aircraft fleet will grow at an average of 1.1 percent annually through 2035. When applied to the current based aircraft count and extrapolated to the end of the current planning period, this model predicts a total of 15 based aircraft at Joseph State Airport by 2040. This represents an increase of 3 aircraft (25 percent) over the planning period.

Wallowa County Per Capita Income/Long Term Employment Forecast

Current Woods & Poole Economics, Inc. forecasts[5] of per capita income for Wallowa County, adjacent Union County, the state of Oregon, and the three state (OR, WA, ID) region were reviewed to gauge long term income expectations as a potential indicator of airport activity trends. The 2019 Woods & Poole forecast indicates per capita income (using "constant" dollars) in Wallowa County is expected to increase at annual rate of 1.53 percent between 2010 and 2050. This growth rate outpaces the forecast rate for Oregon, the three-state region, and Union County over the next thirty years. The forecast indicates that the 11-percentage point gap in county-versus-statewide per capita income in 2010 will shrink to less than 3 percent by 2050. The county's forecast growth in income between 2020 and 2050 is more modest, averaging 1.28 percent, but still ahead of Oregon's forecast annual growth (1.1%).

A review of Woods & Poole's long term employment forecasts for Wallowa County was also conducted. Employment in Wallowa County is forecast to increase at annual rate of 1.08 percent between 2010 and 2050. For the period between 2020 and 2050, Wallowa County's employment growth slows to 0.97 percent annually, which is virtually identical to the forecast growth rate for Oregon.

An increase in per capita income and employment indicates underlying economic durability, which suggests, although not empirically, that the conditions are favorable to sustained growth in airport activity. Since both economic indicators provide important foundations for economic growth, their 2020-2050 growth rates were combined (averaging 1.13 percent) for use is projecting future based aircraft. When applied to the current based aircraft count, this model projects a total of 15 based aircraft at Joseph State Airport by 2040. This represents an increase of 3 aircraft (25 percent) over the planning period.

Joseph State Airport – 27-Year Hangar Construction Trend (1993-2020)

A review of historic hangar construction at Joseph State Airport was performed to correlate construction activity to changes in based aircraft. Airport management reports that due to adverse winter weather conditions, the portion of locally-based aircraft stored in hangars is consistently high, typically greater than 90 percent. As a result, hangar construction trends appear to closely resemble in changes in based aircraft.

There are currently eight hangars at Joseph State Airport, including seven conventional hangars and one 4-unit hangar. Several of the conventional hangars can accommodate more than one aircraft. Six conventional hangars have been constructed at the Airport since the last master plan was completed in 1993. Over the 27-year period, the new hangar construction rate has averaged about 3 percent per year.

When this historic growth rate is applied to the current based aircraft count over the course of the planning period, the model projects a total of 22 based aircraft at Joseph State Airport by 2040. This represents an increase of 10 aircraft (83 percent) over the planning period.

RECOMMENDED BASED AIRCRAFT SUMMARY

The Modified FAA National Aerospace Forecast is recommended as the preferred based aircraft model for use in the Joseph State Airport Master Plan. The preferred forecasts results in a net increase of 6 based aircraft over the planning period, which reflects an average annual growth rate of about 2 percent (1.96%). The forecast reflects a balance between local trends such as recent growth in visitor activity and forecast growth in employment, airport fueling trends, and the Airport's recent hangar construction and based aircraft trends. The forecast

5 2019 State Profile - Idaho, Oregon and Washington, Woods & Poole Economics, Inc. © 2019 ISSN 1044-4947

exceeds both the FAA's NPIAS forecast for the region (0.9% AAGR) and the OAP long-term forecast rates for Oregon's based aircraft fleet (1.1% AAGR).

The forecast assumes that the Airport will be able to sustain growth in its fleet that is in line with the FAA's anticipated growth in the nation within each aircraft category. Although the average annual growth rate is tempered when compared to the Airport's recent twenty years of historical activity, the net increase of 6 based aircraft is very similar to what the Airport has experienced during the period. The based aircraft forecast models that were developed, including the recommended model, are summarized in **Table 3-6** and depicted on **Figure 3-10.**

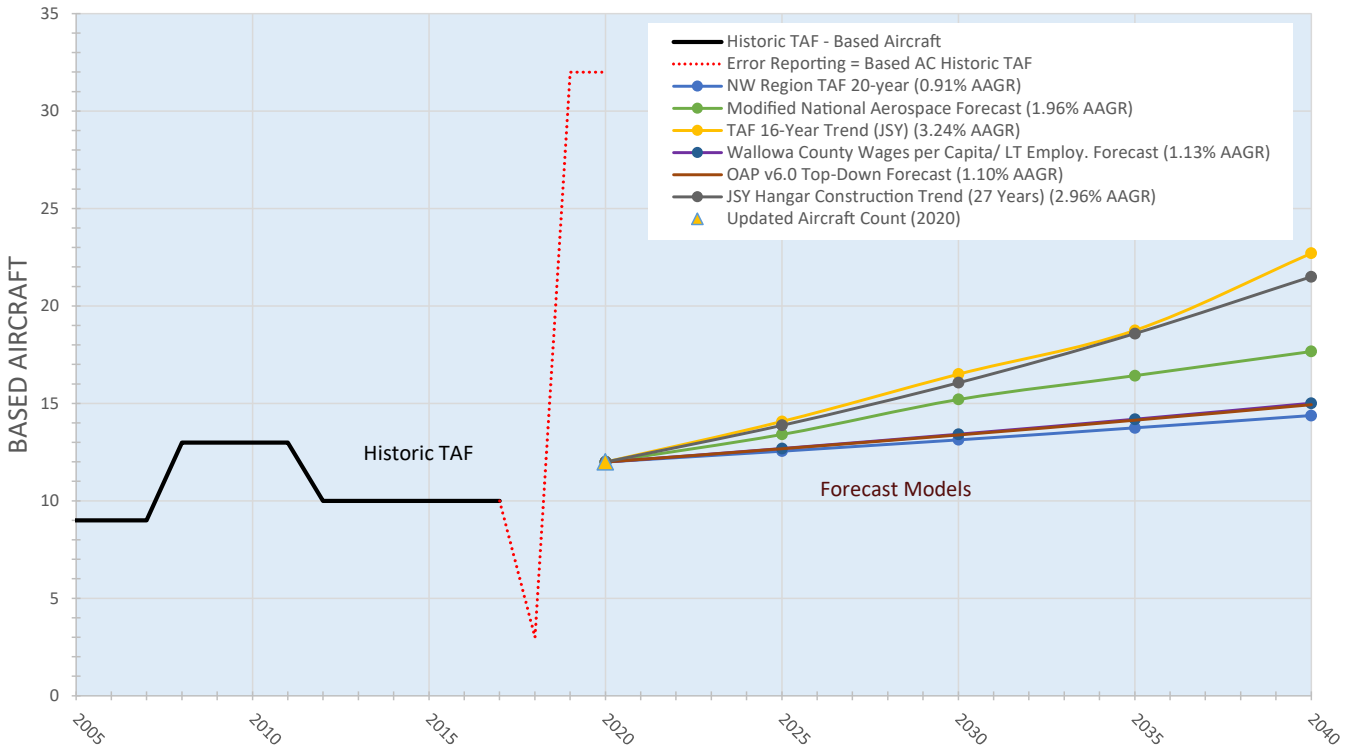
TABLE 3-6: BASED AIRCRAFT FORECAST MODELS (JSY)

Forecast Model	Growth Rate	2020	2025	2030	2035	2040
Wallowa County Wages Per Capita/ LT Employ. Forecast	1.1%	12	13	13	14	15
JSY Hangar Construction Trend (27 Years)	3.0%	12	14	16	19	22
OAP v6.0 Top-Down Forecast	1.1%	12	13	13	14	15
NW Region TAF 20-year	0.9%	12	13	13	14	14
Modified National Aerospace Forecast (Recommended)	**2.0%**	**12**	**13**	**15**	**16**	**18**
TAF 16-Year Trend (JSY)	3.2%	12	14	17	19	23

Source: Century West Engineering

Based aircraft forecasts are primarily intended to identify future facility needs in forthcoming sections of the master plan, particularly aircraft storage – apron parking and hangar space. Identifying development reserves is recommended for defining activity-dependent facility needs that may exceed forecasted growth. The proposed development reserve should have the capacity to accommodate 100 percent of the projected net increase of based aircraft (+6) over the planning period. Accordingly, the long term planning of landside facilities at Joseph State Airport should be capable of accommodating 12 additional based aircraft (forecast + reserve) over the next twenty years.

FIGURE 3-10: BASED AIRCRAFT FORECAST MODELS (JSY)



Source: Century West Engineering

BASED AIRCRAFT FLEET MIX

The airport's current based aircraft fleet is exclusively single-engine piston. **Table 3-7** summarizes the current and forecasted fleet mix for the planning period. The based aircraft fleet mix at Joseph State Airport is expected to become slightly more diverse as it is anticipated that as single-engine piston aircraft are retired over time, a portion are likely be replaced by LSA or experimental home-built aircraft, following national trends. The addition of locally based turbine-engine aircraft (turboprop, jet, helicopter, etc.) is also anticipated based on the FAA's long term general aviation fleet forecast which reflects continued adoption of turbine engine technology.

TABLE 3-7: BASED AIRCRAFT FLEET MIX SUMMARY (JSY)

Aircraft Type	Updated Aircraft Count (2020)	2025	2030	2035	2040
Single Engine Piston	12	11	11	10	10
Multi Engine Piston	0	0	1	1	1
Turboprop	0	0	0	1	1
Jet	0	0	0	0	1
Helicopter	0	0	1	1	1
LSA	0	2	2	3	4
TOTAL	**12**	**13**	**15**	**16**	**18**

Source: Century West Engineering

AIRCRAFT OPERATIONS

Four operations forecasts were prepared for comparison to the TAF. The current TAF operations projection (APO TAF Detail Report 2019-2045, Issued January 2020) for Joseph State Airport is provided for comparison only, as the TAF is not considered an acceptable forecast by FAA for master planning purposes. As noted earlier, the recommended forecast will be compared to the TAF for formal FAA review and approval.

The first two forecasts apply growth rates established by previous regional and national planning efforts (2019 FAA Aerospace Forecasts and 2019 Oregon Aviation Plan). The third projects a growth trend based on historic fuel sales at the Airport. The final model applies a modified operations per based aircraft (OPBA) formula recognized by FAA for estimating activity at non-towered GA airports.

FAA National Aerospace GA Operations Growth Rate

The current FAA Aerospace Forecast - Fiscal Years (2020-2040) model projects a 0.4 percent annual increase in general aviation operations within the FAA system through 2040. This growth rate was applied to the 2019 base year operations estimate for Joseph State Airport to develop projections for the twenty-year master planning period. The model projects 4,540 operations in 2040, an increase of 348 (8.3 percent; AAGR 0.4 percent) over the 20-year planning period.

Oregon Aviation Plan (V. 6.0) Top Down Growth Rate

The most recent Oregon Aviation Plan (OAP v6.0), published in 2019, provides forecasts of aviation activity over its 2015- 2035 planning period. Annual general aviation operations forecasts were prepared for individual airports, as well as for the state system as a whole. The OAP identified a Top-Down model based on FAA national average growth forecasted for hours flown as the preferred forecast. The average annual growth rate for this model is 0.9 percent.

Applying the OAP model to the 2019 base year operations estimate for Joseph State Airport results in a projection of 5,015 operations in 2040, an increase of 823 (19.6 percent; AAGR 0.9 percent) over the 20-year planning period.

Joseph State Airport 8-Year Fuel Sales

ODA provides 100 LL aviation gasoline (AvGas) for sale at Joseph State Airport through a self-service fueling system. A review of the last eight full years of fuel sales data identified an upward trend overall, as depicted in **Figure 3-11.** The linear trend line projection for 2012-2019 fuel sales reflects an average annual growth rate of 2.65 percent within a data set with significant year-to-year fluctuations.

FIGURE 3-11: JSY ANNUAL FUEL SALES (100LL)



Source: Oregon Department of Aviation (ODA) Records. Does not include operator-tankered fuel for USFS Fire Operations.

Historic aircraft fueling data can provide a broad indication of an airport's activity trends over time. A variety of factors may affect fueling activity levels. These may include price and competition from other nearby airports and temporary surges in activity related to special events, such as fly-ins. On balance, the positive upward trend in fuel sales experienced at the Airport over the eight years is consistent with other indicators such hangar construction and growth in the number of based aircraft.

Applying the 8-year historic fuel trend line model to the base year operations estimate for Joseph State Airport results in a projection of 7,073 operations in 2040, an increase of 2,881 (68.7 percent; AAGR 2.65 percent) over the 20-year planning period.

FAA NPIAS Operations Per Based Aircraft (OPBA) Formula

This model uses a modified OPBA formula to project current and forecast airport operations. *FAA Order 5090.5 Formulation of the NPIAS and ACIP*, suggests a forecast methodology for non-towered airports that relies on a general formula for estimating operations by utilizing an activity ratio that is applied to current and forecast based aircraft. The Order identifies a typical range of 250 to 450 OPBA for different types of general aviation airports depending on the airport's role in the NPIAS. The current estimate of aircraft operations presented previously (see Figure 3-9) combines a fixed 250 OPBA (the NPIAS recommended multiplier for a Basic General Aviation airport) with the activity estimates for the three unique users described in this chapter (medevac, aerial firefighting, and the annual Wallowa County Fly-In). This forecasting methodology was determined appropriate based on the significant variance between the unadjusted 250 OPBA-derived operations level and the updated operations estimate developed through verification of data for each discreet group.

The recommended based aircraft forecast growth rate (AAGR 1.96 percent) was then applied to the current operations estimate to project future activity through the 20-year planning period. This approach assumes that aircraft operations at Joseph State Airport will increase at a rate comparable to forecast based aircraft.

Applying the model to the base year operations estimate results in 6,180 total operations in 2040, an increase of 1,988 operations (47.4 percent; AAGR 1.95 percent) over the 20-year planning period.

TAF 2020-2040

The TAF is provided for comparison to the updated operations forecast models. The current TAF (APO TAF Detail Report 2019-2045, Issued January 2020) projects Joseph State Airport annual operations to increase from 3,850 to 6,332 operations in 2040, an increase of 2,482 operations (64.5 percent; AAGR 2.29 percent) above 2018 (current TAF base year).

RECOMMENDED AIRCRAFT OPERATIONS SUMMARY

The recommended forecast of aircraft operations at Joseph State Airport is the FAA NPIAS Operations per Based Aircraft (OPBA) Formula. This model projects an average annual growth rate in operations of 1.96 percent over the planning period, resulting in 6,180 aircraft operations in 2040. The use of the NPIAS OPBA model is consistent with FAA guidance for estimating operations at non-towered airports and the projected estimates derived from the model are in line with operational estimates of other area airports of similar size and characteristics.

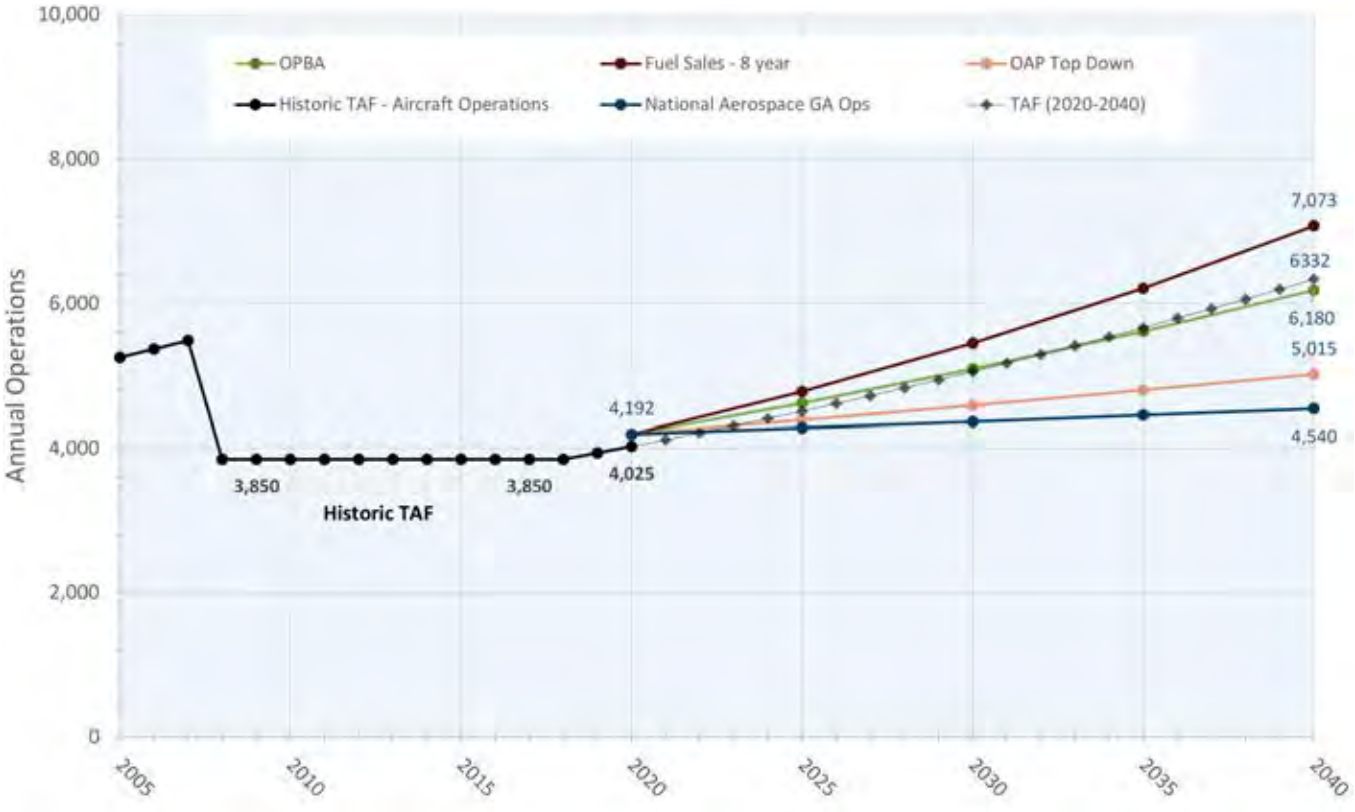
The aircraft operations forecast models that were evaluated, including the recommended model, are summarized in **Table 3-8** and depicted on **Figure 3-12.**

TABLE 3-8: FORECAST ANNUAL OPERATIONS RATES (JSY)

Forecast Model	AAGR	2020	2025	2030	2035	2040
OPBA (Recommended)	**1.96%**	**4,192**	**4,619**	**5,090**	**5,609**	**6,180**
OAP Top Down	0.90%	4,192	4,384	4,585	4,795	5,015
Fuel Sales - 8 year	2.65%	4,192	4,778	5,445	6,206	7,073
TAF (2020-2040)	2.29%	4,025	4,506	5,051	5,661	6,332
National Aerospace GA Ops	0.70%	4,192	4,277	4,363	4,451	4,540

Source: Century West Engineering

FIGURE 3-12: OPERATIONS FORECAST MODELS (JSY)



Source: Century West Engineering

LOCAL AND ITINERANT OPERATIONS

General aviation (GA) operations consist of aircraft takeoffs and landings conducted by GA aircraft. All aircraft operations are classified 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, touch and go operations (traffic pattern), and other flights that do not involve a landing at another airport. Itinerant operations include flights between airports, including cross-country flights. Itinerant operations reflect specific travel between multiple points, often associated with business and personal travel.

The TAF data for Joseph State Airport show a range of local and itinerant traffic splits, with local traffic ranging from 16 to 23 percent, with itinerant traffic accounting for 77 to 84 percent. A review of flight activity used to develop the updated estimate of airport operations (see Figure 3-9) indicates that local traffic accounted for approximately 24 percent of operations at the Airport.

It is recommended that the 24 percent/76 percent local/itinerant air traffic distribution be applied to the forecast operations for the planning period. The local and itinerant distribution for each forecast year is summarized in **Table 3-9.**

TABLE 3-9: ITINERANT/LOCAL OPERATIONS MIX (JSY)

Activity	2020	2025	2030	2035	2040
Total Itinerant Operations (76%)	3,186	3,511	3,868	4,181	4,607
Local Operations (24%)	1,006	1,109	1,221	1,320	1,455
Total Local & Itinerant Operations (100%)	**4,192**	**4,620**	**5,089**	**5,501**	**6,062**

Source: Century West Engineering

AIRCRAFT OPERATIONS FLEET MIX

Single engine piston aircraft currently account for just over 75 percent of airport operations, followed by helicopters, multi- engine piston, single-engine and multi-engine turboprops, and business jets. It is expected that the mix of air traffic at Joseph State Airport will shift slightly during the twenty-year planning period to include more turboprops, helicopters, and a small number of jets based on current trends in aircraft manufacturing and the composition of airport users. The growing popularity of single-engine turboprops for personal and business use is expected to have the greatest impact on the operational fleet mix at Joseph State Airport. Piston helicopter activity is also expected to increase for general aviation transportation and flight training purposes. The aircraft operations fleet mix forecast is summarized in **Table 3-10.**

TABLE 3-10: OPERATIONS FLEET MIX (JSY)

Aircraft Type	2020	2025	2030	2035	2040
Single Engine Piston[1]	3,158	3,376	3,596	3,745	3,960
Multi Engine Piston	110	116	122	125	130
Turbo Prop	129	160	197	238	293
Jet	14	18	23	29	37
Helicopters	781	950	1,151	1,364	1,642
Total Operations	**4,192**	**4,620**	**5,089**	**5,501**	**6,062**

Source: Century West Engineering
1. Includes LSA and Experimental AC

CRITICAL AIRCRAFT AND AIRPORT REFERENCE CODE (ARC)

The critical aircraft (or design aircraft) represents the most demanding aircraft using the airport on a regular basis and determines the appropriate airport reference code (ARC) and airport design standards for airport development.

TABLE 3-13: AIRPORT REFERENCE CODE (ARC)

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

A-I (small) 12,500 lbs. or less



Beech Baron 55
Beech Bonanza
Cessna 182
Piper Archer

B-I (small) 12,500 lbs. or less



Beech Baron 58
Beech King Air C90
Cessna 402
Cessna 421

A-II, B-II (small) 12,500 lbs. or less



Super King Air 200
Pilatus PC-12
DCH Twin Otter
Cessna Caravan

ARC - B-II Greater than 12,500 lbs.



Super King Air 300, 350
Beech 1900
Cessna Citation
Falcon 20, 50

A-III, B-III Greater than 12,500 lbs.



DHC Dash 7, Dash 8
Q-200, Q-300
DC-3
Convair 580

C-I, D-I



Lear 25, 35, 55, 60
Israeli Westwind
HS 125-700

C-II, D-II



Gulfstream II, III, IV
Canadair 600
Canadair Regional Jet
Lockheed JetStar

C-III, D-III



Boeing Business Jet
Gulfstream 650
B 737-300 Series
MD-80, DC-9

C-IV, D-IV



B - 757
B - 767
DC - 8-70
DC - 10

Source: Century West Engineering

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 the airport. This group of aircraft or aircraft type is designated as the "critical aircraft." The FAA provides the following definitions:

> *"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 FAA group aircraft into five categories (A-E) based upon their approach speeds. Aircraft Approach Categories (AAC) A and B include small propeller aircraft, many small or medium business jet aircraft, and some larger aircraft with approach speeds of less than 121 knots (nautical miles per hour). Categories C, D, and E consist of the remaining business jets, and larger jet and propeller aircraft generally associated with commercial and military use with approach speeds of 121 knots or more. The FAA also establishes six airplane design groups (I-VI), based on the wingspan and tail height of the aircraft. The categories range from Airplane Design Group (ADG) I, for aircraft with wingspans of less than 49 feet, to ADG VI for the largest commercial and military aircraft. The combination of airplane design group and aircraft approach speed for the critical aircraft creates the Airport Reference Code (ARC), which is used to define applicable airfield design standards.

CURRENT CRITICAL AIRCRAFT

The identification of the current critical aircraft is required to define the appropriate design standards based on current activity. **Table 3-11** summarizes the current estimate of aircraft operations at Joseph State Airport by aircraft type and ARC.

Prior to this master plan update, the 1993 Airport Master Plan and Airport Layout Plan (ALP) identified the existing and future critical aircraft for Joseph State Airport as the Beechcraft King Air A-100, a multi-engine turboprop included in ARC B-I (small). Subsequent updates to the ALP maintained the ARC B-I (small) designation for existing and future critical aircraft ARC, although the reference to a specific critical aircraft was eliminated.

Joseph State Airport accommodates a variety of aircraft types. Fixed wing activity is dominated by single-engine aircraft (A-I) weighing less than 12,500 pounds (small aircraft). However, the Airport also accommodates B-I aircraft, and ADG II aircraft (A-II/B-II), though not enough to meet the FAA's threshold of regular use. The majority of single-engine ADG I and II aircraft are included in Aircraft Approach Category A. Small multi-engine piston and turbine aircraft are typically included in Approach Categories A and B, while larger multi-engine jets and turboprops are included in Approach Category B or C.

TABLE 3-11: OPERATIONS BY AIRCRAFT TYPE AND ARC

Operations Estimate (2019)

Operator	A/C Type	ARC	Annual Operations
Medevac[1]	Pilatus PC-12	A-II	40
	Augusta Westland AW119Kx	Heli	32
Wallowa Fly-In[2]	Varies	A-I to A-III	400
USFS Fire[1,3]	K-Max, S-64	Heli	640
	Aero Comm. 690	B-II	80
Other Local & Transient Activity[3]	SE Piston	A-I	2,820
	ME Piston	B-I	90
	Turboprop	B-I	15
	Jet	B-II	15
	Helicopter	Heli	60
TOTAL OPS - ALL			4,192
TOTAL OPS - A-I			3,212
TOTAL OPS - B-I			113
TOTAL OPS - A-II			40
TOTAL OPS - B-II			95
TOTAL OPS - HELI			732
TOTAL OPS - ALL A/C			**4,192**

Source: Century West Engineering
1. Operations counts provided by aircraft operators.
2. Includes private contract AC and USFS aircraft
3. Operations are estimates using 250 OPBA applied to based aircraft counts and are exclusive of counts provided by operators.

A Cessna 182 (typical high performance single engine) is representative of the most demanding fixed-wing aircraft type currently generating at least 500 annual operations at Joseph State Airport. The Cessna 182 is classified ARC A-I (small). Based on the current critical aircraft designation, the ARC for Joseph State Airport is A-I (small). Although this is minor change in ARC from prior ALPs, it is important to note that there are no significant differences in the corresponding FAA design standards because the FAA consolidates Approach Category A and B into a single set of standards for all design groups.[6] An evaluation of runway length requirements, which is driven largely by the critical aircraft, will be conducted in the facility requirements chapter.

Cessna Skylane (C-182)



Image Source: Textron Aviation

FUTURE CRITICAL AIRCRAFT

Based on the updated aviation activity forecasts, no change in critical aircraft is anticipated during the current twenty year planning period. Activity by Approach Category B (ADG I) aircraft and ADG II aircraft is expected to increase over the course of the planning period, particularly as upgraded instrumentation will allow increased utilization of Pilatus PC-12 or similar aircraft for medevacs and improve access for other general aviation aircraft. **Table 3-12** summarizes forecast operations at Joseph State Airport by ARC.

TABLE 3-12: OPERATIONS FLEET MIX BY ADG

	%	2020	2025	2030	2035	2040
TOTAL OPS - A-I	75.33%	3,158	3,480	3,834	4,225	4,656
TOTAL OPS - B-I	2.62%	110	121	134	148	163
TOTAL OPS - A-II/B-II	3.41%	143	158	174	192	211
TOTAL OPS - HELI	18.63%	781	860	948	1,044	1,151
TOTAL OPS - ALL A/C	**100.00%**	**4,192**	**4,619**	**5,090**	**5,609**	**6,181**

Source: Century West Engineering

6 FAA Advisory Circular (AC) 150-5300-13A, Appendix 7, Table A7-3.

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.

The 1993 Airport Master Plan the estimated peak month for aircraft operations at Joseph State Airport to be 17 percent for both July and August. The report concluded that approximately two-thirds of the Airport's annual air traffic occurs during this peak summer period.

A review of 2012-2019 ODA fuel sales records provides a more recent indication of aircraft activity peaking. The data confirms that July and August remain the most activity months for flight activity, although the peaking levels (percentage of annual fuel sales volume) averaged 22 percent. These fueling trends are consistent with peak visitor season and specific events such as the Wallowa County Fly-in. The majority of USDA-FS aircraft operating at the Airport during fire season are turbine powered and rely on their own jet fuel, which is not included in ODA's fuel records. Considering the combination of factors, **a peak month operations percentage of 24 percent is recommended** for the current planning period. The combined volume of fuel sales during three busiest summer months (June, July, and August) for these years averaged 53 percent of annual fuel sales, which is consistent with earlier assessments of seasonality.

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 percent higher than the average day in the peak month (Design Day x 1.5), based on common activities generating significant surges 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 percent of Design Day operations (Design Day x 0.20).

The operational peaks for each forecast year are summarized in **Table 3-14.** This level of peaking is consistent with the mix of airport traffic and is expected to remain relatively 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 based on current or forecast activity levels.

TABLE 3-14: PEAK OPERATIONS (JSY)

Aircraft Type	2020	2025	2030	2035	2040
Annual Operations	4,192	4,620	5,089	5,501	6,062
Peak Month Operations (24%)	1,006	1,109	1,221	1,320	1,455
Design Day Operations (average day in peak month)	34	37	41	44	48
Busy Day Operations (assumed 150% of design day)	50	55	61	66	73
Design Hour Operations (assumed 20% of design day)	7	7	8	9	10

Source: Century West Engineering

Military Activity

The FAA Terminal Area Forecast (TAF) lists no military flight activity at Joseph State Airport. However, occasional military use with helicopters or small fixed-wing aircraft in support of emergency response, search and rescue, and training activities would be consistent with activity (Oregon Army National Guard, etc.) experienced at other Oregon general aviation airports. Military flight activity at the Airport is limited by available airfield capabilities and is assumed at 100 annual operations during the planning period.

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 lists a static 250 annual air taxi operations at Joseph State Airport through 2045.

The USDA-FS makes extensive use of contractors, which suggests that a portion of aerial fire operations would be categorized as air taxi. It is unknown whether the USDA-FS operator contracts are performed under FAR Part 135 or 91, but the nature of the activity suggests that it is appropriate to differentiate the activity from other general aviation flight activity regulated under FAR Part 91.

Since the number of Air Taxi operations is likely to increase with the other activity at the Airport, the proportion of activity attributed to Air Taxi is assumed to remain constant over the planning period.

Forecast Summary

A summary of the based aircraft and annual aircraft operations is presented in **Table 3-15.** These forecasts project slight to modest growth over the twenty-year planning period that is consistent with FAA's long-term expectations for general aviation in the region. Both based aircraft and operations are forecast to increase at an average annual rate of 1.96 percent between 2020 and 2040.

TABLE 3-15: FORECAST SUMMARY

Activity	2020	2025	2030	2035	2040
Itinerant Operations					
General Aviation	2,294	2,536	2,802	3,035	3,353
Air Taxi (Fire & Medevac)	792	875	966	1,045	1,154
Military	100	100	100	100	100
Total Itinerant Operations	**3,186**	**3,511**	**3,868**	**4,181**	**4,607**
Local Operations	1,006	1,109	1,221	1,320	1,455
Total Local & Itinerant Operations	**4,192**	**4,620**	**5,089**	**5,501**	**6,062**
Based Aircraft	12	13	15	16	18
Operations per Based Aircraft	349	355	339	344	337

Source: Century West Engineering

TERMINAL AREA FORECAST (TAF) COMPARISON

As discussed previously, based aircraft data presented in the TAF are the result of erroneous data provided to the FAA via the Airport Master Record 5010 and any comparison to the TAF would not likely be an appropriate method of validating the updated estimates. The source of the data error has been identified and future data submittals to FAA should be reliable moving forward.

The aircraft operations estimates presented in the TAF show 3,937 operations in 2019. Operations are projected to increase steadily over time to 6,332 in 2040. The master plan annual operations forecast for Joseph State Airport deviate from the TAF forecasted estimates by less than 10 percent during the current planning period.

FAA review will be required for both the based aircraft and the aircraft operations models for comparison to the current TAF. A detailed comparison of the forecast based aircraft and aircraft operations is summarized in **Table 3-16.**

TABLE 3-16: TAF COMPARISON

Based Aircraft	2020	2025	2030	2035	2040
Preferred Forecast	12	13	15	16	18
TAF	32	32	32	32	32
Percent Difference	**-62.5%**	**-59.4%**	**-53.1%**	**-50.0%**	**-43.8%**

Aircraft Operations	2020	2025	2030	2035	2040
Preferred Forecast	4,192	4,620	5,089	5,501	6,062
TAF	4,025	4,506	5,051	5,661	6,332
Percent Difference	**4.1%**	**2.5%**	**0.8%**	**-2.8%**	**-4.3%**

Source: Century West Engineering

FIFTY-YEAR FORECAST

Fifty-year demand forecasts were prepared as required in the FAA-approved master plan 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 estimate of demand that can be used to approximate long-term aviation use land requirements for the airport. **Table 3-17** summarizes the 50-year forecast including intermediate 30- and 40-year based aircraft and aircraft operations projections.

TABLE 3-17: 50-YEAR FORECAST (JSY)

	2020	2040	2050	2060	2070
Annual Operations	4,192	6,180	7,360	8,937	11,064
Based Aircraft	12	18	21	26	32

Source: Century West Engineering

Next Steps

The draft aviation activity forecasts were submitted to the FAA Seattle Airports District Office (ADO) for review. Upon completion of their review, the FAA accepted the forecasts without revision, and a letter of approval was provided to ODA (11/12/20). As noted in the chapter, a critical item related to the forecast approval is the selection of the current and future critical aircraft. These designations confirm the appropriate design criteria, including Airport Reference Code (ARC), and Taxiway Design Group (TDG) to be used in the Joseph State Airport - 2020-2040 Airport Master Plan.

The aviation activity forecasts are used to evaluate the aeronautical facility requirements for the Airport in the following chapter (Chapter 4 – Facility Requirements). The facility requirements evaluation will quantify current and future facility needs in general terms and volume.

Chapter 4

Airport Facility Requirements

The evaluation of airport facility requirements is intended to determine the facility needs for Joseph State Airport (JSY) for the current twenty-year planning period based on updated aviation activity forecasts and conformance to established 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 planning criteria to determine the future facility needs for the Airport during the current twenty-year planning period. Airside facilities include the airspace around the Airport, runways, taxiways, navigational aids and lighting systems. Landside facilities include hangars, terminal, and fixed base operator (FBO) facilities, aircraft parking apron(s), and surface access and automobile parking. Support Facilities such as aircraft fueling, security/perimeter fencing, and utilities are also examined. All airfield items are evaluated based on established Federal Aviation Administration (FAA) standards and the functional role of the Airport.

The facility requirements evaluation identifies the adequacy or inadequacy of existing 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).

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. As noted earlier, Runway 15/33 has a full length parallel taxiway and five 90-degree exit taxiways. This configuration provides a high level of functionality and operational capacity for general aviation (GA) airports.

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 VFR and IFR conditions, etc.) that do not exist at Joseph State Airport, it provides a reasonable basis for approximating existing and future capacity for master 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 visual flight rules (VFR) conditions and 59 operations during instrument flight rules (IFR) conditions (assuming the runway supports instrument operations). The existing and future demand-capacity ratios for Runway 15/33 presented below are based on the aviation forecasts presented in Chapter 3.

Existing Capacity: 4,192 Annual Operations / 230,000 ASV = 2% (demand/capacity ratio)

Future Capacity: 6,062 Annual Operations / 230,000 ASV = 3% (demand/capacity ratio)

Based on these ratios, the annual capacity of Runway 15/33 exceeds demand through the current twenty-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.

Although not believed to be a current need, the addition of aircraft hold areas on Taxiway A, adjacent to Taxiway A1 or A5 should be considered as a long term improvement in the event that congestion increases significantly.

UNIQUE RUNWAY –TAXIWAY OPERATIONS AND CAPACITY CONDITIONS

It has been reported that the use of the north section of Taxiway A (north of A3) is limited for larger aircraft (typically ADG II) due to pilot concerns over wingtip clearances on the west side of the taxiway. The issues related to obstruction clearance are addressed in detail later in the chapter. However, the issue is noted in this section in the context of runway capacity and the efficiency of the existing runway-taxiway system.

Larger aircraft reportedly use Taxiway A3 to access the runway, and back-taxi (taxiing in opposite direction of landing or departing aircraft) to Taxiway A4 (1,650 feet), or directly to the end of the runway at Taxiway A5 (1,820 feet). Aircraft then position for takeoff on Runway 15. Based on normal taxiing speeds, this would require about 1 to 2 minutes of runway occupancy time per back-taxiing aircraft. Although the low frequency of these occurrences is likely to have only a nominal effect on runway capacity, aircraft taxiing counter to the normal flow of aircraft takeoffs and landings does complicate runway operations and reduce efficiency.

ALTERNATE OPERATING (LANDING) AREA

Local pilots indicate, and ODA confirms that aircraft occasionally takeoff and land on unpaved (turf) areas adjacent to Runway 15/33. The mowed turf area is about 1,500 feet long, located from Taxiway A1 and A2, between the runway and the parallel taxiway (Taxiway A). The area is not formally identified as an alternate landing area (ALA) or airport operating area (AOA) on the current airport layout plan (ALP) and it is not referenced in the FAA Chart Supplement or the ODA Oregon Airport Directory. The majority of the aircraft operating in the area are tailwheel-equipped or otherwise capable of operating on unimproved surfaces.



Source: Century West Engineering

The FAA's Northwest-Mountain Region Safety and Standards Branch (ANM-620) provided guidance in a March 1, 2019 Memorandum: *Considerations for Alternate Operating Areas* outlining steps and process for airport sponsors proposing an airport operating area (AOA) for FAA consideration, including submittal of FAA Form 7480-1, Notice for Construction, Alteration and Deactivation of Airports.

Maintaining/improving the turf operating area at Joseph State Airport was among the priority facility needs expressed by participants at Master Plan PAC Meeting #1, and through other input provided directly to ODA. Based on the project scope of work, the FAA guidance noted above was intended to be used in the evaluation of a proposed AOA in the Airport Development Alternatives (Chapter 5) to be presented in PAC Meeting #3.

Critical Aircraft and Airport Design Standards Discussion

Based on the current and projected level of activity described in Chapter 3, Aviation Activity Forecasts, the existing and future critical aircraft is determined. The critical aircraft establishes existing and future airport planning & design standards that will guide future planning, design, and development of the Airport.

CRITICAL AIRCRAFT AND AIRPORT REFERENCE CODE

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.

As noted in Chapter 3, the recommended existing and future critical aircraft is the Cessna 182, a typical high performance single-engine piston aircraft, included in Airport Reference Code (ARC) of A-I (small). This ARC is an airport designation that signifies the airport's highest Runway Design Code (RDC), minus the third (visibility) component of the RDC. The "small" designation in consistent with a critical aircraft that weighs 12,500 pounds or less. The small aircraft designation is consistent with the FAA FAR Part 77 "utility" runway designation used to define airspace for the runway.

For more information see *FAA AC 150/5000-17, Critical Aircraft and Regular Use Determination,* and applicable airport planning & design standards summarized in greater detail below.

RUNWAY DESIGN CODE (RDC)

The Runway Design Code (RDC) is comprised of the selected Aircraft Approach Category (AAC), the Airplane Design Group (ADG), and the approach visibility minimums of a specific runway end. For airports with more than one runway, each runway will have its own RDC. The RDC provides the information needed to determine specific runway design standards. The approach visibility minimums refer to the visibility minimums expressed by runway visual range (RVR) values in feet. The existing and planned RDC for Runway 15/33 is A-I-VIS. For more detailed information on determining RDC see *FAA AC 150/5300-13A, Airport Design*.

APPROACH AND DEPARTURE REFERENCE CODE

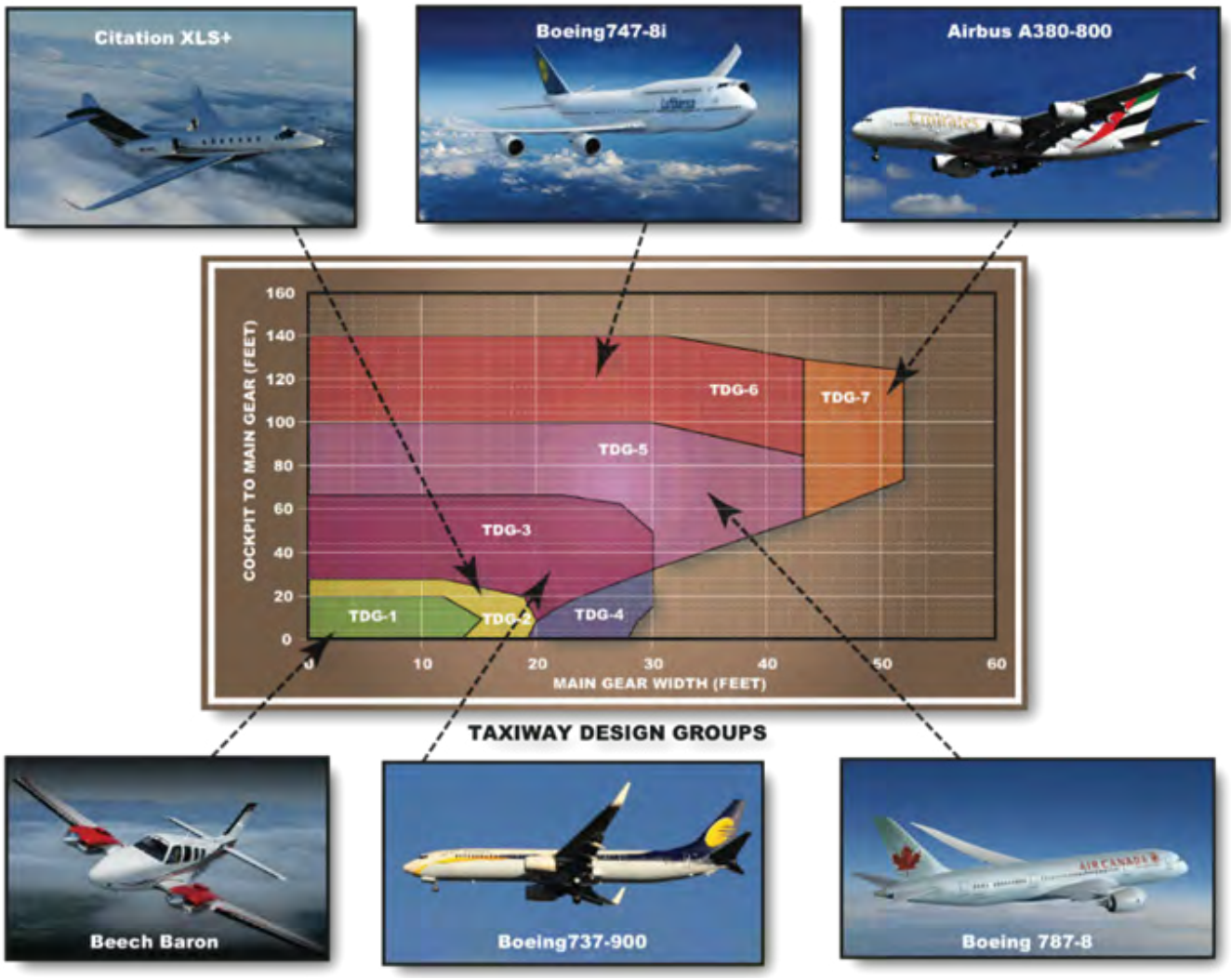
The Approach and Departure Reference Codes (APRC and DPRC respectively) represent the current operational capabilities of each specific runway end and adjacent taxiways. The approach reference code uses the performance characteristics of the design aircraft (approach speed and wingspan/tail height) and the approach visibility minimums (expressed in RVR values) and runway to taxiway separation on the airfield to define specific standards. The existing and planned APRC for Runway 15/33 is A-I (S) - VIS.

The departure reference code uses only the physical characteristics of the design aircraft and runway to taxiway separation. The existing and planned DPRC for Runway 15/33 is A-I (S). For more detailed information on determining APRC and DPRC see *FAA AC 150/5300-13A, Airport Design*.

TAXIWAY DESIGN GROUP

Taxiway Design Group (TDG), see **Figure 4-1**, is based on the dimensions of the aircraft landing gear including distance from the cockpit to the main gear (CMG) and main gear width (MGW). These dimensions affect an aircraft's ability to safely maneuver around the airport taxiways and dictate pavement fillet design. Taxiways and taxilanes can be constructed to different TDGs based on the expected use of that taxiway/taxilane by the design aircraft. The major taxiways at the Airport accommodate primarily ADG I aircraft, which is best represented by TDG 1.

FIGURE 4-1: TAXIWAY DESIGN GROUP COMPONENTS



Source: Century West Engineering

FAA DESIGN STANDARDS

FAA AC 150/5300-13A, Airport Design, serves as the primary reference in establishing the geometry of airfield facilities. A comparison of existing condition dimensions and design standards for the runway is summarized in **Table 4-1**. For comparison, the design standards for the next larger category of aircraft (ADG II) area also provided. This category corresponds to the aircraft such as single or multi-engine turboprops operated at the Airport, including the Pilatus PC-12 aircraft operated by Life Flight.

FAA DESIGN STANDARDS

Specific design standards and conditions applicable to Joseph State 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 150/5300-13A.

TABLE 4-1: RUNWAY 15/33 AIRPORT DESIGN STANDARDS SUMMARY (DIMENSIONS IN FEET)

FAA STANDARD	RUNWAY 15/33 EXISTING CONDITIONS[1]	RUNWAY 15/33 ARC A/B-I (SMALL) NOT LOWER THAN 1-MILE OR VISUAL EXISTING/FUTURE STANDARD	RUNWAY 15/33 ARC A/B-II (SMALL) NOT LOWER THAN 1-MILE OR VISUAL COMPARISON STANDARD[2]
Runway Length	5,200	See Runway Length Analysis Discussion	
Runway Width	60	60	75
Runway Shoulder Width	10	10	10
Runway Safety Area • Width • Beyond RWY End • Prior to Landing Threshold	 120 240 240	 120 240 240	 150 300 300
Runway Obstacle Free Zone • Width • Beyond RWY End • Prior to Landing Threshold	 250 200 200	 250 200 200	 250 200 200
Object Free Area • Width • Beyond RWY End • Prior to Landing Threshold	 250 240 240	 250 240 240	 500 300 300
Runway Protection Zone Length	RWY 15: 1,000 RWY 33: 1,000	RWY 15: 1,000 RWY 33: 1,000	RWY 15: 1,000 RWY 33: 1,000
Runway Protection Zone Inner Width	RWY 15: 250 RWY 33: 250	RWY 15: 250 RWY 33: 250	RWY 15: 250 RWY 33: 250
Runway Protection Zone Outer Width	RWY 15: 450 RWY 33: 450	RWY 15: 450 RWY 33: 450	RWY 15: 450 RWY 33: 450
Runway Centerline to: Parallel Taxiway/Taxilane CL Aircraft Hold Position Aircraft Parking Area 18' Building Restriction Line (BRL)	 225[3] 125 230[4] 251[5]	 150 125 125[6] 251	 240 125 250 306[7]

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

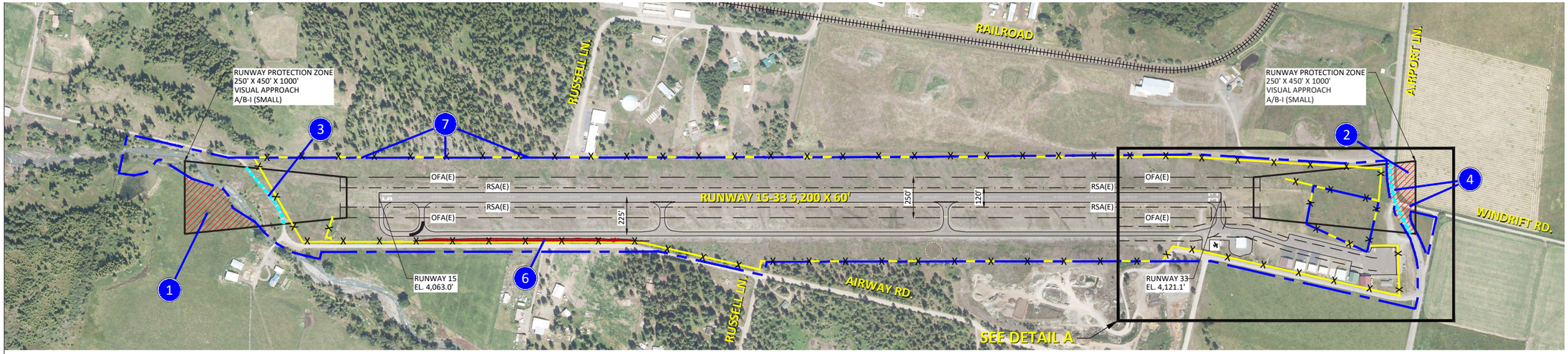
Table 4-1 Notes:

1. As depicted on most recent (2009) as-built ALP.
2. A-II (small) standards depicted for the purpose of comparison.
3. Runway centerline to parallel taxiway centerline 225 feet except the southern 180 feet which angles inward to connect to Taxiway A1 and the south apron access taxiway. The southern section of parallel taxiway has a runway separation with 205 feet at its closest point (vicinity of Runway 33 end). The south access taxiway extends beyond the south end of the runway, angling away from the runway (205 to 420 feet from runway centerline).
4. Distance between Runway 15/33 centerline and closest aircraft tiedown (position #1 @ north end of tiedown apron).
5. A 251-foot BRL for 18-foot structures is depicted on the 2009 ALP.
6. This standard applies to runways or sides of runway without a parallel taxiway.
7. A 305.5-foot BRL is required for an 18-foot structure in areas adjacent to a standard ADG II parallel taxiway and taxiway OFA (65.5' from Txy CL)

Airport Facilities Analysis

Based on the updated inventory of facilities presented in Chapter 2, existing airfield facilities were evaluated for their conformance with applicable FAA standards. Additionally, any other airport facility issues and/or opportunities that may have been identified or need to be addressed during the planning process are also depicted and discussed further within this chapter. **Figure 4-2** depicts existing airside and landside facilities conformance issues identified at Joseph State Airport.

The majority of conformance issues identified are related to the FAA's current incompatible land use policy for Runway Protection Zones (RPZ). Issues related to the configurations of runways, taxiways and apron pavements are minimal.



0' 300' 600'

Scale: 1"=300'

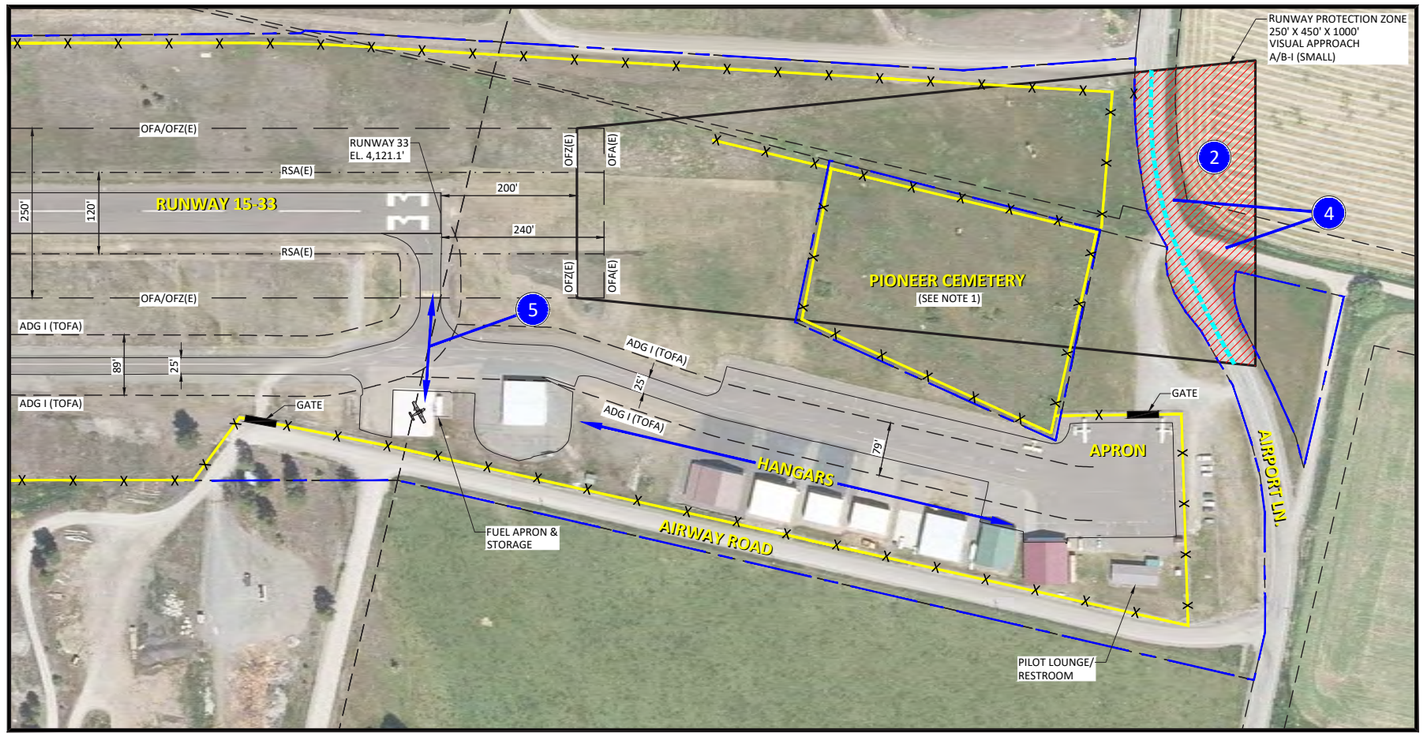
LEGEND

- AIRPORT PROPERTY LINE
- ROAD WITHING RPZ
- EXISTING FENCING
- TERRAIN PENETRATION
- AREA OF RPZ OFF AIRPORT PROPERTY

NOTE
1. PIONEER CEMETERY IS A PRIVATELY-OWNED PARCEL OF LAND (INHOLDING) LOCATED WITHIN THE BOUNDARIES OF JOSEPH STATE AIRPORT.

CONFORMANCE ITEMS

1. RUNWAY 15 RPZ; PORTION EXTENDS BEYOND AIRPORT PROPERTY
2. RUNWAY 33 RPZ; PORTION EXTENDS BEYOND AIRPORT PROPERTY
3. RUNWAY 15 RPZ; ROAD
4. RUNWAY 33 RPZ; AIRPORT LANE, WINDRIFT ROAD
5. TAXIWAY A1; DIRECT TAXIWAY BETWEEN APRON & RUNWAY
6. TAXIWAY OBJECT FREE AREA (TOFA); TERRAIN
7. PRIMARY SURFACE; TREES



N

0' 100' 200'

Scale: 1"=100'

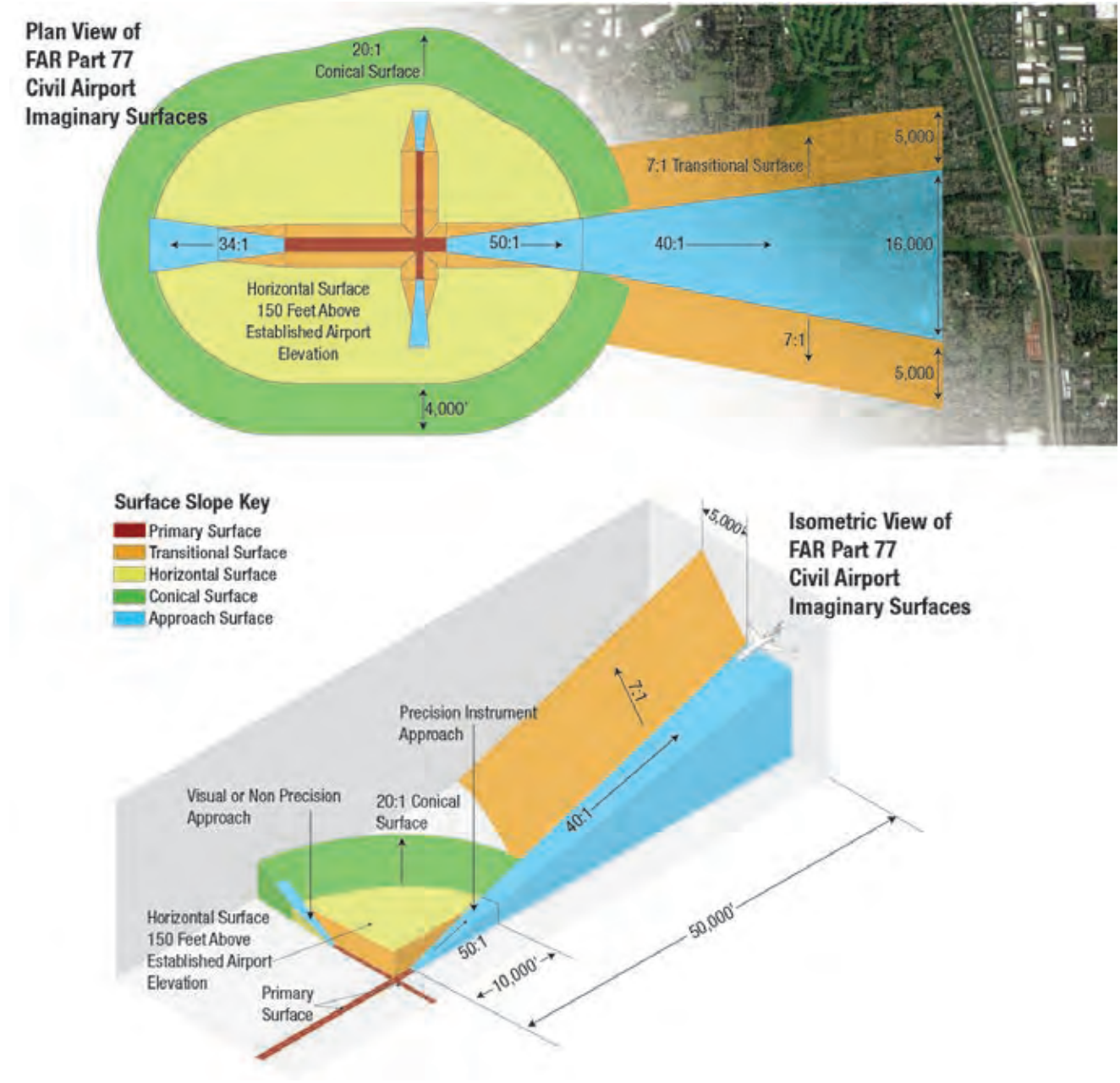
DETAIL A

Airside Facility Requirements

FAR PART 77 AIRSPACE

U.S. airport airspace is defined by *Federal Aviation Regulations (FAR) Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace*[1]. FAR Part 77 defines 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. A generic FAR Part 77 diagram illustrating each type of airspace surface is provided in **Figure 4-3**. Note: some of the depicted surfaces (e.g., 50,000-foot precision instrument approach surface) do not apply to Runway 15/33.

FIGURE 4-3: FAR PART 77 AIRSPACE



Source: Century West Engineering, Airspace Plan; FAR Part 77
Note: Precision approach airspace is provided for reference and is not applicable to Runway 15/33 at JSY.

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

RUNWAY 15/33 INSTRUMENT APPROACH DESIGN

The definition of FAR Part 77 surfaces at an airport reflects a variety of factors, but a primary defining factor is runway category (visual, non-precision instrument, or precision instrument). Runway 15/33 is designated as a visual runway and it does not currently support instrument procedures.

Developing instrument approach capabilities at Joseph State Airport is identified as a high priority improvement in the master plan. At the outset of the master plan, coordination was initiated with FAA to obtain a preliminary assessment of approach feasibility from FAA. The airports geographic information systems (AGIS) survey, completed as part of the master plan, provides obstruction data required to support the feasibility analysis and subsequent design of instrument procedures.

Although potentially confusing, it is important to note that a non-precision instrument (NPI) approach with a circling *(or circle-to-land)* procedure can be accommodated on a visual runway, including Runway 15/33. This type of approach provides electronic course guidance to the runway environment, rather than to a specific runway end. The key distinction with a circling procedure is that the pilot must maintain visual contact with the runway environment after reaching the missed approach point, when proceeding to a runway end for landing. This type of approach requires only visual Part 77 surfaces and visual runway markings. In contrast, an NPI approach with a straight-in procedure provides electronic course guidance to a particular runway end. This type of approach requires NPI Part 77 surfaces and NPI runway markings.

Both straight-in and circling procedures typically require at least one-mile of visibility, unless the runway is equipped with an approach lighting system (ALS). Instrument departure procedures are designed based on required aircraft climb gradients and obstruction clearance standards.

An NPI circling procedure can be accommodated without any modifications to the existing airspace or markings for Runway 15/33. An NPI straight-in procedure would require a wider primary surface and shift the lateral 7:1 transitional surfaces outward on both sides of the runway, which may affect existing and future landside facilities and adjacent development. Runway markings would require upgrade to NPI. A summary of visual and NPI FAR Part 77 surface requirements for Runway 15/33 is provided in **Table 4-2**.

It is recommended that the option of upgrading the runway and airspace to NPI be evaluated in the alternatives analysis (Chapter 5). The evaluation would include the physical requirements and potential impacts on adjacent landside development (setbacks for hangars, aircraft parking, etc.) and off airport development. The FAA's assessment of approach feasibility and approximate approach minimums expected for both types of procedures will help define the incremental benefits of pursuing a more demanding approach type.

TABLE 4-2: RUNWAY 15/33 - FAR PART 77 AIRSPACE SUMMARY

	EXISTING/FUTURE Part 77 STANDARD FAA-APPROVED AIRSPACE PLAN (2001)	OPTIONAL FUTURE PART 77 STANDARD
PART 77 RUNWAY DESIGNATION	UTILITY – VISUAL (VIS)	UTILITY NON-PRECISION INSTRUMENT (NPI)
Width of Primary Surface	250 feet	500 feet
Approach Surface Length	5,000 feet	Same
Approach Surface Width (Outer End)	1,250 feet	2,000 feet
Approach Surface Slope	20:1	Same
Transitional Surface	7:1 Slope to 150 feet above runway	Same[1]
Horizontal Surface Elevation	150 feet above airport elevation	Same
Horizontal Surface Radius	5,000 feet	Same
Conical Surface	20:1 for 4,000 feet	Same

Source: Code of Federal Regulations (CFR), Title 14, Subpart E#, Part 77
Table 4-2 Note: 1. No change in 7:1 surface slope or top elevation, but the beginning of the sloped surface is shifted 125 feet further from the runway centerline, reducing vertical clearance over the ground surface and objects such as parked aircraft and hangars

RUNWAY 15/33 AIRSPACE SURFACES AND OBSTRUCTIONS

This section provides descriptions of applicable FAR Part 77 airspace surfaces for Runway 15/33. Obstruction data is currently limited to the information noted on the 1993 Airport Airspace Drawing.

The future airspace surfaces depicted on the 1993 Airspace Drawing are consistent with the current 5,200-foot runway length. The drawing identified several obstructions that were to be removed or relocated (e.g., roads) in order to extend the runway. Numerous trees were identified in the future approach surfaces. The status of previously recommended tree clearing will be updated with 2020 AGIS data.

2020 AGIS obstruction data developed as part of the master plan has been submitted to FAA for technical review. The FAA-accepted AGIS data will be used to populate obstruction tables in the updated FAR Part 77 Airspace Plan, and related drawings (see Chapter 7). The ALP drawing set will serve as the primary reference for future obstacle removal projects to be identified in the Capital Improvement Plan (CIP) (Chapter 8).

Approach Surface

The Approach Surface extends outward and upward from each end of the primary surface, along the extended runway centerline. The dimensions and slope of the approach surfaces are determined by the type of aircraft intended to use the runway and the most demanding approach planned for the runway.

The 1993 Airspace Plan identified groupings of “Scattered Trees” on the north and south sides of Hurricane Creek in the future Runway 15 approach surface. The recommended action included removal of trees penetrating the 20:1 approach surface on the north side of Hurricane Creek, with lower evergreens to remain. The trees identified on the south side of Hurricane Creek were recommended to be removed. No obstructions to the Runway 33 approach surface were identified. Several items including power poles and vehicles traveling on the roads within the approach surface were identified on the drawing, but did not penetrate the future approach surface.

Primary Surface

The Primary Surface is a rectangular plane longitudinally centered on the runway (at centerline elevation) extending 200 feet beyond each runway end. The width of the primary surface depends on runway category, approach capability, and approach visibility minimums. The primary surface should be free of any penetrations, except items with locations fixed-by-function (i.e., approach lighting, runway or taxiway edge lights, etc.). The outer ends of the primary surface connect to the inner portion of the runway approach surfaces.

No primary surface penetrations were identified on the 1993 Airspace Plan. The roads located beyond the previous north end of the runway were assumed to be removed or relocated prior to extending the runway.

The 2009 Airport Layout Plan includes a Modification to Standards for the primary surface (east side of runway), with penetrating trees located on the City of Enterprise Watershed property. The status of the trees and the modification to standards will be reviewed with new AGIS obstruction survey data (see Chapter 7).

Transitional Surface

The Transitional Surface is located along the lateral edges of the primary surface and is represented by a plane rising 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. The transitional surface should be free of obstructions (i.e., parked aircraft, structures, trees, terrain, etc.).

The 1993 Airspace Plan identified several groupings of trees on the east and west sides of the runway as transitional surface penetrations. The recommended action was to remove trees located on airport property that penetrate the transitional surface. The AGIS data will be reviewed to determine if any transitional surface obstructions remain (see Chapter 7).

Horizontal Surface

The Horizontal Surface is a flat plane located 150 feet above the airport elevation. The horizontal surface boundaries are defined by the radii (5,000 feet for utility runways) constructed from each runway end. The outer edges of the radii for each runway end are connected with tangent lines, which taken together define the horizontal surface.

No obstructions or areas of terrain penetration were identified on the 1993 Airspace Plan. The AGIS data will be reviewed to determine if any horizontal surface obstructions exist (see Chapter 7).

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.

The 1993 Airspace Plan identified several areas of terrain penetration in the conical surface, south and southwest of the runway. No action was recommended for mitigating the terrain penetrations.

Airfield Pavement Strength and Condition

Airfield pavements are considered to be the single most important asset on an airport. Monitoring and planning for future improvements to the strength and condition of airfield pavements is critical to satisfying existing and future aeronautical demand.

AIRFIELD PAVEMENT STRENGTH

The published pavement strength rating for Runway 15/33 is 12,500 pounds for aircraft equipped with single-wheel landing gear, which is sufficient to accommodate all A/B-I (small) aircraft. The pavement sections used for all taxiway and apron pavements are identical to the runway. It is recommended that pavement the strength rating of 12,500 lbs. be maintained for all airfield pavements during the planning period.

AIRFIELD PAVEMENT CONDITION

An updated Pavement Evaluation/Maintenance Management Program (PEP/PMP) inspection, performed by Oregon Department of Aviation (ODA), was conducted at the Airport in 2017. A graphical depiction of 2017 pavement condition and predicted conditions for 2021 and 2026 (assuming no future pavement maintenance) is presented on the following page. A summary of pavement conditions on the airfield provided in the 2017 pavement condition report states:

> *"Section PCIs [Pavement Condition Index] at Joseph State Airport range from a low of 67 (a PCR [Pavement Condition Rating] of "Fair") to a high of 100 (a PCR of "Good"). The area-weighted average PCI for all airport pavements is 91, corresponding to an overall PCR of "Good."*
>
> *"The primary distresses observed during the inspection of asphalt concrete pavements were: longitudinal and transverse cracking, weathering and alligator cracking. No distress was observed in the portland cement concrete pavement."*

It is expected that runway, apron, taxiway, and taxilane pavements on the airfield will require rehabilitation or reconstruction during the current planning period. A prioritized list of pavement rehabilitation or reconstruction projects will be provided in the updated capital improvement program (see Chapter 8). It is recommended that ongoing maintenance, including vegetation removal, crack filling, sealcoats, and joint repairs be conducted on a regular basis and consistent with ODA PMP to maximize the longevity of airfield pavements through the planning period.

FIGURE 4-4: PAVEMENT CONDITIONS



Source: Oregon Department of Aviation - 2017 Pavement Evaluation/Maintenance Management Program, pgs. 30 & 33

FAA Design Standards

RUNWAY 15/33

Runway 15/33 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 and future critical aircraft and ARC (A-I) small.

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

The 1993 Joseph State Airport ALP drawing includes a wind rose that was developed with 12 months of wind data (8/85-8/86). The wind rose indicated 97.8 percent crosswind coverage for Runway 15/33 at 12 miles per hour (10.5 knots). The wind rose confirmed that the existing runway orientation (15/33) should be maintained for the planned runway reconstruction and extension to 5,200 feet.

The 1993 wind rose suggests that the current runway alignment is capable of meeting the FAA wind coverage standard. Under current guidelines, the FAA currently requires at least ten years of documented wind data when developing a wind rose for ALP purposes. The one year of 1985-86 wind data combined with the limited data available from the Automated Weather Observation System (AWOS) at Joseph State Airport does not meet FAA requirements.

In cases where the required data are not available onsite, the FAA requires use of wind data from the nearest available airport(s). La Grande / Union County Airport (LGD), located 32 nautical miles west of Joseph State Airport, is the nearest airport with sufficient wind data. Although use of LGD wind data meets the FAA ALP Checklist requirements, it is recognized that the significant differences in terrain and localized wind conditions in Joseph and La Grande prevent a reliable evaluation of wind conditions at Joseph State Airport using LGD data. As a result, it is recommended that no changes in runway alignment or development of a crosswind runway be considered in this master plan update. ODA will be able to revisit this issue in the future as onsite wind data are collected and a new wind rose can be created.

LGD Wind Data

An evaluation of Runway 15/33 wind coverage was performed based on LGD wind data (All Weather, VFR, and IFR). The tabulated wind data from LGD is summarized in **Table 4-3** and the new wind rose will be added to the Airport Layout Plan (ALP).

A preliminary review of the LGD wind rose suggests that the Runway 15/33 orientation accommodates slightly more than 95 percent of all weather wind conditions for small general aviation aircraft.

TABLE 4-3: WIND ANALYSIS (LGD DATA)

Runway 15/33	
All Weather	
10.5 KNOTS	95.23%
VFR	
10.5 KNOTS	95.19%
IFR	
10.5 KNOTS	95.65%

Source: La Grande/Union County Airport (LGD) ALP Wind Rose. National Climate Data Center AGIS Windrose (2008-2018)
Runway 15/33 Bearing = N 13° 04' W True

Runway Length

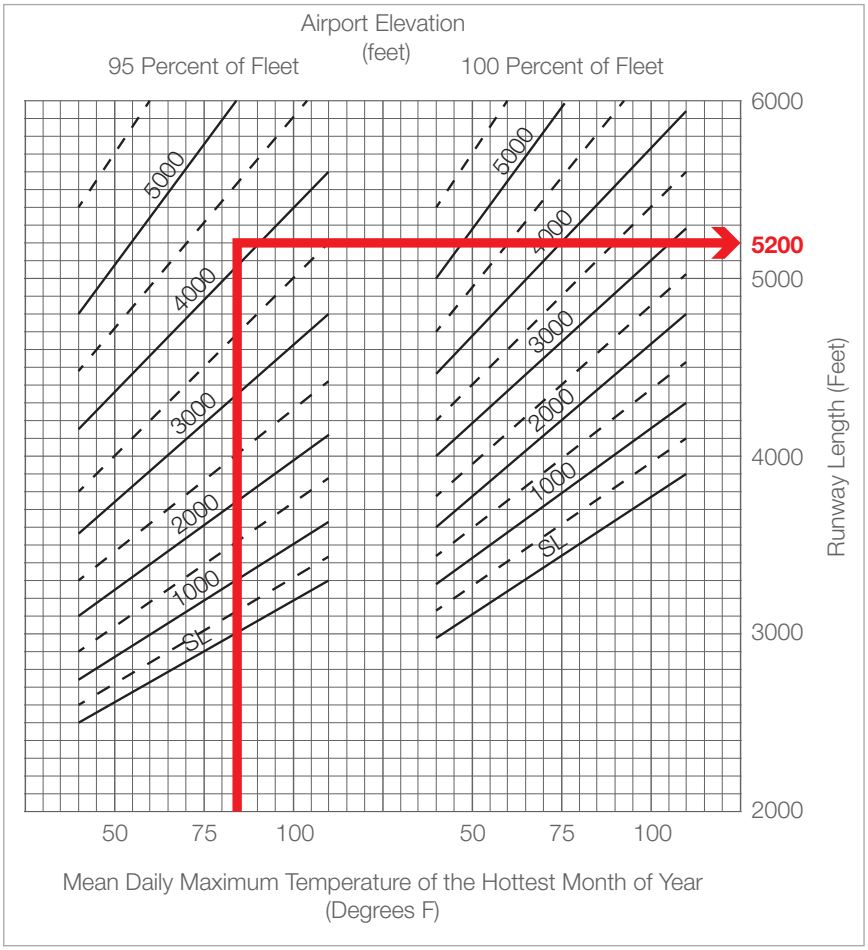
Runway length requirements are based primarily on airport elevation, mean maximum temperature of the hottest month, runway gradient, and the critical aircraft type expected to use the runway.

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,* provides recommended length requirements based on threshold of fleet activity. For Joseph State Airport, the standard based on **small airplanes with 10 or fewer seats that make up 95 percent of the general aviation fleet** is appropriate for long term planning. The FAA provide the following information: "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."

This standard was applied in the 1993 Airport Master Plan to guide the FAA-funded runway reconstruction/extension to the current 5,200 feet.

Based on local conditions, the existing length of Runway 15/33 (5,200 feet) meets FAA standards. No additional analysis of runway length is required based on current and forecast activity.

FIGURE 4-5: SMALL AIRPLANES WITH FEWER THAN 10 PASSENGER SEATS



Source: FAA Advisory Circular 150/5325-4B

FAA DESIGN STANDARDS

Runway Safety Area (RSA)

Standards: A/B-I (Small Aircraft) standard is 120' wide or 60' each side of runway centerline and 240' beyond runway ends. Additional gradient standards apply.

Condition: The RSA for Runway 15/33 appears to meet FAA dimensional, object clearing, and grading/surface standards.

Runway Object Free Area (OFA)

Standards: A/B-I (Small Aircraft) standard is 250' wide or 125' each side of runway centerline and 240' beyond runway ends. Additional gradient standards apply.

Condition: The OFA for Runway 15/33 appears to meet FAA dimensional, object clearing, and grading standards.

Runway Obstacle Free Zone (OFZ)

Standards: A/B-I (Small Aircraft) standard is 250' wide or 125' each side of runway centerline and 200' beyond runway ends.

Condition: The OFZ for Runway 15/33 appears to meet FAA dimensional and obstacle clearing standards.

Runway Protection Zones (RPZ)

In October 2012, the FAA released interim guidance regarding RPZs and incompatible land uses, with a particular focus on roads. This guidance directs airport sponsors to evaluate any planned changes to existing RPZs that introduce or increase the presence of roads in RPZs. Existing roads within RPZs are also to be evaluated during master planning to determine if feasible alternatives exist for realignment of a road outside RPZs or for changes to the RPZs themselves. The FAA Seattle Airports District Office has subsequently indicated that the primary focus of this policy is related to proposed changes to RPZs—as the result of a change to a runway end/RPZ location, approach visibility minimums, or the built items located in an RPZ. Any proposed changes in the length or configuration of the runway that changes the location of existing RPZs evaluated in this study are subject to review by FAA headquarters in Washington D.C.

Both RPZs for Runway 15/33 include incompatible land uses, as defined by FAA. These include a cemetery and two public roads that were reconfigured/constructed as part of previous FAA-funded projects.

No changes to the drivers of RPZ size or location are anticipated during the current twenty year planning period. These include current and future Airport Reference Code (ARC) designations, approach visibility minimums, and runway length requirements. Potential changes in airspace (visual or non-precision instrument, with ≥1-mile visibility) related to instrument approach development will not change the current RPZ footprints for ARC A/B-I.

FAA DESIGN STANDARDS

Runway Protection Zone (RPZ)

Standards: A/B-I (Small Aircraft) Visual RPZs and RPZs with minimum approach visibilities as low as 1-mile comprise 8.035 acres (Approach RPZ). RPZs should be owned by the Airport or under control by easement and should be clear of incompatible land uses such as roads and buildings.

Condition: Both Runway 15 and 33 RPZs extend beyond Airport property and have public roads within their boundaries. Easements have been acquired for privately owned parcels located within the RPZs. The Hurricane Creek/Pioneer Cemetery is a privately-owned inholding located within airport property. A portion of the cemetery is located in the Runway 33 RPZ. The status of easements for county roads traveling through the RPZs will be reviewed and noted on the final ALP and Exihibit A drawings.

Runway Width/Shoulders

Runway 15/33 is 60 feet wide, which meets the dimensional standard for ARC A/B-I (small) with current visual approach visibility minimums or visibility minimums not lower than ¾-mile. The existing 10-foot gravel shoulders meet standards.

As noted earlier, a turf area located between the runway and Taxiway A (between A1 an A2) is occasionally used for aircraft takeoffs and landings. The area is partially within the graded runway safety area, but is not a designated landing area. Pilots use the area at their own risk.

FAA DESIGN STANDARDS

Runway Width/Shoulders

Standards: A/B-I (Small Aircraft) standard runway width for runways with visual or not lower than 1-mile visibility is 60'. The standard is 10' for shoulders.

Condition: Existing Runway 15/33 width is 60' which meets standards. The 10' gravel shoulders meet standards.

FAA DESIGN STANDARDS

Taxiway Width/Shoulders

Standards: Taxiway Design Group 1 (TDG 1) standard width is 25' with 10' shoulders.

Condition: Existing Taxiway A width is 25' which meets standards. The 10' gravel shoulders meet standards.

Taxiway Edge Safety Margins (TESM) Standards: The TDG 1 standard is 5' per side.

Condition: Existing Taxiway A, A1-A5 meet the TESM standard for TDG 1.

TAXIWAY/TAXILANE NETWORK

Taxiways

Taxiway A and the five exit taxiways (A1-A5) are designed based on ARC A/B-I (Small Aircraft) standards. With the exception of the TOFA clearing standard for Taxiway A described later in this chapter, the taxiways meet or exceed dimensional standards.

Issues related to specific taxiway components are described below.

Taxiway A1

The configuration of Taxiway A1 and its proximity to the adjacent aircraft fueling apron has been identified for review based on current FAA design guidance (described in the sidebar).

ADDITIONAL FAA TAXIWAY AND TAXILANE DESIGN GUIDANCE

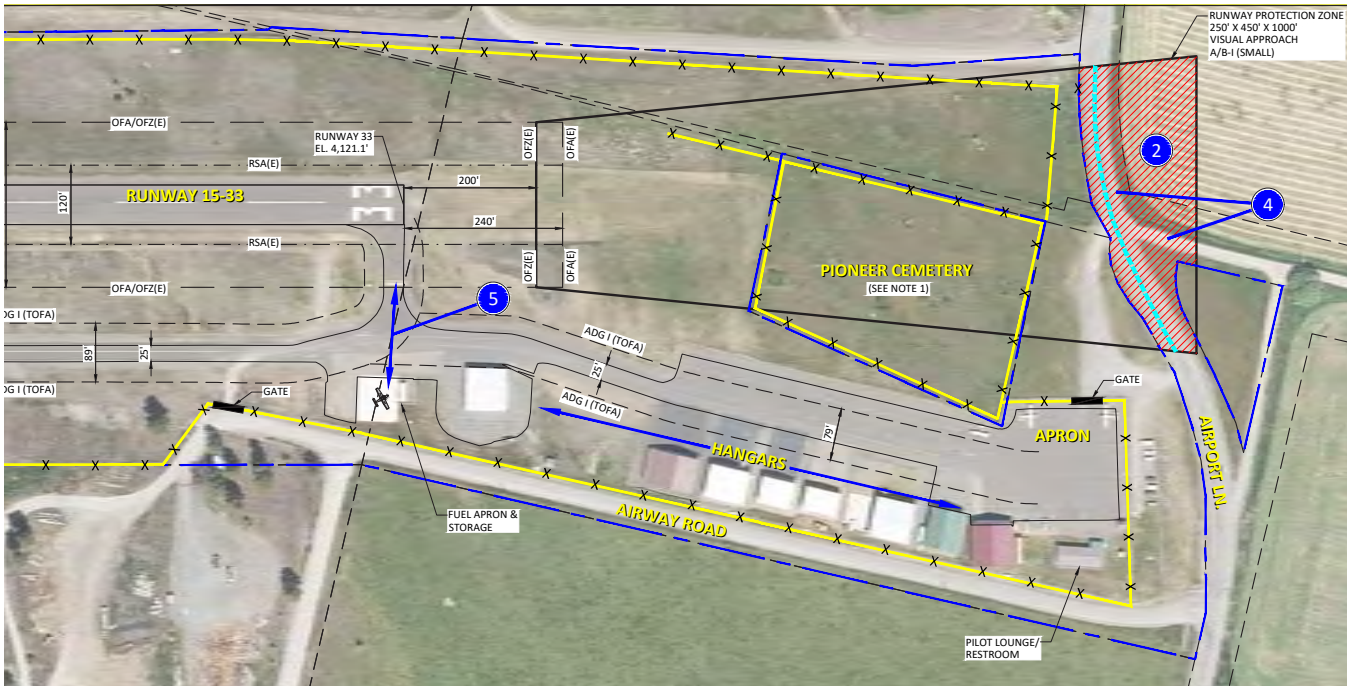
(AC 150/5300-13A, CHAPTER 4, SECTION 401. GENERAL, DESIGN METHOD)

(5) Runway Incursions.

(g) Indirect Access

Do not design taxiways to lead directly from an apron to a runway without requiring a turn. Such configurations can lead to confusion when a pilot typically expects to encounter a parallel taxiway but instead accidently enters a runway.

Condition: The existing aircraft fueling apron is located directly opposite (west) of Taxiway A1, which provides direct access to the Runway 33 threshold.



See Figure 4-2 for legend and full runway length.

South Access Taxilane

Figure 4-2, presented earlier, depicts the south apron/hangar area and the south access taxilane. The 2009 ALP depicts aircraft parking lines (APLs) on both sides of the south access taxilane with 39.5-foot setbacks from centerline. This dimension represents one-half of the 79-foot ARC A/B-I (small) Object Free Area (OFA) standard for taxilanes. The top of the tiedown "T" markings are located about 44 feet from taxilane centerline, which provides approximately 4.5 feet of clearance from the adjacent TOFA edge. It is observed that the front portion of parked aircraft may occasionally protrude across the unmarked edge of the TOFA, depending on the aircraft size or exact position when parked. The addition of an aircraft parking setback line (marking) should be considered to improve pilot recognition of the desired taxilane clearance.

Parallel Taxiway Object Free Area (TOFA)

A review of preliminary AGIS survey data indicates a narrow strip of terrain penetrates the outer edge of the ADG I taxiway object free area (TOFA) for Taxiway A, from about 150 feet north of A3 to near the end of the taxiway at A5. The sloping embankment rises 2 to 4 feet above the adjacent taxiway centerline. The 6-foot airport fence is located 50 feet from Taxiway A centerline at its nearest point and runs parallel to the taxiway. The fence and the adjacent section of Airway Road are located outside the ADG I TOFA; both are located on Airport property.





Photos: Century West Engineering

FAA DESIGN STANDARDS

Runway – Parallel Taxiway/Taxilane Separation

Standards: A /B-I (Small Aircraft) standard is 150' centerline-to-centerline separation between runway and parallel taxiway for visual runways and runways with visibility minimums not lower than ¾-mile.

Condition: Runway to parallel taxiway separation is 225 feet, except for a 175-foot section of the taxiway at its south end that angles toward the runway, reducing the runway separation to 200 feet at its nearest point. The full length of Taxiway A exceeds the defined standard for runway separation.

Taxiway Safety Area (TSA)

Standards: The ADG I standard is 49' wide, or 24.5' each side of taxiway centerline along the sides the taxiway. Additional gradient standards apply.

Condition: The existing TSA for Taxiway A and A1-A5 meets ADG I dimensional standards; grading and obstruction clearing standards to be verified with FAA-accepted AGIS data.

Taxiway Object Free Area (TOFA)

Standards: The ADG I standard is 89' wide, or 44.5' each side of taxiway centerline.

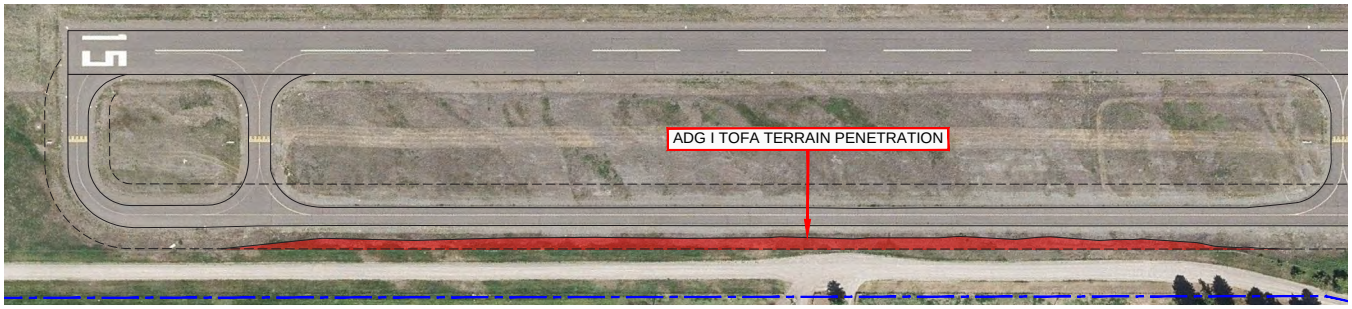
Condition: The existing Taxiway A TOFA meets FAA dimensional standards. The northern section of Taxiway A has an area of penetrating terrain, north of Taxiway A3. Overall grading and obstruction clearing standards to be verified with FAA-accepted AGIS data.

Taxilane Object Free Area (TOFA)

Standards: The ADG I standard is 79' wide, or 39.5' each side of taxilane centerline.

Condition: The existing south apron access taxilane meets FAA dimensional criteria and obstruction clearance to the adjacent tiedowns and hangars. See recommendations later in this section for compliance with taxilane clearance.

ADG I Aircraft

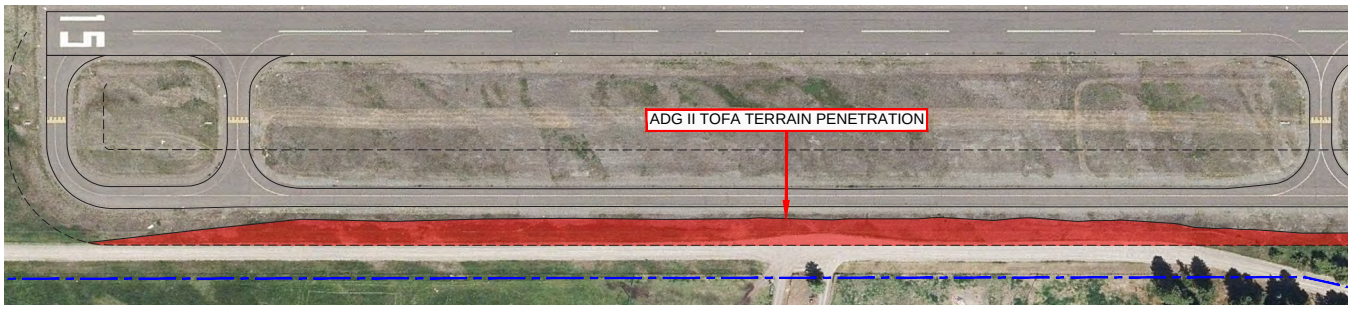


Source: Century West Engineering, 2020 AGIS survey

As noted earlier, airport management reports that some larger aircraft (primarily ADG II) bypass the north section of parallel taxiway (north of Taxiway A3) due to concerns about wingtip clearance along the taxiway's west side. Currently, landing aircraft on Runway 33 (taxiing back to parking at south end of Taxiway A) and departing aircraft on Runway 15 are affected. These aircraft use Taxiway A3 as the primary route between the north end of the runway and parallel taxiway, and back-taxi on the northern 1,750 feet the runway.

It is not known to what extent clearing the ADG I TOFA penetrations noted above will address larger aircraft use of the taxiway. The AGIS survey data indicates that the equivalent of an ADG II TOFA is obstructed along the majority of Taxiway A. The airport fence obstruction is limited to only the northern section that closely parallels the taxiway (50 feet from taxiway centerline), north of Taxiway A3. Although the Airport is not obligated to mitigate obstructions to ADG II surfaces based on its ADG I critical aircraft designations, regular use by ADG II aircraft, including medevac aircraft, suggests that the activity creates an operational issue that may need to eventually be addressed as traffic levels increase.

ADG II Aircraft



Source: Century West Engineering, 2020 AGIS survey

Taxiway Recommendations

Based on the evaluation of existing taxiways and taxilanes, the following recommendations are presented:

- The surveyed terrain obstructions within the ADG I TOFA for Taxiway A should be removed.
- Facility and/or operational options for Taxiway A should be explored for larger aircraft operations as part of the airside alternatives evaluation. Options may include, but are not limited to, improving obstruction clearance (grading, relocation of the fence, road, etc.) or restricting large aircraft use of the north section of Taxiway A in airport facility guides (FAA Chart Supplement, etc.).
- The configuration of Taxiway A1 and the adjacent fueling apron should be reviewed in the airside alternatives evaluation to address the FAA's Indirect Access standard for Runway Incursions. The relationship between the fueling apron and the runway-taxiway system should also be reviewed in the landside alternatives to determine if relocation options exist, in addition to potential changes in runway-taxiway configuration.
- The addition of "aircraft parking line" pavement markings should be considered along both sides of the South Access Taxilane to define setbacks for adjacent parked aircraft based on the 39.5' setback ADG I from taxilane centerline.

Landside Facility Requirements

Landside facilities include aircraft parking apron(s), hangars, terminal, fixed base operator (FBO) facilities, and surface access and automobile parking.

Landside facility requirements were analyzed relative to existing hangar siting, apron and aircraft parking requirements, runway access, and FAA design standards. Future facility demand is derived from the updated aviation activity forecasts presented in Chapter 3.

FAA DESIGN STANDARDS

Aircraft Parking Area

Standards: A/B-I (Small Aircraft) runway centerline to aircraft parking area standard is 125'. This dimension may be increased to account for taxiway setbacks.

Condition: All aircraft parking areas are beyond the standard runway separation requirement.

AIRCRAFT PARKING APRON

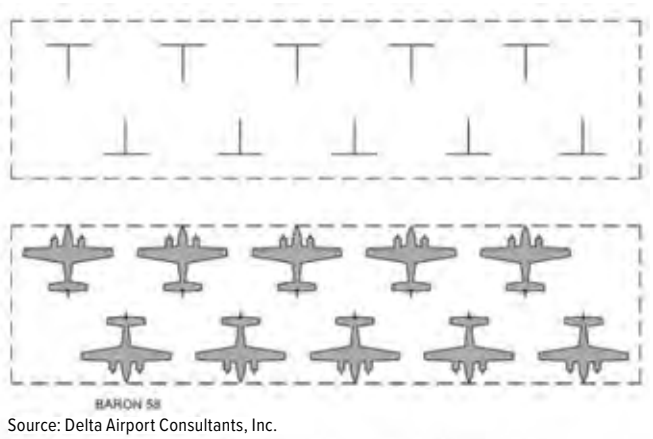
The aircraft parking apron facility requirements were analyzed relative to existing FAA apron and aircraft parking requirements analysis provided in *FAA AC 150/5300-13A, Airport Design,* and facility needs depicted in **Table 4-4: Apron and Hangar Facility Requirements**.

Based and Itinerant Aircraft Parking

The configuration of existing aircraft parking areas and tiedowns are designed to meet the ADG I taxilane object free area (TOFA) clearing standard for the access taxilane serving the Airport's south apron and hangar area.

To quantify the based and transient aircraft parking needs/requirements presented in Table 4-4, the based aircraft forecasts and average day of the peak month aviation activity forecasts were used to determine the parking spots necessary to satisfy existing and future demand.

Although not specifically defined in current FAA general aviation apron design criteria, the FAA's previous long-established planning standard of 300 square yards for each based aircraft and 360 square yards for transient aircraft was used to calculate apron



Source: Delta Airport Consultants, Inc.

Generic parking area for 10 tiedown positions (note: single tiedown row configuration used at JSY)

space requirements for long-term planning purposes. Space requirements for transient business aircraft and helicopter parking were estimated based on typical configurations. 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:

> *A5-2. General aviation apron. a. General. Aprons and associated taxilanes should be designed for the critical design aircraft and/or the combination of aircraft to be using the facility. Itinerant or transient aprons should be designed for easy access by the aircraft under power.*[2]

TABLE 4-4: APRON AND HANGAR FACILITY REQUIREMENTS SUMMARY

ITEM	BASE YEAR (2019)	2025	2030	2035	2040
Based Aircraft Forecast	12	13	15	16	18
Aircraft Parking Apron - Existing Aircraft Parking Type/Capacity					
Existing Tiedown Apron[1]	6,300 sy				
Existing Aircraft Fuel Apron[1]	470 sy				
Small & Large Aircraft Parking	19 Tiedowns				
Transient Helicopter Parking[2]	0				
Projected Needs (Gross Demand)[3, 4]					
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 Itinerant Tiedowns (@ 360 SY each)	3 spaces / 1,080 sy	4 spaces / 1,440 sy	4 spaces / 1,440 sy	4 spaces / 1,440 sy	5 spaces / 1,800 sy
Business Aircraft Parking Positions (@ 625 SY each)	1 space / 625 sy	1 space / 625 sy	1 space / 625 sy	1 space / 625 sy	1 space / 625 sy
Small Helicopter Parking Positions (@ 380 SY each)	1 space / 380 sy	1 space / 380 sy	1 space / 380 sy	1 space / 380 sy	1 space / 380 sy
Aircraft Fueling Apron	1 space / 470 sy	1 space / 470 sy	1 space / 470 sy	2 spaces / 940 sy	2 spaces / 940 sy
Total Apron Needs	**7 spaces / 2,855 sy**	**8 spaces / 3,215 sy**	**8 spaces / 3,215 sy**	**9 spaces / 3,685 sy**	**10 spaces / 4,045 sy**
Aircraft Hangars (Existing Facilities)					
Existing Hangar Units/Aircraft Storage Capacity (23,040 SF)	11 Units[5]				
Projected Needs (Net Increase in Demand) [6]					
(New) Hangar Space Demand (@ 1,800-5,000 SF per space)[7] (Cumulative twenty-year projected demand: 6 Units / 18,200 SF)		1 Unit / 2,000 sf	2 Units / 4,200 sf	1 Unit / 5,000 sf	2 Units / 7,000 sf

Source: Century West Engineering
Table 4-1 Notes:
1. Apron pavement area as defined in ODA Pavement Management Plan database.
2. No designated helicopter parking spaces; helicopter parking is accommodated within the existing apron.
3. Current and forecast demand does not include fire-related helicopters that are parked on/adjacent to parallel taxiway during emergency flight operations.
4. Apron parking demand levels identified for each forecast year represents estimated gross demand.
5. Nine (9) existing hangars including one multi-unit hangar (4 spaces/3,840 SF) and 8 small/medium conventional hangars (19,200 SF). Total hangar area is estimated at 23,040 square feet, which currently accommodate 11 aircraft. Current average hangar space per aircraft stored is 1,920 square feet.
6. Aircraft hangar demand levels identified for each forecast year represent forecast cumulative demand; assumed 95% of new based aircraft will be stored in hangars.
7. Hangar square footage approximated by type/size of aircraft and reflects existing hangar development patterns at JSY.

2 FAA AC 150/5300-13A, Appendix 5. General Aviation Aprons and Hangars

Historically, the number of based aircraft parked on the apron full time has been low, about 10 percent or less. Currently, one of the Airport's twelve based aircraft is parked on the aircraft apron (8 percent), with the remaining aircraft stored in hangars. Seasonal use of the apron increases for aircraft that may be located at the airport for extended periods. For planning purposes, it is estimated that 10 percent of future based aircraft would be parked on the apron full-time and 90 percent stored in hangars.

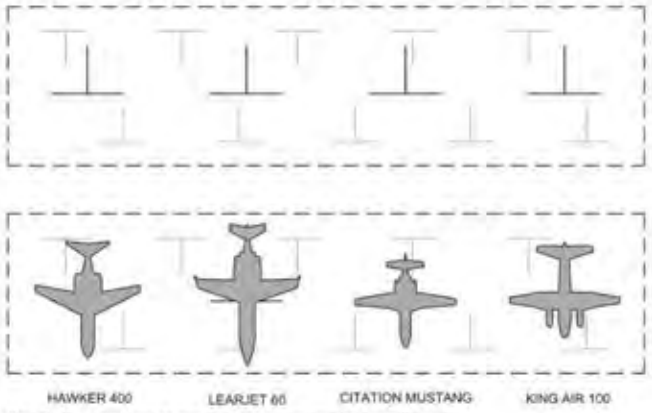
Using this ratio, it is estimated the Airport will need to provide apron parking for approximately 1 based aircraft through the 20-year planning period. The 'extended-stay' aircraft activity will be captured in higher assumed utilization during peak periods.

Transient aircraft parking needs were developed from the average peak day forecast data presented in Chapter 3 – Aviation Activity Forecasts. Transient aircraft parking requirements are estimated to be 60% of the itinerant operations of the average peak day of the peak month. Using this formula, it is estimated the Airport will need to provide parking for approximately 7 itinerant aircraft at the end of the 20-year planning period. This projection reflects normal busy days, but does not reflect demand created by events such as the annual two-day fly in or the fire related helicopter activity that is managed separately from normal aircraft parking areas.

Based on the overall demand projections, the existing 19 small aircraft tiedowns appear to be adequate to meet small airplane parking needs through the current planning period. However, the addition of specific types of aircraft parking (transient business aircraft and helicopter) should be addressed in the landside development alternatives analysis. The current use of the aircraft fueling apron to large aircraft parking should also be evaluated. It is noted that potential changes in apron configuration to accommodate different aircraft requirements may reduce current capacity. See Table 4-4 for parking requirements by aircraft type.

Business Aircraft Parking

The standard parking area layout dimensions for ADG I aircraft provided in *FAA AC 150/5300-13A, Airport Design,* would accommodate the existing design aircraft, the Airport's smaller fleet, as well as the occasional business aircraft when drive-through parking can be accomplished through the parking rows. Conceptual parking area configurations capable of accommodating larger business or medevac aircraft within small aircraft parking areas are depicted in the diagram to the right.



Note: The lighter lines depict the nested tiedown positions available for small aircraft
Source: Delta Airport Consultants, Inc.

Typical parking layout for small AC tiedown positions marked for larger aircraft.

All existing small aircraft tiedowns at Joseph State Airport are tail-in due to the narrow configuration of the aircraft apron. The result is that the useable apron area located beyond the adjacent taxilane object free area is approximately 20 feet, which is not adequate to accommodate most business class aircraft. The fuel apron is occasionally used to park business aircraft that cannot be accommodated on the south apron.

It is recommended that planning for one business/medevac aircraft parking position be included apron layout alternatives. Options may include reconfiguring the main section of the existing apron or adding new apron. The new parking position would replace use of the fuel apron for business aircraft parking. It is recommended that the business aircraft parking areas be designed to accommodate the ADG II aircraft that utilize the Airport, although the ADG I taxilane access should be adequate for limited ADG II use.

Helicopter Parking

Joseph State Airport does not have designated helicopter parking areas. Transient helicopters, including medevac helicopters normally parking on the main apron or at the aircraft fueling apron. Firefighting helicopters that operate at the Airport during fire emergencies stage their aircraft on a section of the parallel taxiway (closed by notice to airmen (NOTAM)).

It is recommended that planning for one small helicopter parking position be included apron layout alternatives.

Fire Operations Staging/Helicopter Parking

The seasonal helicopter operations managed by the US Department of Agriculture-Forest Service (USDA-FS) during emergency fire response conditions use a section of Taxiway A to park aircraft, with support equipment staging in the areas adjacent to the taxiway. As noted in the forecast chapter, fire-related helicopter activity at Joseph State Airport is expected to be maintained at current levels for the foreseeable future.



Photo: wallowalakefire.blogspot.com

USDA Forest Service operations staff responsible for dispatching aerial firefighting assets indicate that the existing facilities and operational arrangements at Joseph State Airport generally meet their current mission requirements. However, improved surface access (west side vehicle gate/road configuration) and airfield maintenance (vegetation control and mowing adjacent to runway-taxiway) were identified as current/ongoing needs.

For long-term planning purposes, the Airport may consider development of a helicopter operations area that would include parking for aircraft and staging areas for ground support. The facility would also support other local emergency response activities in Wallowa County. The development of an emergency operations area would allow Taxiway A to remain in use during active operations. Consultation with the USDA-FS is required to verify specific facility needs. Also, it is noted that the development of a new facility of this type would likely require acquisition of additional property based on existing land constraints and site topography (see **Figure 4-6**).

AIRFIELD INSTRUMENTATION, SIGNAGE, LIGHTING, AND MARKINGS

Runway & Taxiway Lighting

The runway lighting systems associated with Runway 15/33 are in good or fair condition. All existing lighting systems were installed between 1995 and 2003. Lighting systems are typically replaced every twenty years, although some systems remain reliable, serviceable, and fully functional for longer periods. For planning purposes, the assumed useful life of airfield lighting systems is twenty years. Replacement for existing systems will be included in the twenty-year capital improvement program, as appropriate.

Runway 15/33 is equipped with Medium Intensity Runway Lighting (MIRL), which consists of edge and runway threshold lights. Runway 15 is equipped with Runway End Identifier Lights (REIL). Both runway ends are equipped with Precision Approach Path Indicators (PAPI), the FAA's current standard for Visual Guidance Indicators (VGI).

The taxiways at the Airport are equipped with blue retroreflective edge markers, which appear to be adequate for current use. Heavy winter snows make plowing around edge lights and reflectors challenging and damage is common, which makes reflectors a relatively cost-effective option. However, the Airport could consider installation of Medium Intensity Taxiway Lights (MITL) if taxiway recognition at night needs to be enhanced.

It is recommended that existing runway lighting be maintained and updated accordingly based on function and operating reliability. A transition to LED lighting is recommended for future projects. Adding MITL to Taxiway A, A1-A5 is optional.

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 good or fair condition.

The existing basic/visual markings are consistent with FAA requirements for both visual approaches and non-precision instrument (NPI) approaches with circling (or circle-to-land) procedures. A future NPI approach with a straight-in procedure would require NPI runway markings (threshold and aiming point markings). It is recommended that runway markings be maintained consistent with the type of instrument approach developed for the Airport, and consistent with the ODA Pavement Maintenance Program.

Taxiway Markings

The taxiway markings at the Airport are consistent with FAA standards for color (yellow) and configuration and are considered to be in good condition. It is recommended taxiway markings be maintained consistent with the ODA Pavement Maintenance Program.

Airfield Signage

The reflective runway/taxiway hold position signs and taxiway location signs at the Airport are consistent with FAA standards for color and configuration, and they are generally in good condition. It is recommended that airfield signage be maintained and updated accordingly based on condition. Internally illuminated signage may be considered, although the durability and simplicity of maintenance for reflective signage provides significant value.



Photo: Century West Engineering

Airfield Lighting

The airfield lighting systems (airport beacon, primary wind cone, 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.

AIRCRAFT HANGARS

11 of the Airport's current 12 based aircraft are stored in hangars (92 percent). The Airport currently has 8 hangars, including 1 multi-unit hangar and 7 small/medium conventional hangars. The 8 existing hangars currently accommodate 11 based aircraft in approximately 23,040 square feet. This includes the individual spaces in the multi-unit hangar (3,840 SF) and the total storage space (19,200 SF) in the 7 conventional hangars. The local preference toward conventional hangars rather than multi-unit hangars results in a current average of nearly 2,100 square feet per hangared aircraft. It is recognized that the space allocated to aircraft storage will often be lower, particularly for maintenance hangars.

For planning purposes it is assumed that 90% of the Airport's future based aircraft will be stored in hangars with the remaining 10% parked on the apron. This will ensure that adequate apron space is available for future based aircraft demand. In effect, all of the forecast net increase in based aircraft will require hangar space and 17 of the 18 based aircraft forecast for 2040 will be hangared.

The evaluation of future hangar requirements is presented as general square footage based on common sizes and configurations of different hangar types and aircraft sizes. Demand for new hangar space (aircraft storage only) is estimated to be 6 spaces (rounded up) totaling approximately 18,200 square feet over the 20-year planning period. A planning standard of 1,800 to 5,000 square feet per based aircraft stored in hangars is used to project gross space requirements. The variation in space requirements reflects different aircraft types. As noted earlier, the current hangar area (23,040 SF) averages just under 2,000 square feet per hangared aircraft. The projected hangar storage requirements are included in **Table 4-4**, presented in the previous section.

It is recommended that space adequate to accommodate forecast demand for general aviation hangars, and 100 percent hangar development reserve be defined during the landside development alternatives process. The alternatives evaluation will define the maximum hangar development capacity within existing airport property based on required development setbacks and aircraft operational requirements. The evaluation will also define potential property acquisition options to accommodate demand that exceeds existing capacity.

GA TERMINAL/PILOT LOUNGE

The existing airport pilot lounge provides a restroom and an indoor waiting area. The building is an older double-wide mobile home that is expected to require replacement in the current planning period. The building is located near the southwest corner of the south apron. A review of the existing developable lands in the terminal area will be performed as part of the landside alternatives evaluation to identify potential hangar sites. The location, size and configuration of the pilot lounge, and its septic system will be included in that review.

It is recommended that space adequate to accommodate a replacement Americans with Disabilities Act (ADA)-accessible pilot building/GA terminal with a public restroom be defined during the landside development alternatives process.

SURFACE ACCESS AND VEHICLE PARKING

Vehicle access to Joseph State Airport is provided from Airport Lane and Airway Road.

The south airport entrance provides direct access to the vehicle parking, the apron, pilot lounge, hangars, and the Hurricane Creek/Pioneer Cemetery. The west entrance is also used to access the landside facilities, although the gravel road connects directly to the parallel taxiway, just north of the fuel apron. The configuration of the west access road and gate requires a tight turn for trucks and larger vehicles, such as USDA-FS fire support. A reconfiguration of the roadway should be considered in conjunction with the installation of a new automated vehicle gate.

It is recommended that south and west automobile access points and parking facilities be maintained and improved as required to serve developed areas of the Airport. A reconfiguration of the west access roadway should be considered in conjunction with redevelopment options for the area.

Support Facilities Requirements

Support Facilities such as aircraft fueling, security/perimeter fencing, and utilities were also examined.

FUEL FACILITIES

As described in Chapter 2 – Inventory and Existing Conditions, ODA owns one aboveground fuel tank and dispensing system. The capacity of the 100LL AVGAS tank appears to be adequate for forecast demand during the current planning period.

The recommended evaluation of Taxiway A1 and the adjacent fueling apron may affect the existing installation. It is recommended that the operational efficiency of the aircraft fueling apron and tank be preserved in the alternatives evaluation of adjacent taxiways.



Photo: Century West Engineering

UTILITIES

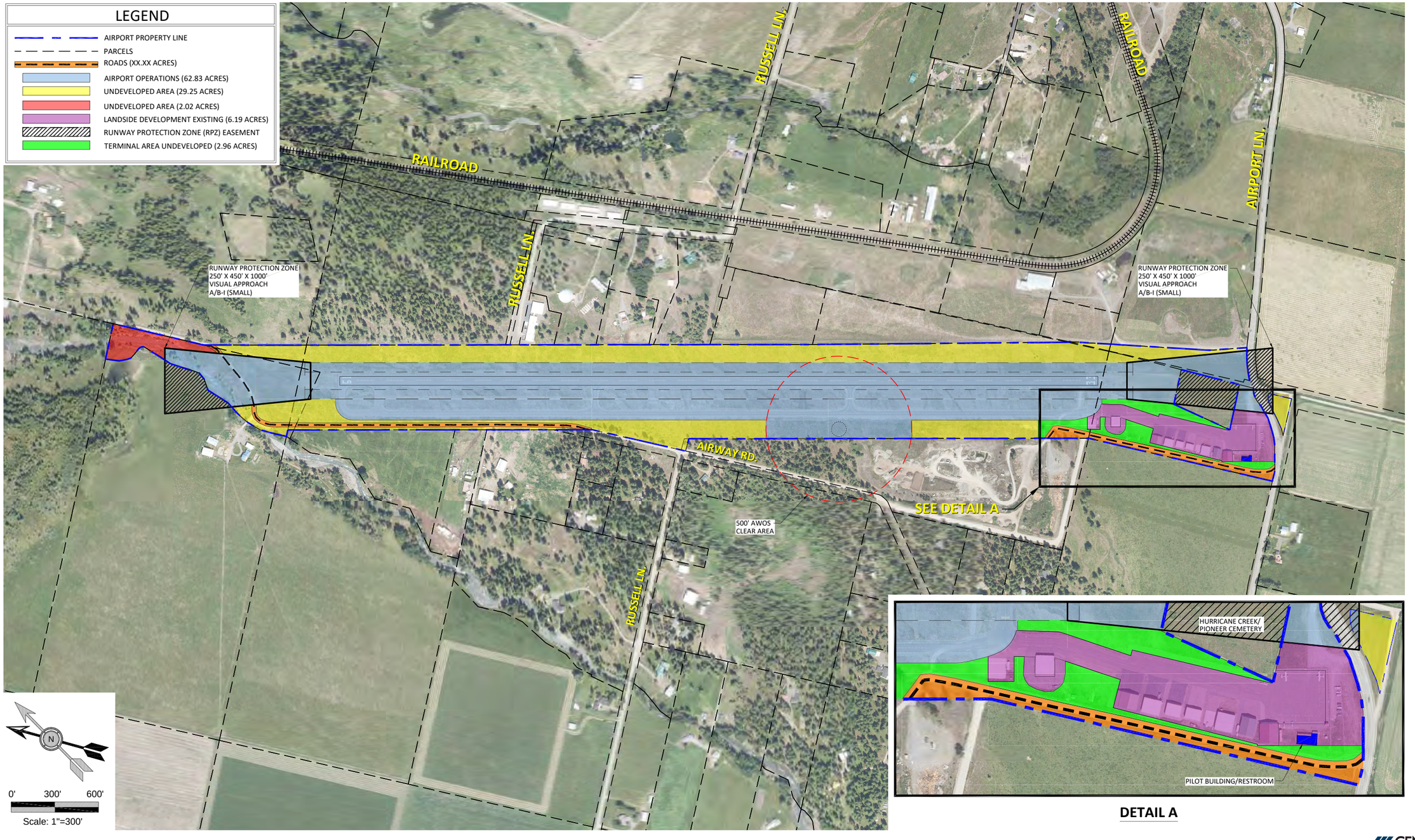
The existing airport utilities as discussed in the Inventory Chapter appear to be adequate to support future development in the landside development areas of the Airport. It is recommended the existing utilities be maintained and extended as required to accommodate new development throughout the planning period. Options for upgrading on-site water systems and storage may also be considered.

PERIMETER FENCING/GATES

The airport perimeter is fenced with 6-foot range wire fencing or chain link fencing. The majority of the fencing is located on the airport property line, although some sections extend within the airport site. The existing fencing coverage appears to be adequate for current needs, although wildlife are able to access the airfield. Options for upgrading existing fencing may be considered if animal incursions are significant.

The Airport currently has two vehicle gates. The sliding gate located adjacent to the south apron is manually operated; the gate located near the aircraft fueling apron is electrically powered, although the system does not meet FAA specifications.

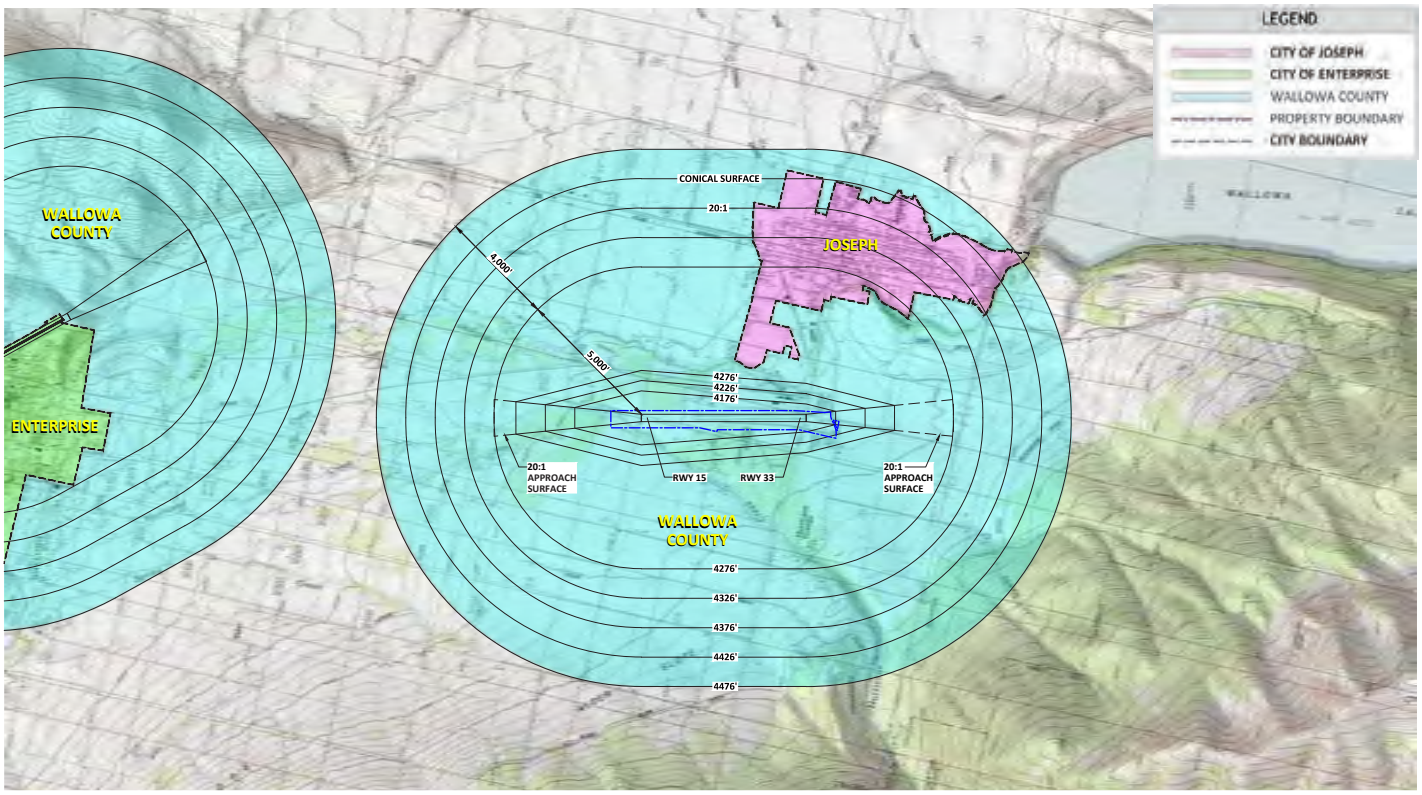
It is recommended that existing/future vehicle gates be automated (electric powered) with keypad or card-activated systems. Options for increasing animal resistance through upgraded wildlife fencing may also be considered.



DETAIL A

CENTURY WEST ENGINEERING

FIGURE 4-7: LAND USE JURISDICTION



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. **Figure 4-6**, on the previous page, illustrates the current airport site configuration, with breakouts provided for existing airside and landside development areas and country road right-of-ways.

There are several undeveloped areas on the Airport that are not highly developable due to limited surface access, topography, or proximity to environmentally-sensitive areas. The narrow configuration of the site is a significant limiting factor in the ability to accommodate additional development. The "undeveloped" land areas depicted on **Figure 4-6** are constrained by the issues noted above and required setbacks for airspace and runway-taxiway surface protections. These areas will be examined during the alternatives evaluation to identify potential opportunities to accommodate improvements.

The existing M-1 (Industrial) zoning for the parts of the Airport capable of supporting landside development (hangars, aircraft parking, etc.). While the M-1 zone is not airport-specific, it has not prevented any proposed aeronautical land uses from being approved by Wallowa County. Local officials indicate that an update to the existing zoning at Joseph State Airport may be considered in the future to provide a more traditional airport zone that accommodates both primary aeronautical land uses and complimentary support functions such as aviation-related commercial uses, such as aircraft maintenance and related services. This type of change in zoning will not adversely affect the ability of the Airport to accommodate future demand for aviation-related facilities.

OFF-AIRPORT LAND USE

Wallowa County has land use jurisdiction for the Airport and its immediate surroundings; however, some of the Part 77 surfaces for Runway 15/33 extend over the Joseph city limits and urban growth boundary. **Figure 4-7** illustrates local land use jurisdictions in the vicinity of Joseph State Airport.

The review of Wallowa County Airport Overlay Zoning provided in Chapter 2 did not identify any known off-airport land use compatibility issues. Avigation easements for both runway ends previously acquired by ODA will be reviewed in conjunction with the updates to the Airport Layout Plan and Exhibit "A" Property Plan drawings.

To continue ensuring airport land use compatibility, it is recommended that ODA work with Wallowa County and the City of Joseph to develop a mitigation plan, as needed, to remove or mitigate any FAR Part 77 surface obstructions identified in the 2020 AGIS survey and referenced on the updated FAR Part 77 Airspace Plan. A primary focus will initially be related to mitigation of obstacles that affect future instrument procedures.

No changes in runway configuration are anticipated, however if any changes are made to the FAR Part 77 airspace surfaces for Runway 15/33, local ordinances should be updated for consistency.

Summary

Because of the significant investment in airfield facilities at Joseph State Airport made by ODA and FAA over the last twenty years, the projected facility needs for the current twenty-year planning period at are comparatively minor. With only minor expectations, all major airfield components meet or exceed FAA design standards for small aircraft included in ADG I and TDG1.

Recommended improvements include developing instrument capabilities for the runway, accommodating demand for new hangars, providing for different aircraft parking needs, maintaining existing airfield pavements, and satisfying FAA design standards. Facility improvements for fire related aircraft operations at the Airport will be also evaluated as an alternative to the current use of Taxiway A for aircraft parking during emergency fire operations.

The updated forecasts of aviation activity anticipate modest growth in activity resulting in similarly moderate airside and landside facility demands beyond existing capabilities. The existing airfield facilities can accommodate the forecasted increase in activity, with targeted facility improvements. For the most part, the need for new or expanded facilities, such as aircraft hangars, will be based on actual demand. The non-conforming items noted within this chapter can be addressed systematically during the current planning period to improve overall safety for all users.

Preliminary airport development alternatives will be presented in Chapter 5 to evaluate different options capable of meeting forecast demand, in addition to identifying any development constraints that exist. The process of Planning Advisory Committee (PAC) review of the preliminary alternatives will allow ODA to define and refine the preferred alternative for the master plan and develop a viable implementation strategy.

Chapter 5

Alternatives Analysis

The evaluation of future development alternatives represents a critical step in the airport master 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 master plan. Preliminary alternatives will be reviewed by the local master plan Planning Advisory Committee (PAC), assembled by the Oregon Department of Aviation (ODA), the Airport owner. Refined alternatives will be developed based on input provided to ODA by the PAC, airport users, and the general public. The final preferred alternative elements will be selected by ODA for incorporation into the Airport Layout Plan (ALP). All project elements are consistent with the requirements of the Federal Aviation Administration (FAA).



Photo Credit: Cindy Sloan

Introduction

As noted in the facility requirements evaluation, current and long-term planning for Joseph State Airport is based on maintaining and improving the Airport's ability to serve a range of general aviation aircraft. Existing facilities accommodate a wide variety of aircraft types including conventional fixed-wing and rotary-wing aircraft. This unique mix of aircraft activity requires facility improvements capable of accommodating demand, while maintaining safety for all users. Existing airfield facilities generally meet or exceed FAA Airplane Design Group (ADG) I and Taxiway Design Group (TDG) 1 standards. Minor non-conforming items identified in the facility requirements assessment will be addressed in the appropriate airside or landside development alternatives.

It was also noted in the facility requirements chapter (see Figure 4-6) that the remaining developable land within the current Airport boundary is limited. All existing landside development (aircraft fueling, parking, hangars, etc.) is located in the southwest corner of the Airport. The narrow configuration and topography of the site does not allow significant new landside development directly adjacent to the runway or parallel taxiway. As a result, future landside development options within the current airport property boundary will be limited to in-fill or redevelopment of existing uses. The remaining on-airport building capacity is not adequate to accommodate demand significantly beyond the current twenty-year planning period forecast.

Options for locating landside development outside current airport property will be presented as functional concepts for consideration only. Property owner contact has not been initiated at this stage of evaluation. If the off-airport development concepts are supported for further evaluation by the PAC, ODA will initiate contact with affected property owners to begin assessing the feasibility of development and implementation.

1993 AIRPORT MASTER PLAN

As noted earlier, the primary focus of the previous airport master plan was expansion of the airport footprint, realignment/vacation of existing county roads, reconstructing and extending the runway to 5,200 feet, and adding a parallel taxiway. Each of these improvements were constructed within ten years.

The recommended landside improvements included new hangar taxilanes, hangar sites, FBO facilities, and auto parking on the west side of the runway—the majority of which were to be sited within the City of Joseph owned "triangle" land parcel. The conceptual development was located near the south end of the parcel, requiring approximately 7 acres of property to be acquired (identified as potential City of Joseph donation). Much of the proposed development area overlapped with an active gravel pit located on the parcel. The master plan evaluation did not provide significant detail about converting the gravel pit into a developable site for hangar development and the estimated project costs assumed only nominal site grading. The extent of the fill requirement was not detailed. However, a review of historical aerial photography appears to indicate that the gravel pit has expanded and deepened since the mid-1990s. The current depth and footprint of the gravel pit would make redevelopment significantly more challenging and costly that previously estimated.

As noted earlier in the master plan, ODA opted to focus its landside improvements at the south end of the Airport. This approach was considered to be more realistic to meet near-term needs given the significant investments required elsewhere on the Airport. The 2009 update of the ALP drawing continued to depict future acquisition of a portion the parcel and new hangar development.

Assessment: The future development of hangars on the City of Joseph parcel located adjacent to the Airport's west side should continue to be considered to accommodate long term hangar demands that exceed current airport capacity. It is recommended that any proposed development be refined to avoid the adjacent gravel pit to the greatest extent possible, to be concentrated at the south end of the parcel. The development of hangars or other facilities along the west side of Taxiway A may be considered, although the natural terrain is not favorable and would require significant terrain removal to avoid FAR Part 77 transitional surface penetrations along the runway. The natural terrain in this area resulted in the Taxiway A being constructed elevated slightly above the runway, just outside the primary surface.

Evaluation Factors

Table 5-1 summarizes the primary demand factors and corresponding facility needs that will be evaluated in the alternatives analysis. Individual facility development reserves are defined as 100 percent of the net based aircraft forecast to account for uncertainty in predicting demand for new hangars and aircraft parking.

TABLE 5-1: SUMMARY OF DEMAND FACTORS AND FACILITY DEVELOPMENT NEEDS – JOSEPH STATE AIRPORT

Item	Defined Facility Needs in Current 20-year Planning Period
Forecast Increase in Based Aircraft	• Facility Planning Metric: +12 Aircraft (requiring hangar and apron storage) » +6 Aircraft (20-year forecast – net increase above current total) » +6 Aircraft (development reserve – 100% of forecast increase)
Runway-Taxiway System	• FAR Part 77 Airspace (Visual or Non-Precision Instrument Runway Designation) » Dependent on preferred instrument approach procedure » Both designations can accommodate a non-precision instrument approach, but will support different procedure types (straight-in or circling) » A change in runway designation may affect existing runway-taxiway facilities and adjacent landside facilities • No change in runway width or length recommended
Aircraft Storage Hangars	• 20-year demand (forecast and reserve): 12 Hangar Units (New Construction)
Commercial Hangars	• Identify development space within landside areas (market driven, not reflected in storage hangar demand projection)
Pilot / Mixed Use Building	• Identify building development space within landside areas (replacement of existing structure) and consider options for adding public mixed use functions
Transient Large Airplane Parking	• 1 Position +1 Reserve
Transient Helicopter Parking	• 1 Position +1 Reserve
Aircraft Fueling Facilities	• Existing fueling apron access to Taxiway A and A1 requires modification; fuel apron relocation may be required if runway designation changes to Non-Precision Instrument (NPI)

Development Alternatives Analysis Process

The preliminary alternatives will focus primarily on the improvements needed to obtain an instrument approach for the Airport; accommodate future development of aircraft hangars, aircraft parking, and support facilities; and maintain compliance with all applicable FAA standards. Options include reconfiguration or expansion of existing on-airport development areas and identifying proposed new off-airport development areas.

Airport development challenges to be resolved include:

1. Determine the best instrument approach option available that balances landside facilities development with the approach capabilities and airspace requirements for the runway.
2. Identify the highest and best use of available on-airport landside capacity.
3. Consider if future development of off-airport landside facilities is feasible or desirable.

PRIMARY ELEMENTS

The primary elements required to meet the facility requirements and goals include:

- Runway 15/33
  - » New Instrument Approach - Feasibility Analysis: Preliminary FAA technical analyses indicate developing a Non-Precision Instrument (NPI) approach appears to be feasible, if close-in obstructions can be mitigated. Two NPI options are identified based on the FAR Part 77 designation for the runway. (Preliminary analysis by FAA):
  - » FAR Part 77 Runway Designation Options:
    - **Maintain Visual Runway Designation**, which will support an NPI approach with a circling procedure to the Airport (with higher approach minimums)
    - **Upgrade Runway Designation to Non-Precision Instrument**, which will support an NPI approach with a straight-in procedure to Runway 15 (with lower approach minimums)
    - Define FAR Part 77 NPI airspace surface dimensions
    - Evaluate NPI impact on development setbacks for runway (will affect existing and future items)
- Parallel Taxiway
  - » Evaluate airspace-driven and design standards items:
    - Primary surface obstruction mitigation (NPI runway designation only)
    - Object Free Area (TOFA) obstruction removal

SECONDARY ELEMENTS

The secondary elements required to meet the facilities and goals have further narrowed secondary landside evaluation elements. They include:

- Hangar and Aircraft Parking Apron Development & Reconfiguration
  - » Evaluate development setback constraints for existing and future development (built item and parked aircraft airspace clearances)
  - » Aircraft parking/tiedown apron reconfiguration (based on different aircraft types and adjacent hangar development)
  - » New hangar sites (infill and expansion in existing areas; consider new development areas)
  - » Pilot building replacement (maintain or expand existing function to include mixed use)
  - » Utility extensions to support development
  - » Vehicle parking
  - » Access roads (on and off airport)
  - » On/Off airport development issues

Developing effective alternatives for evaluation represents the first step in a 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 master planning process. The updated ALP will depict the preferred alternative recommended in the master plan.

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 is able to 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 Inventory 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, ODA will seek public input and coordination with the PAC and FAA to shape the preferred alternative.

Once the preferred alternative is selected by ODA, 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, minor roadway extensions 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
- Airside Alternatives (Improvement Options – Figures 5-3 to 5-5)
  - » Instrument Approach Options
  - » Runway and Taxiway Improvements
- Landside Alternatives:
  - » Alternatives 1A/1B – South Apron Alternatives (Figure 5-6)
  - » Alternatives 2A/2B – West Hangar Development (Figure 5-7, 5-8)
  - » Alternatives 3A/3B – East Hangar Development (Figure 5-9, 5-10)
  - » Alternatives 4A/4B – Fuel Apron (Figure 5-11)

The preliminary development alternatives described below and illustrated in **Figures 5-3 through 5-11** are intended to illustrate the key elements of each proposed concept. It is important to note that the eventual preferred alternative selected by ODA 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, ODA has the option of limiting future facility improvements based on financial considerations or development limitations.

It is recognized that the West and East 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, ODA 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 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 accommodate aviation demand beyond current facility capabilities, including the addition of instrument approach capabilities. Future aviation activity would be constrained by the capacity, safety, and operational limits of the existing facilities. In addition, the absence of new facility development effectively limits the airport sponsor’s ability to increase revenues and operate the Airport on a financially sustainable basis over the long term.

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. 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.

Based on the factors noted above, the No-Build Alternative is inconsistent with the management and development policies established by ODA and its commitment to provide a safe and efficient air transportation facility to serve the surrounding areas that is socially, environmentally, and economically sustainable.

AIRSIDE DEVELOPMENT ALTERNATIVES

Overview

Airside facilities include the runway, taxiways, lighting, etc. The airside planning evaluations at Joseph State Airport are primarily focused on items related to the proposed addition of an instrument approach. The addition of instrument capabilities at the Airport is identified as a high priority need, considered essential to accommodate medical evacuation (medevac) flights in all-weather conditions. These operations are currently limited to visual flight rules (VFR) conditions.

The addition of instrument approach capabilities at the Airport may affect the FAR Part 77 airspace requirements for Runway 15/33 depending on the runway's airspace designation. A change from the current “visual” runway designation to “non-precision instrument (NPI)” will increase the dimensions of some airspace surfaces and may trigger runway or parallel taxiway improvements. In addition, the required airspace protections for the runway may affect existing and future landside development (hangars, aircraft parking, etc.) at the Airport. These issues are addressed in the following sections for airside facilities, and later in the chapter for landside facilities.

Instrument Approach Development

At the outset of this project, ODA contacted the FAA and requested an assessment of instrument approach feasibility for Joseph State Airport to be conducted in conjunction with the Airport Master Plan. The FAA’s Western Flight Procedures Team (TWSE) Operations Support Group evaluated the “rough feasibility” of available approach procedures for the Airport. **The TWSE study established basic feasibility for a non-precision instrument (NPI) approach[1] at Joseph State Airport using the Global Positioning System (GPS) platform.**

1 Non-precision instrument (NPI) procedures provide electronic azimuth (course) navigation without vertical guidance. Pilots are responsible for maintaining mandatory altitudes during the approach and missed approach segments of the procedure.

The FAA identified two different options for developing a non-precision instrument (NPI) approach for Joseph State Airport:

- **Option 1** creates a circling approach to the airport environment
- **Option 2** creates a straight-in approach to a fixed point near the north end of the runway (Runway 15) that is closely aligned with the runway centerline

Option 1 provides an approach to the airport environment (referred to as a circling procedure). Option 2 provides an approach to Runway 15 (referred to as a straight-in procedure). Based on area terrain and airport site conditions, the most feasible inbound/outbound paths for instrument procedures at Joseph State Airport are located north of the Airport and Runway 15/33. The preliminary analysis indicates that both instrument approach options are feasible for the Airport, assuming that identified close-in penetrating obstacles are adequately mitigated.

The TWSE procedure analyst provided the following information:

"The following is a very rough estimate on what straight in minimums may be able to achieve. Though, as a precaution during your decision making process on whether to pursue, I would expect that the straight-in minimums will be effected by the terrain directly south of the airport. Due to the terrain, either a non-standard missed approach climb gradient will be required, an increase in the straight-in minimums, movement of the missed approach point, or a combination of all three. As of right now and again I must stress, this is very early and unlikely to be the final result but I do not expect there to be a drastic difference."

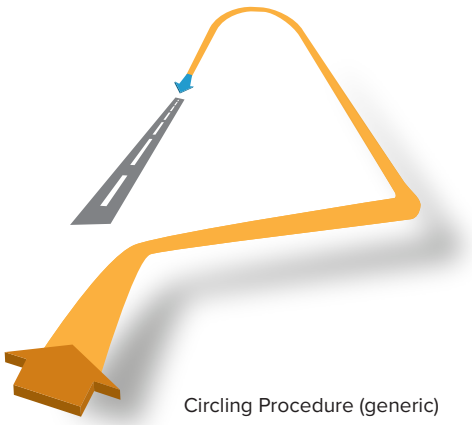
TABLE 5-2: JSY NON-PRECISION INSTRUMENT APPROACH MINIMUMS (ESTIMATED BY FAA)

RNAV (GPS) 15	CAT A	CAT B
LNAV (Straight-in)	4720-1 615 (700-1)	4720-1 615 (700-1)
Circling	5140-1 ¼ 1019 (1100- 1 ¼)	5660-1 ½ 1539 (1600- 1 ½)

Note: Table 5-2 presents the same sequence of numbers for each approach type/category. LNAV procedure used as example: the first number listed [4720-1 615 (700-1)] is the minimum descent altitude for the aircraft in feet above mean sea level (MSL). The second number listed [4720-1 615 (700-1)] is the minimum visibility required for the procedure to be authorized (data from on-airport weather observation system) measured in statute miles. The third number listed [4720-1 615 (700-1)] is the aircraft height above the runway end or airport, at the missed approach point, measured in feet above ground level (agl). These numbers correspond to the Joseph State Airport elevation (4,121 feet msl) or the Runway 15 end elevation (4,063 feet msl). The final numbers listed [4720-1 615 (700-1)] are descent altitude and visibility requirements for military use only

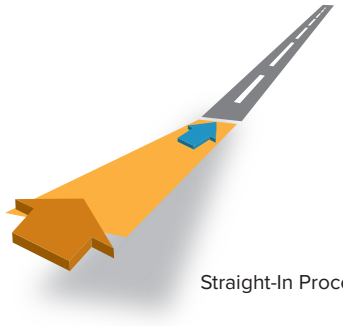
The example LNAV (Lateral Navigation) approach listed in **Table 5-2** provides two options for a new non-precision instrument (NPI) approach: a straight-in procedure to Runway 15 and a circling procedure to the Airport.

A circling NPI procedure directs aircraft electronically toward the airport environment, where the pilot must establish and maintain visual contact and choose a runway end for landing. Since the final segment of the approach to the runway end is not electronically guided, only visual approach surfaces are required. Circling procedures typically require higher approach minimums to accommodate aircraft maneuvering to the available runway ends for landing. No changes to the current 'visual' airspace defined for Runway 15/33 or the runway markings are required to support an NPI circling instrument approach procedure.



Circling Procedure (generic)

A straight-in NPI procedure directs the aircraft electronically toward the designated runway end, where the pilot must establish and maintain visual contact with the runway for landing. Straight-in procedures generally permit aircraft to descend lower to the ground near a specific runway end, but require larger areas of protected airspace near the runway to maintain adequate aircraft separation from obstacles. A straight-in NPI approach requires non-precision instrument (NPI) airspace (FAR Part 77) and markings be established for the runway.



Straight-In Procedure (generic)

Source : Century West Engineering

Although each type of approach has its advantages, both meet the basic goal of establishing a functional instrument approach for the Airport. Therefore, both of the approach options represent an improvement over the Airport's current visual approach capabilities. While lower approach minimums are always desirable, it is important to note that more demanding instrument procedures require larger FAR Part 77 airspace surfaces immediately surrounding the runway. The tradeoff between lower approach minimums and the impact on existing/future facilities (hangars, aircraft parking, etc) presents a significant challenge for any airport owner.

Life Flight Network, the primary medevac provider serving Wallowa County, was contacted by ODA to provide input on the potential instrument approach options identified by FAA. The general opinion is that both the straight-in and the circling instrument procedures will meet their operational requirements. Based on their operating experience in the valley, Life Flight indicates that the weather and visibility[2] conditions in the vicinity of Enterprise will be a primary factor affecting their ability to land at Joseph State Airport, given either approach would likely route traffic from the north. Perhaps more important than obtaining lower approach minimums is the ability to access the Airport during both daytime and night time conditions. Either procedure must be capable of supporting night time use to provide the required 24-hour emergency access to the Airport. As indicated by the FAA, the ability to support night operations is dependent on meeting the obstacle clearance requirements defined for the specific procedure.

Additional technical information related to instrument approach development and the associated impacts on airport facilities is provided in **Appendix E**.

Master Plan Evaluation

A two-fold evaluation is needed to fully understand benefits and tradeoffs of available instrument approach options within the overall airport master plan. A side-by-side comparison of the options shows a significant difference in approach capabilities (how low the aircraft can descend when approaching the airport) and minimum visibility required for the approach. Lower is better, but it usually comes at a cost in terms of development restrictions surrounding runways. This is the case at Joseph State Airport, which is currently developed to operate exclusively in visual conditions.

The second consideration is how each approach type would impact facilities on the ground.As noted above, the instrument approach option that provides the best approach minimums also requires larger protected airspace surrounding the runway. The expanded airspace surfaces may impact the runway/taxiway system itself, and existing/planned landside facilities. Alternatively, the instrument approach option that provides higher minimums can be accommodated with the existing airspace defined for Runway 15/33. This option does not impact existing facilities or planned facility development differently than the visual development setbacks currently defined for the runway.

The airspace-related factors are evaluated for specific airside facilities, and for each of the preliminary landside alternatives. These and other related elements are described below.

2 In addition to meteorological conditions, Life Flight Network indicates reduced visibility during the summer months as a result of wildfire smoke.

Instrument Approach Development – Impacts On Airport Facility Development

Table 5-3 summarizes several features and development issues related to the development of both the straight-in and circling non-precision instrument (NPI) approaches being considered for Joseph State Airport.

TABLE 5-3: RUNWAY 15/33 – COMPARISON - NPI APPROACH OPTIONS BENEFITS/DEVELOPMENT ISSUES

Item	NPI – Circling Procedure Option 1	NPI – Straight-in Procedure Option 2
Instrument Approach Minimums (Estimated)	1 ¼ to 1 ½ miles visibility required; 1019 to 1539 feet minimum descent altitude (above airport)	1 mile visibility required; 615 feet minimum descent altitude (above runway end)
Primary Surface Width	No change in existing dimension (250 feet)	Increases primary surface width to 500 feet (the wider surface would capture the existing parallel taxiway penetrations noted below)
Primary Surface Penetrations	No change No existing or future primary surface penetrations. The existing taxiway/ taxilane are located outside of the 250-foot wideprimary surface.	Approximately 75% of the existing parallel taxiway and 200 feet of the south access taxilane sit higher than the adjacent runway and would penetrate the wider primary surface. FAA indicates that this would need to be addressed to meet standards. Mitigation options include reconstruction of the parallel taxiway (lowering) or the runway (raising) to mitigate the primary surface obstruction.
Transitional Surface Penetrations	No change No existing or future transitional surface penetrations	3 of 8 existing hangars would penetrate the shifted transitional surface (due to wider primary surface) and require mitigation. Obstruction lighting would be proposed for near- term mitigation. Removal of a penetrating structure would be assumed at the end of the useful life. Any replacement hangars would not be permitted to penetrate the transitional surface. The existing aviation fuel storage tank would penetrate the shifted transitional surface and require mitigation. Obstruction lighting would be proposed for near-term mitigation. Removal/relocation of the tank would be assumed at the end of its useful life.
South Apron Buildout to Capacity (See Alternatives 1A and 1B)	No impact to 8 existing hangars (see South Apron Alternative 1A) +7 hangars (new) +1 Pilot/Mixed Use Building (new) +1 Large AC parking position	3 existing hangar sites (decommissioned at end of useful life) (see South Apron Alternative 1B for conflicts) +5 hangars (new) +1 FBO /Pilot Building (new) +0 Large AC/Helicopter parking positions Fuel tank relocation and fueling apron required
Horizontal and Conical Surface Outer Dimensions and Penetrations	No change	No change

Figure 5-1 illustrates the FAR Part 77 primary surface widths (250 feet and 500 feet) that would be applied to Runway 15/33 for the visual and non-precision instrument runway designations. The current Runway 15/33 primary surface is 250 feet wide. This horizontal plane of airspace is level with the runway centerline at its nearest point and cannot be penetrated by terrain or built items.

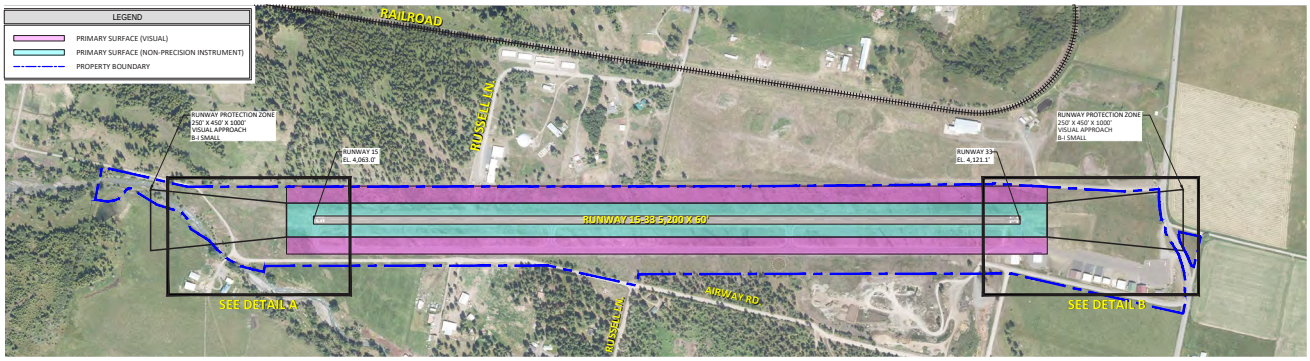
An increase in primary surface width also shifts the starting point of the adjacent 7:1 transitional surface that slopes outward and upward from the primary surface. Shifting the transitional surface outward from the runway will affect the obstruction clearance for objects to the sides and beyond the ends of the runway, including structures, parked aircraft, etc.

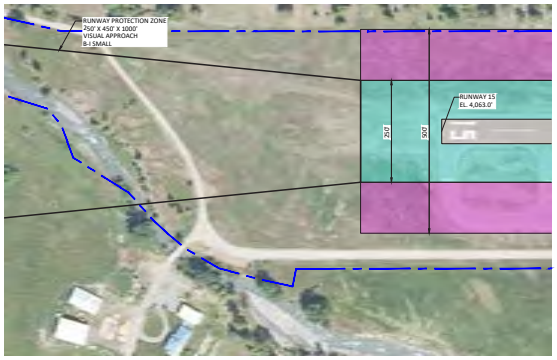
A comparison of visual and non-precision instrument airspace constraints will be provided for each of the preliminary landside alternatives presented later in the chapter. Although conditions vary by location, an expansion of Part 77 surfaces for Runway 15/33 will generally reduce the landside development capacity within the existing airport boundary and require additional setbacks for any potential off-airport development.

While existing facilities such as hangars are often permitted to remain if the obstruction is lighted, the FAA generally expects the structure to be removed at the end of its lease or useful life. The FAA encourages roadways that penetrate Part 77 airspace (obstructions caused by traveling vehicles) to be relocated to eliminate the obstruction. New hangars would need to be sited to avoid airspace penetrations.

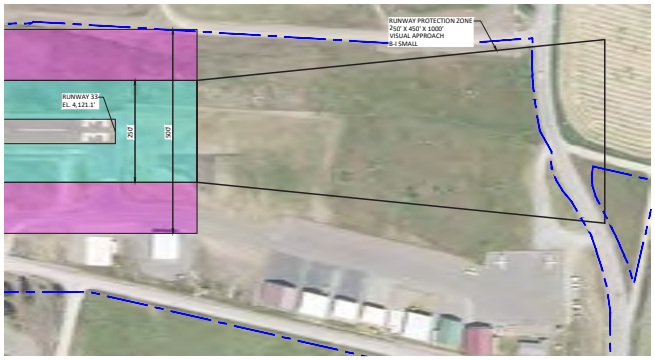
A 125-foot lateral shift of the 7:1 transitional surface slope created by the wider primary surface will reduce vertical clearance by 17.86 feet (125/7 = 17.86) at any point within the transitional surface. For example, the Quad hangar located near the north end of the Airport's hangar area (building visible in Detail B near corner of the primary surface) does not penetrate the existing visual transitional surface, but would penetrate the expanded NPI runway transitional surface by nearly 18 feet.

FIGURE 5-1: VISUAL AND NPI PRIMARY SURFACE FOOTPRINTS FOR RUNWAY 15/33





SEE DETAIL A



SEE DETAIL B

RUNWAY–TAXIWAY IMPROVEMENT OPTIONS

All existing runway and taxiway dimensions meet or exceed the Airplane Design Group I (ADG I) standards. The existing 5,200-foot runway length meets the FAA standard for small aircraft with fewer than 10 seats for local site conditions (airfield elevation and mean maximum temperature in hottest month). No changes are recommended to the existing runway length.

The parallel taxiway object free area (TOFA) obstruction clearance issue identified in the Facility Requirements Chapter will be addressed as a maintenance item and is not expected to require an alternatives evaluation. The direct runway access identified for the existing fuel apron and Taxiway A1 will be addressed in the evaluation of landside development alternatives.

As noted earlier, the straight-in instrument approach option requires increasing the runway primary surface width to 500 feet. The parallel taxiway (Taxiway A) is outside the current 250-foot wide visual runway primary surface, but would be located within the expanded NPI runway primary surface. Taxiways are permitted within the primary surface footprint, although they are not permitted to penetrate the surface itself. A review of AGIS survey data indicates that about 75 percent of Taxiway A is elevated above the runway, with a maximum excess elevation of 3.59 feet near its south end. **Figure 5-2** depicts the areas of the taxiway (shown in red) that would penetrate the NPI primary surface, if applied to Runway 15/33. The FAA confirms that a taxiway penetration to a runway primary surface would need to be addressed to meet standards. Similar impacts affecting existing and future landside developments are addressed in the preliminary landside alternatives evaluations, later in the chapter.

FIGURE 5-2: NPI RUNWAY PRIMARY SURFACE PENETRATION (EXISTING PARALLEL TAXIWAY)



Two runway-taxiway mitigation options are available to address the potential NPI runway primary surface obstruction:

1. Lower the parallel taxiway to eliminate the primary surface penetration
2. Raise the runway to elevate the primary surface above the parallel taxiway

No runway-taxiway mitigation is required if the current Visual runway 250-foot wide primary surface is maintained to support development of a circling NPI approach procedure.

Figure 5-3 depicts the reconstruction of Taxiway A and the northern section of the south apron taxilane. The amount of primary surface penetration varies along the length of the runway, but is 3.59 feet at its maximum. The taxiway mitigation option would require excavation and full pavement reconstruction to effectively lower the taxiway below the corresponding runway elevation. Changing the parallel taxiway elevation will also require reconstruction of the exit taxiway connections to maintain FAA design gradient standards.

Figure 5-4 depicts the reconstruction of Runway 15/33 and its five exit taxiways. This alternative reconstructs the runway to elevate it above the parallel taxiway. The exit taxiway connections would also be reconstructed with this alternative.

The impacts of expanded FAR Part 77 airspace surfaces on adjacent facilities (hangars, aircraft parking, etc.) are addressed in the landside development alternatives, presented later in the chapter.

Weighing the tradeoffs between lower approach minimums and the cost of reconfiguring existing and future airfield facilities presents a significant challenge for ODA. These factors will be carefully considered when ODA ultimately selects its master plan preferred development alternative.

FIGURE 5-3: RECONSTRUCTION TAXIWAY OPTION (NPI RUNWAY)

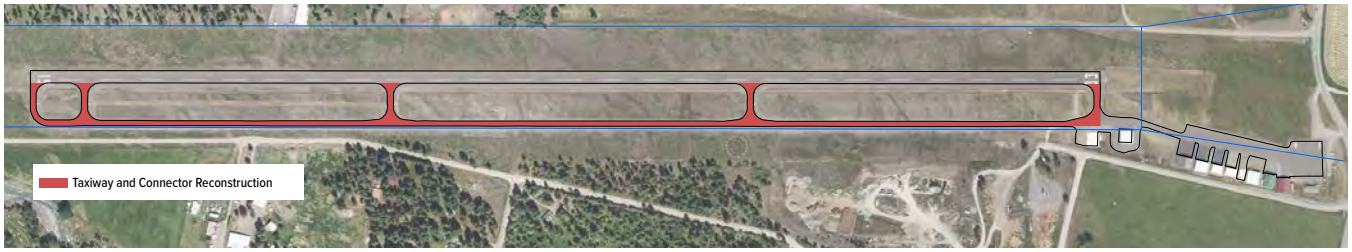
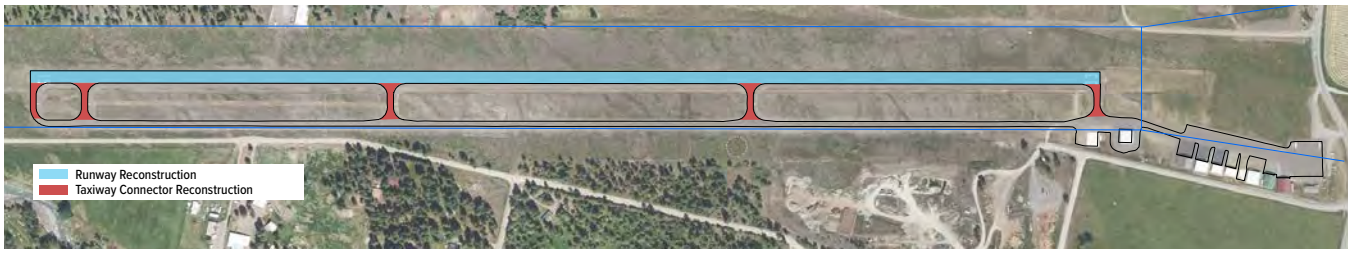


FIGURE 5-4: RECONSTRUCTION RUNWAY OPTION (NPI RUNWAY)



East Parallel Taxiway Reserve

The development of a parallel taxiway on the east side of Runway 15/33 has been identified as a potential long term need, if future aeronautical development is pursued on the east side of the runway. For planning purposes, a taxiway development reserve has been included in the preliminary east landside development options presented later in the chapter. During preliminary discussions on the concept, the FAA indicated that funding development of a second parallel taxiway on Runway 15/33 would be unlikely based on current and forecast air traffic. Depicting a taxiway reserve is recommended to define the required setbacks for any planned or proposed aeronautical/ non-aeronautical development east of the runway. **Figure 5-5** depicts the east parallel taxiway reserve, utilizing the existing 225-foot runway separation that exists for Taxiway A. The exit taxiway connections located near mid-runway are designed to avoid “high energy” runway crossings in the middle third of the runway, per FAA design guidance.

FIGURE 5-5: EAST PARALLEL TAXIWAY (DEVELOPMENT RESERVE)



Alternative Turf Landing Area

Based on recent direction provided by FAA, an evaluation to formally establish an alternate turf landing area at the Airport will not be performed. FAA indicates that internal discussions related to developing a policy for alternate operating areas (AOA) are ongoing. In the absence of formal FAA policy, the FAA has requested that the issue not be included in the master plan alternatives analysis and any such area not be depicted on the Airport Layout Plan. The FAA will not comment on the existing informal use of the grass-surfaced area between Runway 15/33 and Taxiway A.

LANDSIDE DEVELOPMENT ALTERNATIVES

Overview

The landside planning evaluations are intended to identify options for meeting the net twenty-year demand forecast for based aircraft and projected transient aircraft parking demand, plus development reserves equal to roughly 100 percent of the forecast demand. The primary new landside facility needs include aircraft hangars and aircraft parking for larger fixed wing aircraft and helicopters. The 19 existing small airplane tiedowns exceeds long-term forecast parking demand for locally-based and transient aircraft parking and may be modified or reduced in some options to accommodate other aircraft needs.

Based on forecast demand, it appears that available on-airport landside capacity will be exhausted near the end of the current planning period, or shortly thereafter. Once existing capacity is exhausted, the Airport will be unable to accommodate new landside development without additional land area. Based on this assessment, the evaluation of landside alternatives includes both an evaluation of on-airport areas and the potential development of facilities outside current airport property ownership.

Four preliminary landside development options are presented:

- Alternative 1 (Figure 5-6) focuses on the south apron and hangar area;
- Alternative 2 (Figure 5-7 and 5-8) focuses on an adjacent parcel of property currently in City of Joseph ownership;
- Alternative 3 (Figure 5-9 and 5-10) focuses on an adjacent parcel of property currently in private ownership; and
- Alternative 4 (Figure 5-11) focuses on proposed modifications to the existing aircraft fueling apron.

The impacts associated with the potential change in airspace described in the airside development alternatives section are applied to the landside alternatives as sub-options. Alternatives 1-3 (A and B) depict proposed facility layouts compatible with both the current visual and the alternate non-precision instrument (NPI) airspace surfaces. As noted earlier, both airspace categories will support NPI approach procedures, although the approach minimums differ. Alternative 4 proposes modifications to the existing fuel apron to address FAA design standards and is compatible with the current visual airspace only; the fuel apron and storage tank would need to be relocated if the runway is upgraded to NPI.

The alternatives address both improvements to existing on-airport facilities and potential development of new facilities off airport property. Options for locating landside development outside current airport property present functional concepts for consideration only. Property owner contact has not been initiated at this stage of evaluation. If the off-airport development concepts are supported for further evaluation by the master plan PAC, ODA will initiate contact with affected property owners to assess the feasibility of development and implementation.

The FAA recommends that airport master plans be initially developed in an “unconstrained” manner, rather than establishing pre-defined limits that drive the planning process. The evaluation of development alternatives for the Airport is unconstrained, consistent with FAA guidance, forecast demand, and the defined facility requirements. Determinations of feasibility for accommodating future airport development beyond existing airport boundaries will be evaluated as the preliminary alternatives are refined.

LANDSIDE ALTERNATIVE 1 – SOUTH APRON DEVELOPMENT

The **South Apron Development - Alternatives 1A and 1B (Figure 5-6)** maximize the development of new hangar sites within the existing south apron area. All proposed development is clear of the adjacent Runway Protection Zone (RPZ) and is contained entirely on airport property.

Alternative 1A provides an optimized layout that is fully compatible with the current visual airspace defined for Runway 15/33. The layout provides space for seven additional conventional hangars, a new pilot building, parking for transient large aircraft and helicopters, and auto parking. The existing pilot building is assumed to be replaced and relocated. The site will accommodate an expanded building that could incorporate multi-function (mixed use) community space. The proposed site is also airspace-compatible with a 2-story building.

Reconfiguration of the south apron is also proposed to better accommodate parking for large transient fixed-wing aircraft (including medevac aircraft) and helicopters. The proposed reconfiguration reduces the number of existing small airplane tiedowns (to be phased out as new development occurs). However, the remaining number of small airplane tiedowns exceeds future demand projection.

Alternative 1B retains the same layout as Alternative 1A, for the purpose of illustrating the elements that are not compatible with the more demanding NPI airspace. Due to the narrow configuration of the south apron area, a second NPI-compatible layout was not created. Alternative 1B assumes the NPI airspace will eliminate the ability to develop two hangars sites and new large aircraft parking (shown in red) at the north end of the development area. The northern three small airplane tiedowns would also be eliminated due to airspace penetration for parked aircraft. Unrelated to apron redevelopment, but related to NPI airspace clearances, is a realignment of a section of Airway and Juniper Roads to eliminate a penetration that would be caused by vehicles traveling on the public roadway. It is noted that the vehicle/roadway penetration will exist if NPI airspace is applied to the runway, regardless of proposed hangar development.

Alternative 1A, as presented, is capable of accommodating the twenty-year forecast demand for hangar space, although the area does not provide enough space for the defined development reserve. The new development capacity in Alternative 1B is limited by the more-restrictive NPI airspace for Runway 15/33. In addition, several existing facilities may be identified for eventual removal, including existing hangars and tiedowns, further reducing aircraft storage capacity on the airport.

Table 5-4 summarizes the key features of Landside Alternatives 1A and 1B.

TABLE 5-4: ALTERNATIVE 1A/1B FEATURES

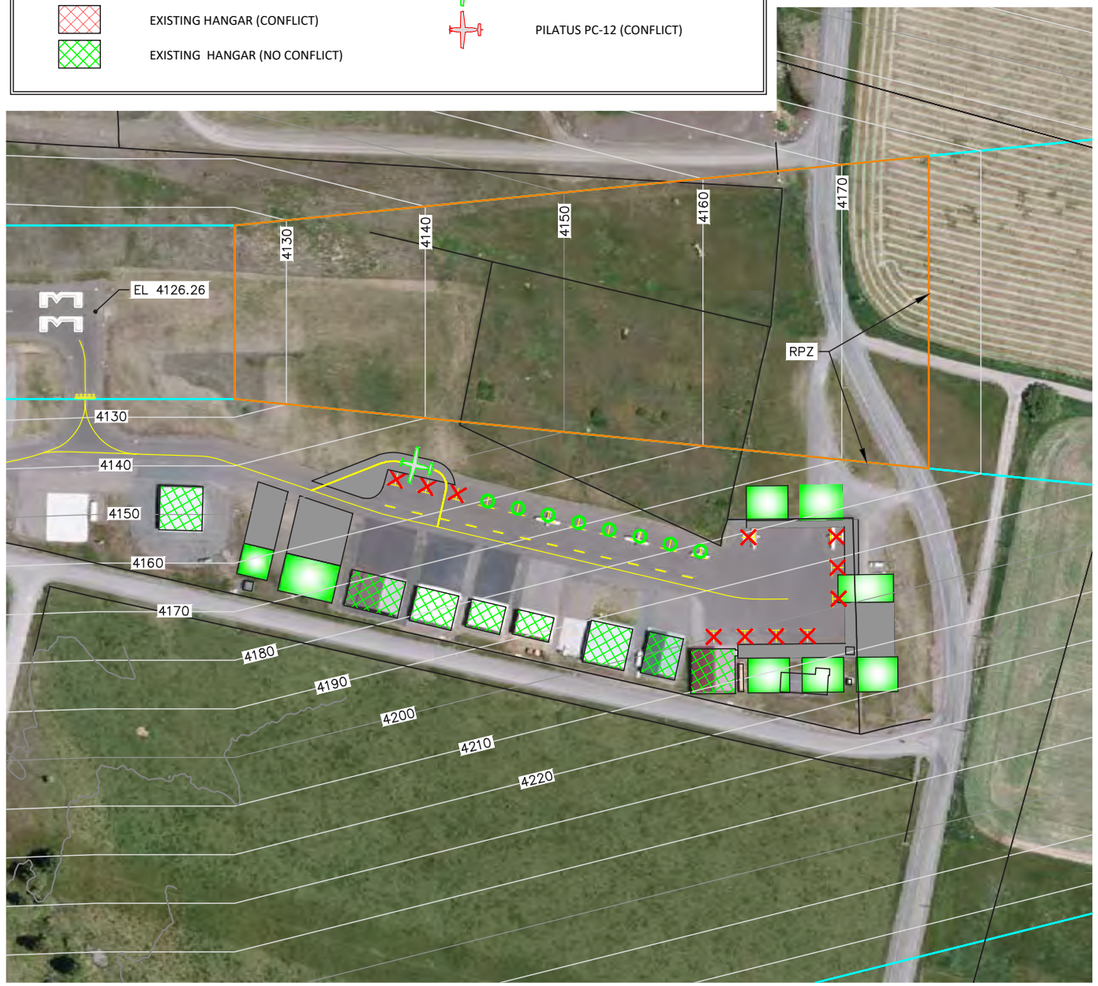
Development Features	Alternative 1A	Alternative 1B
Transient Aircraft Parking (large aircraft and helicopters)	Expanded area at north end of apron with taxilane clearances for 1 or 2 drive-through parking positions in order to accommodate multiple transient large aircraft, such as the Pilatus PC12 (ADG II); apron also accommodates transient helicopter loading/unloading	Locate short term loading/unloading position at south end of main apron North expansion of apron not compatible with airspace
Small Airplane Tiedowns (19 existing)	8 (-11 to provide access to new hangars or expanded aircraft parking)	8 (-3 due to transitional surface penetration with or without apron redevelopment; -8 to provide access to new hangars or expanded aircraft parking)
New Conventional Hangar Sites	7	5
T-Hangar Sites	0	0
Existing Hangars / Hangar Units with Airspace Conflicts (including multi-unit hangar) Requiring Mitigation	0 hangars / 0 units[1]	3 hangars / ≈6 units[1]
Pilot Building Replacement	Yes (relocated to south end of main apron)	Same
Vehicle Parking and South Gate Replacement	Yes (relocated to south end of main apron)	Same
Hangar Capacity: New Hangar Units / Forecast Net Demand (20 years)	7/6 (117%)	5/6 (83%)
Hangar Capacity: New Hangar Units / Forecast Net Demand + 100% Development Reserve (20 years)	7/12 (58%)	5/12 (42%)

1. Assumes one aircraft stored per conventional hangar

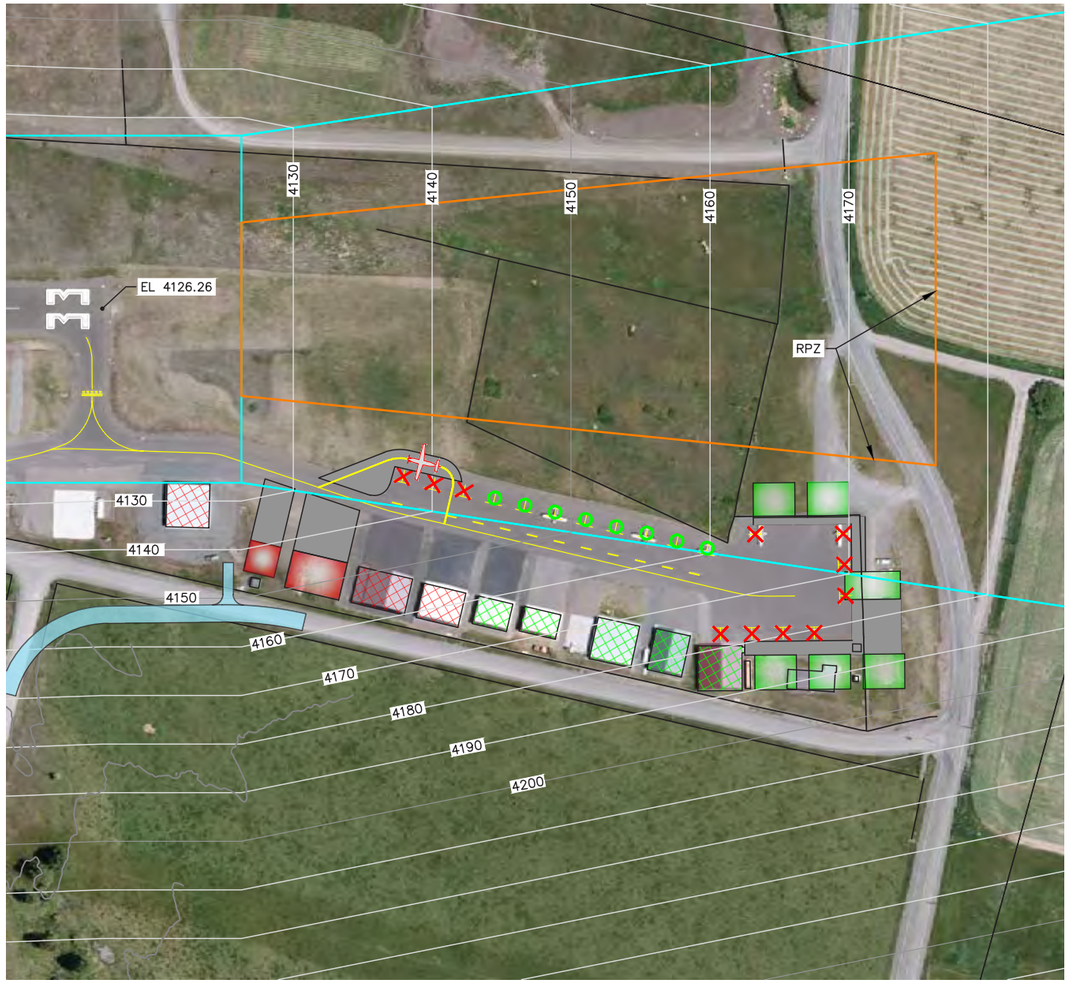
FIGURE 5-6: ALTERNATIVE 1A & 1B
SOUTH APRON ALTERNATIVES

LEGEND

- PROPOSED HANGAR (CONFLICT)
- PROPOSED HANGAR (NO CONFLICT)
- PROPOSED ASPHALT PAVEMENT
- PROPOSED ROAD REALIGNMENT
- EXISTING HANGAR (CONFLICT)
- EXISTING HANGAR (NO CONFLICT)
- TIEDOWN (REMOVE)
- TIEDOWN (NO CONFLICT, TO REMAIN)
- RUNWAY PROTECTION ZONE
- PART 77 AIRSPACE
- PILATUS PC-12 (NO CONFLICT)
- PILATUS PC-12 (CONFLICT)



ALTERNATIVE 1A - EXISTING, VISUAL AIRSPACE



ALTERNATIVE 1B - PROPOSED NON-PRECISION INSTRUMENT AIRSPACE

LANDSIDE ALTERNATIVE 2 – WEST SIDE HANGAR DEVELOPMENT

The **West Side Hangar Development - Alternatives 2A and 2B (Figures 5-7 and 5-8)** provide additional hangar development capacity on a land parcel immediately adjacent to the airport. The proposed development site is located adjacent to Taxiway A near the south end of the runway. Alternatives 2A and 2B provide the same hangar layout with three conventional hangar sites and one 8-unit T-hangar, for a total of 11 hangar units. New access taxilanes connect the hangar development area to Taxiway A, north of the existing fuel apron. The overall development area is approximately 3 acres (zoned M-1), currently in City of Joseph ownership.

Alternative 2A is based on the current visual airspace designation for Runway 15/33; Alternative 2B incorporates the more demanding NPI airspace for Runway 15/33. No changes to the hangar layout are required in Alternative 2B. However, the corner of Airway and Juniper Roads is realigned to eliminate an airspace penetration that would be caused by vehicles traveling on the public roadway. It is noted that the vehicle/roadway penetration will exist with upgraded (NPI) airspace, regardless of whether the proposed hangar development is pursued.

A new west vehicle gate is located south of the existing Quad hangar to replace an existing vehicle gate. A second gate is recommended near the west end of the proposed hangar area. The new gates are intended to provide controlled access to existing and planned landside facilities and eliminate the existing direct vehicle access to Taxiway A.

Apron expansion is depicted north of the existing fuel apron, which accommodates additional large aircraft or helicopter parking (Alternative 2A) or a relocated fuel apron (Alternative 2B). Alternative 2B illustrates the items (existing fuel storage tank and three existing hangars) that would penetrate the NPI transitional surface for Runway 15/33. The proposed relocation of the fuel tank would mitigate that obstruction; mitigation for the existing hangars would be determined in consultation with FAA.

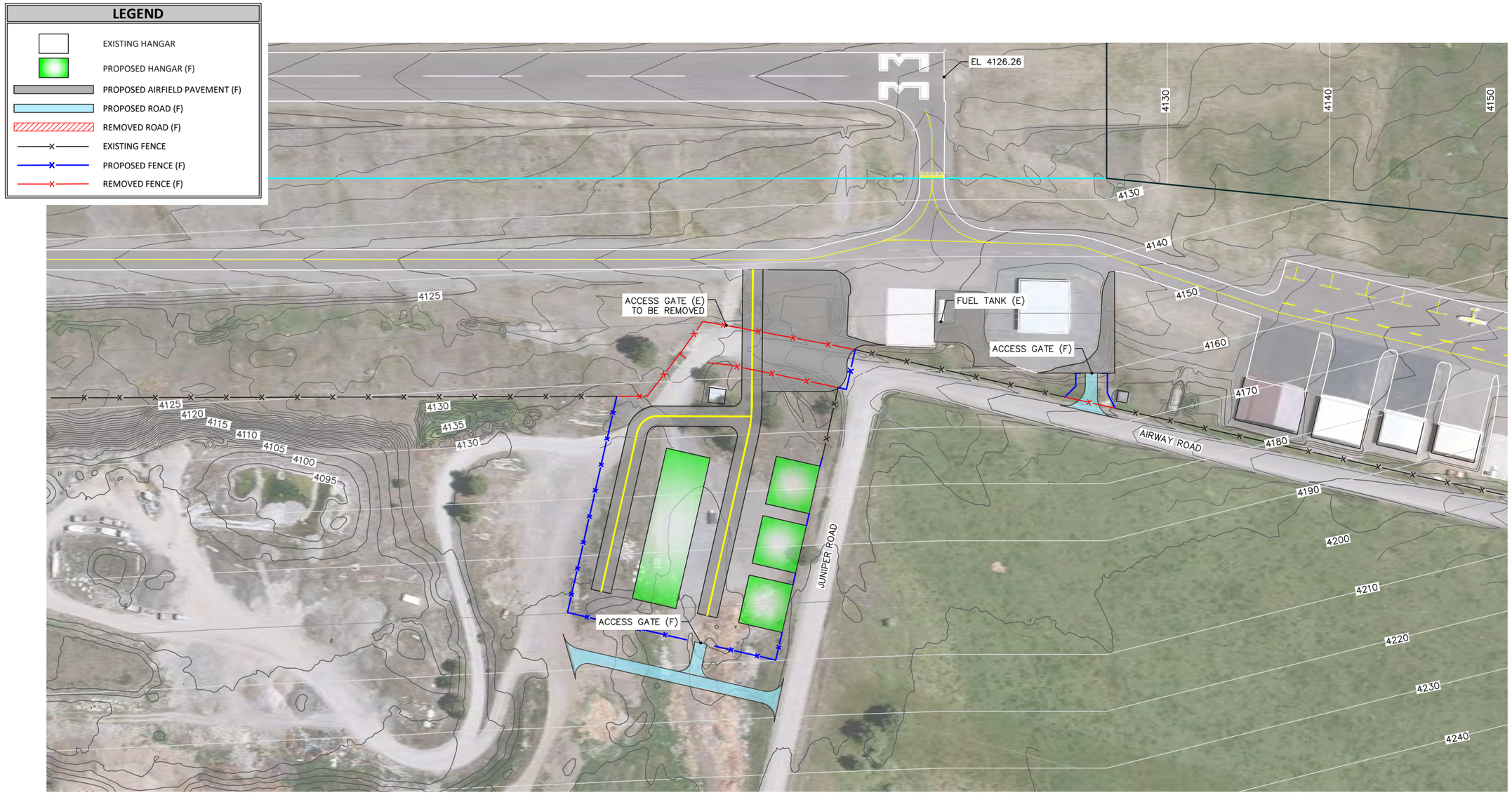
The City of Joseph land parcel currently accommodates a solid waste transfer station and an active extraction operation in the adjacent gravel pit. The proposed aeronautical development provides a refined version of the future hangar development depicted on the current FAA-approved Airport Layout Plan (ALP). The refined concept reorients the hangar rows to parallel Juniper Road and shifts the development south to abut the road. This configuration avoids the sloping terrain to the north leading to the entrance to the gravel pit. All existing land use functions at the south end of the parcel are maintained with the proposed addition of aeronautical facilities. The transfer station is shifted to the parcel's southwest corner, although it could be located elsewhere within the City parcel, or elsewhere in the community.

New surface access is proposed beyond the west end of the hangar rows to replace the existing access at the southeast corner of the parcel. The new access is intended to connect to existing south/east pit access and also serve a relocated transfer station.

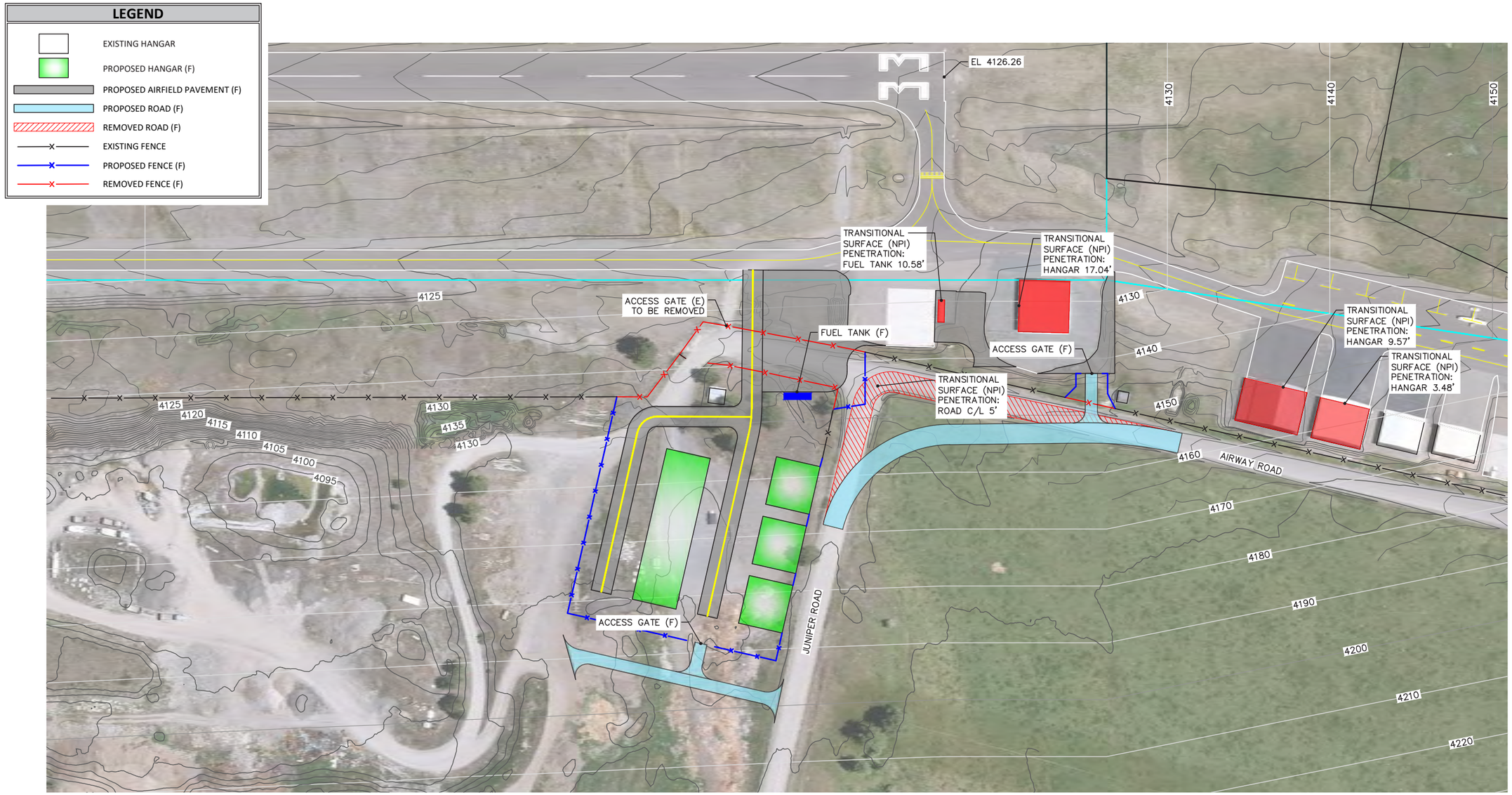
Table 5-5 summarizes the key features of Landside Alternatives 2A and 2B.

TABLE 5-5: ALTERNATIVE 2A/2B FEATURES

Development Features	Alternative 2A	Alternative 2B
New Conventional Hangar Sites	3	Same
T-Hangar Units	8	Same
Fuel Apron	Maintain existing apron	Relocate fuel tank, construct new fuel apron
Taxilanes	Hangar access taxilane connection to Taxiway A with 2 stub taxiways	Same
Airport Gates	Relocation and replacement of existing west vehicle gate; second west gate (new hangar access) * Eliminates direct access road connection to parallel taxiway	Same
Airport Roads	New access roads (relocated vehicle gate and replacement access to parcel)	Same
Public Roads Impacts	None	Realignment of public roadway section to mitigate NPI transitional surface penetration (corner of Airway Road and Juniper Road)
Site Development Issues	Grading and drainage	Same
Off-Airport Site Requirements	Approximately 3 acres	Same + ROW for public road realignment
Land Use/Zoning	No change to existing M-1 zoning	Same



ALTERNATIVE 2A - WEST SIDE HANGAR DEVELOPMENT AREA - FAR PART 77 (VIS) AIRSPACE



ALTERNATIVE 2B - WEST SIDE HANGAR DEVELOPMENT AREA - FAR PART 77 (NPI) AIRSPACE

LANDSIDE ALTERNATIVE 3 – EAST SIDE HANGAR DEVELOPMENT

The **East Side Hangar Development - Alternatives 3A and 3B (Figures 5-9 and 5-10)** provide additional hangar development capacity on a portion of the former mill site located immediately adjacent to the airport. The proposed hangar development site is located on the east side of the runway, near its south end. The conceptual aviation-related development area is approximately 10-12 acres, which is a portion of overall site. The parcel is privately owned (zoned R-2) and was for sale at the time of this evaluation. The current owner has completed a series of industrial site remediation projects in coordination with the Oregon Department of Environmental Quality (DEQ) and has indicated that there are no known unresolved environmental issues.

The conceptual development includes adequate setbacks to develop an east parallel taxiway (see East Parallel Taxiway Reserve - Figure 5-5). Developing a second parallel taxiway on Runway 15/33 would be a low funding priority based on current and forecast air traffic levels. It is also recognized that development of the northern section of the parallel taxiway would involve significant environmental challenges associated with adjacent resource lands. However, establishing the appropriate setbacks for either aeronautical or non-aeronautical development preserves the ability to add full or partial-length sections of taxiway, as needed.

The parallel taxiway development setback also ensures that the proposed hangars do not penetrate either the visual or NPI airspace, as depicted in Alternatives 3A and 3B. If east side hangar development is pursued, taxiway access between the runway and the hangar area would initially be limited to a single point, as depicted at the Runway 30 connection with Taxiway A1.

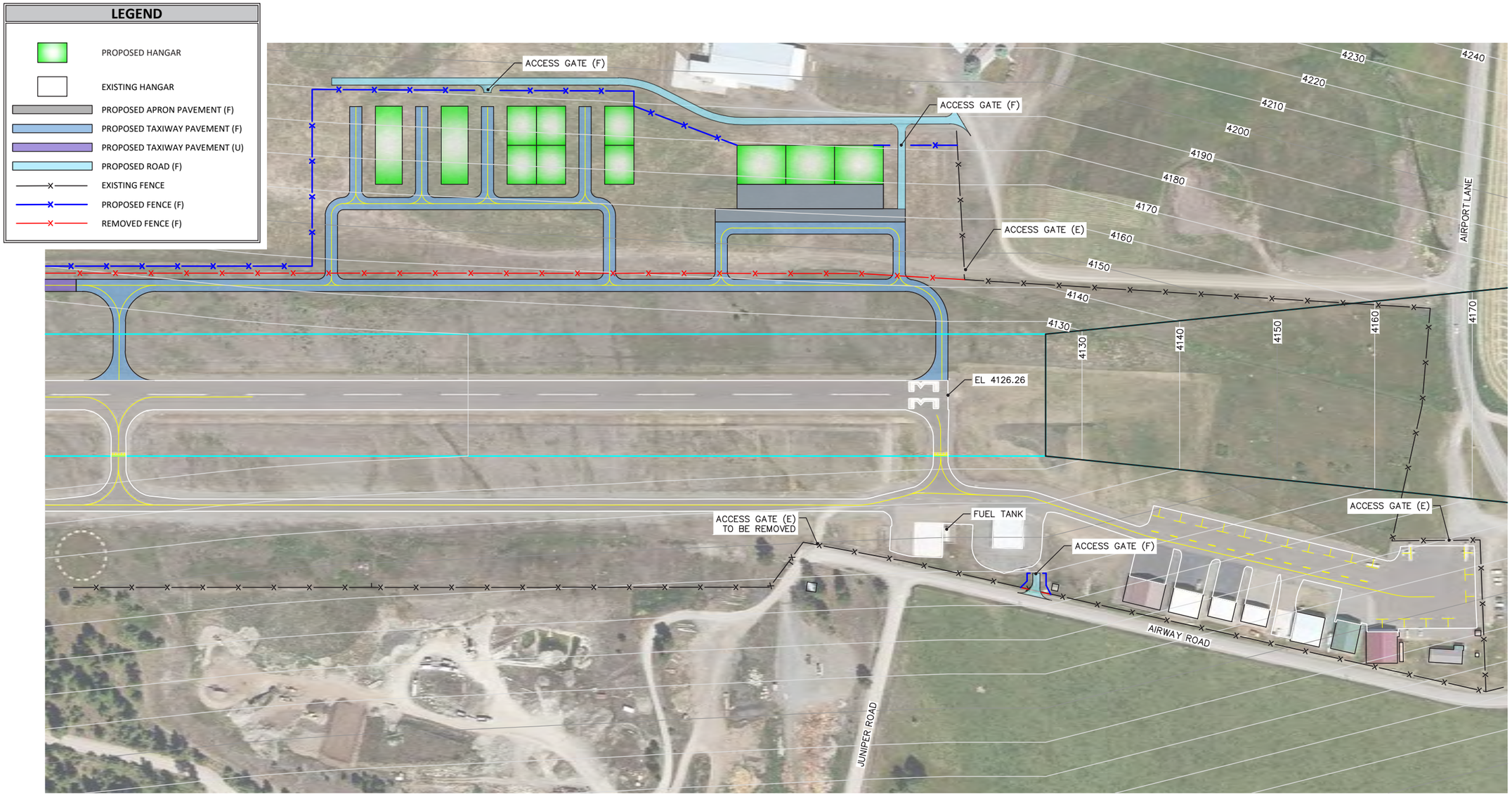
Alternatives 3A/3B provide identical layouts with sites for six conventional storage hangars and two 8-unit T-hangars, for a total of 22 hangar units. It is important to note that this capacity could be reduced or increased significantly if the mix of individual and multi-unit hangars is changed by market demand. In addition to the aircraft storage hangars, three commercial hangar sites with apron are provided at the south end of the development. These sites are appropriate for commercial aeronautical service providers, or for tenants requiring large conventional hangar space.

An extension of the existing road within the site is required for Alternatives 3A and 3B to access the new hangars. Alternative 3B also includes a realignment of a section of existing access road within the site to avoid penetrating the NPI approach surface for Runway 30. The existing public road connection (to Airport Lane) is maintained in both alternatives.

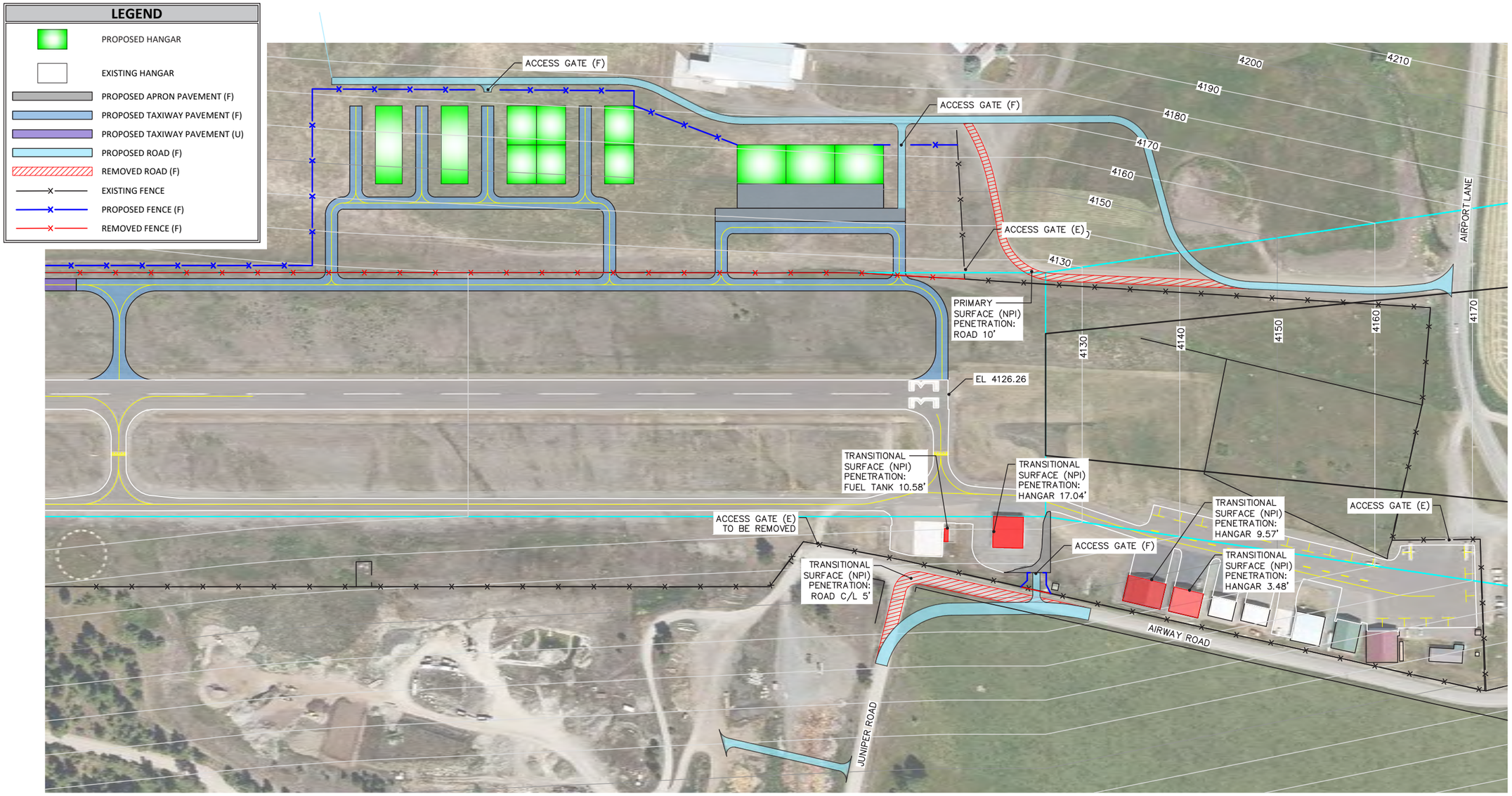
Table 5-6 summarizes the key features of Landside Alternatives 3A and 3B.

TABLE 5-6: ALTERNATIVE 3A/3B FEATURES

Development Features	Alternative 3A	Alternative 3B
New Conventional Hangar Sites	6 Storage 3 Commercial	Same
T-Hangar Units	16	Same
Taxiways	Access taxiway connection with runway and east parallel taxiway reserve	Same
Taxilanes	Hangar access taxilane connections to runway with 4 stub taxiways	Same
Airport Roads	New access roads and vehicle gate within site	Same Realign existing private road within site to avoid Runway 30 approach surface penetration
Public Roads Impacts	None	None
Site Development Issues	Grading and drainage Previous mill site remediation	Same
Off-Airport Site Requirements	Approximately 10-12 acres	Same
Land Use/Zoning	Change in existing R-2 zoning may be required	Same



ALTERNATIVE 3A - EAST SIDE HANGAR AREA - FAR PART 77 (VIS) AIRSPACE

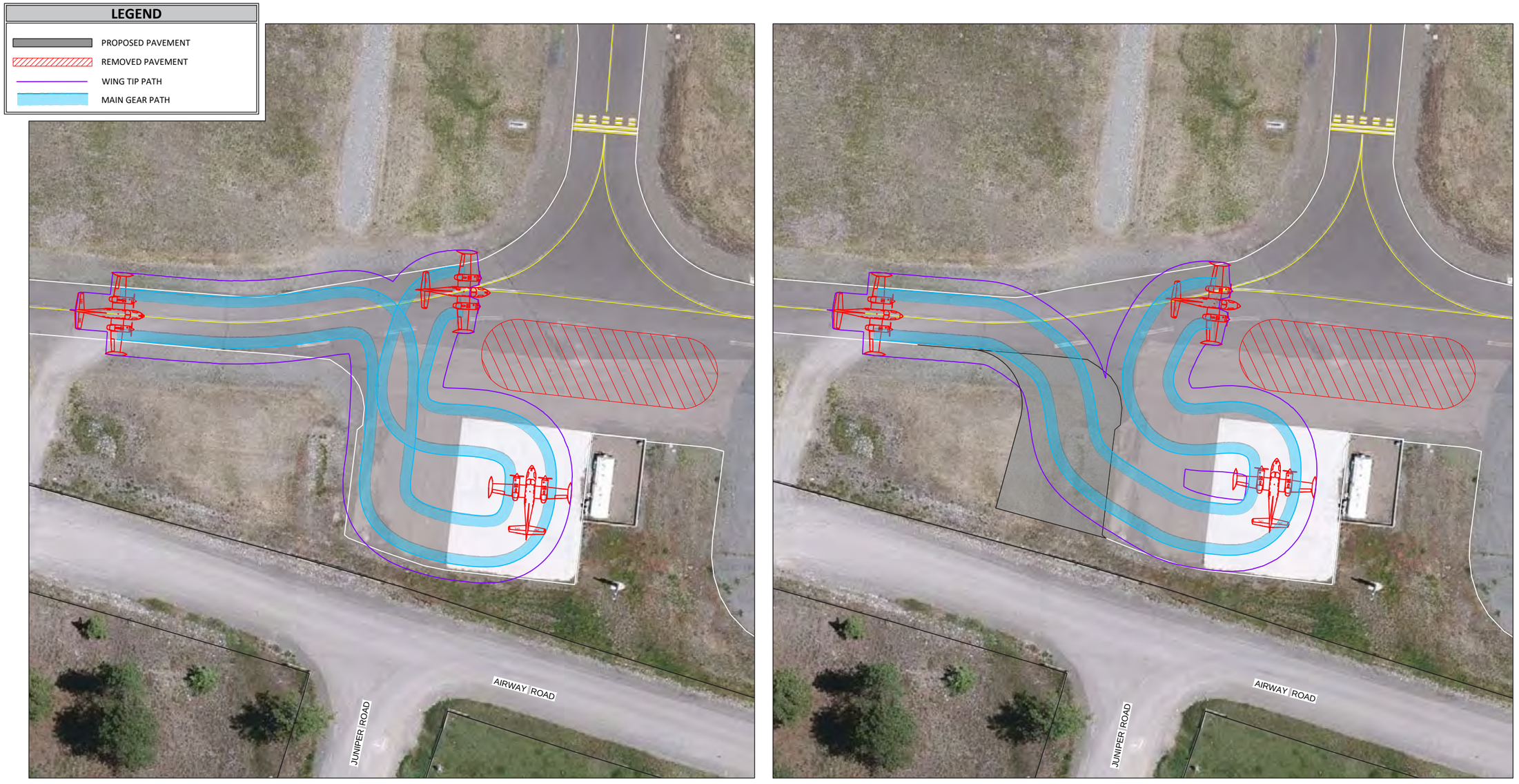


ALTERNATIVE 3B - EAST SIDE HANGAR AREA - FAR PART 77 (NPI) AIRSPACE

LANDSIDE ALTERNATIVE 4 – EXISTING FUEL APRON MODIFICATION

The **Fuel Apron Modification - Alternatives 4A and 4B (Figure 5-11)** provides modifications to the existing fuel apron connection to Taxiway A and eliminates the direct path from the apron to the runway via Taxiway A1. The primary modification is removal of a small section of existing pavement between the west edge of Taxiway A and the fuel apron. Aircraft would access and exit the apron from its north side. The apron connection to Taxiway A would be shifted 60 to 85 feet north, for the existing (Alternative 4A) and expanded apron (Alternative 4B) configurations. The typical turning movements of a small multi-engine aircraft are depicted for both the existing and expanded apron configurations.

As noted earlier, the existing fueling apron is compatible with visual airspace for Runway 15/33 only. An upgrade to NPI airspace will require relocation of the fueling area (see West Side Hangar Development Alternative 2B - Figure 5-5).



ALTERNATIVE 4A - EXISTING APRON PAVEMENT

ALTERNATIVE 4B - EXPANDED APRON PAVEMENT

SUMMARY OF LANDSIDE ALTERNATIVES

TABLE 5-7: SUMMARY OF LANDSIDE ALTERNATIVES

Alternative	1A	1B	2A	2B	3A	3B
	(South - VIS)	(South -NPI)	(West – VIS)	(West – NPI)	(East - VIS)	(East - NPI)
New Conventional Storage Hangar Sites	7	5	3	3	6	6
New Conventional Commercial Hangar Sites	0	0	0	0	3	3
T-Hangar Units	0	0	8	8	16	16
New Taxilanes Required	No	No	Yes	Yes	Yes	Yes
Replacement Pilot Building	Yes	Yes	No	No	No	No
Transient Large Aircraft or Helicopter Parking	Yes	Limited	Yes	No	Yes	Yes
Transient Helicopter Parking	Yes	Limited	Yes	No	No	No
Small Airplane Tiedowns	8	8	N/A	N/A	N/A	N/A
Part 77 Airspace Impacts	No	Yes	No	Yes	No	Yes

VIS = Visual FAR Part 77 Airspace (supports NPI circling procedure to Airport)
NPI = Non Precision Instrument FAR Part 77 Airspace (required for NPI straight-in procedure to Runway 15)

LAND USE, TRANSPORTATION, AND ENVIRONMENTAL ISSUES

The preliminary development alternatives were reviewed to identify potential issues related to local site conditions. **Table 5-8** identifies potential issues for each alternative. **Table 5-9** summarizes potential issues by development area. This information is intended to provide a preliminary level of screening and comparison of potential issues when comparing the alternatives. Additional evaluations will be performed for the preliminary preferred alternative (see **Appendix A**).

TABLE 5-8: SUMMARY OF ALTERNATIVES - AREAS REQUIRING ADDITIONAL EVALUATION

Instrument Approach Option 1	Instrument Approach Option 2	Airside Improvements	South Landside Alternative 1A	South Landside Alternative 1B	West Hangar Alternative 2A	West Hangar Alternative 2B	East Landside Alternative 3A	East Landside Alternative 3B	Fuel Apron Alternative A	Fuel Apron Alternative B
Airspace Obstruction Mitigation (trees, hangars, etc.)										
On-Airport Environmental										
RPZ Land Use Compatibility Issues										
Off Airport Property Required										
Land Use Compatibility Issues (Zoning)										
Critical Areas Affected										
Traffic/Transportation										
Additional FAR Part 77 Site Development Constraints										

Yes No Possible

TABLE 5-9: POTENTIAL DEVELOPMENT FACTORS - LAND USE/TRANSPORTATION/ENVIRONMENTAL

Development Alternatives	Development Factors
Instrument Approach Development	Land Use: • No known issues related to land use or zoning. • Potential changes to airport overlay zoning footprint depending on FAR Part 77 airspace surfaces defined for runway. Traffic/Transportation: • A change in the runway airspace designation to non-precision instrument (NPI) may impact existing public roads (Juniper and Airway) and private roads (existing access to adjacent mill site connecting to Airport Lane). Vehicles may penetrate enlarged protected airspace, requiring mitigation (TBD). • Obstructions (overhead powerlines/poles) in the vicinity of the airport may require mitigation (TBD) for instrument procedure airspace. Environmental: • Obstructions (trees) in the vicinity of the airport may require mitigation (TBD) for instrument procedure airspace. • No construction activities required; potential changes in runway markings would be limited to existing impervious surfaces. • No other environmental issues identified. Property: • No known property issues.
Airside	Land Use: • No known issues related to land use or zoning. Traffic/Transportation: • A change in the runway airspace designation to non-precision instrument (NPI) may impact existing public roads (Juniper and Airway) and private roads (existing access to adjacent mill site connecting to Airport Lane). Vehicles may penetrate enlarged protected airspace, requiring mitigation (TBD). Environmental: • Proposed in-place runway or taxiway reconstruction options located in previously-disturbed areas, which would limit potential impacts. Changes in surface grading and drainage may be required. Potential improvements would be contained on airport property and are not in proximity to known wetlands, streams or other critical habitat. Property: • No known property issues. All improvements contained on airport property.

(Continued)

TABLE 5-9: POTENTIAL DEVELOPMENT FACTORS - LAND USE/TRANSPORTATION/ENVIRONMENTAL

Development Alternatives	Development Factors
South Apron Area	Land Use: • No known issues related to land use or zoning. Traffic/Transportation: • Changes in vehicle access gate locations may require new or relocated access road connections to public roads. • Development of additional vehicle parking areas may require new connections to adjacent public roads. Environmental: • Proposed in-place apron or taxilane reconfiguration located in previously-disturbed areas, which would limit potential impacts. • Construction of new hangars located in previously-disturbed areas adjacent to apron/taxilane, which would limit potential impacts. • Expanded apron areas (new impervious surfaces) may affect surface grading and drainage, and require water quality and stormwater management evaluation. • The environmental review (see Figure 2-5, Chapter 2) identifies Newby Creek in the vicinity of the southeast corner of the Airport. This perennial stream is classified as a Riverine Wetland. No direct impacts are anticipated; additional evaluation required during NEPA review/development process. Property: • No known property issues.
West Hangar Area	Land Use: • No known issues related to land use or zoning. The existing Wallowa County Industrial (M-1) zoning for the city-owned parcel is the same as the Airport. Traffic/Transportation: • Existing surface access to and within the parcel would be reconfigured/relocated to accommodate proposed aeronautical development. • A change in the runway airspace designation to non-precision instrument (NPI) may impact existing public roads (Juniper and Airway). Environmental: • Proposed construction in previously-disturbed areas (current City of Joseph solid waste transfer station on the western edge of Airport). The proposed development avoids an adjacent gravel pit, which is in active use. • Impacted existing facilities and surface access are proposed to be relocated within the site. • New apron, taxiways and hangar areas (new impervious surfaces) will require surface grading and drainage improvements; water quality and stormwater management evaluation required in design. • Potential improvements are not in proximity to known wetlands, streams or other critical habitat. Property: • The proposed area is outside current airport property. Additional evaluation required for potential acquisition/incorporation into the Airport, or the ability to support off-airport development with an ODA/FAA-approved through-the-fence (TTF) agreement. • Conceptual development area (≈2 acres)

(Continued)

TABLE 5-9: POTENTIAL DEVELOPMENT FACTORS - LAND USE/TRANSPORTATION/ENVIRONMENTAL

Development Alternatives	Development Factors
East Hangar Area	Land Use: • Applicability of Recreational Residential (R-2) zoning for proposed aeronautical use requires evaluation by Wallowa County. Potential re-zone to Industrial (M-1) may be considered for airport-related land uses. Traffic/Transportation: • A change in runway airspace clearances may require relocation for a section of the existing private access road connecting the site to the adjacent public road (Airport Lane). Environmental: • Construction would occur in previously-disturbed areas (former sawmill site). The site has undergone extensive environmental remediation as part of its planned redevelopment (as reported by owner). • New apron, taxiways and hangar areas (new impervious surfaces) will require surface grading and drainage improvements; water quality and stormwater management evaluation required in design. • The environmental review (see Figure 2-5, Chapter 2) identifies Newby Creek in the vicinity of the southeast corner of the Airport. This perennial stream is classified as a Riverine Wetland. The creek is proximity to development area; additional evaluation required. Property: • The proposed area is outside current airport property. Additional evaluation required for potential acquisition/incorporation into the Airport, or the ability to support off-airport development with an ODA/FAA-approved through-the-fence (TTF) agreement. • Conceptual development area (≈10-12 acres, including development reserves)
Airport Fuel Apron Modification	Land Use: • No issues. Traffic/Transportation: • No issues. Environmental: • Expanded apron option (new impervious surface) and pavement removal will require surface grading and drainage improvements; water quality and stormwater management evaluation required in design. Proposed improvements would be in previously-disturbed areas, not in proximity to known wetlands, streams or other critical habitat. Property: • No known property issues. All improvements contained on airport property.

Next Steps

The preliminary development alternatives were presented for public review and comment at the February 25, 2021 PAC meeting and project open house, and subsequently through the airport master plan project website. The project meetings were held virtually, with links provided to access the draft chapter and supporting documents. The draft Alternatives Analysis chapter was also be formally submitted to the FAA for review.

A two-week public comment period was be provided for the draft Alternatives Analysis chapter. All reviews, including public, PAC, FAA, ODA, and other stakeholders were expected to conclude approximately 30 days following the February 25, 2021, public meetings. However, project-related comments and questions have continued to be accepted until the airport master plan is finalized.

At the conclusion of the review period, the input was compiled and reviewed by ODA to assist in narrowing the preliminary development alternatives for further refinement.

Two primary ODA decision points are identified:

1. **Instrument Approach Procedure Development.** Determine a preference between the circling and straight-in NPI approach procedures identified as feasible by FAA. This critical path decision point is required to:

    a. Provide feedback to FAA TWSE group for proceeding with formal instrument procedure design.

    b. Develop a penetrating obstacles mitigation plan based on FAA requirements for instrument procedure development.

    c. Define future FAR Part 77 airspace for Runway 15/33 as either visual or non-precision instrument.

        i. This decision will eliminate several of the “A/B” sub-options for presented landside development alternatives that are dependent on the specific type of instrument approach planned.

        ii. This decision will define critical elements of the Airport Layout Plan (ALP) drawing set.

2. **Landside Development Alternatives.** The evaluation will consider the ODA's response to forecast short-term and long-term facility needs. It is assumed that the initial development focus will prioritize use of remaining developable land capacity on the Airport. ODA will also consider the options presented for expanding facilities beyond current property ownership to accommodate additional future demand. The evaluation will determine if either of the proposed off-airport development concepts should be further refined as an element of the preferred alternative, or if future landside development will be limited to existing airport property.

The following section describes the recommended development alternative for Joseph State Airport. An addendum to the master plan's environmental review has been prepared to address potential issues of concern for the preferred alternatives (see **Appendix A**).

Recommended Development Alternative

The development concepts described in the previous section were included the draft Airport Development Alternatives chapter. The chapter was distributed to the Airport Master Plan - Planning Advisory Committee (PAC) for review. The chapter and the supporting graphics were also posted for public review on the project webpage, and a special webpage created for an online open house. This material was presented at the virtual PAC meeting and online open house held on February 25, 2021.

Comments provided by PAC members, airport users, community members, FAA, and ODA staff were organized and presented to ODA to assist in their selection of the preferred alternative. This input provided important guidance in the refinement of development concepts leading to the selection of the preferred alternative.

ODA staff presented the proposed preferred alternative to the State Aviation Board at their April 1, 2021 meeting. ODA staff subsequently confirmed the selection of the preferred alternative for further refinement and incorporation into the Airport Layout Plan (ALP) drawing set, and the master plan's twenty–year Capital Improvement Program (CIP).

The recommended preferred alternative will be reviewed by the FAA Seattle ADO. Minor refinements to the preferred alternative may be incorporated into the final ALP, as needed, to reflect ongoing airport activities and coordination with FAA.

The following section describes the proposed improvements for specific airside and landside facilities which have been consolidated into the preferred alternative. **Figures 5-12** and **5-13** depict the recommended facility improvements.

2020-2040 RECOMMENDED IMPROVEMENTS (PREFERRED ALTERNATIVE)

Airside Facilities (Runway/Taxiway System)

The primary development focus for airside facilities is to implement the design and publication of a non-precision instrument approach. The preferred approach will be compatible with the existing visual airspace designation for Runway 15/33. To accomplish this, the FAA will design a "circling" procedure to the Airport that allows aircraft to land on either runway end.

- Development of GPS-based Non-Precision Instrument Approach with Circling Procedure:
  - » Maintains existing FAR Part 77 Airspace surfaces, lighting system capabilities, and markings for Runway 15/33;
  - » Obstacle mitigation (tree removal, etc.), as required by FAA for approach procedure.
- No changes to existing 5,200' x 60' runway or west parallel taxiway configuration;
- Existing runway lighting systems will be replaced/upgraded at the end of their useful lives;
- Parallel taxiway object free area grading minor terrain penetrations (north section);
- Periodic pavement maintenance (e.g., crackfill, sealcoats, etc.) and rehabilitation (e.g., overlay) based on condition;
- Pavement removal adjacent to aircraft fueling apron and parallel taxiway to address potential runway incursion (FAA standards); and
- A long-term aviation use development reserve is identified off airport property, on the east side of the runway. This area has been identified as compatible with aviation-related uses (aircraft hangars, parking, etc.) in the event that future aviation-related development opportunities are identified.

Landside Facilities

The initial focus for landside facilities is to maximize the development potential within existing airport property. Improvements to the south apron area are intended to address near-term demand for aircraft storage (hangar and apron parking), while also addressing other needs such as a replacement pilot building, vehicle parking, gate access, and aircraft parking configurations.

The need to locate a snow removal equipment (SRE) building has been incorporated into the preferred alternative. The SRE building will be co-located with a future pilot building at the south end of the apron. The building may be constructed in phases based on funding availability and may include community use space that complements the Airport. A modular pilot building option is proposed as an interim step, if needed, to replace the existing mobile home/pilot building. The existing building will be removed in conjunction with the site redevelopment needed for hangars at the southwest corner of the apron.

Other landside improvements are recommended for transient large aircraft and helicopter parking, and the existing aircraft fueling apron. Longer term hangar needs are addressed through expansion off airport property on property currently owned by the City of Joseph. As proposed, the site will accommodate a new taxilane connection the parallel taxiway and both T-hangar and conventional hangars. Final hangar sizes and configurations will be determined during site development; however, the access taxilanes are configured to accommodate aircraft with wingspans less than 49 feet (Airplane Design Group I).

South Apron Area

- South Hangar Area Site Preparation:
  - » Remove existing mobile home and septic drain field;
  - » Site preparation (grading/fill);
  - » Modify fencing and gates;
  - » Reconfigured vehicle access and parking; new access connection to Airway Road;
  - » Relocated/upgraded (electronic) south vehicle gate and pedestrian gates;
- Infill new hangars (7 conventional hangars proposed);
- Replace existing pilot building:
  - » Modular pilot building (optional) (Phase I);
  - » Permanent structure (Phase II) - mixed use building option;
- Snow Removal Equipment (SRE) building co-located with new pilot building;
- Expansion/reconfiguration of existing aircraft apron:
  - » Hangar access;
  - » Transient large aircraft and helicopter parking (including medevac aircraft);
  - » Elimination of 12 small airplane tiedowns (at full build out) to accommodate hangars and large aircraft parking;
- Expanded aircraft fueling apron:
  - » Modified access to parallel taxiway at Taxiway A1 (pavement removal and north expansion of apron);

West Hangar Area

- Property acquisition (1.9 acres +/-) City of Joseph-owned land;
- New taxilane connection to west parallel taxiway;
- New hangars (4 conventional hangars and 1 8-unit T-hangar proposed);
- New vehicle parking;
- New fencing and vehicle gates;
- Relocate existing City solid waste recycling station within existing City-owned parcel;
- Preserve (relocate) existing access to City-owned parcel, including the recycling station and gravel pit extraction;
- No change in zoning (M-1) required; and

East Hangar Development Reserve

- Areas identified for potential aviation use facilities with access to runway.

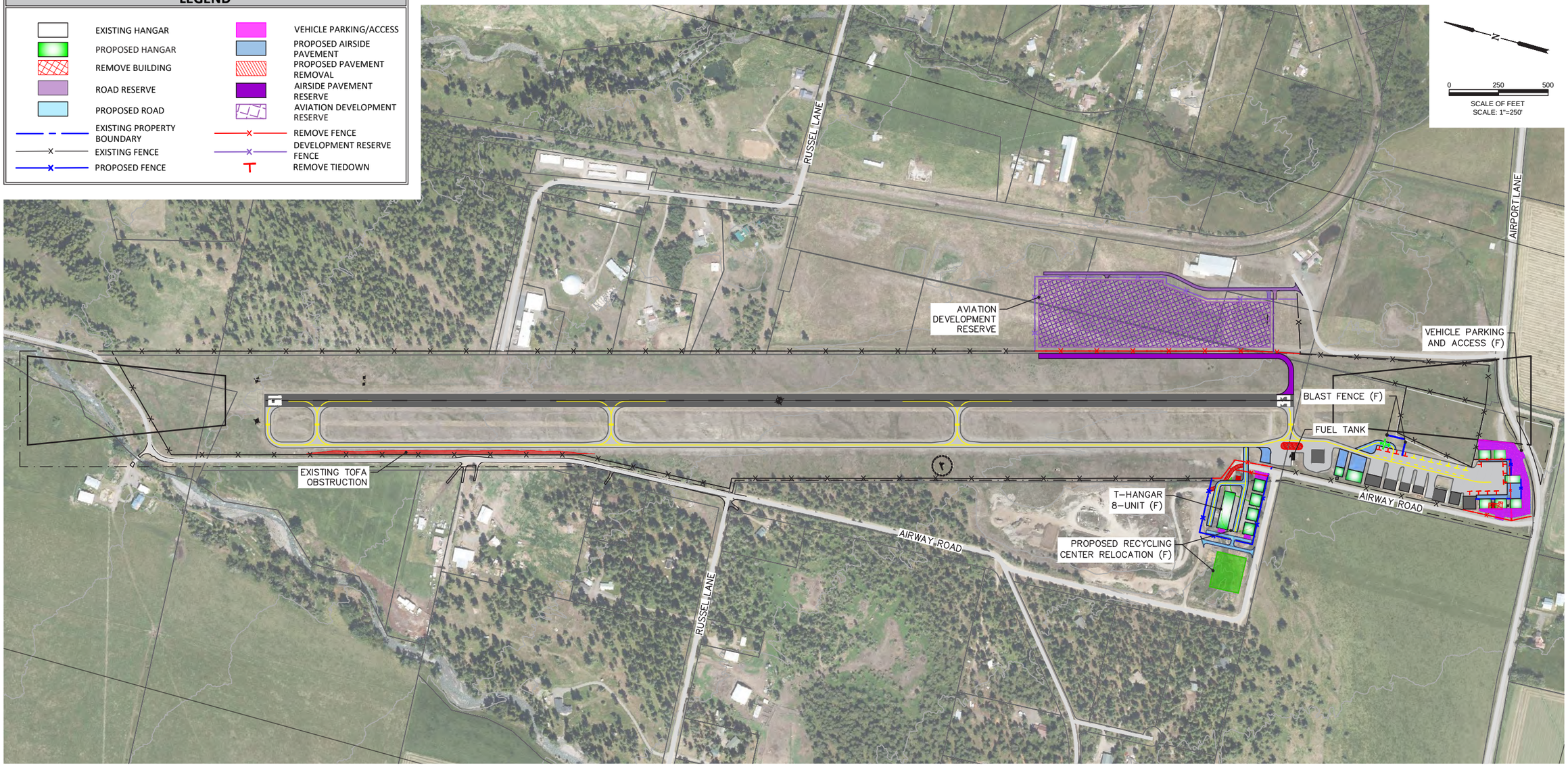
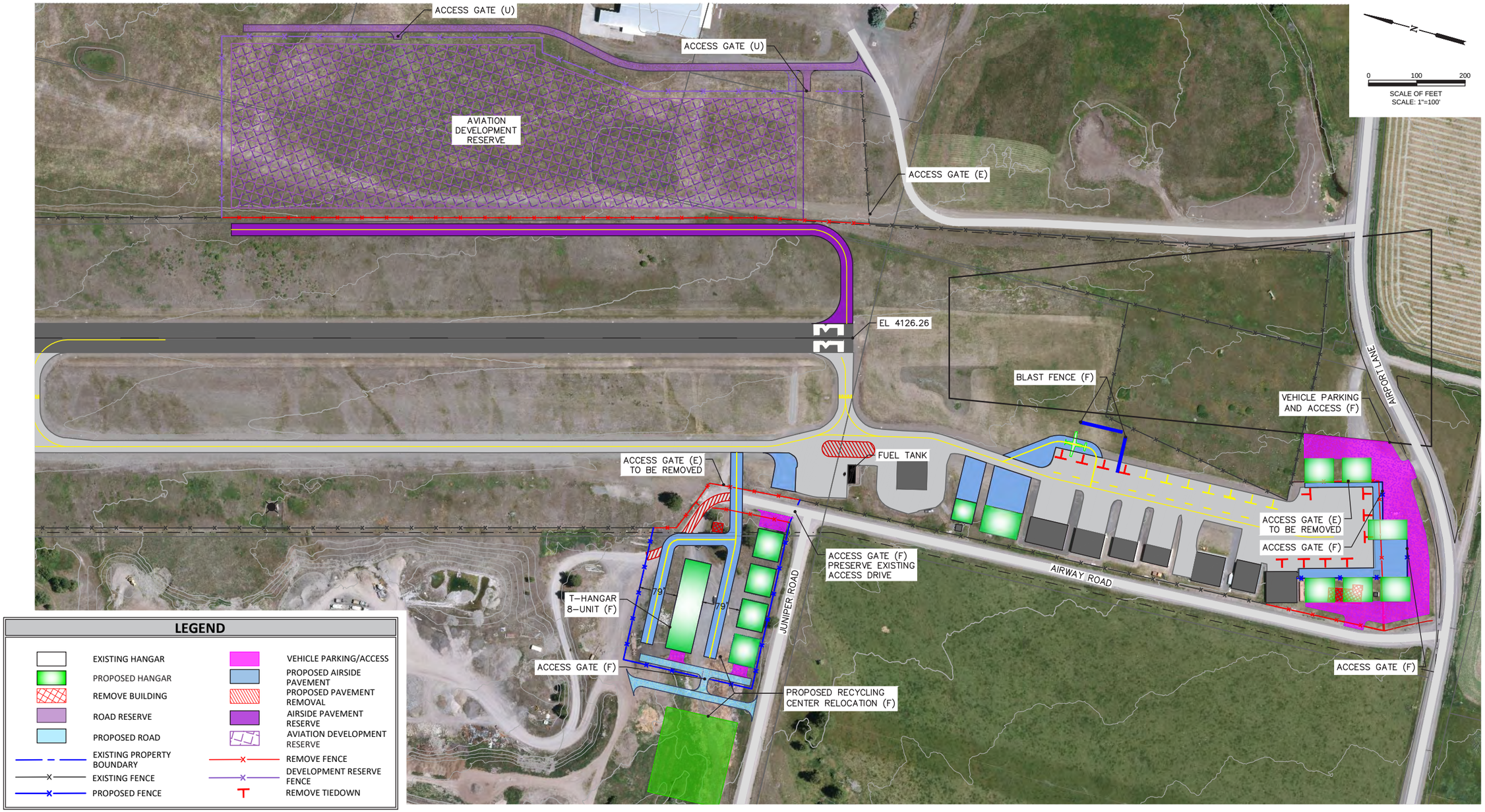

LEGEND
EXISTING HANGAR
PROPOSED HANGAR
REMOVE BUILDING
ROAD RESERVE
PROPOSED ROAD
EXISTING PROPERTY BOUNDARY
EXISTING FENCE
PROPOSED FENCE
VEHICLE PARKING/ACCESS
PROPOSED AIRSIDE PAVEMENT
PROPOSED PAVEMENT REMOVAL
AIRSIDE PAVEMENT RESERVE
AVIATION DEVELOPMENT RESERVE
REMOVE FENCE
DEVELOPMENT RESERVE FENCE
REMOVE TIEDOWN
N
0
250
500
SCALE OF FEET
SCALE: 1"=250'
RUSSEL LANE
AIRPORT LANE
AVIATION DEVELOPMENT RESERVE
VEHICLE PARKING AND ACCESS (F)
BLAST FENCE (F)
FUEL TANK
EXISTING TOFA OBSTRUCTION
T-HANGAR 8-UNIT (F)
AIRWAY ROAD
PROPOSED RECYCLING CENTER RELOCATION (F)
AIRWAY ROAD
RUSSEL LANE
AIRWAY ROAD

FIGURE 5-13: PREFERRED ALTERNATIVE
TERMINAL APRON & DEVELOPMENT AREAS



Chapter 6

Implementation Plan



Photo: Century West Engineering

Introduction

The purpose of this chapter is to present the implementation program for the Airport Master Plan. This chapter includes:

- The twenty-year Airport Capital Improvement Program (ACIP) that was developed based on the analyses conducted in the Facility Requirements and Development Alternatives evaluations (Chapters Four and Five);
- A twenty-year projection of airport operating revenues and expenses; and
- Summary of implementation strategies and challenges.

The ACIP projects are summarized in **Table 6-1** and **Table 6-2**, later in the chapter. The ACIP is organized into short, intermediate, and long-term planning periods that reflect both project prioritization and financial capabilities. 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 ODA 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 ODA on an annual or semi-annual basis.

A brief environmental review was prepared and is included in the airport master plan (see **Appendix A**). The review provides an overview of areas of potential concern associated with proposed development. In addition, all federally funded projects will require project-specific environmental study to support the proposed federal action. The level of environmental analysis will be determined by FAA on a project by project basis.

Individual projects for the first five years of the planning period are listed in order of priority by year. Projects for the intermediate and long-term phases of the planning period (years 6-20) are listed in order of priority but have not been assigned a year. Each project's eligibility for FAA funding is noted, based on current federal legislation and funding formulas. Specific project details are depicted on the updated Airport Layout Plan and Terminal Area Plan drawings contained in Chapter Seven.

A primary source of potential funding identified in this plan is the FAA's Airport Improvement Program (AIP). As proposed, approximately 90 percent of the airport's twenty-year ACIP will be eligible for federal funding. Funds from this program are derived from the Aviation Trust Fund, which is the depository for all federal aviation taxes collected on such items as airline tickets, aviation fuel, lubricants, tires, aircraft registrations, and other aviation

related fees. These funds are distributed by FAA under appropriations set by Congress for all airports in the United States included in the federal airport system (National Plan of Integrated Airport Systems – NPIAS).

However, as noted in **Table 6-1**, the projected twenty-year total for FAA eligible projects in the ACIP significantly exceeds current FAA funding levels through the Non-Primary Entitlement (NPE) program, which is $150,000 annually.

While other types of FAA funding may be available for some projects, it is reasonable to assume not all eligible projects are likely to be funded despite establishing FAA funding eligibility. ODA must maximize the use of available FAA and other outside funding sources as it manages its ACIP. In some cases, the limited availability of funds may require deferring some projects, or increasing the amount of local, state, or private funding.

Part 1 – Master Plan Development Program

Airport Development Schedule and Cost Estimates

Cost estimates for each individual project were developed in 2021 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 2021-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
264.877
(1982-1984 = 100)
March 2021

Multiplying the change ratio (Y) times any 2021-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.

The following sections outline the recommended development program and funding assumptions for the short-term, intermediate, and long-term projects. The definition of overall project scheduling is based on the facility requirements identified in the master plan evaluation. The projected staging of development projects is based on a combination of needs and development priorities.

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

It is recognized that actual activity levels may vary from projected levels. The implementation of development projects will be determined by ODA when demand warrants, rather than according to the estimated staging presented in this chapter. Therefore, the staging of development presented in the ACIP should be viewed as a general guide. If the assumptions made in the master plan remain valid, the project prioritization reflected in the ACIP will provide a reliable guide for development. When activity deviates from projected levels, program adjustments may be made. The annual Joint Planning Conference (JPC) coordinated by ODA and the FAA, provides the ability to adjust ODA's near term development priorities through updates of the State Capital Improvement Program (SCIP). Changes in demand or funding may require SCIP adjustments. Longer-term projects may be moved forward as other projects are completed.

In addition to major capital projects, ODA will continue to perform regular facility maintenance projects such as pavement maintenance, lighting repair, and fuel system maintenance.

SHORT-TERM PROJECTS

The ACIP projects in **Table 6-1** are summarized below for short-term, mid-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 twenty-year planning period will be reevaluated based on need, with determinations on future timing made by ODA.

Short-Term Projects (Years 1-5)

The first priority in the short-term development period is to complete the design and commissioning of a non-precision instrument approach for the Airport in coordination with the FAA. The initial development and approval of the instrument procedures is scheduled for September 2022, and will be based on the FAA's assessment of currently-charted airspace obstacles. The first project in the ACIP is the design and environmental for obstruction removal, as recommended by the FAA instrument procedures development team. Once obstruction removal is completed to the extent feasible, the instrument procedures (approach minimums, etc.) will be reviewed by FAA for potential modifications to reflect obstacle mitigation.

Other priorities in the short-term period include:

- Pavement rehabilitation for Runway 15/33, Taxiways A and A1-A5 (crackfill, sealcoating, repaint markings);
- Improvements to the south apron and adjacent development area to accommodate additional hangar sites;
- Upgraded fencing and controlled access gates;
- Vehicle parking and access improvements;
- Replacement pilot building; and
- Snow removal equipment (SRE) building and equipment.

Mid-Term Projects (Years 6-10)

The mid-term development program includes several airside and landside improvement projects focused on the aircraft parking expansion on the south apron; parallel taxiway reconstruction (overlay) and object free area (OFA) obstruction clearance; airfield lighting replacement; fuel apron improvements; and property acquisition for future development of the west hangar area.

Long-Term Projects (Years 11-20)

The long-term development program includes SRE building expansion; implementation of the west hangar area site improvements (taxilane access, hangar site preparation, fencing, vehicle access); sealcoats for the runway, parallel taxiway, and south apron; and pavement reconstruction/overlay for Runway 15/33, the south apron, and the south access taxiway.

TABLE 6-1: ESTIMATED COST OF CAPITAL IMPROVEMENT PROJECTS

Year	Short-Term Projects (2021-2025) Description	Total Project Costs
2021-2022	Instrument Approach Development (FAA)	$0
2023	Instrument Approach Procedure (IAP) Obstruction Removal (Environmental/Design)	$526,500
2024	Obstruction Removal/Mitigation (IAP)	$42,900
2024	Runway 15/33 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$687,900
2024	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates	$607,500
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates/Fencing (Construction)	$1,364,790
2025	Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction)	$487,500
2025	Airport Snow Plow/Blower	$350,000
	SHORT-TERM TOTAL (1-5 Years)	**$4,528,190**

Year	Mid-Term Projects (2026-2030) Description	Total Project Costs
2026	Mid-Term Airside/Landside Projects (Environmental/Design)	$682,500
2027	South Apron – Transient AC Parking Expansion	$257,833
2028	TWY A and Connectors A2-A3 Rehabilitation (Overlay); Repaint Markings, Replace Edge Reflectors	$1,057,263
2028	TWY A – TOFA Grading, Fence Reinforcement	$331,250
2028	Fuel Apron Reconfiguration/Expansion	$153,586
2028	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$235,700
2029	Airfield Lighting Replacement/Upgrade: Runway 15/33 MIRL; Rwy 15 PAPI, REIL; Airfield Signs; Airport Beacon; Wind Cone	$1,542,000
2030	Property Acquisition – West Hangar Parcel (Owner – City of Joseph)	$61,750
	MID-TERM TOTAL (6-10 Years)	$4,321,882

Year	Long-Term Projects (2031-2040) Description	Total Project Costs
2031-2040	Pilot Building (Expand SRE – Phase 2)	$297,500
	West Hangar Site Development & Taxilanes (Environmental/Design)	$525,000
	West Hangar Site Development (Access & Stub Taxilanes Connection to TWY A, Site Preparation, Fencing, Vehicle Parking, New Access Road (Construction)	$2,257,760
	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
	Runway 15/33 Maintenance Project (Slurry Seal, Crackfill, Markings)	$687,900
	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$235,700
	Airport Master Plan Update	$650,000
	RWY 15/33 TWY A Connectors A2-A3 Rehabilitation (Overlay)	$2,820,565
	South Apron and Access TWY Rehabilitation (Overlay)	$860,882
	LONG-TERM TOTAL (11-20 Years)	$8,796,407

TABLE 6-1: ESTIMATED COST OF CAPITAL IMPROVEMENT PROJECTS (CONT)

Phases	Total Phase Costs
Short-Term (0-5 Years)	$4,528,190
Mid-Term (6-10 Years)	$4,321,882
Long-Term (11-20 Years)	$8,796,407
LONG-TERM TOTAL (11-20 Years)	$17,646,479

Source: Century West Engineering. 2021 Estimates

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 6-2** 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 twenty-year time frame of the master plan.

FEDERAL GRANTS

The current AIP, reauthorized in 2018, 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.

The *FAA Reauthorization Act of 2018* extends funding through fiscal year 2023. AIP funding programs include:

- **AIP Entitlement Grants:** The AIP provides Entitlement funds for commercial service and cargo airports based on the number of annual enplaned passengers and amount of air cargo handled.
- **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 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 Entitlement/NPE funding. Discretionary grant amounts can vary significantly compared to Entitlements/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 project as a much lower priority than other airfield needs.

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

STATE FUNDING

As a state-owned airport, the local share (non-FAA) of the ACIP funding for Joseph State Airport is provided by ODA. In addition, ODA offers a variety of programs for funding airport projects that are outlined in this section.

PAVEMENT MAINTENANCE PROGRAM

The Pavement Management Program (PMP) programs airfield pavement maintenance funds on established multi-year cycles. The PMP is funded by a portion of the Oregon aviation fuel tax revenues. Forty-five percent of the original fuel taxes collected ($0.01/gallon on Jet-A and $0.09/gallon on AVGAS) are used to fund the PMP for all eligible airports in Oregon. The remainder of the revenues collected (55 percent) are used to fund the operation of Oregon's 28 state-owned airports and ODA administrative costs. This program is intended to preserve and maintain existing airfield pavements in order to maximize their useful lives and the economic value of the pavement. As noted earlier, several short-term pavement maintenance projects are identified for Joseph State Airport in the most recent PMP. The program funds pavement maintenance and associated improvements (crack filling, repair, sealcoats, etc.), including some items which have not traditionally been eligible for FAA funding.

Funding for the PMP is generated through collection of aviation fuel taxes. ODA manages the PMP through an annual consultant services contract and work is programmed on a 3-year regional rotation. The program includes a regular schedule of inspection and subsequent fieldwork.

Benefits from the PMP include:

- Economy of scale in bidding contracts;
- Federal/State/Local partnerships that maximize airport improvement funds; and
- PMP is not a grant program and local match is on a sliding scale (50% - 5% required).

The PMP includes the following features:

- Review prior year's Pavement Condition Index (PCI) reports;
- Only consider PCI's above 70;
- Apply budget;
- Limit work to patching, crack sealing, fog sealing, and slurry sealing;
- Add allowance for striping; and
- Program to include approximately 20 airports per year, depending on funding levels.

FINANCIAL AID TO MUNICIPALITIES (FAM) GRANTS

ODA's Financial Aid to Municipalities (FAM) grant program has been suspended in recent years due to a lack of funding. House Bill 2075 (discussed later in this chapter) established a new source of funding revenue for aviation programs within the state. This bill resulted in the creation of three new programs that have essentially replaced FAM Grants. In order to facilitate these new programs, the rules used to administer funds under FAM have been amended to incorporate the language of House Bill 2075 and serve as the funding mechanism for these new programs.

CONNECT OREGON PROGRAM

In 2005, the Legislature created Connect Oregon, which used proceeds from lottery-backed bonds to provide grants and loans to fund non-highway transportation projects. In 2014, after the fifth installment of funding, the Legislature had provided $382 million to the program. Connect Oregon grants fund up to 80-percent of project costs with a 20-percent sponsor match and loans up to 100-percent of project costs. The 2021 Connect Oregon Program has been authorized at $46 million for aviation, marine, and rail projects. The minimum local match is 30 percent.

HOUSE BILL 2075

House Bill 2075 (HR 2075) increased the tax on aircraft fuels, providing new revenues for the State Aviation Account. HR 2075 increased the fuel tax on both Jet-A and AVGAS by $0.02/gallon resulting in a new tax on Jet-A of $0.03 per gallon and AVGAS of $0.11 per gallon. The additional $0.02/gallon in revenues on Jet-A and AVGAS generated by HR 2075will be distributed to fund a variety of aviation needs through ODA's new Aviation System Action Program (ASAP) fund.

ASAP allocates and distributes the additional $0.02/gallon revenues generated by HR 2075 among three new programs: COAR - Critical Oregon Airport Relief Program; ROAR – Rural Oregon Aviation Relief Program; and SOAR – State Owned Airports Reserve Program. The specific programs are outlined below.

COAR – Fifty percent of the revenues from the $0.02/gallon fuel tax increase will be distributed as follows:

(A) To assist airports in Oregon with match requirements for Federal Aviation Administration (FAA) Airport Improvement Program grants;

(B) To make grants for emergency preparedness and infrastructure projects, in accordance with the Oregon Resilience Plan, including seismic studies, emergency generators, etc.; and

(C) To make grants for:

1. Services critical or essential to aviation including, but not limited to, fuel, sewer, water and weather equipment.

2. Aviation-related business development including, but not limited to, hangars, parking for business aircraft and related facilities.

3. Airport development for local economic benefit including, but not limited to, signs and marketing.

ROAR – Twenty-five percent of the revenues from the $0.02/gallon fuel tax increase will be distributed to assist commercial air service to rural Oregon.

SOAR – Twenty-five percent of the revenues from the $0.02/gallon fuel tax increase will be distributed to state owned airports for:

(A) Safety improvements recommended by the Oregon State Aviation Board and local community airports; and

(B) Infrastructure projects at public use airports.

STATE CAPITAL IMPROVEMENT PROGRAM (SCIP)

The FAA's Seattle Airport District Office (ADO), in conjunction with state aviation agencies in Oregon, Washington, and Idaho have developed a coordinated "state" capital improvement program, known as the SCIP. The SCIP is the primary tool used by FAA, state aviation agencies, and local airport sponsors to prioritize funding. Airport sponsors are required to provide annual updates to the short-term project lists annually in order to maintain a current system of defined project needs. The short-term priorities identified in the master plan CIP will be incorporated into the SCIP during the next coordination meeting.

LOCAL FUNDING

The locally funded (ODA/tenant) portion of the project costs during the twenty-year planning period is estimated to be just over $1.74 million, as currently defined. Hangar construction costs and building maintenance have not been included in the CIP, since no FAA funding is assumed.

Portions of local matching funds are generated through airport revenues, including land leases and hangar rentals. Airport sponsors occasionally fund infrastructure and revenue-generating development such as hangars, either through interfund loans or the issuance of long-term debt (bonds).

TABLE 6-2: 20-YEAR CAPITAL IMPROVEMENT PROGRAM - PROBABLE FUNDING SOURCES

Year	Short-Term Projects Description	FAA (90%)	ODA (10%)	Total Project Costs
2021-2022	Instrument Approach Development (FAA)	TBD*	$0	TBD
2023	Instrument Approach Procedure (IAP) Obstruction Removal (Environmental/Design)	$473,850	$52,650	$526,500
2024	Obstruction Removal/Mitigation (IAP)	$38,610	$4,290	$42,900
2024	Runway 15/33 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$619,110	$68,790	$687,900
2024	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$414,990	$46,110	$461,100
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates	$546,750	$60,750	$607,500
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates/Fencing (Construction)	$1,228,311	$136,479	$1,364,790
2025	Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction)	$390,000**	$97,500	$487,500
2025	Airport Snow Plow/Blower	$315,000	$35,000	$350,000
	SHORT-TERM TOTAL (1-5 Years)	**$4,026,621**	**$501,569**	**$4,528,190**

*Instrument Approach Development cost funded by FAA through separate program.
**FAA funding assumed to be 80% for building.

Year	Mid-Term Projects Description	FAA (90%)	ODA (10%)	Total Project Costs
2026	Mid-Term Airside/Landside Projects (Environmental/ Design)	$614,250	$68,250	$682,500
2027	South Apron – Transient AC Parking Expansion	$232,050	$25,783	$257,833
2028	TWY A and Connectors A2-A3 Rehabilitation (Overlay); Repaint Markings, Replace Edge Reflectors	$951,537	$105,726	$1,057,263
2028	TWY A – TOFA Grading, Fence Reinforcement	$298,125	$33,125	$331,250
2028	Fuel Apron Reconfiguration/Expansion	$138,227	$15,359	$153,586
2028	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$213,930	$23,770	$237,700
2029	Airfield Lighting Replacement/Upgrade: Runway 15/33 MIRL; Rwy 15 PAPI, REIL; Airfield Signs; Airport Beacon; Wind Cone	$1,387,800	$154,200	$1,542,000
2030	Property Acquisition – West Hangar Parcel (Owner – City of Joseph)	$55,575	$6,175	$61,750
	MID-TERM TOTAL (6-10 Years)	**$3,891,494**	**$432,388**	**$4,323,882**

TABLE 6-2: 20-YEAR CAPITAL IMPROVEMENT PROGRAM - PROBABLE FUNDING SOURCES (CONT.)

Year	Long-Term Projects Description	FAA (90%)	ODA (10%)	Total Project Costs
2031-2040	Expand SRE – Phase 2 (Equipment Storage, Operations Space)	$267,750	$29,750	$297,500
	West Hangar Site Development & Taxilanes (Environmental/Design)	$472,500	$52,500	$525,000
	West Hangar Site Development (Access & Stub Taxilanes Connection to TWY A, Site Preparation, Fencing, Vehicle Parking, New Access Road (Construction)	$2,031,984	$225,776	$2,257,760
	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$414,990	$46,110	$461,100
	Runway 15/33 Maintenance Project (Slurry Seal, Crackfill, Markings)	$619,110	$68,790	$687,900
	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$212,130	$23,570	$235,700
	Airport Master Plan Update	$585,000	$65,000	$650,000
	RWY 15/33 TWY A Connectors A2-A3 Rehabilitation (Overlay)	$2,538,509	$282,057	$2,820,565
	South Apron and Access TWY Rehabilitation (Overlay)	$774,794	$86,088	$860,882
	LONG-TERM TOTAL	**$7,649,016**	**$849,891**	**$8,498,907**

Part 2 – Airport Financial Overview

Airport Rates and Fees

A State Airport Rates schedule is adopted annually by ODA for all airports under ODA management, as prescribed in **OAR Rule 738-010**. The rates presented in **Table 6-3** for Joseph State Airport were adopted in 2021. These rates are periodically adjusted based on valuation appraisals, as required by **OAR 738-010**.

TABLE 6-3: AIRPORT RATES & FEES - JSY

Land Lease (improved sites)	$0.1433 per square foot (annual)	Hangars, apron, aviation related uses with apron or taxiway/taxilane access
Land Lease (unimproved sites)	$0.05 per square foot (annual)	Hangars, apron, aviation related uses
Tiedown Fees (non-commercial)	$17.50 (monthly)	Locally-based or long-term transient small aircraft parking
Tiedown Fees (non-commercial)	$3.00 (daily)	Transient small aircraft parking
Fuel Flowage Fees	$0.08 (per gallon) 100 LL AVGAS	Flowage fee for self-service 100LL available at the Airport; Jet fuel not available.
Aircraft Landing Fees	None	No landing fee established for Airport
Hangar Rental Rates (ODA-owned hangars)	N/A	No ODA-owned hangars at Airport
Airport Access Fees	$15-120 (monthly)	Through-the fence (TTF) access fee for off-airport aeronautical users. Rates are based on aircraft classifications. No TTF use currently exists at Joseph State Airport.
Aircraft Registration Fees	$65-700 (annual)	Annual aircraft registration fee for all aircraft based in Oregon. Rates are based on aircraft classifications.

A review of the 2021 State Airport Rates schedule for ODA's 28 airports indicates that their fee structure is comparable with other similarly sized airports in Oregon. Several of ODA's fees are graduated by airport size (OASP airport category II-V for State Owned Airports). Some fees are differentiated by aircraft size.

ODA's land lease rates for improved sites (e.g., hangar sites, etc.) are location-specific. The wide range (0.1042-0.3256 per square foot annually) of lease rates at state airports reflects some unique conditions. For example, the highest lease rate is in effect at Aurora State Airport, one of Oregon's busiest general aviation airports located in the highly competitive Portland Metro market. At the other end of the range, more than half of the state airports (16 of 28) charge the lowest lease rate. These airports are among ODA's lowest activity airports, often located in remote, sparsely populated areas.

For Joseph State Airport, the current rate for improved site land leases is $0.1433 per square foot, annually, which is slightly above the mean rate ($0.1391) for all ODA airports.

An airport's ability to effectively raise rates must consider local and regional market conditions and the potential for nearby competitive airports to attract tenants through more economical rates. Rates at individual general aviation airports vary based primarily on market conditions. The rate structure for state airports established by ODA reflects the unique regional market conditions in both urban and rural areas of Oregon.

Cash Flow Analysis

A projection of Joseph State Airport operating revenues and expenses for the twenty-year planning period is presented in **Table 6-4.** The projections are based on baseline data provided by ODA and the noted assumptions on future events.

ODA operates a group of 28 state-owned airports as part of its overall agency responsibilities. ODA uses a partial cost recovery system, which applies a portion of overall administrative expenses to individual airport budgets, in addition to airport-specific expenses such as maintenance or utilities. Airport-generated revenues are tracked individually.

As with all State of Oregon agencies, ODA operates on a biennial budget cycle. In its 2017-2019 budget cycle, ODA reported an annual operating deficit for Joseph State Airport of approximately $20,000, based on annual revenues approximately $68,000. These totals represent approximately one-half of the reported operating revenue and assigned expense totals for the two-year period. As noted above, additional ODA administrative expenses or program revenues are not included in these totals. A review of partial data from the 2019-2021 biennial budget cycle indicates similar financial performance. The general operating position of the Airport is projected to remain relatively steady based on the modest projected growth in future revenues and similar growth in operating expenses.

As noted in the previous section, Joseph State Airport has two primary revenue categories: airport ground leases and aviation fuel sales. For the purposes of projecting future revenues, it is assumed that revenues will increase at an average rate of 3.5 percent annually, through the twenty-year planning period. This rate assumes both an increase in revenue-producing activities on the airport (new leases, fuel sales, etc.) and periodic increases in current rates and fees to account for inflation and market conditions.

The current level of maintenance and operating expenses is considered to be reasonable based on the size of the facility and reflects the efficient use of staff and outside resources. For the purposes of projecting future revenues, it is assumed that expenses will increase at an average rate of 3 percent annually, through the twenty-year planning period. Additional maintenance expenses are also anticipated as the airfield continues to expand physically. Although the precise staging of facility expansion will depend on market demand and availability of funding the new facilities identified in the twenty-year ACIP. The costs of maintaining the airfield can be reasonably expected to increase incrementally as the facility expands.

Ongoing capital improvement expenditures will include local match for federal grants and the full or partial cost of projects not eligible for FAA funding.

ODA will need to evaluate the financial feasibility and timing of replacing the ODA-owned pilot building with available resources. Pilot buildings are not typically eligible for FAA funding, and this type of facility investment is needed at several ODA airports. The option of public-private partnerships, or other cost sharing arrangements may also be explored for projects not eligible for FAA funding. These decisions should be made based on market conditions, expected return on investment, and any intangible benefits provided to the community or specific user groups that would result from the project.

<u>Summary of Revenue Assumptions:</u>

A. Land lease revenue increases at 3.5% per year (inflation factor), as land is leased for future hangar development, incremental increases would be added based on the current/future ground lease rates;
B. No plans of any future ODA-owned hangars to be constructed in the next 20 years;
C. Fuel revenues increase at 3.5% per year (inflation factor); and
D. State Airport Rates will be periodically adjusted per OAR 738-010.

<u>Summary of Expense Assumptions:</u>

A. Operating expenses increase at 3% per year (inflation factor); and
B. No increase in airport staffing.

TABLE 6-4: JOSEPH STATE AIRPORT OPERATING EXPENSE AND REVENUE 20-YEAR PROJECTIONS

OPERATING EXPENSES*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Materials and Services																					
Personnel Services	$19,545	$20,130	$20,730	$21,350	$21,990	$22,650	$23,330	$24,030	$24,750	$25,490	$26,250	$27,040	$27,850	$28,690	$29,550	$30,440	$31,350	$32,290	$33,260	$34,260	$35,290
Maintenance and Safety Supplies, Tools and Equipment, Fuel	$17,622	$18,150	$18,690	$19,250	$19,830	$20,420	$21,030	$21,660	$22,310	$22,980	$23,670	$24,380	$25,110	$25,860	$26,640	$27,440	$28,260	$29,110	$29,980	$30,880	$31,810
Fuel Purchases	$44,642	$45,980	$47,360	$48,780	$50,240	$51,750	$53,300	$54,900	$56,550	$58,250	$60,000	$61,800	$63,650	$65,560	$67,530	$69,560	$71,650	$73,800	$76,010	$78,290	$80,640
Utilities	$6,317	$6,510	$6,710	$6,910	$7,120	$7,330	$7,550	$7,780	$8,010	$8,250	$8,500	$8,760	$9,020	$9,290	$9,570	$9,860	$10,160	$10,460	$10,770	$11,090	$11,420
Miscellaneous/Other Expenses	$636	$660	$680	$700	$720	$740	$760	$780	$800	$820	$840	$870	$900	$930	$960	$990	$1,020	$1,050	$1,080	$1,110	$1,140
TOTAL FUND EXPENDITURES	**$88,764**	**$91,430**	**$94,170**	**$96,990**	**$99,900**	**$102,890**	**$105,970**	**$109,150**	**$112,420**	**$115,790**	**$119,260**	**$122,850**	**$126,530**	**$130,330**	**$134,250**	**$138,290**	**$142,440**	**$146,710**	**$151,100**	**$155,630**	**$160,300**

OPERATING REVENUES*	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040
Services																					
Leases/Invoiced Payments	$12,425	$12,860	$13,310	$13,780	$14,260	$14,760	$15,280	$15,810	$16,360	$16,930	$17,520	$18,130	$18,760	$19,420	$20,100	$20,800	$21,530	$22,280	$23,060	$23,870	$24,710
Fuel Sales	$55,652	$57,600	$59,620	$61,710	$63,870	$66,110	$68,420	$70,810	$73,290	$75,860	$78,520	$81,270	$84,110	$87,050	$90,100	$93,250	$96,510	$99,890	$103,390	$107,010	$110,760
TOTAL FUND REVENUES	**$68,077**	**$70,460**	**$72,930**	**$75,490**	**$78,130**	**$80,870**	**$83,700**	**$86,620**	**$89,650**	**$92,790**	**$96,040**	**$99,400**	**$102,870**	**$106,470**	**$110,200**	**$114,050**	**$118,040**	**$122,170**	**$126,450**	**$130,880**	**$135,470**
NET OPERATING REVENUE	$(20,687)	$(20,970)	$(21,240)	$(21,500)	$(21,770)	$(22,020)	$(22,270)	$(22,530)	$(22,770)	$(23,000)	$(23,220)	$(23,450)	$(23,660)	$(23,860)	$(24,050)	$(24,240)	$(24,400)	$(24,540)	$(24,650)	$(24,750)	$(24,830)

Source: ODA Records Biennium 2017-2019
*Operating expenses were calculated at a 3% average annual growth rate over the next 20 years.
**Operating revenues were calculated at a 3.5% average annual growth rate over the next 20 years.
The budget does not include incremental land and hangar leases that will occur over the next 20 years.

Part 3 – Master Plan Implementation Strategies and Challenges

Summary of Short Term Project Implementation

The implementation of the ACIP typically requires a variety of strategies/actions to address related land use, transportation, and environmental issues. **Table 6-5** includes summaries of issues and anticipated actions for the major development projects identified in the first 5 years of the ACIP.

TABLE 6-5: IMPLEMENTATION PLAN – SHORT TERM CAPITAL IMPROVEMENT PROGRAM PROJECTS

Project: Instrument Approach Procedure (IAP) Obstruction Removal (Environmental/Design/Obstruction Mitigation) Project Year: 2023	
The project consists of required environmental, design, and implementation elements for mitigation of FAA—identified airspace penetrations (obstacles) to airspace surfaces required for instrument procedure development[1] at Joseph State Airport. Project implementation includes coordination with affected property owners, acquisition of air (Avigation) easements or other agreements, and actual obstacle mitigation. The AGIS survey completed in the Airport Master Plan Update will be the primary source for identification of penetrating obstacles. The project is FAA eligible.	
	Required Implementation Strategies/Actions
Land Use	No impacts to existing or future land use. No changes in Wallowa County land use or zoning are required for mitigation of identified obstacles (built items, trees, etc.). All affected property owners will be identified and contacted by ODA following the initial identification of obstacles to provide notification of project, address any concerns, and identify any unique site constraints. Airspace ("Avigation") easements will be negotiated with individual property owners for each parcel and/or obstacle to be mitigated. A proposed mitigation action will be defined for each identified obstacle. Any required Wallowa County permits (e.g., modification of existing utilities, tree removal, etc.) will be addressed during design. <u>Actions:</u> 1) Preliminary design will identify if any specific utility components penetrate FAA-defined TERPS surfaces critical to instrument approach/departure development. 2) ODA will initiate property owner contact for each identified mitigation item. 3) ODA will secure airspace rights through easements or other agreement with individual property owners. 4) Local permit coordination, as applicable. 5) None.
Transportation	No impacts to existing or future transportation systems, with the possible exception of overhead utility components (overhead electrical or communication lines or poles). Potential mitigation options (e.g., marking or lighting, lowering, or undergrounding) to be determined during design. Proposed obstacle mitigation must be accepted by FAA Flight Procedures group prior to design and commissioning of instrument procedures. No other transportation actions anticipated for this project. <u>Actions:</u> 1) Preliminary design will identify if any specific utility components penetrate FAA-defined TERPS surfaces critical to instrument approach/departure development. 2) ODA will coordinate with local utility providers to evaluate feasibility and cost of obstacle mitigation options (marking, lighting, lowering, undergrounding). 3) ODA will secure airspace rights through easements or other agreement with individual property owners.
Environmental	ODA will be required to perform an environmental evaluation (NEPA) for proposed obstruction removal/ mitigation through federal action. <u>Actions:</u> 1) Complete Environmental Assessment, Categorical Exclusion Document, or other environmental document as required by FAA.

1 United States Standard for Terminal Instrument Procedures (TERPS), FAA Order 8260.3D

TABLE 6-5: IMPLEMENTATION PLAN – SHORT TERM CAPITAL IMPROVEMENT PROGRAM PROJECTS (CONT)

Project: Runway 15/33 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings) Project Year: 2024	
The projects are maintenance rehabilitations of existing asphalt runway and taxiway pavements, including vegetation removal, filling/repairing minor cracking, sealcoating, and repainting existing markings per FAA specifications. The projects will also include environmental, design, and implementation elements required by FAA. The project is FAA eligible.	
	Required Implementation Strategies/Actions
Land Use	No impacts to existing or future land use. The project is related to an existing land use (airfield), which is consistent with Wallowa County land use and zoning currently in place at the Airport. No impacts to adjacent property owners are anticipated. All construction activity will be limited to the airport site. Any required Wallowa County permits will be addressed during design. Actions: 1) No land use actions required. 2) Local permit coordination, as applicable.
Transportation	No impacts to existing or future transportation systems anticipated for this project. Actions: 1) FAA coordination for project environmental, design and construction. 2) ODA will coordinate with airport tenants and regular users regarding periods of construction and runway/taxiway closures through direct contact and issuance of appropriate 'Notices to Airmen" (NOTAMs).
Environmental	ODA will be required to perform an environmental evaluation (NEPA) for project through federal action. Actions: 1) Complete Environmental Assessment, Categorical Exclusion Document, or other environmental document as required by FAA.

TABLE 6-5: IMPLEMENTATION PLAN – SHORT TERM CAPITAL IMPROVEMENT PROGRAM PROJECTS (CONT)

Project: South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates/Fencing (Environmental/Design/Construction) Project Year: 2024	
The project includes expansion/reconfiguration of the existing south aircraft apron, removal of the airport's pilot building and septic system, grading and other required preparation for new hangar sites, updated/reconfigured airport fencing/gates, and vehicle parking. All aeronautical elements will be completed per FAA specifications. The projects will also include environmental, design, and implementation elements required by FAA. The project is FAA eligible.	
	Required Implementation Strategies/Actions
Land Use	No impacts to existing or future land use. The project is related to an existing land use (airfield), which is consistent with Wallowa County land use and zoning currently in place at the Airport. No impacts to adjacent property owners are anticipated. All construction activity will be limited to the airport site. Any required Wallowa County permits will be addressed during design. Actions: 1) No land use actions required. 2) Local permit coordination, as applicable.
Transportation	The reconfiguration/expansion of vehicle parking may include additional connections to existing county roads to provide vehicle access. Actions: 1) FAA coordination for project environmental, design and construction. 2) ODA will coordinate with Wallowa County Public Works Department regarding any planned improvements affecting public roads. 3) ODA will coordinate with airport tenants and regular users regarding periods of construction and apron/taxilane closures through direct contact and issuance of appropriate 'Notices to Airmen" (NOTAMs).
Environmental	ODA will be required to perform an environmental evaluation (NEPA) for project through federal action.Actions: 1) Complete Environmental Assessment, Categorical Exclusion Document, or other environmental document as required by FAA.

TABLE 6-5: IMPLEMENTATION PLAN – SHORT TERM CAPITAL IMPROVEMENT PROGRAM PROJECTS (CONT)

Project: Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction) Project Year: 2025	
The project includes the phase 1 construction of a Snow Removal Equipment (SRE) storage building and installation of a temporary (modular) pilot building. Phase 2 construction for this project will be completed at a later data and includes a building addition to provide a permanent pilot building. The SRE building is FAA eligible. The pilot building will not be eligible for FAA funding. ODA will work with airport users to determine building amenities and to identify potential sources of funding.	
	Required Implementation Strategies/Actions
Land Use	No impacts to existing or future land use. The project adds improvements to an existing land use (airfield), which is consistent with Wallowa County land use and zoning currently in place at the Airport. No impacts to adjacent property owners are anticipated. All construction activity will be limited to the airport site. Any required Wallowa County permits will be addressed during design. Actions: 1) No land use actions required. 2) Local permit coordination, as applicable.
Transportation	No impacts to existing or future off-airport transportation systems. All construction activity will be limited to the airport site. Actions: 1) FAA coordination for project environmental, design and construction.
Environmental	ODA will be required to perform an environmental evaluation (NEPA) for FAA-funded project through federal action. Actions: 1) Complete Environmental Assessment, Categorical Exclusion Document, or other environmental document as required by FAA, for the federally-funded elements of the project.

TABLE 6-5: IMPLEMENTATION PLAN – SHORT TERM CAPITAL IMPROVEMENT PROGRAM PROJECTS (CONT)

Project: Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction) Project Year: 2025	
The project includes the acquisition of dedicated snow removal equipment for Joseph State Airport. Specific equipment items (plows, blowers, brooms, trucks, etc.) will be determined by ODA based operational needs and available funding. The project is FAA eligible.	
	Required Implementation Strategies/Actions
Land Use	No impacts to existing or future land use. Actions: 1) No land use actions required.
Transportation	No impacts to existing or future off-airport transportation systems. Actions: 1) None.
Environmental	ODA will be required to perform an environmental evaluation (NEPA) for FAA-funded project through federal action. Actions: 1) Complete environmental review, as required by FAA for federally-funded equipment purchases.

Chapter 7

Airport Layout Plan



Photo Credit: Cindy Sloan

Introduction

This chapter presents the Airport Layout Plan (ALP) for the Joseph State Airport (JSY). The ALP describes and graphically depicts recommended development for the airport based on facility needs and forecast demand. The recommendations shown on the ALP reflect the preferred alternative selected by the Oregon Department of Aviation (ODA), with input provided by the Federal Aviation Administration (FAA), airport stakeholders, and airport users, and members of the community. The analyses and findings of the previous chapters provided the technical and policy guidance for this plan's outcome as reflected in the ALP.

The following plans make up the set of drawings commonly referred to as the ALP:

- Sheet 1 – Cover Sheet
- Sheet 2 – Airport Data Sheet
- Sheet 3 – Airport Layout Plan
- Sheet 4 – Terminal Area Plan
- Sheet 5 – FAR Part 77 Airspace Plan
- Sheet 6 – FAR Part 77 Inner Approach Surface Plan & Profile and RPZ
- Sheet 7 – Runway Departure Surface Plan & Profile
- Sheet 8 – Airport Land Use Plan
- Sheet 9 – Exhibit 'A' Property Map
- Sheet 10 – Part 77 Airspace Obstruction Tables (1 of 2)
- Sheet 11 – Part 77 Airspace Obstruction Tables (2 of 2)
- Sheet 12 – Runway Departure Surface Obstruction Tables

A brief summary of the individual drawings is provided below:

Cover Sheet

The Cover Sheet serves as an introduction to the Airport Layout Plan (ALP) drawing set. It provides the airports location and vicinity map and an index of the drawings. Additionally, the FAA approval letter is embedded into the Cover Sheet, in leu of signing the ALP and Exhibit A Sheets.

Airport Data Sheet

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.

Airport Layout Plan

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 master plan's twenty-year capital improvement program (CIP) as individual projects or project groupings. Future property acquisition for long-term hangar development is depicted.

Terminal Area Plan

The Terminal Area Plan provides additional detail for existing and new facilities in the landside areas. The Terminal Area Plan focuses on the main apron area, fuel facilities, pilot building, existing/future hangar areas, and vehicle parking.

FAR Part 77 Airport Airspace Plan

The FAR Part 77 Airspace drawings depict the protected airspace defined for Runway 15/33 in Federal Air Regulation (FAR) Part 77, Objects Affecting Navigable Airspace. The airspace plan drawings depict the five "imaginary surfaces" defined in FAR Part 77.25 including the primary, transitional, approach, horizontal, and conical surfaces, previously described in the Facility Requirements Chapter. FAR Part 77 surfaces should be free of built or terrain obstructions to the greatest extent possible. Objects that penetrate FAR 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 provided by the AGIS survey data.

The physical characteristics of the FAR Part 77 surfaces are defined by the size of aircraft using the runway and the approach capabilities of the runway.

- **Runway 15/33 Approach Surfaces**: Extend 5,000 feet from the ends of the runway primary surface. Both runway ends have an approach surface slope of 20:1, which represents the horizontal distance required for each increment of vertical rise.
- **Runway 15/33 Primary Surface**: Based on the visual approach standards for utility runways, the primary surface is 250 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 extend from both ends of the primary surface to form an oval. The horizontal surface is a flat plane of airspace with an elevation 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 FAR Part 77 airspace surfaces are depicted in two drawings. The first drawing presents the obstacles in the conical, horizontal, primary, and transitional surfaces. Due to the number and density of obstacles in the horizontal and conical surfaces south of the runway, displaying each penetrating obstacle is not feasible. Instead, a 1,000' square grid was overlaid on the surfaces and the highest penetrating obstacle was identified and noted for each grid cell. For the transitional surface, all penetrating obstacles and those within 10' of the surface are identified and called out.

The second drawing presents the runway ends, inner approach surfaces, and approach obstacles. Where scale allows, individual obstacles are identified. Due to scale requirements, obstacles in the RPZ and Inner Approaches are not individually identified. Instead, they are detailed on the following Runway RPZ and Inner Approach Plan and Profile drawings. Obstacles identified in these drawings are listed in the obstruction tables.

The RPZs for each runway end are also depicted. TERPS 40:1 departure surfaces (and obstacles) are depicted on a separate sheet.

FAR Part 77 Inner Approach Plan & Profile Drawings and RPZ

The Inner Approach Surface and Runway Protection Zone (RPZ) drawing depicts detailed plan and profile views of the inner approach surfaces. The drawings provide additional detail in identify obstructions, terrain and other physical features within the approach surfaces and RPZs. The obstructions depicted on the drawing use the same numbering identifiers from the overall FAR Part 77 Airspace Plan. Only obstacles present in the AGIS data are presented on this sheet.

Land Use Plan

The Airport Land Use Plan depicts 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. Wallowa County has land use jurisdiction for Joseph State Airport and most of the surrounding area. A portion of the Airport's Horizontal and Conical Surfaces extend over areas of City of Joseph jurisdiction.

Exhibit 'A' – Airport Property Plan

The Exhibit 'A' – Property Plan depicts all property owned or controlled by ODA that is designed as part of the Airport. The drawing notes the form of ownership or control (fee simple, easement, etc.) and the date of acquisition per FAA guidelines. Though a thorough public records search was completed, some details were not available. A formal property title search or boundary survey may be required to complete the missing data.

Obstruction Tables

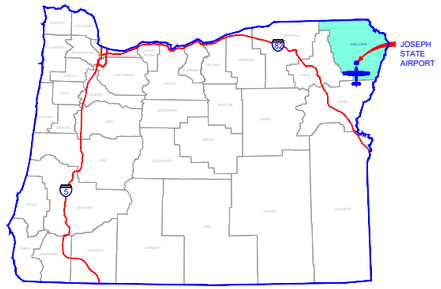
The obstacles depicted on several drawings in the ALP set are listed in tabular form on three separate drawings. Each listed obstacle has location and elevation information, and a proposed disposition.

JOSEPH STATE AIRPORT

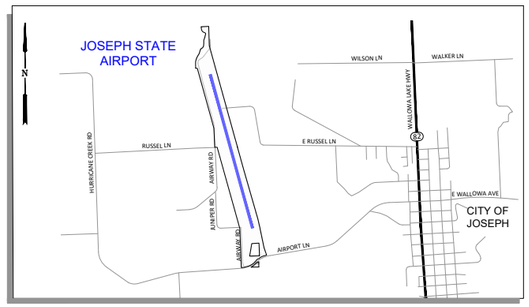
JOSEPH, OREGON
CWEC PROJECT NO. 40097.091
AIP NO. 3-41-0092-011-2019
JANUARY 2022



AERIAL PHOTO



LOCATION MAP

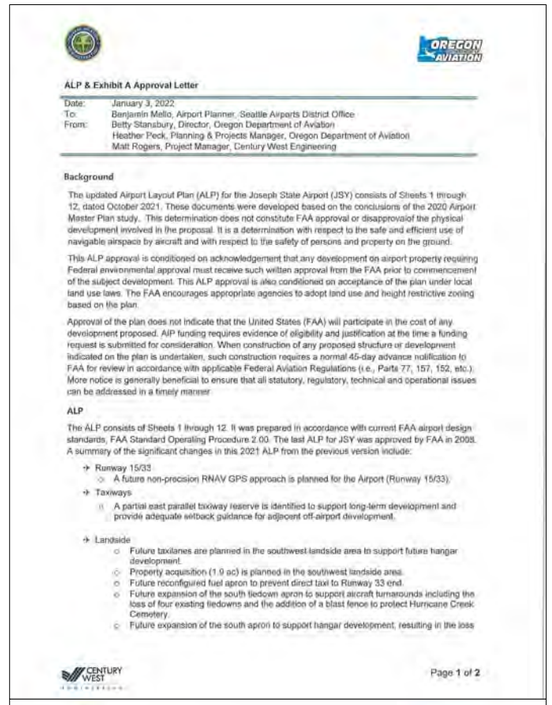


VICINITY MAP

SHEET INDEX

NUMBER	REVISION	CONTENTS
1		TITLE SHEET
2		AIRPORT DATA SHEET
3		AIRPORT LAYOUT PLAN
4		TERMINAL AREA PLAN
5		FAR PART 77 AIRSPACE PLAN
6		FAR PART 77 INNER APPROACH SURFACE PLAN & PROFILE
7		RUNWAY DEPARTURE SURFACE PLAN AND PROFILE
8		AIRPORT LAND USE PLAN
9		EXHIBIT 'A' PROPERTY MAP
10		PART 77 AIRSPACE OBSTRUCTION TABLES (1 OF 2)
11		PART 77 AIRSPACE OBSTRUCTION TABLES (2 OF 2)
12		RUNWAY 15/33 DEPARTURE SURFACE OBSTRUCTION TABLES

"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 3-41-0092-011-2019) 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."



ALP & Exhibit A Approval Letter

Date: January 3, 2022
To: Benjamin Mello, Airport Planner, Seattle Airports District Office
From: Betty Stansbury, Director, Oregon Department of Aviation
Heather Peck, Planning & Projects Manager, Oregon Department of Aviation
Matt Rogers, Project Manager, Century West Engineering

Background

The updated Airport Layout Plan (ALP) for the Joseph State Airport (JSY) consists of Sheets 1 through 12, dated October 2021. These documents were developed based on the conclusions of the 2020 Airport Master Plan study. 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.

This ALP approval is conditioned on acknowledgement that any development on airport property requiring Federal environmental approval must receive such written approval from the FAA prior to commencement of the subject development. This ALP approval is also conditioned on acceptance of the plan under local land use laws. The FAA encourages 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 (FAA) will participate in the cost of any development proposed. AIP funding requires evidence of eligibility and justification at the time a funding request is submitted for consideration. When construction of any proposed structure or development indicated on the plan is undertaken, such construction requires a 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.

ALP

The ALP consists of Sheets 1 through 12. It was prepared in accordance with current FAA airport design standards, FAA Standard Operating Procedure 2.00. The last ALP for JSY was approved by FAA in 2008. A summary of the significant changes in this 2021 ALP from the previous version include:

- Runway 15/33
  - A future non-precision RNAV GPS approach is planned for the Airport (Runway 15/33).
- Taxiways
  - A partial east parallel taxiway reserve is identified to support long-term development and provide adequate setback guidance for adjacent off-airport development.
- Landside
  - Future taxilanes are planned in the southwest landside area to support future hangar development.
  - Property acquisition (1.9 ac) is planned in the southwest landside area.
  - Future reconfigured fuel apron to prevent direct taxi to Runway 33 end.
  - Future expansion of the south tiedown apron to support aircraft turnarounds including the loss of four existing tiedowns and the addition of a blast fence to protect Hurricane Creek Cemetery.
  - Future expansion of the south apron to support hangar development, resulting in the loss

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of nine existing tiedowns.
- Portion of Airway Road to be closed for future taxilane and hangar development. A new vehicle access road and gate to be constructed along Juniper Road.

Exhibit A

The Exhibit A – Airport Property Map contained in Sheet 03 – has been prepared in accordance with FAA Standard Operating Procedure 2.00 and developed based on the following:

- Airport parcels
  - Existing fee and easement parcels are based on recorded conveyance documents obtained through Airport and local records.
  - Future and ultimate airport property interests are shown based on the development plans and design standards shown on the ALP.
- Existing fee and easement parcels, as well as recorded encumbrances, tenements, were shown as legally described in conveyance documents.
- A review of the Federal grant history and associated parcel naming convention was completed.

The last Exhibit A – Property Map was updated in 2008. Major changes in this October 2021 Exhibit A Update from the previous version include:

- Updated existing property boundary
- Updated property acquisition details

Signature Blocks

The FAA signature below acknowledges approval of the ALP and acceptance of the Exhibit A.

Federal Aviation Administration (FAA)	Oregon Department of Aviation (ODA)
BENJAMIN JOSEPH MELLO	
Benjamin Mello, Airport Planner	Betty Stansbury, Director
Century West Engineering Corp	**Oregon Department of Aviation (ODA)**
Matt Rogers, Project Manager	Heather Peck, Planning & Projects Manager

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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.

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE., #100
BEND, OR 97702
541.322.8962 OFFICE
541.382.2423 FAX

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DM	MS	WMR	AS SHOWN
DATE: JANUARY 2022		PROJECT NO: 40097.091.01	

JOSEPH STATE AIRPORT

TITLE SHEET

FIGURE NO. -

SHEET NO. 1 OF 12

AIRPORT DATA TABLE

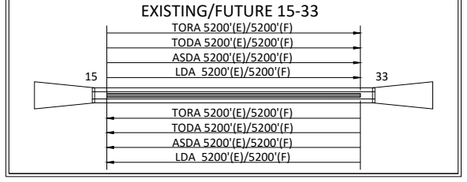
DESCRIPTION		EXISTING	FUTURE
AIRPORT REFERENCE CODE (ARC)		A-I (SMALL)	SAME
MEAN MAX. DAILY TEMPERATURE		83°	SAME
AIRPORT ELEVATION		4126.63'	SAME
TERMINAL NAVAIDS		BEACON	SAME
ARP COORDINATES	LAT. LONG.	N 45° 21' 34.39" W 117° 15' 13.80"	SAME
CRITICAL AIRCRAFT (ARC)		CESSNA 182	SAME
MAGNETIC DECLINATION		13°74'E (WMM 2019-2024 NOAA)	ANNUAL RATE OF CHANGE 0°9'W
AIRPORT ACREAGE		111.9 ACRES	113.8 ACRES
NPIAS SERVICE LEVEL		LOCAL GA	SAME
STATE ROLE		CAT IV - LOCAL GA	SAME
HORIZONTAL DATUM		NAD 83	-
VERTICAL DATUM		NAVD 88	-

RUNWAY DATA TABLE

	RUNWAY 15-33			
	EXISTING		FUTURE	
CLASSIFICATION	UTILITY		SAME	
RUNWAY DESIGN CODE (RDC)	A/I/VIS		A/I/5000	
APPROACH REFERENCE CODE (APRC)	A/I/VIS		A/I/5000	
DEPARTURE REFERENCE CODE (DPRC)	A/I		SAME	
RUNWAY PAVEMENT STRENGTH (IN 1000 LBS)	12.5 SW		SAME	
RUNWAY PAVEMENT TYPE	ASPHALT		SAME	
RUNWAY PERCENT GRADIENT / MAXIMUM GRADE	1.12%		SAME	
AIRPORT PAVEMENT STRENGTH (PCN)	N/A (SEE NOTE 1)		SAME	
RUNWAY LENGTH AND WIDTH	5200' X 60'		SAME	
CRITICAL AIRCRAFT (ARC)	CESSNA 182		SAME	
WINGSPAN	<49'		SAME	
WEIGHT	<12,500 LBS.		SAME	
APPROACH SPEED	<91 KNOTS		SAME	
FAR PART 77 APPROACH CATEGORY	20:1 (UTILITY - VISUAL)		SAME	
RUNWAY LIGHTING	MIRL		SAME	
TAXIWAY LIGHTING	REFLECTORS		MITL	
TAXIWAY MARKING	BASIC		SAME	
AERONAUTICAL SURVEY REQUIRED	NON-VERTICAL		NON-VERTICAL	
	CONDITION	STANDARD	CONDITION	STANDARD
RUNWAY SAFETY AREA LENGTH AND WIDTH	5680' X 120'	5680' X 120'	SAME	SAME
LENGTH BEYOND RUNWAY END	240'	240'	SAME	SAME
OBJECT FREE AREA LENGTH AND WIDTH	5680' X 250'	5680' X 250'	SAME	SAME
LENGTH BEYOND RUNWAY END	240'	240'	SAME	SAME
OBSTACLE FREE ZONE LENGTH AND WIDTH	5600' X 250'	5600' X 250'	SAME	SAME
LENGTH BEYOND RUNWAY END	200'	200'	SAME	SAME
OBSTACLE FREE ZONE PENETRATION	NONE	NONE	SAME	SAME
RUNWAY END	15	33	15	33
RUNWAY END COORDINATES LAT. LONG.	N 45° 21' 59.38" W 117° 15' 22.10"	N 45° 21' 09.38" W 117° 15' 05.54"	SAME	SAME
RUNWAY END ELEVATION	4062.78	4126.23'	SAME	SAME
DISPLACED THRESHOLD ELEVATION	N/A	N/A	N/A	N/A
TOUCHDOWN ZONE ELEVATION	4104.98'	4126.23'	SAME	SAME
RUNWAY PERCENT WIND COVERAGE	52.92%	63.15%	SAME	SAME
INSTRUMENTATION AND APPROACH AIDS	NONE	NONE	GPS	NONE
VISUAL AIDS	PAPI, REILS	NONE	SAME	SAME
RUNWAY PROTECTION ZONE	250 X 450' X 1,000'	250 X 450' X 1,000'	SAME	SAME
PART 77 RUNWAY APPROACH CATEGORY	VISUAL (UTILITY)	VISUAL (UTILITY)	SAME (NOTE 3)	SAME
RUNWAY APPROACH SLOPE PART 77 REQUIRED	20:1	20:1	SAME	SAME
APPROACH VISIBILITY MINIMUMS	VISUAL	VISUAL	≥ 1 MILE	SAME
RUNWAY MARKINGS	VISUAL	VISUAL	SAME	SAME
DEPARTURE SURFACE	NO	NO	YES	YES
THRESHOLD SITING SURFACE	TYPE 2 (NO PEN)	TYPE 2 (NO PEN)	TYPE 4 (NO PEN)	TYPE 4 (NO PEN)

DECLARED DISTANCES

EXISTING/FUTURE 15-33



AIRPORT FACILITIES

FACILITY	TYPE / MODEL	CRITICAL AREA	OWNERSHIP
AWOS	AWOS - 3	500' CLEAR AREA	OREGON DEPT. OF AVIATION
WIND CONE	-	NONE	OREGON DEPT. OF AVIATION
BEACON	-	50' CLEAR AREA MIN.	OREGON DEPT. OF AVIATION
FUEL	AST (UL-142; 10,000 GAL)	NONE	OREGON DEPT. OF AVIATION
REIL (RWY 15)	-	NONE	OREGON DEPT. OF AVIATION
PAPI (RWY 15)	P2L (L-881)	NONE	OREGON DEPT. OF AVIATION

TAXIWAY / TAXILANE DATA SHEET

	EXISTING CONDITIONS	EXISTING STANDARDS	FUTURE CONDITIONS	FUTURE STANDARDS
TAXIWAY WIDTHS (TDG I)	25'	25'	25'	25'
TAXILANE WIDTHS (TDG I)	25'	25'	25'	25'
TAXIWAY SAFETY AREA (TDG I)	49'	49'	49'	49'
TAXIWAY OBJECT FREE AREA (TDG I)	89'	89'	89'	89'
TAXILANE OBJECT FREE AREA (TDG I)	79'	79'	79'	79'
TAXIWAY LIGHTING	E-EDGE REFLECT	N/A	F-MITL	N/A

NON STANDARD CONDITIONS

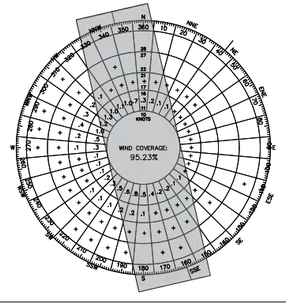
NO.	ITEM	DESCRIPTION	DISPOSITION
1	TOFA (TXY A)	TERRAIN PENETRATION	TO BE GRADED

APRON AREA

	SQUARE FOOTAGE APPROX.
APRON EXISTING	74,746
APRON FUTURE	106,375

BUILDING/FACILITY KEY

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
1	FUEL FACILITIES	4140.0'	18	T-HANGAR (F)	4153' (EST)
2	QUAD HANGAR	4148.0'	19	CONVENTIONAL HANGAR (F)	4153' (EST)
3	REGULATOR BUILDING	4148.5'	20	CONVENTIONAL HANGAR (F)	4153' (EST)
4	CONVENTIONAL HANGAR	4160.2'	21	CONVENTIONAL HANGAR (F)	4153' (EST)
5	CONVENTIONAL HANGAR	4159.2'	22	CONVENTIONAL HANGAR (F)	4153' (EST)
6	CONVENTIONAL HANGAR	4157.1'	23	CONVENTIONAL HANGAR (F)	4152' (EST)
7	CONVENTIONAL HANGAR	4155.7'	24	CONVENTIONAL HANGAR (F)	4159' (EST)
8	CONVENTIONAL HANGAR	4160.3'	25	AWOS	4136.4'
9	CONVENTIONAL HANGAR	4164.9'	26	BEACON	4154.5'
10	CONVENTIONAL HANGAR	4167.7'	27	SEGMENTED CIRCLE/WIND CONE	4136.4'
11	PILOT BUILDING (TO BE REMOVED)	4155.6'	28	AVIATION DEVELOPMENT RES.	-
12	CONVENTIONAL HANGAR (F)	4168' (EST)	29	VEHICLE PARKING	-
13	CONVENTIONAL HANGAR (F)	4168' (EST)	30	TRANSIENT AC/HELI PARKING (F)	-
14	CONVENTIONAL HANGAR (F)	4168' (EST)	31	STORAGE SHED	4154.0'
15	SRE/FBO BUILDING (F)	4166' (EST)	32	WELL HOUSE	4151.2'
16	CONVENTIONAL HANGAR (F)	4163' (EST)	33	TRANSFER STATION (E)	-
17	CONVENTIONAL HANGAR (F)	4162' (EST)	34	TRANSFER STATION (F)	-



ALL WEATHER WIND ANALYSIS

(SEE NOTE 2)

NCDC: 2008-2018
216,558 OBSERVATIONS

WIND COVERAGE IN PERCENT
CROSSWIND COMPONENT: 10.5 KTS

	VFR	IFR	ALL Wx
Runway 15	52.55%	65.48%	52.92%
Runway 33	62.84%	75.16%	63.15%
Combined	95.19%	96.65%	95.23%

LEGEND

	EXISTING (E)	FUTURE (F)	ULT/RESERVE (R)
AIRPORT PROPERTY			
FENCE			
GROUND CONTOUR			
PARCELS			
BRL	BRL–18	SAME	
ROFA		SAME	
ROFZ		SAME	
RPZ		SAME	
RSA		SAME	
TLOFA			
TOFA			
TSA			
AIRPORT REFERENCE POINT			
AWOS		SAME	
BEACON		SAME	
FUEL TANK		SAME	
PAPI		SAME	
REILS		SAME	
WIND INDICATOR		SAME	
AIRCRAFT PARKING/TIEDOWN			
AIRFIELD PAVEMENT			
AVIATION DEVELOPMENT RES			
AVIGATION EASEMENT			
BUILDINGS			
REMOVE BUILDING			
REMOVE PAVEMENT			
VEHICLE ACCESS/PARKING			
WASTE TRANSFER STATION			
SURFACE ROAD			
STREAM			

NOTES:

1. PCN IS NOT CALCULATED BY THE ODA PAVEMENT MANAGEMENT PROGRAM AND IS NOT AVAILABLE FOR JOSEPH STATE AIRPORT.
2. LESS THAN 10 YEARS OF WIND DATA ARE AVAILABLE FOR JOSEPH STATE AIRPORT. LDG DATA PROVIDED FOR 2010-2019 PER FAA GUIDANCE.
3. THE EXISTING FAR PART 77 DESIGNATION FOR RWY 15-33 (UTILITY/VISUAL) IS MAINTAINED, WHICH WILL SUPPORT A FUTURE NPI (CIRCLING) APPROACH PROCEDURE.

NO.	DATE	BY	APPR	REVISIONS

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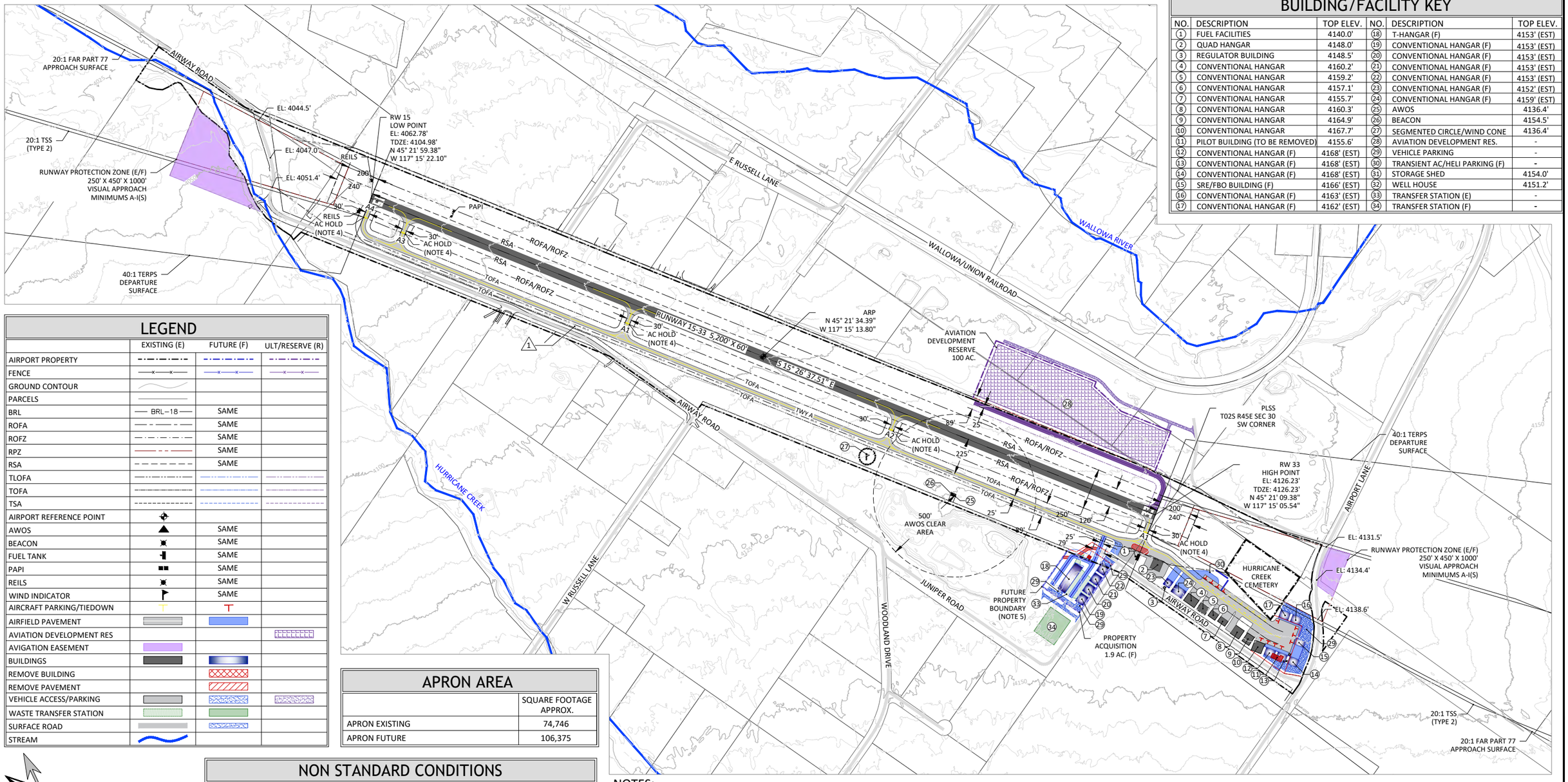
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JOSEPH STATE AIRPORT

AIRPORT DATA SHEET

FIGURE NO. -

SHEET NO. 2 OF 12



BUILDING/FACILITY KEY

NO.	DESCRIPTION	TOP ELEV.	NO.	DESCRIPTION	TOP ELEV.
1	FUEL FACILITIES	4140.0'	18	T-HANGAR (F)	4153' (EST)
2	QUAD HANGAR	4148.0'	19	CONVENTIONAL HANGAR (F)	4153' (EST)
3	REGULATOR BUILDING	4148.5'	20	CONVENTIONAL HANGAR (F)	4153' (EST)
4	CONVENTIONAL HANGAR	4160.2'	21	CONVENTIONAL HANGAR (F)	4153' (EST)
5	CONVENTIONAL HANGAR	4159.2'	22	CONVENTIONAL HANGAR (F)	4153' (EST)
6	CONVENTIONAL HANGAR	4157.1'	23	CONVENTIONAL HANGAR (F)	4152' (EST)
7	CONVENTIONAL HANGAR	4155.7'	24	CONVENTIONAL HANGAR (F)	4159' (EST)
8	CONVENTIONAL HANGAR	4160.3'	25	AWOS	4136.4'
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11	PILOT BUILDING (TO BE REMOVED)	4155.6'	28	AVIATION DEVELOPMENT RES.	-
12	CONVENTIONAL HANGAR (F)	4168' (EST)	29	VEHICLE PARKING	-
13	CONVENTIONAL HANGAR (F)	4168' (EST)	30	TRANSIENT AC/HELI PARKING (F)	-
14	CONVENTIONAL HANGAR (F)	4168' (EST)	31	STORAGE SHED	4154.0'
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16	CONVENTIONAL HANGAR (F)	4163' (EST)	33	TRANSFER STATION (E)	-
17	CONVENTIONAL HANGAR (F)	4162' (EST)	34	TRANSFER STATION (F)	-

LEGEND

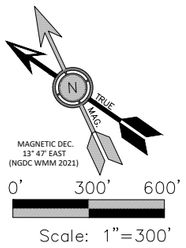
	EXISTING (E)	FUTURE (F)	ULT/RESERVE (R)
AIRPORT PROPERTY			
FENCE			
GROUND CONTOUR			
PARCELS			
BRL	BRL–18	SAME	
ROFA		SAME	
ROFZ		SAME	
RPZ		SAME	
RSA		SAME	
TLOFA			
TOFA			
TSA			
AIRPORT REFERENCE POINT			
AWOS		SAME	
BEACON		SAME	
FUEL TANK		SAME	
PAPI		SAME	
REILS		SAME	
WIND INDICATOR		SAME	
AIRCRAFT PARKING/TIEDOWN			
AIRFIELD PAVEMENT			
AVIATION DEVELOPMENT RES			
AVIGATION EASEMENT			
BUILDINGS			
REMOVE BUILDING			
REMOVE PAVEMENT			
VEHICLE ACCESS/PARKING			
WASTE TRANSFER STATION			
SURFACE ROAD			
STREAM			

APRON AREA

	SQUARE FOOTAGE APPROX.
APRON EXISTING	74,746
APRON FUTURE	106,375

NON STANDARD CONDITIONS

NO.	ITEM	DESCRIPTION	DISPOSITION
1	TOFA (TXY A)	TERRAIN PENETRATION	TO BE GRADED



NOTES:

1. EXISTING FEATURES DERIVED FROM 2020 AGIS SURVEY. ALL COORDINATES ARE BASED ON OREGON STATE PLANE, SOUTH ZONE, NAD83 (HORIZONTAL), AND NAVD88 (VERTICAL), AND INTERNATIONAL FEET.
2. TAXIWAYS HAVE 10' SHOULDERS AND 5' TAXIWAY EDGE SAFETY MARGIN. TSA LINES OMITTED FOR CLARITY. SEE SHEET 4 FOR TSA DETAILS. SEE SHEET 4 FOR TAXIWAY/TAXILANE CLEARANCE DETAILS
3. AIRPORT PROPERTY IS FENCED BY 6' TALL CHAIN LINK FENCE
4. AC HOLD LINES ARE LOCATED 125' FROM RW CENTERLINE
5. SEE TERMINAL AREA PLAN (SHEET 4) FOR GREATER DETAIL ON EXISTING AND FUTURE TERMINAL AREAS.
6. SEE NARRATIVE REPORT FOR INFORMATION ON CRITICAL HABITAT AREAS ASSOCIATED WITH NEARBY STREAMS.

NO.	DATE	BY	APPR	REVISIONS

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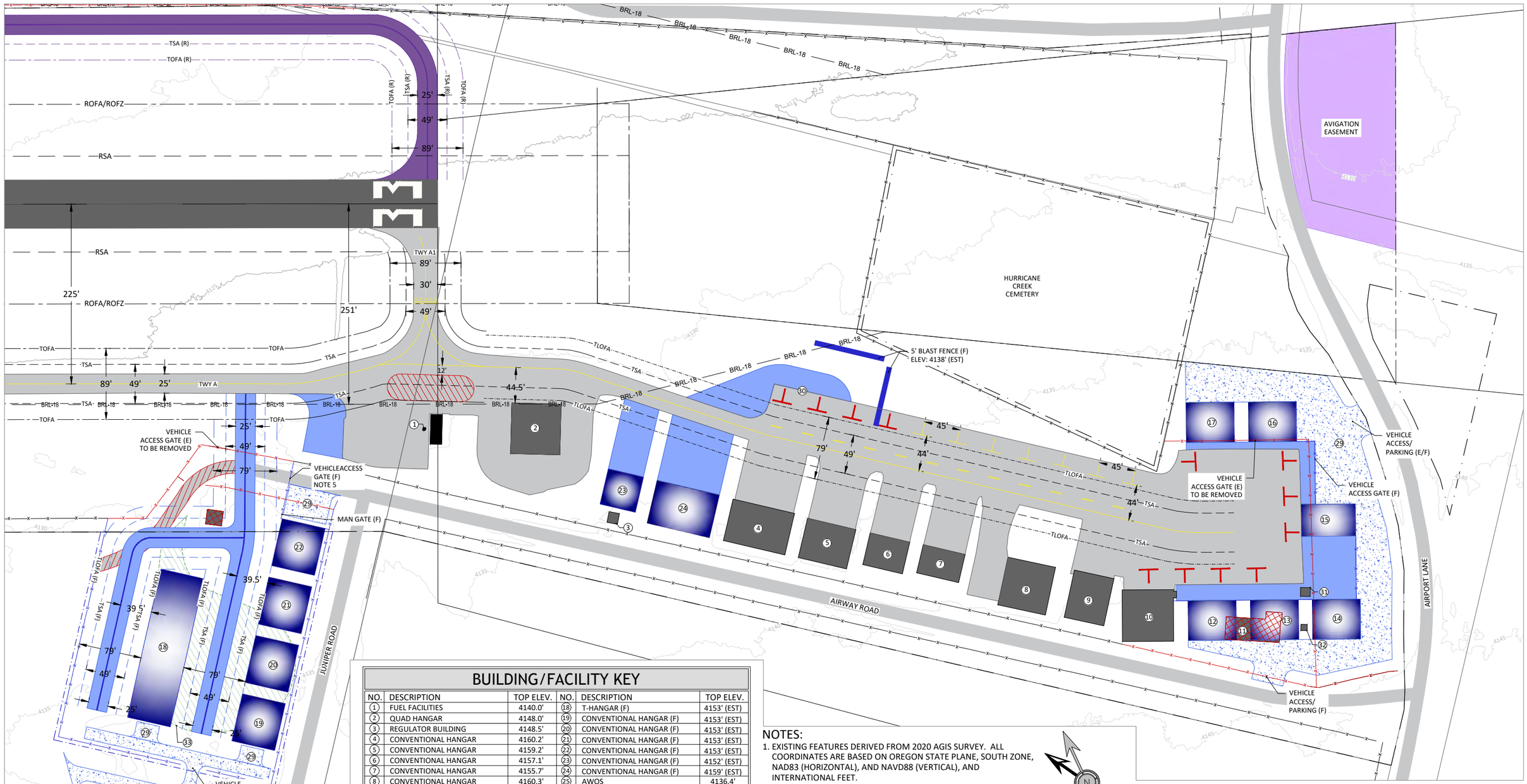
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JOSEPH STATE AIRPORT

AIRPORT LAYOUT PLAN

FIGURE NO. -

SHEET NO. 3 OF 12

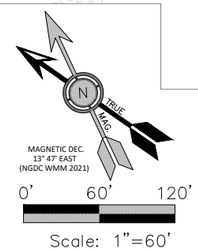


BUILDING/FACILITY KEY

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NOTES:

1. EXISTING FEATURES DERIVED FROM 2020 AGIS SURVEY. ALL COORDINATES ARE BASED ON OREGON STATE PLANE, SOUTH ZONE, NAD83 (HORIZONTAL), AND NAVD88 (VERTICAL), AND INTERNATIONAL FEET.
2. TERMINAL AREA IS FENCED BY 6' TALL CHAIN LINK FENCE WITH 3-STRAND BARBED WIRE TOPPER.
3. BRL-18 INDICATES THE MAXIMUM ALLOWABLE ROOF HEIGHT ABOVE RUNWAY ELEVATION (INCLUDING GROUND ELEVATION).
4. SEE SHEET 2 FOR FULL LEGEND.
5. GATE TO BE LOCKED WITH LIMITED ACCESS CONTROLLED BY AIRPORT MANAGEMENT.



NO.	DATE	BY	APPR	REVISIONS

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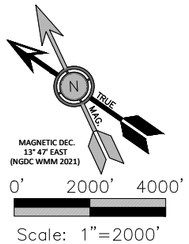
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JOSEPH STATE AIRPORT

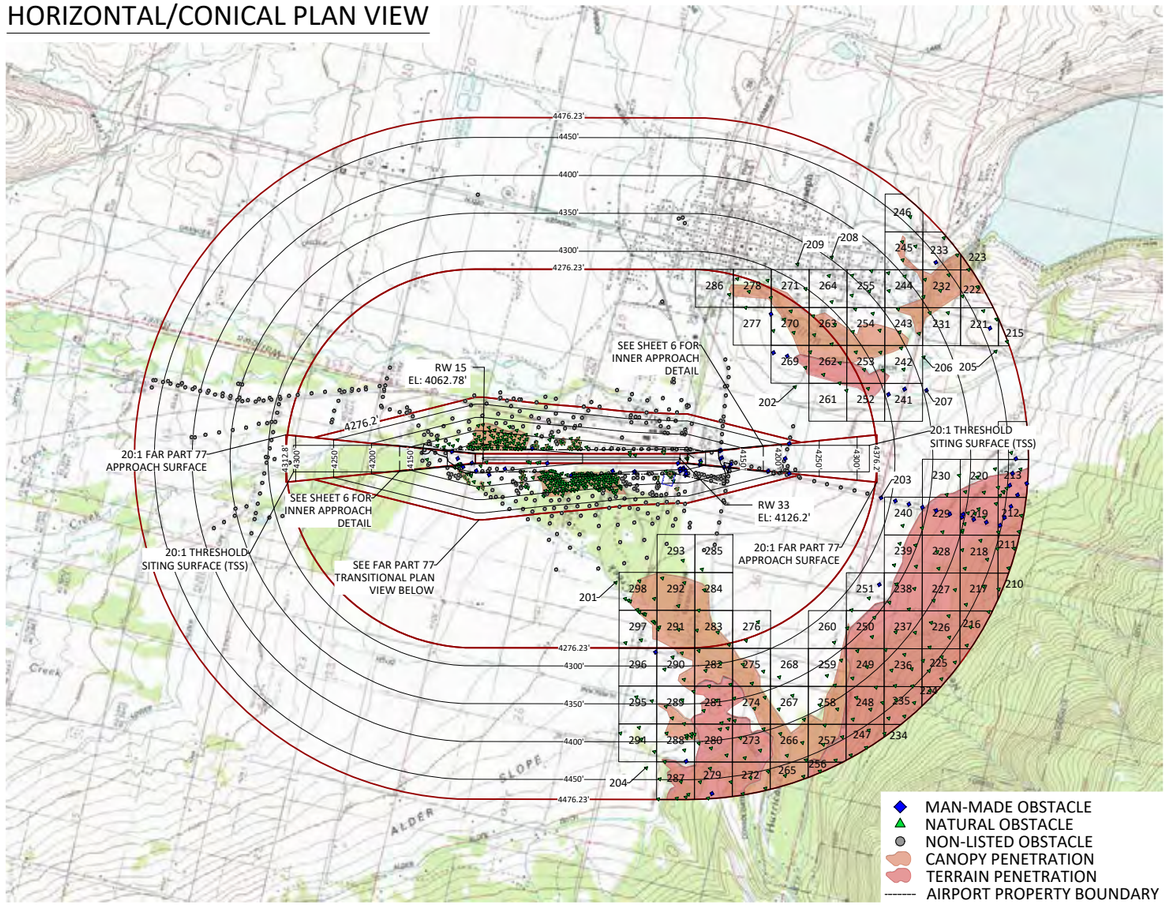
TERMINAL AREA PLAN

FIGURE NO. -

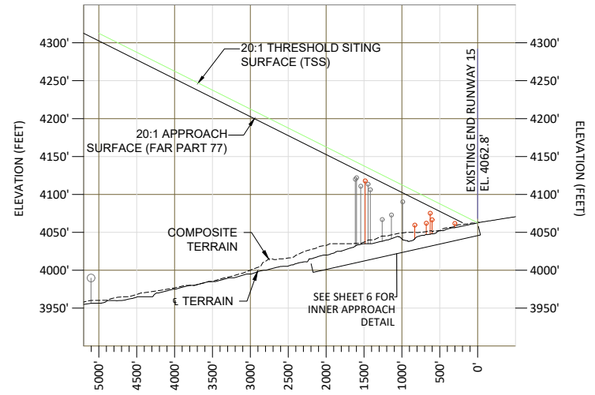
SHEET NO. 4 OF 12



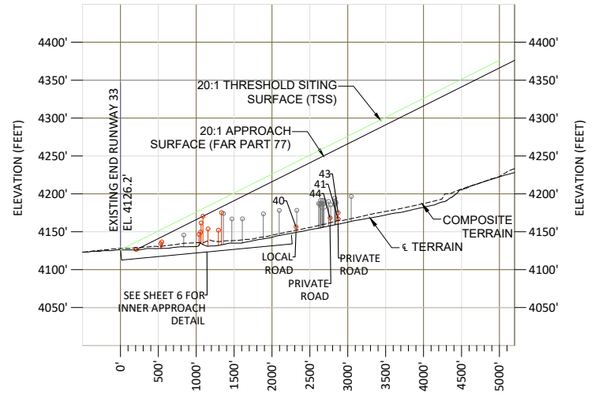
HORIZONTAL/CONICAL PLAN VIEW

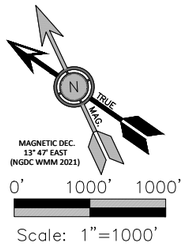


RUNWAY 15 PART 77 APPROACH PROFILE VIEW

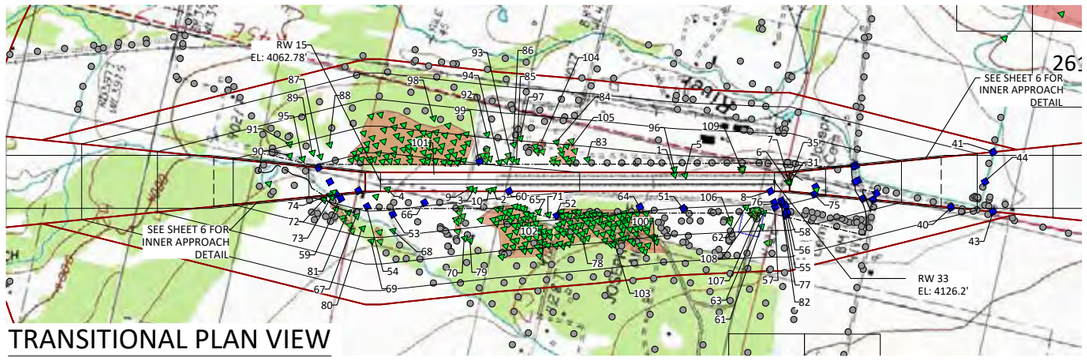


RUNWAY 33 PART 77 APPROACH PROFILE VIEW

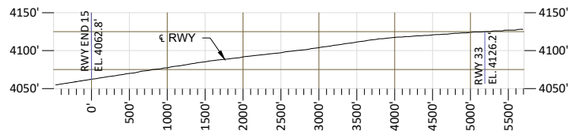




TRANSITIONAL PLAN VIEW



RUNWAY 15/33 PROFILE VIEW



NOTES:

1. DETAILED DATA ARE PROVIDED FOR MAN-MADE AND NATURAL OBSTACLES (SEE LEGEND) THAT ARE LESS THAN 10' BELOW THE CONTROLLING SURFACE OR ABOVE. THE LOCATIONS OF OTHER OBSTACLES ARE DEPICTED BY GRAY 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 10 & 11.
3. SEE SHEET 6 FOR INNER APPROACH SURFACE DETAILS.
4. LOCAL AIRSPACE RESTRICTIONS ARE CODIFIED THROUGH ARTICLE 29 OF WALLOWA COUNTY CODE (AIRPORT PROTECTION ZONE).
5. AIRPORT ELEVATION IS 4126.23' AS SURVEYED IN 2020 AGIS SURVEY

PROFILE VIEW SCALES:
Horizontal: 1"=1000'
Vertical: 1"=100'

- OBSTACLE > 10' BELOW SURFACE
- OBSTACLE < 10' BELOW SURFACE AND HIGHER OR TRAVERSWAY

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES
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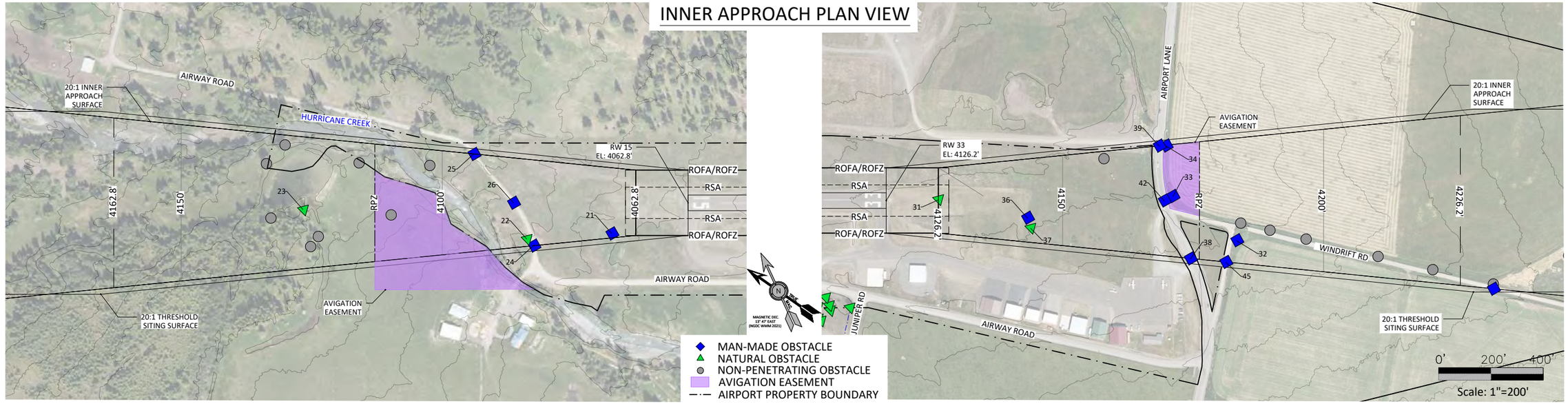
JOSEPH STATE AIRPORT

FAR PART 77 AIRSPACE PLAN

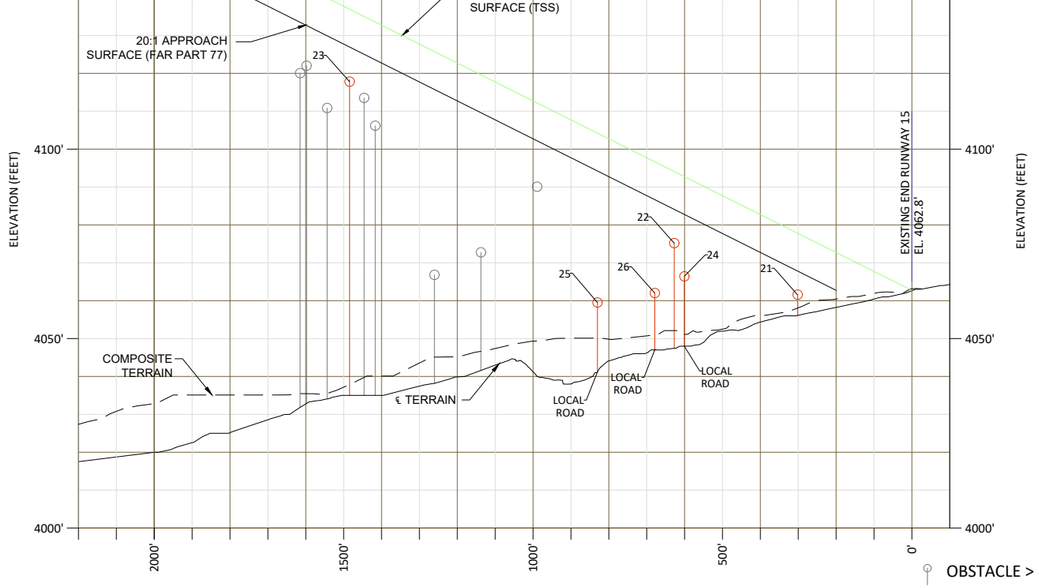
FIGURE NO.
-

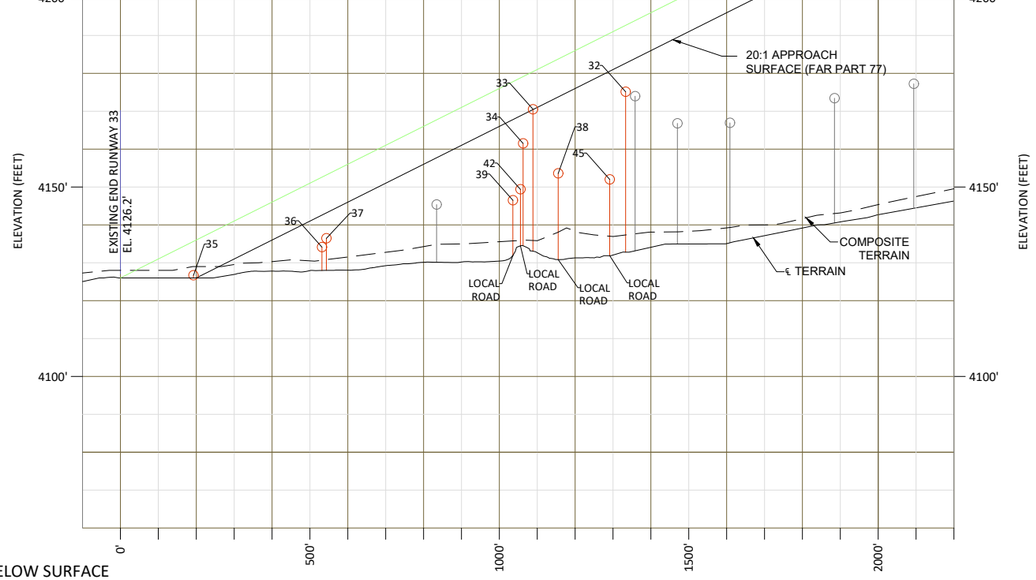
SHEET NO.
5 OF 12

INNER APPROACH PLAN VIEW



MAN-MADE OBSTACLE
NATURAL OBSTACLE
NON-PENETRATING OBSTACLE
AVIGATION EASEMENT
AIRPORT PROPERTY BOUNDARY





OBSTACLE > 10' BELOW SURFACE
OBSTACLE < 10' BELOW SURFACE AND HIGHER, OR TRAVERSEWAY

INNER APPROACH PROFILE VIEW

Horizontal Scale: 1"=200'
Vertical Scale: 1"=20'

NOTES:

1. DETAILED DATA ARE PROVIDED FOR MAN-MADE AND NATURAL OBSTACLES (SEE LEGEND) THAT ARE LESS THAN 10' BELOW THE CONTROLLING SURFACE OR ABOVE. THE LOCATIONS OF OTHER OBSTACLES ARE DEPICTED BY GRAY DOTS FOR REFERENCE. CONSULT ADIP FOR DETAILED INFORMATION ON THESE FEATURES.
2. SEE SHEET 10 FOR OBSTRUCTION TABLES.

NO.	DATE	BY	APPR	REVISIONS

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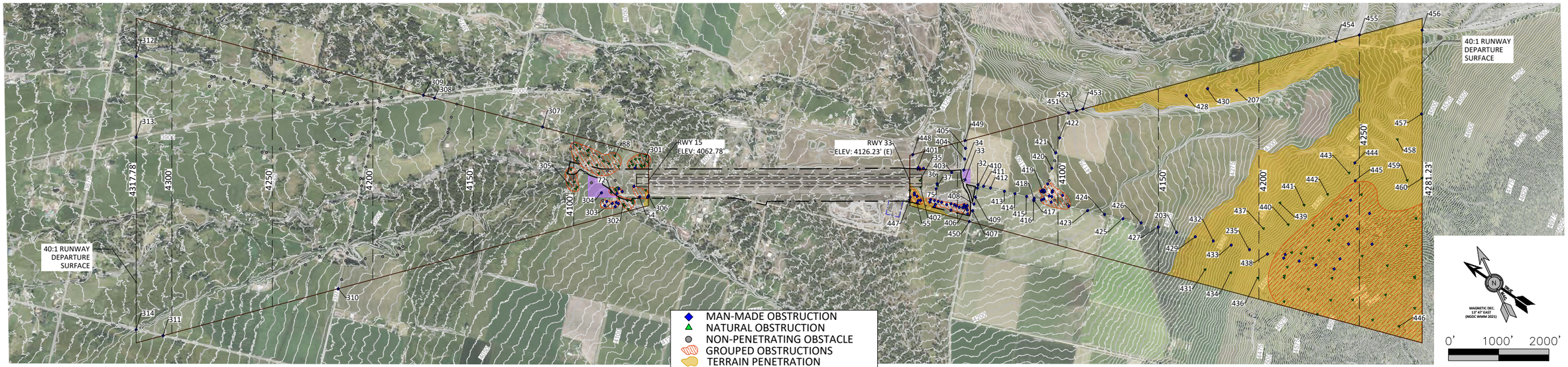
JOSEPH STATE AIRPORT

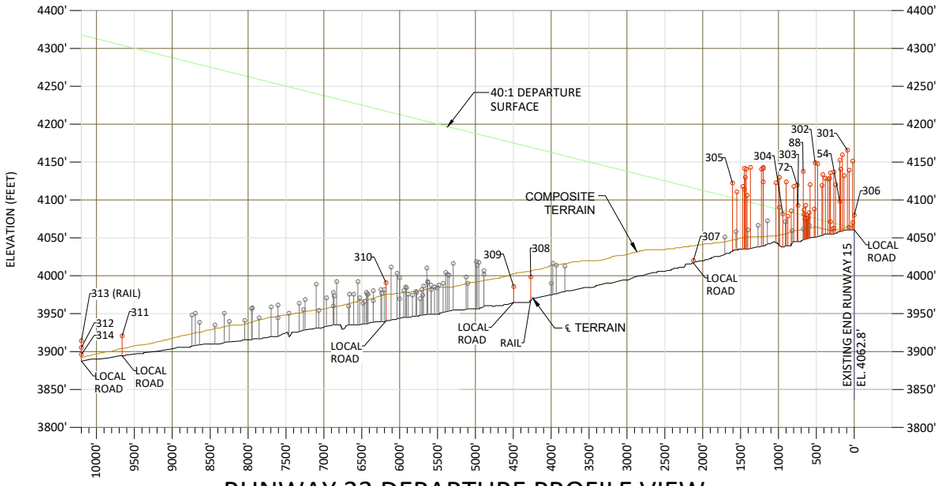
FAR PART 77 INNER APPROACH SURFACE PLAN & PROFILE

FIGURE NO. -

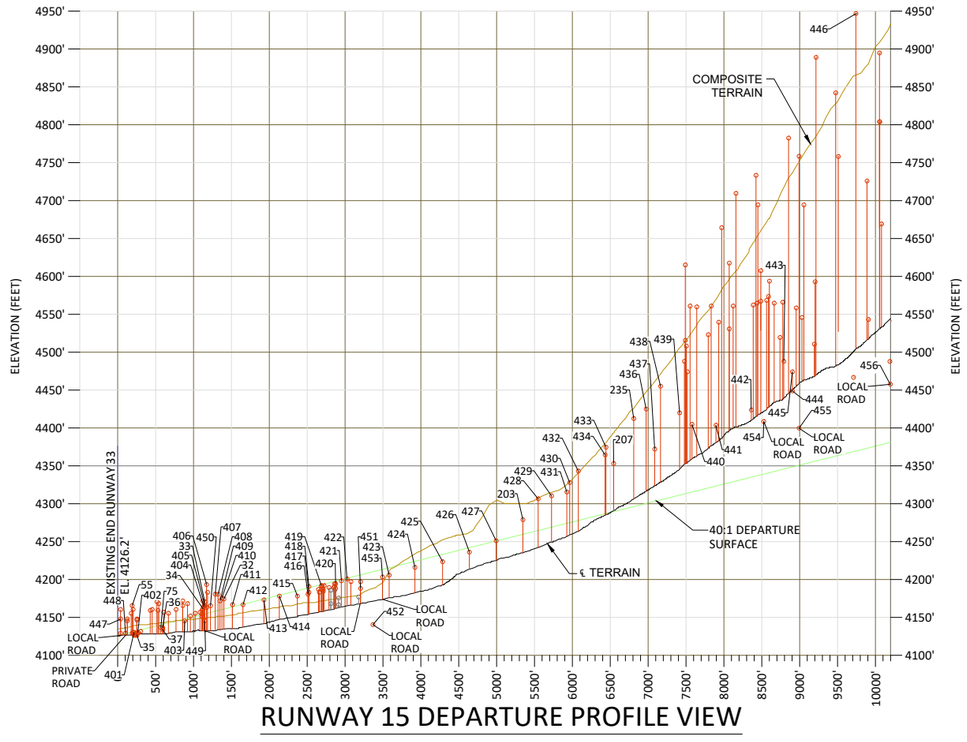
SHEET NO. 6 OF 12

DEPARTURE SURFACE PLAN VIEW





RUNWAY 33 DEPARTURE PROFILE VIEW



RUNWAY 15 DEPARTURE PROFILE VIEW

NOTES:

1. DETAILED DATA ARE PROVIDED FOR MAN-MADE AND NATURAL OBSTACLES (SEE LEGEND) THAT ARE LESS THAN 10' BELOW THE CONTROLLING SURFACE OR ABOVE. THE LOCATIONS OF OTHER OBSTACLES ARE DEPICTED BY GRAY DOTS FOR REFERENCE. CONSULT ADIP FOR DETAILED INFORMATION ON THESE FEATURES.
2. AREAS OF DENSE OBSTACLES ARE AGGREGATED INTO OBSTACLE GROUPS. 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 SHEET 12.
3. SEE SHEET 12 FOR OBSTACLE TABLES.

OBSTACLE > 10' BELOW SURFACE
OBSTACLE < 10' BELOW SURFACE AND HIGHER OR TRAVERSWAY

PROFILE VIEW SCALES:
Horizontal: 1"=1000'
Vertical: 1"=100'

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.

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BEND OFFICE
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BEND, OR 97702
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541.382.2423 FAX

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DM	MS	WMR	AS SHOWN
DATE: JANUARY 2022		PROJECT NO: 40097.091.01	

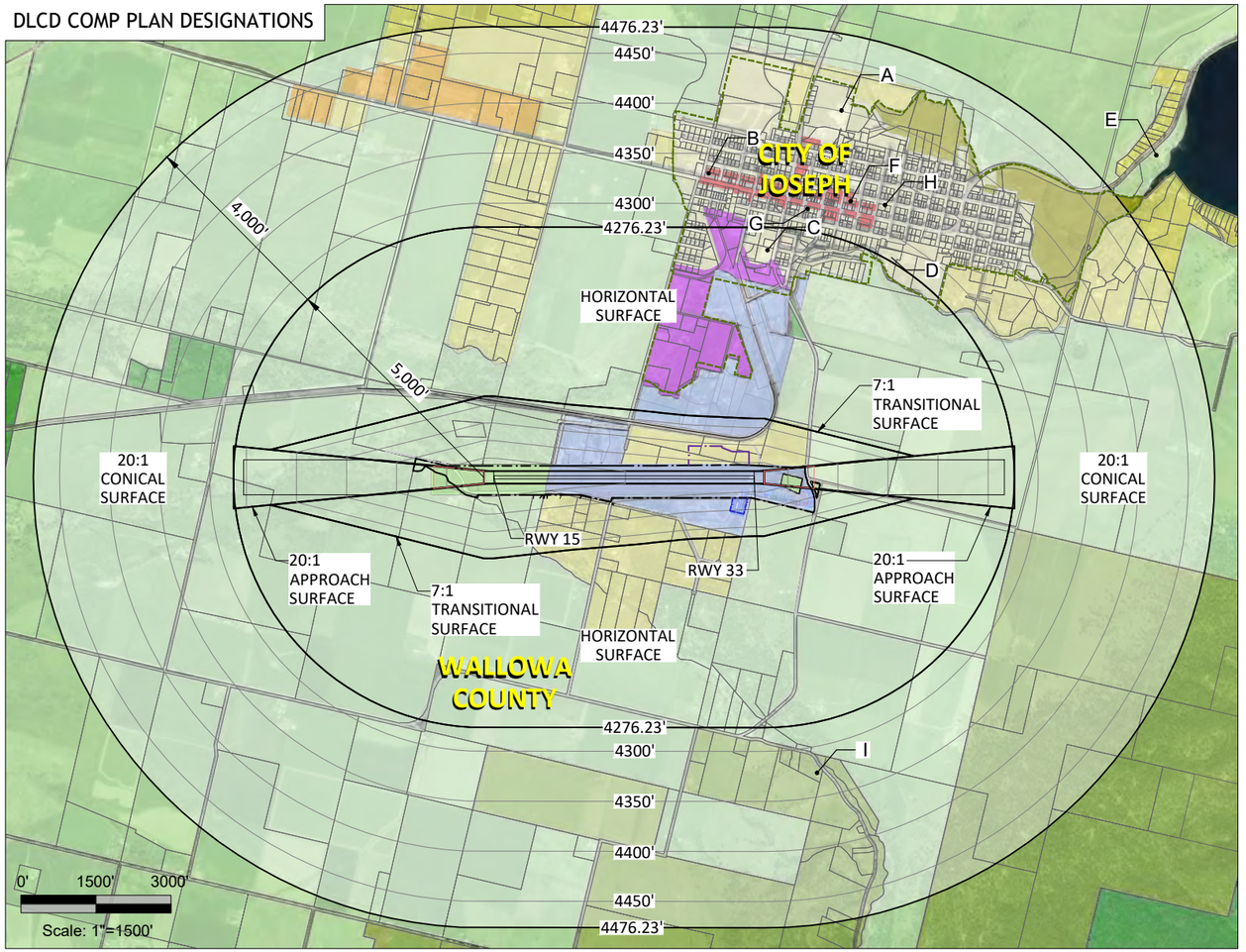
JOSEPH STATE AIRPORT

RUNWAY DEPARTURE SURFACE PLAN & PROFILE

FIGURE NO.
-

SHEET NO.
7 OF 12

DLCD COMP PLAN DESIGNATIONS





DLCD COMP PLAN DESIGNATIONS

- AGRICULTURE (AG)
- FOREST (FO)
- LOW/MEDIUM DENSITY RESIDENTIAL (L/MDR)
- MIXED FARM/FOREST (MFF)
- NONRESOURCE LAND (NRL)
- RURAL COMMERCIAL (RC)
- RURAL INDUSTRIAL (RI)
- RURAL RESIDENTIAL (RR)
- COMMERCIAL (COM)
- URBAN HOLDING/URBANIZABLE (H)
- INDUSTRIAL (IND)

LEGEND

- AIRPORT PROPERTY BOUNDARY
- FUTURE AIRPORT PROPERTY BOUNDARY
- ULTIMATE AIRPORT PROPERTY BOUNDARY
- RPZ
- ROADWAY
- AIRFIELD PAVEMENT
- FUTURE AIRFIELD PAVEMENT
- BUILDING
- FUTURE BUILDING

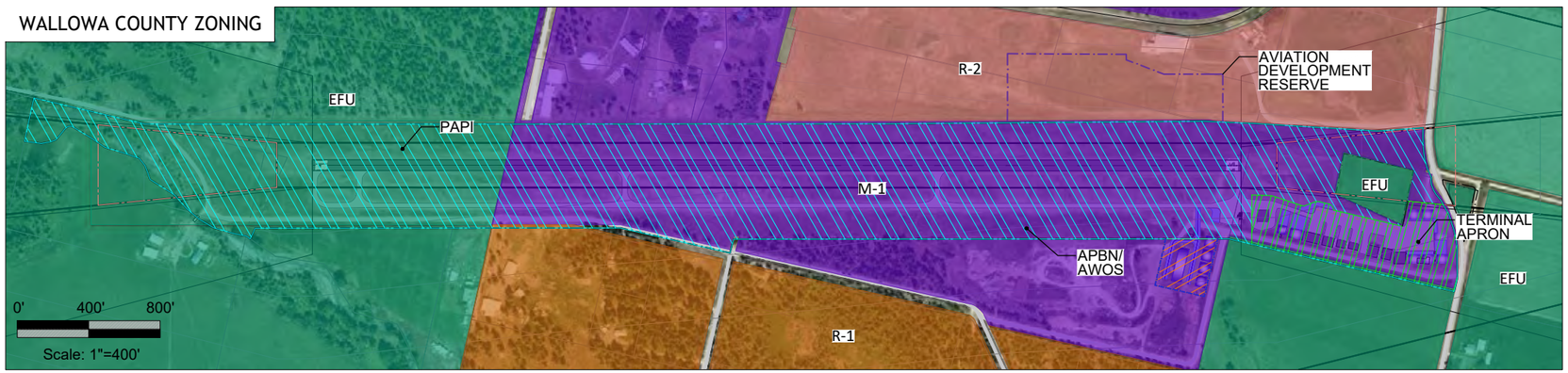
PUBLIC FACILITY KEY

A	JOSEPH HIGH SCHOOL
B	WALLOWA MEMORIAL MEDICAL CLINIC
C	JOSEPH RODEO GROUNDS
D	JOSEPH CITY PARK
E	NEZ PERCE NATIONAL HISTORICAL PARK
F	WALLOWA COUNTY MUSEUM
G	JOSEPH BAPTIST CHURCH
H	JOSEPH UNITED METHODIST CHURCH
I	WALLOWA BUDDHIST TEMPLE

NOTES:

1. COMPREHENSIVE PLAN LAND USE BOUNDARIES AND DESGINATION SOURCE: OREGON DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT, 2019
2. WALLOWA COUNTY CODE ARTICLE 29, AIRPORT PROTECTION ZONE, CODIFIES LAND USE PROTECTIONS FOR AIRPORT RPZS AND PART 77 AIRSPACE IMAGINARY SURFACES.
3. NOISE CONTOURS WERE NOT PREPARED AS THE AIRPORT DOES NOT MEET THE NEPA THRESHOLD.

WALLOWA COUNTY ZONING



WALLOWA COUNTY ZONING

- EXCLUSIVE FARM USE (EFU)
- INDUSTRIAL (M-1)
- RURAL RESIDENTIAL (R-1)
- RECREATION RESIDENTIAL (R-2)

AIRPORT LAND UTILIZATION

- AIRFIELD
- EXISTING HANGAR AREA
- FUTURE HANGAR AREA

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES

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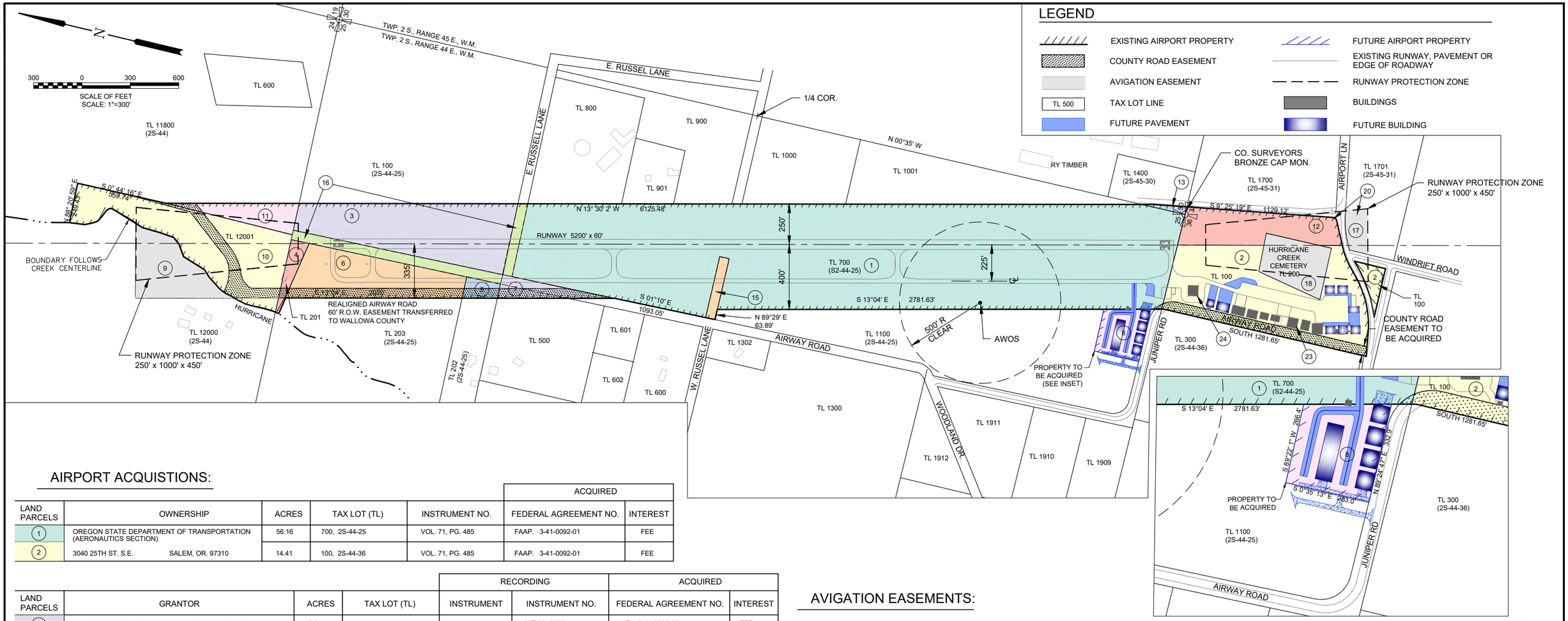
DATE: JANUARY 2022
PROJECT NO: 40097.091.01

JOSEPH STATE AIRPORT

LAND USE PLAN

FIGURE NO. -

SHEET NO. 8 OF 12



AIRPORT ACQUISITIONS:

LAND PARCELS	OWNERSHIP	ACRES	TAX LOT (TL)	INSTRUMENT NO.	ACQUIRED: FEDERAL AGREEMENT NO.	ACQUIRED: INTEREST
(1)	OREGON STATE DEPARTMENT OF TRANSPORTATION (AERONAUTICS SECTION)	56.16	700, 2S-44-25	VOL. 71, PG. 485	FAAP. 3-41-0092-01	FEE
(2)	3040 25TH ST. S.E. SALEM, OR. 97310	14.41	100, 2S-44-36	VOL. 71, PG. 485	FAAP. 3-41-0092-01	FEE

LAND PARCELS	GRANTOR		ACRES	TAX LOT (TL)	RECORDING: INSTRUMENT	RECORDING: INSTRUMENT NO.	ACQUIRED: FEDERAL AGREEMENT NO.	ACQUIRED: INTEREST
(3)	CITY OF ENTERPRISE	ENTERPRISE, OR. 97828	8.8	100, 2S-44-25	DEED	MFLM. 30751	AIP. 3-41-0092-03	FEE
(4)	MERLIN & PHYLLIS LOVELL	64220 STEEN ROAD JOSEPH, OR. 97846	0.7	201, 2S-44-25	DEED	MFLM. 9529117	AIP. 3-41-0092-02	FEE
(5)	MARVIN & EVELYN LOVELL	64098 STEEN ROAD JOSEPH, OR. 97846	0.6	202, 2S-44-25	DEED	MFLM. 9631202	AIP. 3-41-0092-03	FEE
(6)	MARVIN & EVELYN LOVELL	64098 STEEN ROAD JOSEPH, OR. 97846	6.2	203, 2S-44-25	DEED	MFLM. 9631202	AIP. 3-41-0092-03	FEE
(7)	RADBOURWE, ROGER W. % GILBERT, TIMOTHY S. ET. UX.	83255 RUSSELL LANE JOSEPH, OR. 97846	0.6	500, 2S-44-25	DEED	MFLM. 9631050	AIP. 3-41-0092-03	FEE
(8)	CITY OF JOSEPH	P.O. BOX 13, JOSEPH, OR. 97846	1.9	1100, 2S-44-25	TO BE ACQUIRED	-		FEE
(10)	LOVELL, PHYLLIS	203 S.E. 3RD STREET ENTERPRISE, OR. 97828	9.3	12001, 2S-44	DEED	MFLM. 9529095	AIP. 3-41-0092-02	FEE
(11)	JAMES & CONNIE STEEN	JOSEPH, OR. 97846	1.4	11800, 2S-44	DEED	MFLM. 9630891	AIP. 3-41-0092-03	FEE
(12)	JOSEPH TIMBER CO.	P.O. BOX 758 JOSEPH, OR. 97846	3.0	1700, 2S-45-31	DEED	MFLM. 9529307	AIP. 3-41-0092-02	DONATION
(13)	JOSEPH TIMBER CO.	P.O. BOX 758 JOSEPH, OR. 97846	0.17	400, 2S-45-31	DEED	MFLM. 9529307	AIP. 3-41-0092-02	DONATION
(15)	WALLOWA COUNTY	101 S. RIVER STREET ENTERPRISE, OR. 97828	0.50	2S-44-25	DEED	VACATED	AIP. 3-41-0092-03	R.O.W.
(16)	WALLOWA COUNTY	101 S. RIVER STREET ENTERPRISE, OR. 97828	2.65	2S-44-25	DEED	VACATED	AIP. 3-41-0092-03	R.O.W.
	TOTAL EXISTING AIRPORT PROPERTY		106.40					
	TOTAL FUTURE AIRPORT PROPERTY		108.30					

AVIGATION EASEMENTS:

LAND PARCELS	OWNERSHIP		EXIST. ACRES	PROPOSED ACRES	TAX LOT (TL)	INSTRUMENT NO.	DATE	INTEREST
(9)	CRONE, JUDY	64290 STEEN ROAD JOSEPH, OR. 97846	4.9	4.9	12000, 2S-44	MFLM. 9529296	7/11/95	EASEMENT
(17)	JEAN E. BUTLER	JOSEPH, OR.	1.33	0.58	1701, 2S-45-36	BK. 71-560 CURRENTLY PART OF (20)	6/26/64	EASEMENT (TO BE RE-ACQUIRED)
(18)	SILVER LAKE LODGE #84 I.O.O.F.	83695 AIRPORT LANE JOSEPH, OR. 97846	1.61	2.93	200, 2S-44-31	BK. 71-559	6/26/64	EASEMENT (TO BE RE-ACQUIRED)
(20)	M. P. & BELL ISLEY, H.& W.		2.11	SEE (12) AND (17)	1700 & 1701, 2S-44-25			ESMT. ACQUIRED THRU (12)

AIRPORT LEASE AREAS:

LAND PARCELS	LAND PARCELS	AREA	RECORDED	M.F. #	ORIGINATED	EXPIRES	INTEREST
(23)	KESSLER FAMILY TRUST	6630 S.F.	OCT. 9, 1991	N/A	AUG. 16, 1991	AUG. 15, 1996	NONE
(24)	AERO STORAGE, INC SITE 2	5106 S.F.	OCT. 9, 1991	N/A	SEPT. 1, 1993	AUG. 31, 1998	NONE

NOTES:
1. PROPERTY DATA AND DESCRIPTIONS PROVIDED BY WALLOWA COUNTY.

NO.	DATE	BY	APPR	REVISIONS
1	11/94	SDH	-	REVISED PIONEER CEMETERY AND MISC. UPDATE
2	-	MRD	-	REVISED ACQUISITION SCHEDULE
3	9/10	JJB	JNR	CONVERTED TO CAD. UPDATE
4	7/21	MS	DM	AMP UPDATE, CORRECTED NORTH BOUNDARY

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DM	MS	WMR	AS SHOWN
DATE: JANUARY 2022		PROJECT NO: 40097.091.01	

JOSEPH STATE AIRPORT

EXHIBIT "A" PROPERTY MAP

FIGURE NO.

SHEET NO. 9 of 12

PART 77 PRIMARY SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
1	VEGETATION	6/25/2020	PRIMARY	4114.5	8.5	4123.0	4117.5	5.4	TO BE REMOVED	0-10 YEARS
2	TERRAIN	6/25/2020	PRIMARY	4086.7	0.0	4086.7	4086.2	0.4	TO BE REMOVED	0-10 YEARS
3	TERRAIN	6/25/2020	PRIMARY	4082.7	0.0	4082.7	4082.3	0.4	TO BE REMOVED	0-10 YEARS
4	TERRAIN	6/25/2020	PRIMARY	4064.6	0.0	4064.6	4064.3	0.3	TO BE REMOVED	0-10 YEARS
5	VEGETATION	6/25/2020	PRIMARY	4114.9	6.8	4121.7	4118.7	3.0	TO BE REMOVED	0-10 YEARS
6	TERRAIN	6/25/2020	PRIMARY	4126.7	0.0	4126.7	4126.3	0.4	TO BE REMOVED	0-10 YEARS
7	TERRAIN	6/25/2020	PRIMARY	4126.5	0.0	4126.5	4126.3	0.2	TO BE REMOVED	0-10 YEARS
8	SIGN	6/25/2020	PRIMARY	4127.2	2.3	4129.5	4126.0	3.5	FIXED BY FUNCTION	NO ACTION
9	TERRAIN	6/25/2020	PRIMARY	4081.8	0.0	4081.8	4081.4	0.4	TO BE REMOVED	0-10 YEARS
10	TERRAIN	6/25/2020	PRIMARY	4085.7	0.0	4085.7	4085.4	0.3	TO BE REMOVED	0-10 YEARS

PART 77 RUNWAY 15 APPROACH SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
21	FENCE	6/25/2020	APPR15	4058.1	3.5	4061.6	4067.3	-5.8	NO OBSTRUCTION	NO ACTION
22	TREE	6/25/2020	APPR15	4051.6	23.6	4075.2	4083.6	-8.4	NO OBSTRUCTION	NO ACTION
23	TREE	6/25/2020	APPR15	4032.5	85.3	4117.8	4126.5	-8.7	NO OBSTRUCTION	NO ACTION
24	LOCAL ROAD	6/25/2020	APPR15	4051.4	15.0	4066.4	4082.3	-15.9	NO OBSTRUCTION	NO ACTION
25	LOCAL ROAD	6/25/2020	APPR15	4044.5	15.0	4059.5	4093.8	-34.3	NO OBSTRUCTION	NO ACTION
26	LOCAL ROAD	6/25/2020	APPR15	4047.0	15.0	4062.0	4086.2	-24.2	NO OBSTRUCTION	NO ACTION

PART 77 RUNWAY 33 APPROACH SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
32	POWER POLE	6/25/2020	APPR33	4136.6	38.6	4175.1	4183.5	-8.4	NO OBSTRUCTION	NO ACTION
33 (NOTE 2)	POWER POLE	6/25/2020	APPR33	4132.4	38.1	4170.5	4171.3	-0.8	NO OBSTRUCTION	0-5 YEARS
34	POWER POLE	6/25/2020	APPR33	4127.8	33.7	4161.5	4170.0	-8.5	NO OBSTRUCTION	NO ACTION
35 (NOTE 2)	TERRAIN	6/25/2020	APPR33	4126.7	0.0	4126.7	4126.4	0.3	TO BE GRADED	0-5 YEARS
36	FENCE	6/25/2020	APPR33	4128.6	5.5	4134.1	4143.4	-9.3	NO OBSTRUCTION	NO ACTION
37	VEGETATION	6/25/2020	APPR33	4129.8	6.6	4136.5	4144.0	-7.6	NO OBSTRUCTION	NO ACTION
38	LOCAL ROAD	6/25/2020	APPR33	4138.6	15.0	4153.6	4174.6	-21.0	NO OBSTRUCTION	NO ACTION
39	LOCAL ROAD	6/25/2020	APPR33	4131.5	15.0	4146.5	4168.6	-22.2	NO OBSTRUCTION	NO ACTION
40	LOCAL ROAD	6/25/2020	APPR33	4148.8	15.0	4163.8	4232.7	-68.9	NO OBSTRUCTION	NO ACTION
41	PRIVATE ROAD	6/25/2020	APPR33	4165.0	10.0	4175.0	4260.4	-85.4	NO OBSTRUCTION	NO ACTION
42	LOCAL ROAD	6/25/2020	APPR33	4134.4	15.0	4149.4	4169.6	-20.3	NO OBSTRUCTION	NO ACTION
43	PRIVATE ROAD	6/25/2020	APPR33	4156.7	10.0	4166.7	4260.4	-93.7	NO OBSTRUCTION	NO ACTION
44	PRIVATE ROAD	6/25/2020	APPR33	4158.0	10.0	4168.0	4255.1	-87.1	NO OBSTRUCTION	NO ACTION
45	LOCAL ROAD	6/25/2020	APPR33	4137.0	15.0	4152.0	4181.4	-29.4	NO OBSTRUCTION	NO ACTION

NOTE:

1. IDENTIFIED OBSTRUCTIONS WILL BE REMOVED THROUGH PROGRAMMED OBSTRUCTION REMOVAL PROJECTS IDENTIFIED IN THE CIP. EXCEPT FOR OBSTRUCTIONS DESCRIBED IN NOTE 2, THE PRESENTED MITGATION TIMELINES ARE ESTIMATES. PLEASE REFERENCE THE CIP FOR DETAILS ON OBSTRUCTION REMOVAL PROJECT'S TIMING AND EXTENT.

2. THESE OBSTRUCTIONS HAVE BEEN IDENTIFIED FOR REMOVAL BY FAA FLIGHT PROCEDURE TEAM TO SUPPORT A NON-PRECISION INSTRUMENT APPROACH (CIRCLING). REMOVAL OF THE OBSTRUCTIONS IS INCLUDED IN THE CURRENT 5-YEAR CIP.

PART 77 TRANSITIONAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
51	APBN	6/25/2020	TRANS	4125.8	28.7	4154.5	4150.6	3.9	TO BE LIGHTED	15-20 YEARS
52	POWER POLE	6/25/2020	TRANS	4104.1	37.5	4141.6	4142.2	-0.6	NO OBSTRUCTION	NO ACTION
53	POWER POLE	6/25/2020	TRANS	4069.0	35.1	4104.1	4108.7	-4.7	NO OBSTRUCTION	NO ACTION
54	POWER POLE	6/25/2020	TRANS	4062.1	35.1	4097.2	4091.6	5.6	TO BE LIGHTED	15-20 YEARS
55	POWER POLE	6/25/2020	TRANS	4135.8	29.9	4165.7	4171.3	-5.6	NO OBSTRUCTION	NO ACTION
56	POWER POLE	6/25/2020	TRANS	4135.0	25.1	4160.0	4165.7	-5.7	NO OBSTRUCTION	NO ACTION
57	POWER POLE	6/25/2020	TRANS	4132.1	28.4	4160.5	4155.8	4.6	TO BE LIGHTED	15-20 YEARS
58	BUILDING	6/25/2020	TRANS	4131.4	24.5	4155.9	4153.3	2.6	TO BE LIGHTED	15-20 YEARS
59	POWER POLE	6/25/2020	TRANS	4054.1	33.3	4087.4	4088.1	-0.7	NO OBSTRUCTION	NO ACTION
60	SIGN	6/25/2020	TRANS	4089.3	2.1	4091.4	4088.9	2.5	TO BE LIGHTED	15-20 YEARS
61	TREE	6/25/2020	TRANS	4134.3	61.4	4195.8	4191.8	4.0	TO BE REMOVED	15-20 YEARS
62	TREE	6/25/2020	TRANS	4128.6	67.0	4195.6	4154.4	41.2	TO BE REMOVED	15-20 YEARS
63	TREE	6/25/2020	TRANS	4129.5	59.4	4188.9	4166.2	22.7	TO BE REMOVED	15-20 YEARS
64	WINDSOCK	6/25/2020	TRANS	4115.4	21.1	4136.4	4140.5	-4.0	NO OBSTRUCTION	NO ACTION
65	TREE	6/25/2020	TRANS	4098.4	71.3	4169.7	4131.9	37.8	TO BE REMOVED	15-20 YEARS
66	FENCE	6/25/2020	TRANS	4076.2	7.2	4083.4	4093.3	-9.9	NO OBSTRUCTION	NO ACTION
67	TREE	6/25/2020	TRANS	4054.1	81.0	4135.1	4113.8	21.2	TO BE REMOVED	15-20 YEARS
68	TREE	6/25/2020	TRANS	4069.9	90.7	4160.6	4139.7	20.9	TO BE REMOVED	15-20 YEARS
69	TREE	6/25/2020	TRANS	4068.6	78.8	4147.3	4156.9	-9.6	NO OBSTRUCTION	NO ACTION
70	TREE	6/25/2020	TRANS	4092.2	95.8	4188.0	4168.9	19.1	TO BE REMOVED	15-20 YEARS
71	TREE	6/25/2020	TRANS	4100.8	50.9	4151.7	4139.0	12.7	TO BE REMOVED	15-20 YEARS
72	TREE	6/25/2020	TRANS	4049.5	70.2	4119.6	4098.7	20.9	TO BE REMOVED	15-20 YEARS
73	TREE	6/25/2020	TRANS	4047.6	32.6	4080.2	4086.2	-6.1	NO OBSTRUCTION	NO ACTION
74	TREE	6/25/2020	TRANS	4048.3	44.5	4092.8	4089.7	3.1	TO BE REMOVED	15-20 YEARS
75	FENCE	6/25/2020	TRANS	4130.8	5.2	4136.0	4143.2	-7.3	NO OBSTRUCTION	NO ACTION
76	PIPES ON TANK	6/25/2020	TRANS	4128.5	11.6	4140.0	4147.4	-7.3	NO OBSTRUCTION	NO ACTION
77	BUILDING	6/25/2020	TRANS	4130.8	14.7	4145.6	4144.0	1.5	TO BE LIGHTED	15-20 YEARS
78	TREE	6/25/2020	TRANS	4112.4	81.5	4193.9	4193.5	0.5	TO BE REMOVED	15-20 YEARS
79	TREE	6/25/2020	TRANS	4093.3	92.1	4185.4	4174.6	10.8	TO BE REMOVED	15-20 YEARS
80	TREE	6/25/2020	TRANS	4064.7	71.8	4136.5	4134.1	2.4	TO BE REMOVED	15-20 YEARS
81	TREE	6/25/2020	TRANS	4050.8	68.1	4118.9	4110.4	8.6	TO BE REMOVED	15-20 YEARS
82	BUILDING	6/25/2020	TRANS	4131.4	16.6	4148.0	4148.6	-0.6	NO OBSTRUCTION	NO ACTION
83	TREE	6/25/2020	TRANS	4095.2	81.4	4176.6	4126.0	50.6	TO BE REMOVED	15-20 YEARS
84	TREE	6/25/2020	TRANS	4085.5	83.0	4168.5	4153.2	15.3	TO BE REMOVED	15-20 YEARS
85	TREE	6/25/2020	TRANS	4084.2	40.4	4124.5	4111.3	13.3	TO BE REMOVED	15-20 YEARS
86	TREE	6/25/2020	TRANS	4080.3	81.0	4161.3	4141.9	19.5	TO BE REMOVED	15-20 YEARS
87	TREE	6/25/2020	TRANS	4043.2	74.9	4118.1	4113.8	4.2	TO BE REMOVED	15-20 YEARS
88	TREE	6/25/2020	TRANS	4044.4	93.5	4137.9	4131.7	6.1	TO BE REMOVED	15-20 YEARS
89	TREE	6/25/2020	TRANS	4041.7	82.4	4124.1	4124.6	-0.5	NO OBSTRUCTION	NO ACTION
90	TREE	6/25/2020	TRANS	4036.6	87.5	4124.1	4129.8	-5.7	NO OBSTRUCTION	NO ACTION
91	TREE	6/25/2020	TRANS	4033.8	109.3	4143.1	4151.8	-8.6	NO OBSTRUCTION	NO ACTION
92	TREE	6/25/2020	TRANS	4075.4	78.8	4154.2	4156.6	-2.5	NO OBSTRUCTION	NO ACTION
93	TREE	6/25/2020	TRANS	4082.2	54.6	4136.8	4113.7	23.1	TO BE REMOVED	15-20 YEARS
94	TREE	6/25/2020	TRANS	4081.3	59.4	4140.7	4106.7	34.0	TO BE REMOVED	15-20 YEARS
95	TREE	6/25/2020	TRANS	4039.4	82.8	4122.2	4117.9	4.3	TO BE REMOVED	15-20 YEARS
96	VEGETATION	6/25/2020	TRANS	4112.7	9.1	4121.8	4123.3	-1.5	NO OBSTRUCTION	NO ACTION
97	TREE	6/25/2020	TRANS	4080.8	73.8	4154.6	4154.8	-0.2	NO OBSTRUCTION	NO ACTION
98	TREE	6/25/2020	TRANS	4061.5	104.4	4165.9	4175.8	-9.9	NO OBSTRUCTION	NO ACTION
99	ANTENNA ON BUILDING	6/25/2020	TRANS	4078.1	19.6	4097.7	4103.5	-5.8	NO OBSTRUCTION	NO ACTION
100	TREE	6/25/2020	TRANS	4116.0	92.2	4208.2	4162.2	46.0	TO BE REMOVED	15-20 YEARS
101	TREE	6/25/2020	TRANS	4057.0	108.3	4165.2	4087.6	77.6	TO BE REMOVED	15-20 YEARS
102	TREE	6/25/2020	TRANS	4096.2	99.4	4195.6	4138.1	57.5	TO BE REMOVED	15-20 YEARS
103	TREE	6/25/2020	TRANS	4105.5	86.4	4191.9	4156.2	35.6	TO BE REMOVED	15-20 YEARS
104	TREE	6/25/2020	TRANS	4086.2	79.7	4165.9	4133.7	32.2	TO BE REMOVED	15-20 YEARS
105	TREE	6/25/2020	TRANS	4092.5	83.9	4176.4	4123.7	52.7	TO BE REMOVED	15-20 YEARS
106	TREE	6/25/2020	TRANS	4129.8	58.5	4188.2	4177.2	11.0	TO BE REMOVED	15-20 YEARS
107	TREE	6/25/2020	TRANS	4130.7	70.2	4200.9	4164.5	36.4	TO BE REMOVED	15-20 YEARS
108	TREE	6/25/2020	TRANS	4132.0	70.9	4202.9	4171.5	31.5	TO BE REMOVED	15-20 YEARS
109	TREE	6/25/2020	TRANS	4118.0	17.6	4135.7	4127.5	8.2	TO BE REMOVED	15-20 YEARS
110	TREE	6/25/2020	TRANS	4069.2	73.6	4142.8	4140.4	2.4	TO BE REMOVED	15-20 YEARS
111	TREE	6/25/2020	TRANS	4056.8	91.5	4148.3	4123.3	25.0	TO BE REMOVED	15-20 YEARS
112	TREE	6/25/2020	TRANS	4078.4	77.2	4155.6	4107.0	48.6	TO BE REMOVED	15-20 YEARS
113	TREE	6/25/2020	TRANS	4081.2	62.2	4143.3	4120.8	22.6	TO BE REMOVED	15-20 YEARS
114	TREE	6/25/2020	TRANS	4083.8	51.9	4135.6	4111.5	24.1	TO BE REMOVED	15-20 YEARS
115	TREE	6/25/2020	TRANS	4138.3	81.2	4219.5	4221.6	-2.1	NO OBSTRUCTION	NO ACTION
116	TREE	6/25/2020	TRANS	4095.2	81.4	4176.6	4126.0	50.6	TO BE REMOVED	15-20 YEARS

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.

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE., #100
BEND, OR 97702
541.322.8962 OFFICE
541.382.2423 FAX

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DM	MS	WMR	AS SHOWN

DATE: JANUARY 2022
PROJECT NO: 40097.091.01

JOSEPH STATE AIRPORT

FAR PART 77 OBSTRUCTION TABLES

FIGURE NO. -

PART 77 HORIZONTAL & CONICAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
201	TREE	6/25/2020	HORIZONTAL	4173.5	95.9	4269.3	4276.2	-6.9	NO OBSTRUCTION	NO ACTION
202	TREE	6/25/2020	HORIZONTAL	4203.3	70.9	4274.2	4276.2	-2.0	NO OBSTRUCTION	NO ACTION
203	POWER POLE	6/25/2020	CONICAL	4243.6	34.8	4278.4	4287.0	-8.7	NO OBSTRUCTION	NO ACTION
204	TREE	6/25/2020	CONICAL	4365.0	68.3	4433.3	4434.7	-1.3	NO OBSTRUCTION	NO ACTION
205	TREE	6/25/2020	CONICAL	4404.5	54.5	4459.0	4456.9	2.1	TO BE REMOVED	15-20 YEARS
206	TREE	6/25/2020	CONICAL	4319.9	76.7	4396.6	4365.6	30.9	TO BE REMOVED	15-20 YEARS
207	FENCE	6/25/2020	CONICAL	4348.2	5.5	4353.7	4354.2	-0.5	NO OBSTRUCTION	NO ACTION
208	TREE	6/25/2020	CONICAL	4268.8	79.7	4348.4	4352.9	-4.5	NO OBSTRUCTION	NO ACTION
209	TREE	6/25/2020	CONICAL	4236.8	80.9	4317.7	4320.9	-3.2	NO OBSTRUCTION	NO ACTION
210	TREE	6/25/2020	CONICAL	4689.5	109.0	4798.5	4471.8	326.7	TO BE REMOVED	15-20 YEARS
211	TREE	6/25/2020	CONICAL	4698.5	114.5	4813.1	4474.0	339.1	TO BE REMOVED	15-20 YEARS
212	TREE	6/25/2020	CONICAL	4637.5	121.4	4758.9	4474.1	284.8	TO BE REMOVED	15-20 YEARS
213	TREE	6/25/2020	CONICAL	4486.3	87.0	4573.3	4446.0	127.4	TO BE REMOVED	15-20 YEARS
214	TREE	6/25/2020	CONICAL	4417.3	70.4	4487.7	4453.7	34.0	TO BE REMOVED	15-20 YEARS
215	TREE	6/25/2020	CONICAL	4443.5	93.1	4536.6	4475.4	61.2	TO BE REMOVED	15-20 YEARS
216	TREE	6/25/2020	CONICAL	4710.7	88.0	4798.7	4469.9	328.8	TO BE REMOVED	15-20 YEARS
217	TREE	6/25/2020	CONICAL	4622.0	118.3	4740.3	4452.0	288.3	TO BE REMOVED	15-20 YEARS
218	TREE	6/25/2020	CONICAL	4624.0	109.8	4733.9	4452.5	281.4	TO BE REMOVED	15-20 YEARS
219	TREE	6/25/2020	CONICAL	4499.9	117.4	4617.3	4425.2	192.1	TO BE REMOVED	15-20 YEARS
220	TREE	6/25/2020	CONICAL	4464.8	100.1	4564.9	4438.0	126.9	TO BE REMOVED	15-20 YEARS
221	TREE	6/25/2020	CONICAL	4440.7	113.3	4554.0	4473.7	80.3	TO BE REMOVED	15-20 YEARS
222	TREE	6/25/2020	CONICAL	4449.0	115.7	4564.7	4470.9	93.8	TO BE REMOVED	15-20 YEARS
223	TREE	6/25/2020	CONICAL	4430.6	101.5	4532.0	4473.2	58.9	TO BE REMOVED	15-20 YEARS
224	TREE	6/25/2020	CONICAL	4751.7	109.0	4860.7	4469.7	391.1	TO BE REMOVED	15-20 YEARS
225	TREE	6/25/2020	CONICAL	4733.4	94.0	4827.4	4470.1	357.3	TO BE REMOVED	15-20 YEARS
226	TREE	6/25/2020	CONICAL	4563.5	87.8	4651.2	4431.6	219.6	TO BE REMOVED	15-20 YEARS
227	TREE	6/25/2020	CONICAL	4519.3	109.6	4628.8	4419.8	209.1	TO BE REMOVED	15-20 YEARS
228	TREE	6/25/2020	CONICAL	4457.6	107.1	4564.7	4388.1	176.6	TO BE REMOVED	15-20 YEARS
229	POWER POLE	6/25/2020	CONICAL	4420.7	34.7	4455.3	4380.0	75.3	TO BE LIGHTED	15-20 YEARS
230	TREE	6/25/2020	CONICAL	4363.9	55.3	4419.3	4385.6	33.7	TO BE REMOVED	15-20 YEARS
231	TREE	6/25/2020	CONICAL	4344.0	93.9	4438.0	4399.5	38.5	TO BE REMOVED	15-20 YEARS
232	TREE	6/25/2020	CONICAL	4354.5	118.2	4472.7	4418.8	53.9	TO BE REMOVED	15-20 YEARS
233	POWER POLE	6/25/2020	CONICAL	4413.9	77.1	4491.1	4443.9	47.2	TO BE LIGHTED	15-20 YEARS
234	TREE	6/25/2020	CONICAL	4696.1	109.4	4805.5	4472.8	332.7	TO BE REMOVED	15-20 YEARS
235	TREE	6/25/2020	CONICAL	4715.5	122.0	4837.5	4470.9	366.6	TO BE REMOVED	15-20 YEARS
236	TREE	6/25/2020	CONICAL	4677.4	106.4	4783.8	4448.5	335.3	TO BE REMOVED	15-20 YEARS
237	TREE	6/25/2020	CONICAL	4472.0	120.1	4592.1	4404.5	187.6	TO BE REMOVED	15-20 YEARS
238	TREE	6/25/2020	CONICAL	4398.1	92.2	4490.3	4379.9	110.4	TO BE REMOVED	15-20 YEARS
239	TERRAIN	6/25/2020	CONICAL	4382.2	0.0	4382.2	4359.9	22.3	TO BE LIGHTED	15-20 YEARS
240	POWER POLE	6/25/2020	CONICAL	4308.3	34.8	4343.0	4324.6	18.5	TO BE LIGHTED	15-20 YEARS
241	FENCE	6/25/2020	CONICAL	4299.2	7.1	4306.3	4304.6	1.7	TO BE LIGHTED	15-20 YEARS
242	TREE	6/25/2020	CONICAL	4290.5	74.6	4365.1	4343.7	21.4	TO BE REMOVED	15-20 YEARS
243	TREE	6/25/2020	CONICAL	4325.5	72.5	4398.0	4367.2	30.8	TO BE REMOVED	15-20 YEARS
244	TREE	6/25/2020	CONICAL	4326.7	70.4	4397.1	4372.2	25.0	TO BE REMOVED	15-20 YEARS
245	TREE	6/25/2020	CONICAL	4362.5	88.5	4451.0	4412.7	38.3	TO BE REMOVED	15-20 YEARS
246	TREE	6/25/2020	CONICAL	4353.9	98.9	4452.9	4460.0	-7.2	NO OBSTRUCTION	NO ACTION
247	TREE	6/25/2020	CONICAL	4659.7	104.4	4764.1	4474.8	289.3	TO BE REMOVED	15-20 YEARS
248	TREE	6/25/2020	CONICAL	4599.8	113.2	4713.0	4438.6	274.5	TO BE REMOVED	15-20 YEARS
249	TREE	6/25/2020	CONICAL	4468.2	128.9	4597.1	4389.3	207.8	TO BE REMOVED	15-20 YEARS

PART 77 HORIZONTAL & CONICAL SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	PART 77 SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
250	TREE	6/25/2020	CONICAL	4409.7	65.8	4475.5	4365.0	110.5	TO BE REMOVED	15-20 YEARS
251	TREE	6/25/2020	CONICAL	4319.7	106.9	4426.6	4328.5	98.2	TO BE REMOVED	15-20 YEARS
252	TERRAIN	6/25/2020	CONICAL	4305.0	0.0	4305.0	4281.8	23.1	TO BE LIGHTED	15-20 YEARS
253	TREE	6/25/2020	CONICAL	4275.5	87.2	4362.8	4289.3	73.5	TO BE REMOVED	15-20 YEARS
254	TREE	6/25/2020	CONICAL	4293.1	85.5	4378.7	4331.2	47.5	TO BE REMOVED	15-20 YEARS
255	TREE	6/25/2020	CONICAL	4313.3	72.9	4386.3	4373.1	13.2	TO BE REMOVED	15-20 YEARS
256	TREE	6/25/2020	CONICAL	4529.2	107.7	4637.0	4474.3	162.6	TO BE REMOVED	15-20 YEARS
257	TREE	6/25/2020	CONICAL	4537.9	112.7	4650.6	4470.0	180.6	TO BE REMOVED	15-20 YEARS
258	TREE	6/25/2020	CONICAL	4411.5	127.0	4538.5	4411.7	126.8	TO BE REMOVED	15-20 YEARS
259	TREE	6/25/2020	CONICAL	4354.9	119.1	4474.0	4383.2	90.8	TO BE REMOVED	15-20 YEARS
260	TREE	6/25/2020	CONICAL	4318.1	32.7	4350.8	4336.8	14.0	TO BE REMOVED	15-20 YEARS
261	TREE	6/25/2020	HORIZONTAL	4264.5	35.6	4300.2	4276.2	24.0	TO BE REMOVED	15-20 YEARS
262	TREE	6/25/2020	HORIZONTAL	4295.0	102.7	4397.7	4276.2	121.5	TO BE REMOVED	15-20 YEARS
263	TREE	6/25/2020	HORIZONTAL	4249.9	102.7	4352.6	4276.2	76.4	TO BE REMOVED	15-20 YEARS
264	TREE	6/25/2020	CONICAL	4258.3	67.1	4325.4	4331.4	-6.0	NO OBSTRUCTION	NO ACTION
265	TREE	6/25/2020	CONICAL	4417.7	73.4	4491.0	4464.3	26.7	TO BE REMOVED	15-20 YEARS
266	TREE	6/25/2020	CONICAL	4396.3	88.5	4484.8	4430.9	53.9	TO BE REMOVED	15-20 YEARS
267	TREE	6/25/2020	CONICAL	4359.8	91.8	4451.6	4378.3	73.4	TO BE REMOVED	15-20 YEARS
268	TREE	6/25/2020	CONICAL	4319.2	96.4	4415.6	4339.2	76.4	TO BE REMOVED	15-20 YEARS
269	TREE	6/25/2020	HORIZONTAL	4280.1	53.2	4333.3	4276.2	57.1	TO BE REMOVED	15-20 YEARS
270	TREE	6/25/2020	HORIZONTAL	4265.1	100.2	4365.2	4276.2	89.0	TO BE REMOVED	15-20 YEARS
271	TREE	6/25/2020	CONICAL	4226.3	86.8	4313.1	4299.2	13.9	TO BE REMOVED	15-20 YEARS
272	TREE	6/25/2020	CONICAL	4481.6	127.0	4608.6	4455.8	152.8	TO BE REMOVED	15-20 YEARS
273	TREE	6/25/2020	CONICAL	4481.0	118.3	4599.3	4428.6	170.6	TO BE REMOVED	15-20 YEARS
274	TREE	6/25/2020	CONICAL	4394.5	106.9	4501.4	4377.9	123.4	TO BE REMOVED	15-20 YEARS
275	TREE	6/25/2020	CONICAL	4292.4	113.6	4406.0	4307.6	98.4	TO BE REMOVED	15-20 YEARS
276	TREE	6/25/2020	CONICAL	4287.7	60.8	4348.5	4278.6	69.8	TO BE REMOVED	15-20 YEARS
277	TREE	6/25/2020	HORIZONTAL	4216.8	57.9	4274.6	4276.2	-1.6	NO OBSTRUCTION	NO ACTION
278	TREE	6/25/2020	HORIZONTAL	4243.6	92.2	4335.8	4276.2	59.6	TO BE REMOVED	15-20 YEARS
279	TREE	6/25/2020	CONICAL	4631.2	104.5	4735.7	4475.4	260.4	TO BE REMOVED	15-20 YEARS
280	TREE	6/25/2020	CONICAL	4519.3	119.3	4638.6	4421.3	217.3	TO BE REMOVED	15-20 YEARS
281	TREE	6/25/2020	CONICAL	4388.5	114.6	4503.0	4374.9	128.1	TO BE REMOVED	15-20 YEARS
282	TREE	6/25/2020	CONICAL	4342.2	112.1	4454.2	4329.8	124.4	TO BE REMOVED	15-20 YEARS
283	TREE	6/25/2020	CONICAL	4267.9	94.3	4362.2	4278.0	84.2	TO BE REMOVED	15-20 YEARS
284	TREE	6/25/2020	HORIZONTAL	4226.7	106.3	4332.9	4276.2	56.7	TO BE REMOVED	15-20 YEARS
285	TREE	6/25/2020	HORIZONTAL	4197.1	84.7	4281.8	4276.2	5.6	TO BE REMOVED	15-20 YEARS
286	TREE	6/25/2020	HORIZONTAL	4195.8	88.5	4284.3	4276.2	8.0	TO BE REMOVED	15-20 YEARS
287	TREE	6/25/2020	CONICAL	4541.6	86.9	4628.6	4452.8	175.8	TO BE REMOVED	15-20 YEARS
288	TREE	6/25/2020	CONICAL	4374.2	116.0	4490.2	4389.7	100.6	TO BE REMOVED	15-20 YEARS
289	TREE	6/25/2020	CONICAL	4338.4	100.2	4438.7	4333.8	104.9	TO BE REMOVED	15-20 YEARS
290	TREE	6/25/2020	CONICAL	4302.8	112.0	4414.8	4317.9	96.9	TO BE REMOVED	15-20 YEARS
291	TREE	6/25/2020	HORIZONTAL	4228.3	109.5	4337.9	4276.2	61.6	TO BE REMOVED	15-20 YEARS
292	TREE	6/25/2020	HORIZONTAL	4215.8	92.8	4308.5	4276.2	32.3	TO BE REMOVED	15-20 YEARS
293	TREE	6/25/2020	HORIZONTAL	4185.9	90.9	4276.8	4276.2	0.6	TO BE REMOVED	15-20 YEARS
294	TREE	6/25/2020	CONICAL	4368.4	105.2	4473.6	4413.1	60.5	TO BE REMOVED	15-20 YEARS
295	TREE	6/25/2020	CONICAL	4264.7	92.7	4357.4	4341.0	16.4	TO BE REMOVED	15-20 YEARS
296	POWER POLE	6/25/2020	CONICAL	4245.0	39.4	4284.4	4281.7	2.6	TO BE LIGHTED	15-20 YEARS
297	TREE	6/25/2020	HORIZONTAL	4221.7	99.3	4321.0	4276.2	44.8	TO BE REMOVED	15-20 YEARS
298	TREE	6/25/2020	HORIZONTAL	4201.5	89.6	4291.1	4276.2	14.9	TO BE REMOVED	15-20 YEARS

NOTE:

1. IDENTIFIED OBSTRUCTIONS WILL BE REMOVED THROUGH PROGRAMMED OBSTRUCTION REMOVAL PROJECTS IDENTIFIED IN THE CIP. THE PRESENTED MITGATION TIMELINES ARE ESTIMATES. PLEASE REFERENCE THE CIP FOR DETAILS ON OBSTRUCTION REMOVAL PROJECT'S TIMING AND EXTENT.

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES

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0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

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DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DM	MS	WMR	AS SHOWN

DATE: JANUARY 2022
PROJECT NO: 40097.091.01

JOSEPH STATE AIRPORT

FAR PART 77 OBSTRUCTION TABLES

FIGURE NO.
-

RUNWAY 15 DEPARTURE SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
32	POWER POLE	6/25/2020	RW15 DEPART	4136.6	38.6	4175.1	4159.9	15.3	TO BE REMOVED	15-20 YEARS
33 (NOTE 2)	POWER POLE	6/25/2020	RW15 DEPART	4132.4	38.1	4170.5	4153.7	16.8	TO BE REMOVED	0-5 YEARS
34	POWER POLE	6/25/2020	RW15 DEPART	4127.8	33.7	4161.5	4153.1	8.4	TO BE REMOVED	15-20 YEARS
35 (NOTE 2)	TERRAIN	6/25/2020	RW15 DEPART	4126.7	0.0	4126.7	4131.3	-4.6	NO OBSTRUCTION	0-5 YEARS
36	FENCE	6/25/2020	RW15 DEPART	4128.6	5.5	4134.1	4139.8	-5.7	NO OBSTRUCTION	NO ACTION
37	VEGETATION	6/25/2020	RW15 DEPART	4129.8	6.6	4136.5	4140.1	-3.6	NO OBSTRUCTION	NO ACTION
55	POWER POLE	6/25/2020	RW15 DEPART	4135.8	29.9	4165.7	4130.0	35.7	TO BE REMOVED	15-20 YEARS
75	FENCE	6/25/2020	RW15 DEPART	4130.8	5.2	4136.0	4139.3	-3.4	NO OBSTRUCTION	NO ACTION
203	POWER POLE	6/25/2020	RW15 DEPART	4243.6	34.8	4278.4	4259.0	19.4	TO BE REMOVED	15-20 YEARS
207	FENCE	6/25/2020	RW15 DEPART	4348.2	5.5	4353.7	4288.9	64.8	TO BE REMOVED	15-20 YEARS
235	POWER POLE	6/25/2020	RW15 DEPART	4378.8	34.0	4412.8	4295.3	117.5	TO BE REMOVED	15-20 YEARS
401	SECONDARY ROAD	6/25/2020	RW15 DEPART	4120.4	10.0	4130.4	4130.5	-0.1	NO OBSTRUCTION	NO ACTION
402 (NOTE 2)	TERRAIN	6/25/2020	RW15 DEPART	4130.3	0.0	4130.3	4131.6	-1.3	NO OBSTRUCTION	0-5 YEARS
403	WINDSOCK	6/25/2020	RW15 DEPART	4126.7	18.7	4145.4	4147.1	-1.7	NO OBSTRUCTION	NO ACTION
404	POWER POLE	6/25/2020	RW15 DEPART	4129.4	34.5	4164.0	4153.5	10.4	TO BE REMOVED	15-20 YEARS
405	POWER POLE	6/25/2020	RW15 DEPART	4130.4	34.5	4164.9	4154.0	11.0	TO BE REMOVED	15-20 YEARS
406	FLAGPOLE	6/25/2020	RW15 DEPART	4142.7	50.5	4193.2	4154.4	38.9	TO BE REMOVED	15-20 YEARS
407	POWER POLE	6/25/2020	RW15 DEPART	4145.6	35.1	4180.7	4157.5	23.2	TO BE REMOVED	15-20 YEARS
408	POWER POLE	6/25/2020	RW15 DEPART	4141.6	39.5	4181.1	4158.1	23.0	TO BE REMOVED	15-20 YEARS
409	POWER POLE	6/25/2020	RW15 DEPART	4138.6	33.5	4172.1	4158.9	13.2	TO BE REMOVED	15-20 YEARS
410	POWER POLE	6/25/2020	RW15 DEPART	4134.0	40.0	4174.0	4160.2	13.8	TO BE REMOVED	15-20 YEARS
411	POWER POLE	6/25/2020	RW15 DEPART	4134.5	32.3	4166.8	4163.0	3.8	TO BE REMOVED	15-20 YEARS
412	POWER POLE	6/25/2020	RW15 DEPART	4137.7	29.3	4167.0	4166.4	0.5	TO BE REMOVED	15-20 YEARS
413	POWER POLE	6/25/2020	RW15 DEPART	4141.9	31.5	4173.4	4173.3	0.1	TO BE REMOVED	15-20 YEARS
414	POWER POLE	6/25/2020	RW15 DEPART	4143.9	34.0	4177.9	4178.6	-0.7	NO OBSTRUCTION	NO ACTION
415	POWER POLE	6/25/2020	RW15 DEPART	4146.6	31.6	4178.2	4184.4	-6.2	NO OBSTRUCTION	NO ACTION
416	POWER POLE	6/25/2020	RW15 DEPART	4151.4	28.7	4180.1	4187.9	-7.8	NO OBSTRUCTION	NO ACTION
417	POWER POLE	6/25/2020	RW15 DEPART	4151.6	31.2	4182.8	4188.1	-5.3	NO OBSTRUCTION	NO ACTION
418	POWER POLE	6/25/2020	RW15 DEPART	4148.3	41.9	4190.1	4188.2	2.0	TO BE REMOVED	15-20 YEARS
419	BUILDING	6/25/2020	RW15 DEPART	4155.8	35.6	4191.4	4192.2	-0.8	NO OBSTRUCTION	NO ACTION
420	POWER POLE	6/25/2020	RW15 DEPART	4163.6	30.7	4194.3	4196.9	-2.6	NO OBSTRUCTION	NO ACTION
421	POWER POLE	6/25/2020	RW15 DEPART	4166.7	31.3	4198.0	4198.9	-1.0	NO OBSTRUCTION	NO ACTION
422	POWER POLE	6/25/2020	RW15 DEPART	4169.5	31.0	4200.5	4200.9	-0.4	NO OBSTRUCTION	NO ACTION
423	POWER POLE	6/25/2020	RW15 DEPART	4171.9	34.2	4206.1	4214.8	-8.6	NO OBSTRUCTION	NO ACTION
424	POWER POLE	6/25/2020	RW15 DEPART	4181.5	34.3	4215.8	4223.2	-7.4	NO OBSTRUCTION	NO ACTION
425	POWER POLE	6/25/2020	RW15 DEPART	4190.9	32.8	4223.7	4232.3	-8.6	NO OBSTRUCTION	NO ACTION
426	POWER POLE	6/25/2020	RW15 DEPART	4202.0	33.7	4235.7	4241.3	-5.6	NO OBSTRUCTION	NO ACTION
427	POWER POLE	6/25/2020	RW15 DEPART	4217.5	34.0	4251.4	4249.9	1.6	TO BE REMOVED	15-20 YEARS
428	FENCE	6/25/2020	RW15 DEPART	4299.2	7.1	4306.3	4263.8	42.5	TO BE REMOVED	15-20 YEARS
429	POWER POLE	6/25/2020	RW15 DEPART	4276.3	34.1	4310.5	4268.3	42.1	TO BE REMOVED	15-20 YEARS
430	FENCE	6/25/2020	RW15 DEPART	4323.1	4.6	4327.7	4274.5	53.3	TO BE REMOVED	15-20 YEARS
431	TERRAIN	6/25/2020	RW15 DEPART	4315.2	0.0	4315.2	4273.3	42.0	TO BE LIGHTED	15-20 YEARS
432	POWER POLE	6/25/2020	RW15 DEPART	4308.3	34.8	4343.0	4277.3	65.7	TO BE REMOVED	15-20 YEARS
433	POWER POLE	6/25/2020	RW15 DEPART	4340.3	34.1	4374.4	4286.2	88.2	TO BE REMOVED	15-20 YEARS
434	TERRAIN	6/25/2020	RW15 DEPART	4363.9	0.0	4363.9	4286.0	77.9	TO BE LIGHTED	15-20 YEARS
436	TERRAIN	6/25/2020	RW15 DEPART	4424.4	0.0	4424.4	4299.5	124.9	TO BE LIGHTED	15-20 YEARS
437	TERRAIN	6/25/2020	RW15 DEPART	4371.6	0.0	4371.6	4302.3	69.3	TO BE LIGHTED	15-20 YEARS
438	POWER POLE	6/25/2020	RW15 DEPART	4420.7	34.7	4455.3	4304.3	151.1	TO BE REMOVED	15-20 YEARS
439	TREE	6/25/2020	RW15 DEPART	4363.9	55.3	4419.3	4310.5	108.8	TO BE REMOVED	15-20 YEARS
440	TERRAIN	6/25/2020	RW15 DEPART	4404.7	0.0	4404.7	4314.6	90.1	TO BE LIGHTED	15-20 YEARS
441	TERRAIN	6/25/2020	RW15 DEPART	4403.8	0.0	4403.8	4322.5	81.3	TO BE LIGHTED	15-20 YEARS
442	TERRAIN	6/25/2020	RW15 DEPART	4423.8	0.0	4423.8	4334.2	89.6	TO BE LIGHTED	15-20 YEARS
443	TREE	6/25/2020	RW15 DEPART	4417.3	70.4	4487.7	4344.9	142.9	TO BE REMOVED	15-20 YEARS
444	POWER POLE	6/25/2020	RW15 DEPART	4417.7	31.4	4449.1	4347.7	101.4	TO BE REMOVED	15-20 YEARS
445	POWER POLE	6/25/2020	RW15 DEPART	4438.1	35.3	4473.4	4347.9	125.4	TO BE REMOVED	15-20 YEARS
446 (NOTE 3)	TREE	6/25/2020	RW15 DEPART	4838.0	108.9	4946.9	4369.8	57.2	TO BE REMOVED	0-20 YEARS
447	LOCAL ROAD	6/25/2020	RW15 DEPART	4132.4	15.0	4147.4	4126.2	21.2	TO BE REMOVED	15-20 YEARS
448	LOCAL ROAD	6/25/2020	RW15 DEPART	4114.0	15.0	4129.0	4127.8	1.3	TO BE REMOVED	15-20 YEARS
449	LOCAL ROAD	6/25/2020	RW15 DEPART	4130.0	15.0	4145.0	4153.8	-8.8	NO OBSTRUCTION	NO ACTION
450	LOCAL ROAD	6/25/2020	RW15 DEPART	4150.0	15.0	4165.0	4155.8	9.2	TO BE REMOVED	15-20 YEARS
451	PRIVATE ROAD	6/25/2020	RW15 DEPART	4177.5	10.0	4187.5	4205.3	-17.8	NO OBSTRUCTION	NO ACTION
452	PRIVATE ROAD	6/25/2020	RW15 DEPART	4130.4	10.0	4140.4	4209.2	-68.9	NO OBSTRUCTION	NO ACTION
453	PRIVATE ROAD	6/25/2020	RW15 DEPART	4193.0	10.0	4203.0	4212.4	-9.5	NO OBSTRUCTION	NO ACTION
454	LOCAL ROAD	6/25/2020	RW15 DEPART	4393.5	15.0	4408.5	4338.3	70.2	TO BE REMOVED	15-20 YEARS
455	LOCAL ROAD	6/25/2020	RW15 DEPART	4384.2	15.0	4399.2	4350.0	49.2	TO BE REMOVED	15-20 YEARS
456	LOCAL ROAD	6/25/2020	RW15 DEPART	4443.0	15.0	4458.0	4381.2	76.8	TO BE REMOVED	15-20 YEARS
457	FENCE	6/25/2020	RW15 DEPART	4483.2	4.6	4487.8	4380.9	106.9	TO BE REMOVED	15-20 YEARS
458	FENCE	6/25/2020	RW15 DEPART	4462.6	4.3	4466.9	4368.9	98.0	TO BE REMOVED	15-20 YEARS
459	TREE	6/25/2020	RW15 DEPART	4507.7	35.5	4543.2	4373.9	169.4	TO BE REMOVED	15-20 YEARS
460	TERRAIN	6/25/2020	RW15 DEPART	4541.7	0.0	4541.7	4381.2	160.5	TO BE LIGHTED	15-20 YEARS

RUNWAY 33 DEPARTURE SURFACE OBSTRUCTIONS

OBSTACLE ID	DESCRIPTION	SURVEY DATE	SURFACE	GROUND ELEVATION (FT)	AGL (FT)	TOP HEIGHT (FT)	SURFACE HEIGHT (FT)	PENETRATION (FT)	DISPOSITION	MITIGATION TIMELINE
54	POWER POLE	6/25/2020	RW33 DEPART	4062.1	35.1	4097.2	4067.2	30.0	TO BE REMOVED	15-20 YEARS
72	TREE	6/25/2020	RW33 DEPART	4049.5	70.2	4119.6	4081.4	38.2	TO BE REMOVED	15-20 YEARS
88	TREE	6/25/2020	RW33 DEPART	4044.4	93.5	4137.9	4079.4	58.4	TO BE REMOVED	15-20 YEARS
301	TREE	6/25/2020	RW33 DEPART	4057.0	108.3	4165.2	4064.8	100.4	TO BE REMOVED	15-20 YEARS
302	TREE	6/25/2020	RW33 DEPART	4056.8	91.5	4148.3	4075.3	73.0	TO BE REMOVED	15-20 YEARS
303	POWER POLE	6/25/2020	RW33 DEPART	4058.3	34.4	4092.7	4080.9	11.9	TO BE REMOVED	15-20 YEARS
304	POWER POLE	6/25/2020	RW33 DEPART	4051.1	30.3	4081.5	4086.2	-4.7	NO OBSTRUCTION	NO ACTION
305	TREE	6/25/2020	RW33 DEPART	4030.5	91.5	4122.0	4102.7	19.3	TO BE REMOVED	15-20 YEARS
306	LOCAL ROAD	6/25/2020	RW33 DEPART	4065.0	15.0	4080.0	4062.8	17.2	TO BE REMOVED	15-20 YEARS
307	PRIVATE ROAD	6/25/2020	RW33 DEPART	4010.0	10.0	4020.0	4114.5	-94.5	NO OBSTRUCTION	NO ACTION
308	RAIL	6/25/2020	RW33 DEPART	3975.0	23.0	3998.0	4169.3	-171.3	NO OBSTRUCTION	NO ACTION
309	LOCAL ROAD	6/25/2020	RW33 DEPART	3970.0	15.0	3985.0	4174.8	-189.8	NO OBSTRUCTION	NO ACTION
310	LOCAL ROAD	6/25/2020	RW33 DEPART	3975.0	15.0	3990.0	4217.1	-227.1	NO OBSTRUCTION	NO ACTION
311	LOCAL ROAD	6/25/2020	RW33 DEPART	3905.0	15.0	3920.0	4304.4	-384.4	NO OBSTRUCTION	NO ACTION
312	LOCAL ROAD	6/25/2020	RW33 DEPART	3890.0	15.0	3905.0	4317.8	-412.8	NO OBSTRUCTION	NO ACTION
313	RAIL	6/25/2020	RW33 DEPART	3890.8	23.0	3913.8	4317.8	-404.0	NO OBSTRUCTION	NO ACTION
314	LOCAL ROAD	6/25/2020	RW33 DEPART	3880.8	15.0	3895.8	4317.8	-422.0	NO OBSTRUCTION	NO ACTION

NOTE:

1. IDENTIFIED OBSTRUCTIONS WILL BE REMOVED THROUGH PROGRAMMED OBSTRUCTION REMOVAL PROJECTS IDENTIFIED IN THE CIP. EXCEPT FOR OBSTRUCTIONS DESCRIBED IN NOTE 2, THE PRESENTED MITGATION TIMELINES ARE ESTIMATES. PLEASE REFERENCE THE CIP FOR DETAILS ON OBSTRUCTION REMOVAL PROJECT'S TIMING AND EXTENT.
2. THESE OBSTRUCTIONS HAVE BEEN IDENTIFIED FOR REMOVAL BY FAA FLIGHT PROCEDURE TEAM TO SUPPORT A NON-PRECISION INSTRUMENT APPROACH (CIRCLING).
3. SOME INDIVIDUAL TREES INCLUDED IN THIS TREE GROUP HAVE BEEN IDENTIFIED FOR REMOVAL BY FAA FLIGHT PROCEDURE TEAM TO SUPPORT THE NON-PRECISION APPROACH PROCEDURE. FURTHER COORDINATION IS NEEDED TO IDENTIFY ALL OBSTRUCTIONS WITHIN THE GROUP TO BE REMOVED.

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.

CENTURY WEST ENGINEERING
BEND OFFICE
1020 SW EMKAY DRIVE., #100
BEND, OR 97702
541.322.8962 OFFICE
541.382.2423 FAX

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SCALE:
DM	MS	WMR	AS SHOWN
DATE: JANUARY 2022		PROJECT NO: 40097.091.01	

JOSEPH STATE AIRPORT

RUNWAY DEPARTURE SURFACE OBSTRUCTION TABLES

FIGURE NO.
-

Appendix A

Environmental Evaluation

DAVID EVANS
AND ASSOCIATES INC.

MEMORANDUM

DATE: May 4, 2021

TO: Samantha Peterson, Aviation Planner
Century West Engineering
421 N. Pearl St. #206
Ellensburg, WA 98926

FROM: Casey Storey, DEA

SUBJECT: Joseph Airport Master Plan Preferred Alternative Environmental Evaluation

PROJECT: CWEX00000026
Joseph Airport Master Plan & AGIS

1. Introduction

This memorandum presents a preliminary evaluation of the potential environmental impacts that could result from implementation of the Preferred Alternative for the Joseph State Airport Master Plan. This evaluation is based on the Preferred Alternative description as provided by Century West Engineering coupled with analysis and review of environmental baseline conditions at the Joseph Airport Master Plan study area that were completed in support of a July 2020 Environmental Baseline memorandum prepared by David Evans and Associates (DEA). This evaluation area includes the existing Joseph State Airport (Airport) facility, the Preferred Alternative Area of Potential Effect (APE), and the surrounding environment – including adjacent habitats and immediate watersheds. The primary resource impact topics analyzed in this document include Land Use; Hazardous Materials and Solid Waste; Biotic Resources (including terrestrial and aquatic species and their habitats); Section 4(f) Resources; Federally Listed Endangered and Threatened Species; Wetlands and Waters of the United States; Floodplains; Air Quality; and Stormwater and Water Quality.

2. Preferred Alternative

The improvements associated with the Preferred Alternative would include operational changes, construction of both airside and landside improvements, and acquisition of land adjacent to the Airport to accommodate development of portions of the Preferred Alternative. No changes to the existing runway or west parallel taxiway configuration are proposed. Proposed Airport improvements are shown in Appendix A and summarized as follows:

Runway/Taxiway System

- Development of Non-Precision Instrument Approach with Circling Procedure.
- Grading of taxiway object free area (TOFA) at north end of west parallel taxiway.
- Pavement removal adjacent to aircraft fueling apron and parallel taxiway to address potential runway incursion in compliance with FAA standards.

South Apron Area Improvements

- New hangar infill construction (7 conventional hangars proposed).
- Replacement/relocation of existing pilot building with mixed use building, with potential for including community use space.

- Expansion of existing aircraft apron to provide hangar access and large aircraft parking, including medevac aircraft.
- Elimination of 12 small airplane tiedowns to accommodate hangars and large aircraft parking.
- Reconfigured vehicle access and parking.
- Relocated/upgraded (electronic) south and west vehicle gates
- Expanded aircraft fueling apron.

West Hangar Area

- Acquisition of approximately 1.9 acres of City of Joseph-owned land with direct access to airfield.
- Construction of new taxilane connection to west parallel taxiway.
- New hangars (4 conventional hangars and one 8-unit T-hangar proposed).
- New vehicle parking.
- New fencing and vehicle gates.
- Relocation of existing City solid waste recycling station on site.
- Preserve (relocate) existing access to City-owned parcel, including recycling station and gravel pit extraction.

East Hangar Development Reserve

- Areas identified for potential aviation use facilities with access to the runway.

3. Potential Environmental Impacts of the Preferred Alternative

The following sections describe the potential impacts of the Preferred Alternative on the environmental resources listed in Section 1 above. Please refer to the July 2020 Environmental Baseline memo for additional detail on the environmental resources present on and near the Airport property. The analysis below does not include potential impacts to historic, cultural and archaeological resources. Potential impacts to these resources will be addressed in a separate memo to be prepared by Historical Research Associates, Inc. (HRA).

3.1. Land Use

The Airport is located adjacent to and west of the Joseph city limits in unincorporated Wallowa County. The Airport property is dedicated to airport-related uses, while adjacent properties are characterized by industrial and light industrial uses. Low-density residential uses exist immediately west of Airway Road, to the west of the Airport. A City of Joseph recycling transfer facility and a gravel pit are located on a city-owned parcel immediately adjacent to the Airport on its west side, between the Airport property and Airway Road.

Parcels immediately adjacent to the Airport, including the City of Joseph owned property to be acquired as part of the West Hangar Area improvements, are zoned M-1 (Industrial) by the Wallowa County Comprehensive Land Use Plan (Wallowa County 2005). Properties to the west of Airway Road are zoned R-1 (Rural Residential). The Airport and adjoining properties are also located within the Airport Protection Zone overlay. This protection zone prohibits the establishment of air space obstructions in airport approaches and surrounding areas through height restrictions and other land use controls deemed essential to reduce potential safety hazards.

The improvements proposed under the Preferred Alternative would include construction of additional airport-related uses within the boundaries of the Airport property and construction of airport-related uses on the property where the recycling transfer facility and gravel pit currently exist. The Airport will acquire the latter property from the City of Joseph to construct the West Hangar Area improvements and will relocate the recycling transfer facility on site. Access to the recycling facility and gravel pit will be relocated but preserved; therefore, no displacement of existing uses would result under the Preferred Alternative. The proposed uses would be compatible with existing uses on the Airport property and adjacent sites. The West Hangar Area improvements would be consistent with the allowable uses in the M-1 district and no change in zoning will be required. In light of the above, the Preferred Alternative is not expected to have impacts on land use.

3.2. Hazardous Materials and Solid Waste

Queries of the Oregon DEQ Leaking Underground Storage Tank (LUST) and Environmental Cleanup Site Information (ESCI) were conducted in support of DEA's July 2020 Environmental Baseline Memo (DEQ 2020a; DEQ 2020b). These searches identified no records of environmental cleanup sites and no indications of spills, leaking tanks, or areas of known contamination within or adjacent to the Airport property. Several areas of suspected contamination where further investigation may be recommended were identified on or adjacent to the Airport.

Phase I Environmental Site Assessments are advised prior to ground disturbing activities proposed as part of the Preferred Alternative. Completion of a Phase I Environmental Site Assessment will be required for the acquisition of the parcel adjacent to the Airport where the recycling transfer facility is currently located and construction of the West Hangar Area improvements would take place. In all instances where initiated, Phase I Environmental Site Assessments evaluate past and current documentation, existing conditions, and current hazardous materials risks to or from subject parcels.

3.3. Biotic Resources

Vegetation in the area surrounding the Airport is characterized by agricultural fields, native bunchgrass associations, scattered mixed conifer stands, shrubs and scrub communities, and mixed herbaceous cover. Common plant species within the Airport vicinity include trees such as ponderosa pine (Pinus ponderosa), lodgepole pine (*Pinus contorta*), Douglas-fir (*Pseudotsuga menziesii*), black cottonwood (*Populus trichocarpa*) and quaking aspen (*Populus tremuloides*). Shrub species common to the area include serviceberry (*Amelanchier alnifolia*) and white alder (*Alnus rhombifolia*). Herbaceous species common in the area include Idaho fescue (*Festuca idahoensis*), bluebunch wheatgrass (*Agropyron spicatum*), and a mix of introduced pasture grasses. Invasive species found throughout the study area include spotted knapweed (*Centaurea stoebe*) and various species of thistle. One federally listed plant species, the threatened Spalding's catchfly (*Silene spaldingii*), has been previously documented near the Airport. Spalding's catchfly is discussed further in Section 3.5 below.

The Airport lies between two streams: Hurricane Creek to the west and northwest, and the Wallowa River to the east. A third stream, Newby Creek, which is a small tributary of the Wallowa River, lies adjacent to the southeast corner of the Airport property. These streams support a variety of aquatic species, both native and

introduced. Critical Habitat for bull trout (*Salvelinus confluentus*) and steelhead (*Oncorhynchus mykiss*), Snake River Basin distinct population segment (DPS), both federally listed as threatened, is designated in Hurricane Creek and the Wallowa River. These species are discussed further in Section 3.5 below. All three streams are located outside the footprint of the Preferred Alternative.

Vegetated habitat on the Airport property is disturbed and managed in support of safe airport operations. Vegetated areas of the Airport property consist of runway safety area (RSA), taxiway safety area (TSA), and areas adjacent to landside operations that are characterized by mowed grasses and forbs. Wildlife expected to occur on or near the Airport property are largely typical of those found in developed areas of Wallowa county, including rodents and other small mammals such as various species of mice, voles, rats, ground squirrels, rabbits, and moles; two species of deer (*Odocoileus hemionus*, and *O. virginianus*); and coyotes (*Canis latrans*). Birds that may occur on the Airport property include species such as killdeer (*Charadrius vociferus*), western meadowlark (*Sturnella neglecta*), horned lark (*Eremophila alpestris*), savannah sparrow (*Passerculus sandwichensis*), and potentially other ground-nesting migratory species.

Because terrestrial habitat on the Airport property is disturbed and no aquatic habitat exists within the Preferred Alternative footprint, construction associated with the Preferred Alternative is generally not expected to have impacts on unique or special biotic resources. As discussed in Section 3.5 below, vegetation surveys are recommended to determine the possible presence of Spalding's catchfly (*Silene spaldingii*). If it is determined during project design that additional stormwater runoff from the Preferred Alternative improvements could reach nearby receiving waters, treatment will need to be incorporated to address potential impacts on listed fish species. This is discussed further in Section 3.5 and 3.9 below. Additionally, if construction is proposed during the nesting season for bird species likely to be present on the Airport property, pre-construction nest surveys would be required to ensure compliance with the Migratory Bird Treaty Act (MBTA).

3.4. Section 4(f) Resources

Section 4(f) of the the U.S. Department of Transportation Act of 1966 provides for consideration of park and recreation lands, wildlife and waterfowl refuges, and historic sites during transportation project development. Research conducted in support of the DEA July 2020 Environmental Baseline Memo determined that no Section 4(f) properties occur within the Airport property. As a result, no impacts on Section 4(f) properties are anticipated under the Preferred Alternative.

The Hurricane Creek Cemetery, adjacent to the Airport property, likely requires additional evaluation as potentially eligible for inclusion in the National Register of historic Places (NRHP). Cultural and historic resources will be addressed as part of a separate deliverable to be prepared by HRA. The Hurricane Creek Cemetery would not be impacted by the Preferred Alternative.

3.5. Federally Listed Threatened and Endangered Species and Habitats

Queries of the Oregon Biodiversity Information Center (ORBIC) and USFWS IPaC databases were conducted in support of DEA's July 2020 Environmental Baseline memorandum, to determine the presence of state and federally endangered or threatened species, designated Critical Habitat, and species' likelihood of occurrence in the Airport vicinity (ORBIC 2020, USFWS 2020a). Sensitive or listed terrestrial species are not expected to occur

due to lack of suitable habitat at the Airport property, which is disturbed and managed in support of safe airport operations. One federally threatened plant species, Spalding's catchfly has been previously identified adjacent to the Airport property within the boundaries of the Hurricane Creek Cemetery (Valerie Thompson, DEA Biologist, personal communication, July 8, 2020). No designated Critical Habitat for any federally listed terrestrial species is located at or in the vicinity of the Airport.

Three federally listed fish species, all Threatened, occur in streams adjacent to or near the Airport property: bull trout, steelhead,, Snake River Basin distinct population segment (DPS), and Chinook salmon (*Oncorhynchus tshawytscha*), Snake River Spring/Summer-run evolutionarily significant unit (ESU). Critical Habitat for bull trout and steelhead is designated within Hurricane Creek, which flows to the west of the Airport and is adjacent to the Airport property on its northwest corner, and the Wallowa River, approximately 0.25 mile east of the Airport.

The Preferred Alternative is not expected to impact any federally listed terrestrial species because of a lack of suitable habitat at the Airport. Because Spalding's catchfly has been previously identified on an adjacent property, vegetation surveys are recommended prior to any disturbance of vegetated areas in order to determine if this species is present.

The Preferred Alternative is not expected to impact federally listed fish species or their habitat because no aquatic habitats exist within the Preferred Alternative footprint and additional stormwater generated under the Preferred Alternative is expected to infiltrate on site without reaching nearby waters. If project design of the Preferred Alternative is determined to result in the discharge of stormwater to nearby receiving streams, then project design may need to incorporate stormwater treatment measures to address NMFS requirements for protection of listed salmon and steelhead under their jurisdiction and consultation with this agency and the USFWS may be required

3.6. Wetlands and Waters of the United States

Three streams surround the Airport property: Hurricane Creek, which flows to the west of the Airport and adjoins the northwest corner of the property; the Wallowa River, approximately 0.25 east of the Airport; and Newby Creek, a minor tributary of the Wallowa River, adjacent to the southeastern corner of the Airport property. The National Wetland Inventory (NWI) map classifies these streams as Riverine Wetlands (USFWS 2020b). Three small ponds are located on the property adjacent to the Airport on the east. Two of these ponds are labeled as Palustrine, Unconsolidated Bottom, Semi-permanently Flooded, Excavated (PUBFx) and one is labeled as Palustrine, Unconsolidated Bottom, Permanently Flooded, Excavated (PUBHx). One small pond is located on the property adjacent to the Airport on the west and is classified as Palustrine, Unconsolidated Bottom, Semi-permanently Flooded, Excavated (PUBFx) (USFWS 2020b, Figure 2). The pond indicated to the west appears to be erroneously designated by the NWI and is associated with a quarry-created depression. The ponds mapped to the east are presumed to be seasonally wet, likely holding water in the spring after snowmelt or heavy rains.

All construction activities associated with the Preferred Alternative would take place in upland areas. No wetlands or Waters of the U.S. are located within the Preferred Alternative footprint as currently proposed. As a result, the Preferred Alternative would not be expected to impact wetlands or waters of the U.S..

3.7. Floodplains

The Airport is located in an upland area on a broad, gently sloping plain and the FEMA National Flood Hazard Layer (NFHL) does not identify mapped floodplains, floodways, or other flood hazard areas within or adjacent to the Airport property (FEMA 2020). According to FEMA Flood Insurance Rate Map (FIRM) number 41063C0614B, effective February 17, 1988, the Airport is located in Flood Hazard Zone X. Zone X denotes areas that are determined to be outside the 500-year floodplain.

None of the actions associated with the Preferred Alternative would take place within or otherwise affect a floodplain. Therefore, no impacts on floodplains are expected to result from implementation of the Preferred Alternative.

3.8. Air Quality

The U.S. Environmental Protection Agency (EPA) established National Ambient Air Quality Standards (NAAQS) for a limited number of "criteria" pollutants with the enactment of the Clean Air Act (CAA) of 1970 and the Amendments of 1975 and 1977. The CAA defines geographic regions that do not meet the NAAQS primary and secondary criteria for certain air pollutants as "non-attainment areas."

The Joseph Airport is outside of designated air quality maintenance and air quality non-attainment areas as regulated and administered by the Oregon Department of Environmental Quality (DEQ). Therefore, the General Conformity Rule (42 United States Code [USC] 7506(c)) does not apply. The Airport is in an attainment area that meets state and federal standards for all regulated air pollutants.

Construction activities associated with the Preferred Alternative would result in short-term, localized adverse air quality impacts from fugitive dust and emissions from construction vehicles and equipment. These impacts would take place only during the construction period and could be minimized through the use of measures such as covering soil stockpiles and watering gravel areas to minimize dust, and ensuring that construction equipment is properly maintained and equipped with mufflers and air filters.

In the long term, implementation of the Preferred Alternative would not by itself be expected to affect levels of air traffic at the Airport or vehicle traffic to the airport in a way that would measurably contribute to increased emissions. The Preferred Alternative would not be expected to result in levels of pollution that would exceed the NAAQS. As a result, no long-term air quality impacts would be expected from implementation of the Preferred Alternative.

3.9. Stormwater and Water Quality

Stormwater treatment and conveyance infrastructure on the Airport property is limited to sheetflow conveyance to on-airport ditches and grassed infield and runway safety areas (RSA). No direct discharge points to nearby waterways or ditches draining to waterways occur or are associated with Airport stormwater conveyance.

The Preferred Alternative would result in the addition of impervious areas on the Airport property in the form of paved surfaces and buildings, which would result in an increase in stormwater generated on the site. It is anticipated that stormwater would continue to sheetflow to on-airport ditches and grassed infield and RSA, infiltrating into the ground without directly discharging to nearby waterways. As a result, additional stormwater generated under the Preferred Alternative would not be expected to impact water quality in nearby waters.

If the Preferred Alternative is determined during project design to result in the potential discharge of stormwater to nearby receiving streams, then project design will need to incorporate stormwater treatment measures to address NMFS requirements for protection of listed fish under their jurisdiction or to avoid potential impacts to listed fish administered by NMFS and the USFWS.

4 References

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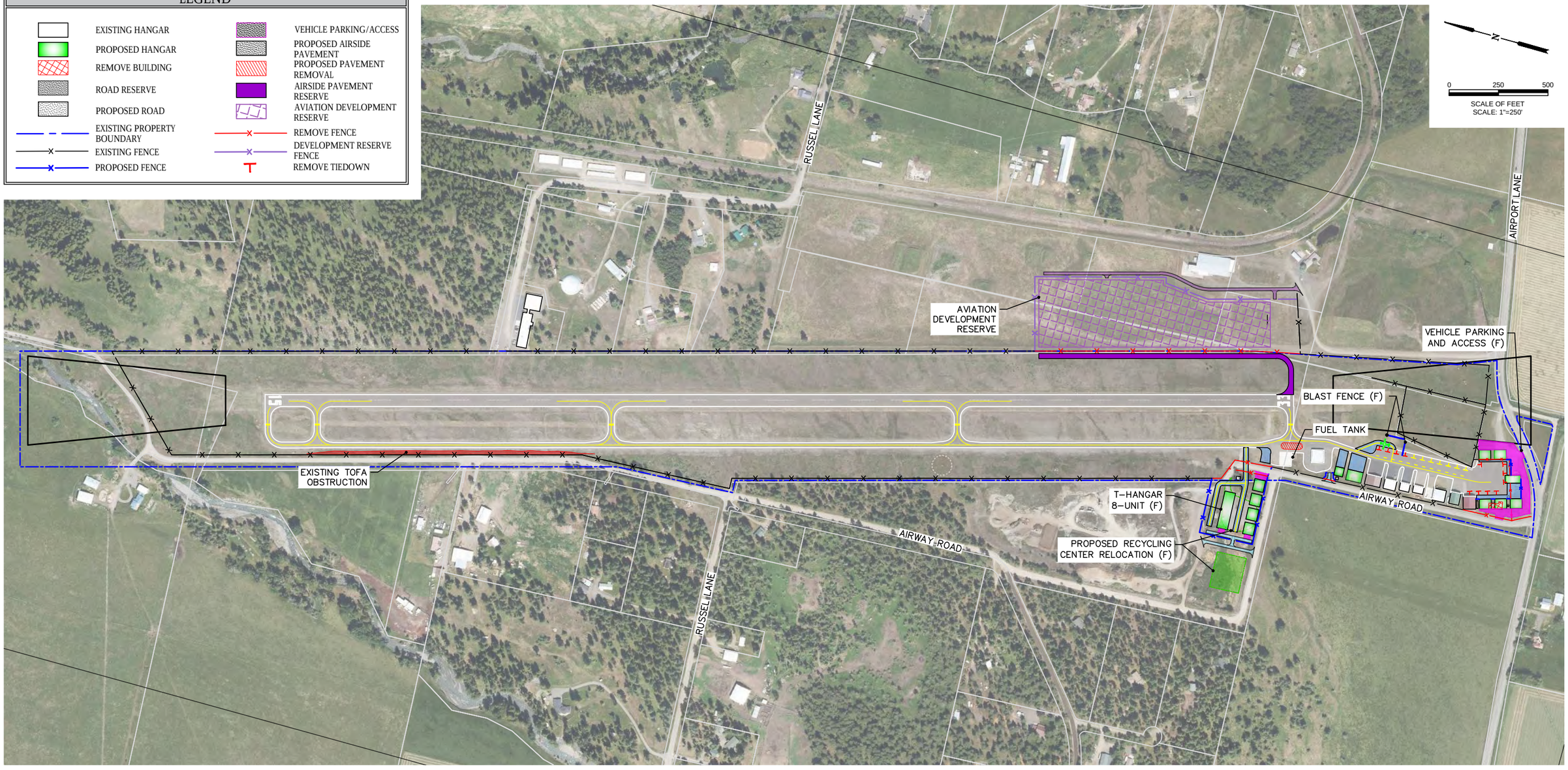
Attachments/Enclosures:

Appendix A. Preferred Alternative Proposed Improvements

Appendix A: Preferred Alternative Proposed Improvements

LEGEND

- EXISTING HANGAR
- PROPOSED HANGAR
- REMOVE BUILDING
- ROAD RESERVE
- PROPOSED ROAD
- EXISTING PROPERTY BOUNDARY
- EXISTING FENCE
- PROPOSED FENCE
- VEHICLE PARKING/ACCESS
- PROPOSED AIRSIDE PAVEMENT
- PROPOSED PAVEMENT REMOVAL
- AIRSIDE PAVEMENT RESERVE
- AVIATION DEVELOPMENT RESERVE
- REMOVE FENCE
- DEVELOPMENT RESERVE FENCE
- REMOVE TIEDOWN

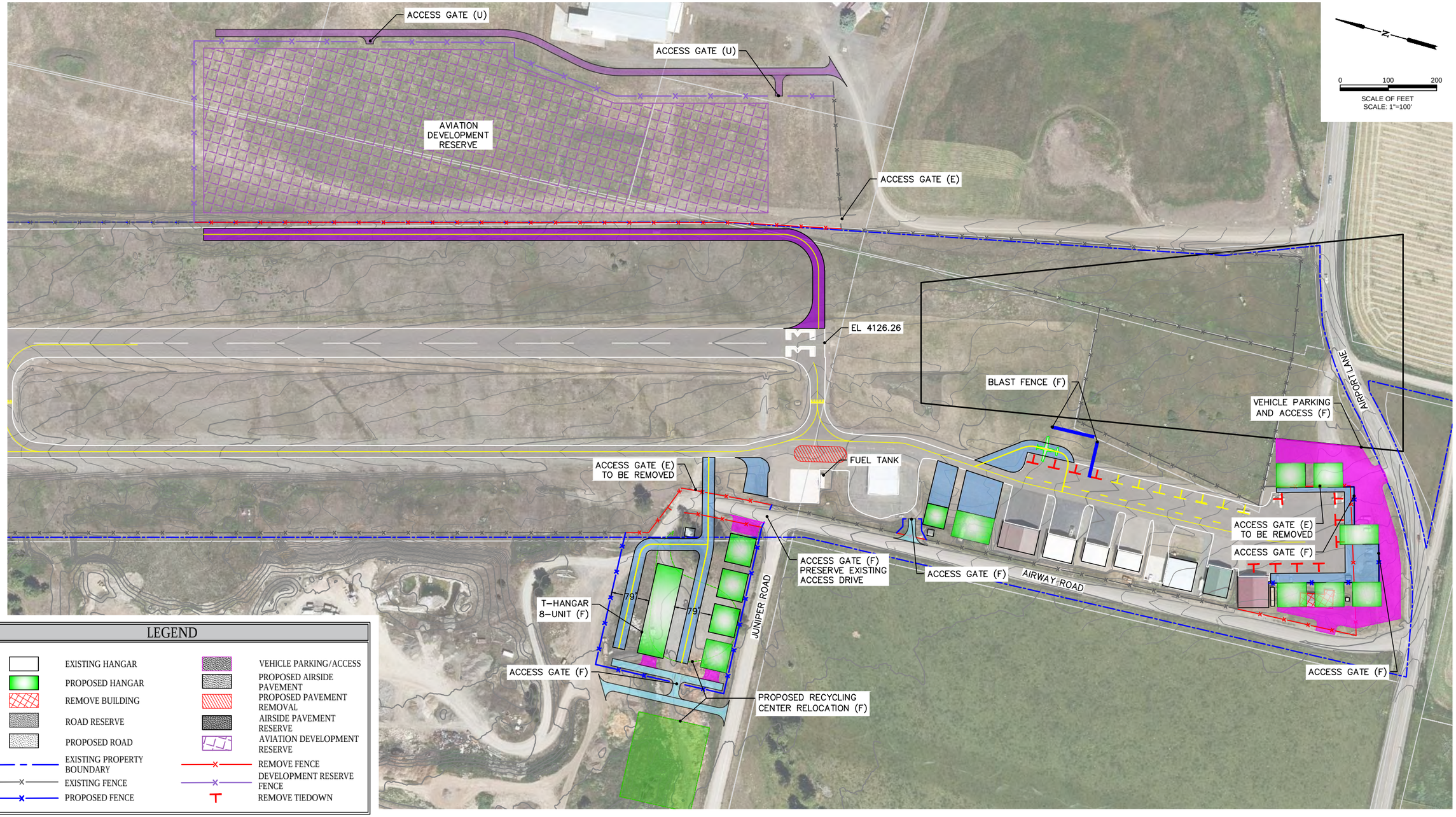


PREFERRED ALTERNATIVE

JOSEPH STATE AIRPORT

OREGON DEPARTMENT OF AVIATION

CENTURY WEST ENGINEERING



LEGEND

- EXISTING HANGAR
- PROPOSED HANGAR
- REMOVE BUILDING
- ROAD RESERVE
- PROPOSED ROAD
- EXISTING PROPERTY BOUNDARY
- EXISTING FENCE
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- AIRSIDE PAVEMENT RESERVE
- AVIATION DEVELOPMENT RESERVE
- REMOVE FENCE
- DEVELOPMENT RESERVE FENCE
- REMOVE TIEDOWN

PREFERRED ALTERNATIVE
TERMINAL APRON AND DEVELOPMENT AREAS

JOSEPH STATE AIRPORT
OREGON DEPARTMENT OF AVIATION

CENTURY WEST ENGINEERING

Appendix B

Cultural Memo

DRAFT—Cultural Resources Review of the Joseph Sate Airport Rehabilitation Project, Wallowa County, Oregon

Submitted to:
Century West Engineering



Submitted by:
Historical Research Associates, Inc.
Kelly M. Derr, PhD
Libby Provost, MA

Portland, Oregon
July 2020



HISTORICAL
RESEARCH
ASSOCIATES, INC.

This project was implemented by HRA Principal Investigators Kelly M. Derr, PhD and Libby Provost, MA, who meet the Secretary of the Interior's professional qualifications standards for archaeology and architectural history. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to archaeological resources based on the results of HRA's investigation. It should not be considered to constitute project clearance with regard to the treatment of archaeological resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.

Executive Summary

The Oregon Department of Aviation (ODA) is developing a Master Plan Update for the Joseph State Airport. It identified several categories of improvements that are needed for the airport to meet facility objectives. The Joseph State Airport Rehabilitation Project (Project) is addressing a number of these categories. The Project is in Sections 24, 25, and 36 of Township 2 South, Range 44 East, Willamette Meridian, just west of the community of Joseph in Wallowa County, Oregon. The Project is being funded by the Federal Aviation Administration (FAA) and administered by ODA. As a federally funded project, completion of the Project requires compliance with Section 106 of the National Historic Preservation Act (NHPA) (43 USC 470f, as amended) and its implementing regulations (36 CFR Part 800).

ODA retained Century West Engineering (CWE) to develop the update plan for the Project. CWE contracted Historical Research Associates, Inc. (HRA), to complete a cultural resources desktop assessment of the project area to review the previous cultural resources work, determine if cultural resources have been identified within the project area, and to ascertain the likelihood of encountering archaeological resources during the Project. ODA has not yet determined a project area of potential effects (APE); however, for the purposes of the desktop review, CWE provided HRA with a proposed area of potential impacts (API) that measures approximately 115 acres.

Background research identified two previous cultural resources surveys that have been conducted (in 1993 and 2013, respectively) within the airport footprint, and one potential cultural resource (a rock pile/rock wall) and historic-period cemetery are recorded within the API. The previous surveys were pedestrian only, and no subsurface investigations have been completed to determine potential for buried deposits. There are currently no plans for construction in the vicinity of the recorded rock pile/wall, however it is recommended that the area be revisited by archaeologists to determine if the resource is considered archaeological. If so, additional documentation, submittal of an Oregon State site form, and preliminary determination of eligibility to the NRHP and project impacts are needed.

It does not appear, at this time, that the proposed airport improvements will impact the Joseph Pioneer Cemetery. If it is determined that project actions will impact the area surrounding the rock pile/wall or the cemetery, additional recordation and investigations may be required. In order to avoid effects to previously unrecorded cultural resources during project construction, HRA recommends a pedestrian survey of portions of the API not surveyed in 2013, as well as shovel probe investigations in areas where ground disturbance is planned outside of existing roadbeds and taxiways.

HRA also conducted a review of historic-period architectural resources within the API. Of the approximately eight buildings on the airport property, two may date to the historic period. For architectural resources, HRA recommends, based on project actions, that the Joseph State Airport be surveyed at a compliance level. Compliance surveys are intended to be a first look at historic-period architectural resources. They record basic information to assess potential eligibility for listing in the National Register of Historic Places (NRHP), either individually or as a contributing resource to a historic district.

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1. Introduction

1.1 Project Description

The Oregon Department of Aviation (ODA) has developed a Master Plan Update for the Joseph State Airport. It identified several improvements that are needed for the airport to meet facility objectives. The Joseph State Airport Rehabilitation Project (Project) is addressing a number of these categories. The Project is in Sections 24, 25, and 36 of Township 2 South, Range 44 East, and Section 31 of Township 2 South, 45 East, Willamette Meridian just outside (0.8 miles [mi] west) of the town of Joseph, in Wallowa County, Oregon (Figure 1-1). First constructed in 1955, the Joseph State Airport currently consists of a single 5,200-foot (ft) runway, associated taxiway, and hangar buildings.

The primary purpose of the Project is to update existing infrastructure at the airport. The proposed design for the Project will include installation of new hangars and associated buildings at the southwest end of the runway, and building new connecting access roads, tarmac, and pavements. Maximum depth of disturbance for these activities is anticipated to be approximately 6 ft.

1.2 Regulatory Context and Area of Potential Impacts

The Project is being funded by the Federal Aviation Administration (FAA) and administered by ODA. As a federally funded project, completion of the Project requires compliance with Section 106 of the National Historic Preservation Act (NHPA) (43 USC 470f, as amended) and its implementing regulations (36 CFR Part 800). The NHPA requires federal agencies to consider the effects of their undertakings on historic properties (cultural resources that are listed in or eligible for listing in the National Register of Historic Places [NRHP]).

The Project is also subject to compliance under Oregon state laws, including Oregon Revised Statue (ORS) 358.905, which provides definitions for archaeological objects and sites; ORS 390.235, which states that a person may not excavate or alter an archaeological site on private or public lands, make exploratory excavation on public lands to determine the presence of an archaeological site, or remove from private or public lands any material of an archaeological, historical, or anthropological nature without first obtaining a permit issued by the State Parks and Recreation Department; ORS 358.475, which declares that it is in the best interest of the state to maintain, preserve, and rehabilitate properties of Oregon historical significance; and ORS 97.740-97.760, which protects Native American graves and associated objects.

ODA retained Century West Engineering (CWE) to develop the update plan for the Project. CWE contracted Historical Research Associates, Inc. (HRA), to complete a cultural resources desktop assessment of the project area to review the previous cultural resources work, determine if cultural resources have been identified within the project area, and to ascertain the likelihood of encountering archaeological resources during the Project. ODA has not yet determined a project area of potential effects (APE); however, for the purposes of the desktop review, CWE provided

HRA with a proposed area of potential impacts (API) that measures approximately 115 acres (Figure 1-2).

1.3 Acknowledgements and Report Organization

Kelly M. Derr, PhD, authored the report with contributions from Libby Provost, MA, who authored the historic-period architectural review (Section 4). Dr. Derr and Ms. Provost meet the Secretary of the Interior's Professional Qualifications Standards for Archaeology and Architectural History, respectively. Gabe Frazier produced the graphics and managed the Geographic Information System data. Emily K. Ragsdale, MA, RPA, served as technical editor. Dawn Vogel line edited the report, and Jessica Frank formatted the report.

This document summarizes the findings of the background research and is intended to guide CWE in future phases of the Project. It includes a description of the environmental and cultural context (Section 2); a detailed discussion of the cultural and historic-period resources in the immediate region, their specific distance from the API, and their character and NRHP eligibility (or potential NRHP eligibility, as appropriate) (Section 3); review of architectural resources (Section 4); the probability to identify new archaeological resources within in the API, estimation of whether the project has the potential to affect them, and recommendations for additional archaeological and architectural work (Section 5); and a list of references cited (Section 6).

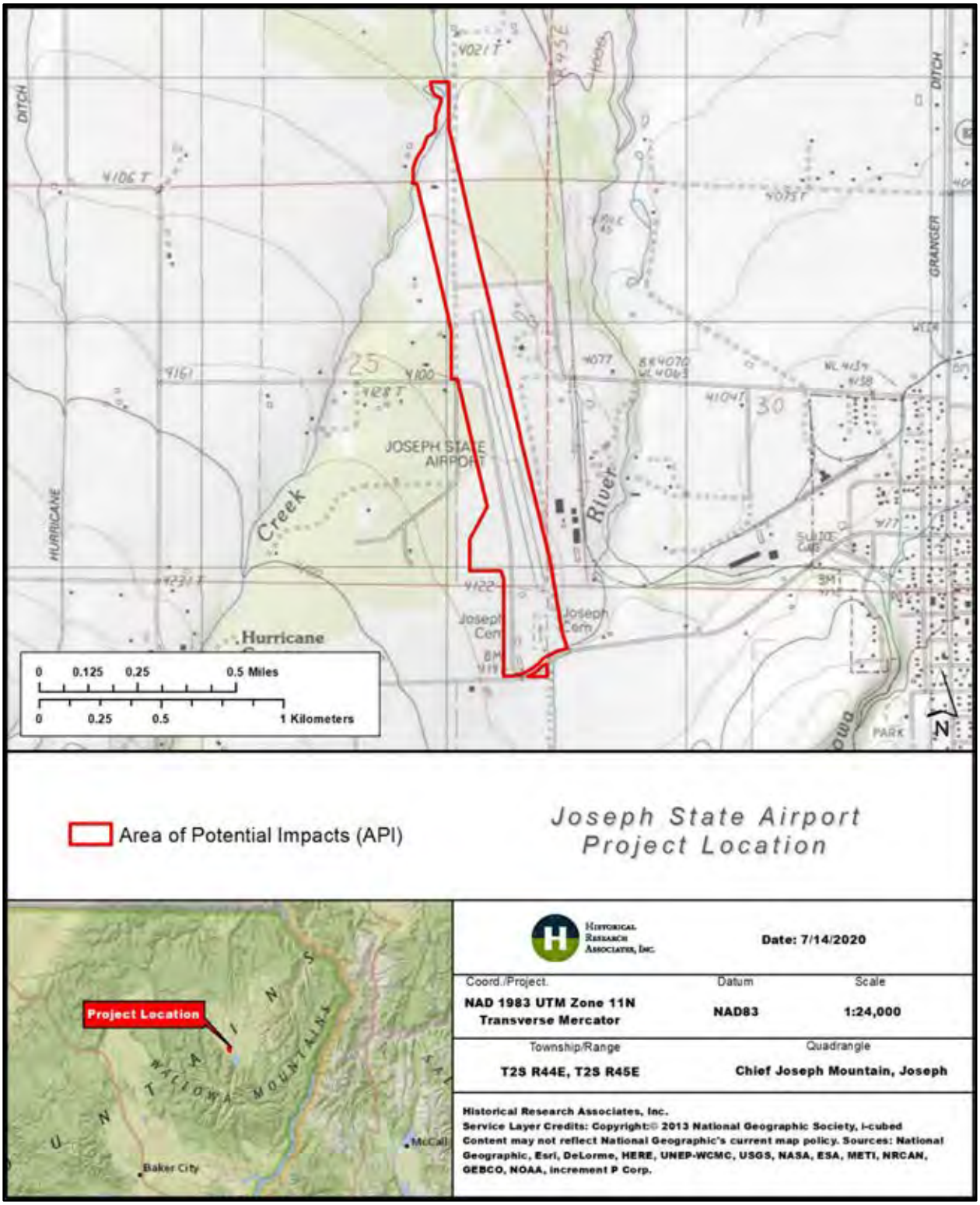


Figure 1-1. Project location shown on a topographic quadrangle.

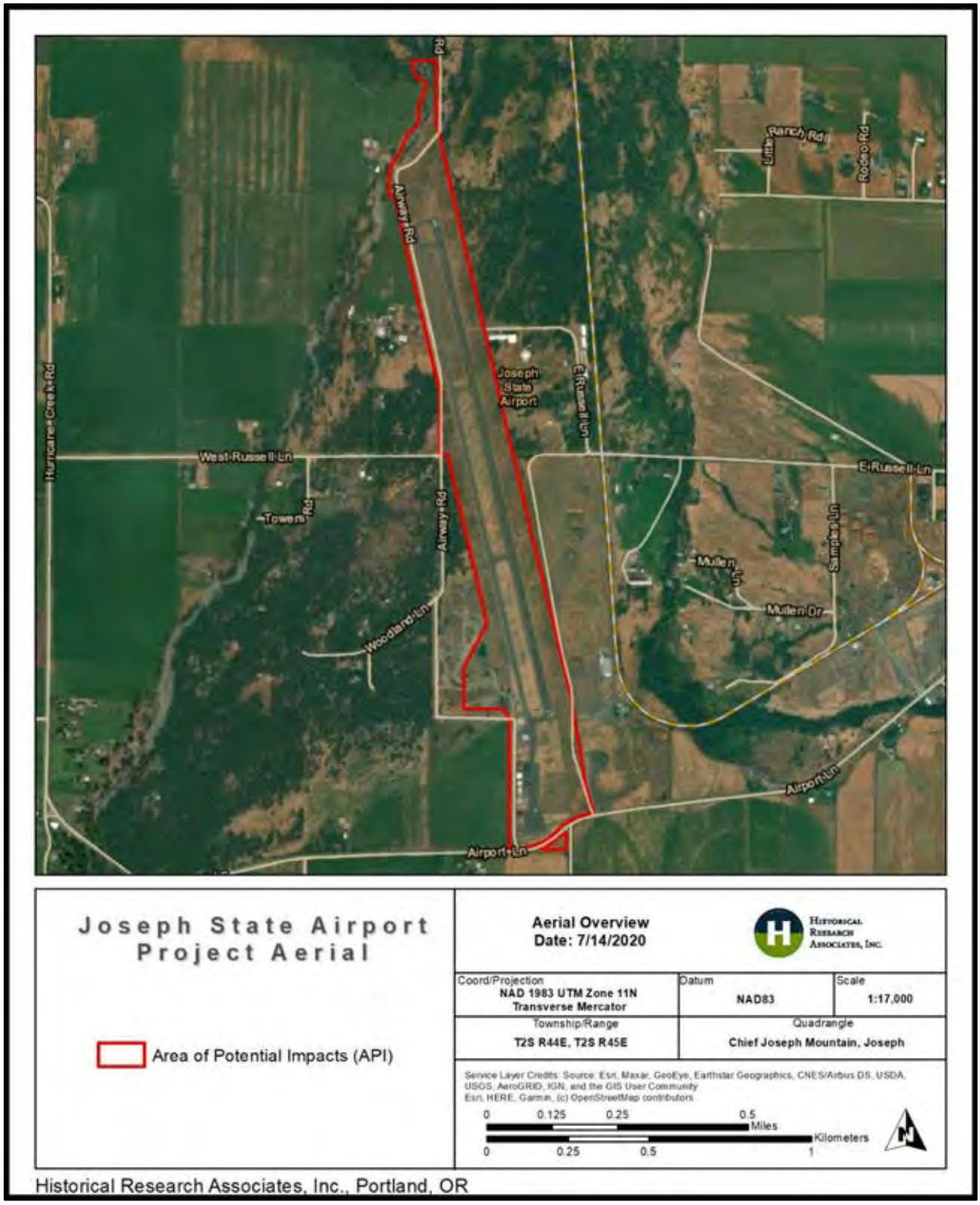


Figure 1-2. Overview of API on an aerial map.

2. Environmental and Cultural Context

2.1 Environmental Setting

The Joseph State Airport is situated within the Blue Mountain Province of Oregon, approximately 4,101 ft above mean sea level (amsl). The Blue Mountains comprise a series of accreted terranes—which originated as volcanic island archipelagos and formed between 380 and 80 million years ago—that trend southwest–northeast from around Paulina, Oregon, at the southwestern extent to Elk River, Idaho, at the northeastern extent. The Rocky Mountains, Owyhee Uplands, High Lava Plains, and Columbia Plateau mark the northeastern, southeastern, southwestern, and northwestern boundaries of the province, respectively. The API is within the eastern portion of the Wallowa Terrane, which underlies the Wallowa Mountains and the Seven Devils range in Idaho (Orr and Orr 2012:20–28). The Wallowa Terrane is characterized by the high elevation Wallowa Mountains and the highly dissected canyons between the Wallowas and the Snake River (Franklin and Dyrness 1988:27–29).

The Wallowa River watershed drains approximately 612,800 acres of forest and rangeland northwest to the Grand Ronde River. The API is located within the Wallowa Valley and is situated on floodplain and stream terrace deposits between Hurricane Creek and the Wallowa River. Hurricane Creek flows northeastward crossing the northern portion of the API, joining the Wallowa River (via agricultural ditches) to the north (USDA-NRCS 2004). Soils mapped within the API consist primarily of Matterhorn gravelly fine sandy loam and Redmount gravelly silt loam. The northern end of the API contains Eggelson gravelly loams. These soils are glacial outwash and alluvial derived deposits extending to 60 or more inches (USDA-NRCS 2020). The soil series identified within the API are usually moist during the winter and spring but dry during the summer and fall. Uncultivated areas where these soils series occur have been known to contain vegetation such as Idaho fescue, bluebunch wheatgrass, rattlesnake brome, western hawkweed, twin arnica, yarrow, lupine, and arrowleaf balsamroot.

The API is mapped within the *Festuca idahoensis*/*Symphoricarpos albus* (Idaho fescue/Snowberry) vegetation zone. This steppe zone is a vegetational mosaic that consists of herbaceous and shrubby components dominated by perennial grasses and a variety of perennial forbs (Franklin and Dyrness 1988:45, 220). The airport and surrounding area are primarily under agricultural cultivation, but remnant pine stands are present.

The Wallowa River and its tributaries provide habitat to salmonids. Chinook salmon (*Oncorhynchus tshawytscha*), summer steelhead (*O. mykiss*), and bull trout (*Salvelinus confluentus*) are currently present in watershed (USDA-NRCS 2004). Common mammals in this region include black-tailed deer (*Odocoileus hemionus*), white-tailed deer (*Odocoileus virginianus*), elk (*Cervus elaphus*), bighorn sheep (*Ovis canadensis*), mountain goats (*Oreamnos americanus*), pronghorn (*Antilocapra americana*), bison (*Bison bison*) (historically), gray wolf (*Canis lupus*), lynx (*Lynx canadensis*), coyote (*Canis latrans*), black bear (*Ursus americanus*), bats (Chiroptera), and bobcat (*Lynx rufus*). Birds common in this area of the Blue Mountains include bald eagle (*Haliaeetus leucocephalus*), great gray owl (*Strix nebulosa*), and a variety of ground birds (Ecovista 2004; USDA-USFS 2016).

2.2 Cultural Context

2.2.1 Precontact Period

The following overview uses the terminology set forth in the chronology developed by Ames and colleagues (1998) for the southern Columbia Plateau, though several other cultural chronologies have been formulated for the southern Columbia Plateau. The earliest documented precontact populations in the Columbia Plateau were small, mobile groups of hunters and foragers (Ames 2000) focused on gathering a wide range of plants and animals (Lohse and Schou 2008:198). This time period has been divided by Ames and colleagues (1998) into Period IA (11,500 to 11,000 years before present [B.P.]) and Period IB (11,000 to between 6000 and 7000 B.P.). Period IA sites are ephemeral at best in the Columbia Plateau and typically consist of one or two projectile points found on the surface. More fieldwork and research are needed to clarify the relationship between Period IA and IB archaeological materials on the Columbia Plateau.

More is known about the occupiers of Period IB. This period is characterized as an economy of broad-spectrum hunting and gathering, dependent upon high seasonal and annual mobility, small populations, and flexible technologies (Ames et al. 1998:103). River mussels and fish were of particular importance in the southern Columbia Plateau at this time (Chatters and Pokotylo 1998:74). Recognizable Period IB projectile points demonstrated a shift in style from the earlier Windust Phase points (prior to around 9000 B.P.), which were lanceolate, shouldered, and either stemmed or unstemmed dart-sized points (Ames et al. 1998:103; Leonhardy and Rice 1970:4; Lohse and Schou 2008:198) to the later Cascade Phase points (after 9000 B.P.), which were either leaf-shaped or lanceloate (also called laurel-leaf [Ames et al. 1998:104]) (Leonhardy and Rice 1970:6). Large side- and corner-notched points appeared in the archaeological record after the Mount Mazama eruption circa 7700 B.P. (the late Cascade Phase [Leonhardy and Rice 1970]). Aside from projectile points, artifacts from Period IB include ovate bifaces, crescents, end- and side-scrapers, used flakes, cores, small milling stones, manos, edge-ground cobbles, bola stones, composite and single-piece harpoons, and bone needles. Faunal assemblages are varied and include large terrestrial mammals (bison, elk, deer, and pronghorn), smaller mammals, birds, and fish.

The first semi-subterranean pithouses appeared on the southern Columbia Plateau in Period II (from between 6400 and 7000 to 3900 B.P.), which coincided with an apparent increase in fishing and root gathering. Projectile point styles showed continuity with those that were common at end of Period I, including both leaf-shaped Cascade points and side- and corner-notched dart points. Bow and arrow technology was quickly established throughout the region during this period (after 4400 B.P.) and was used alongside the atlatl for thousands of years (Ames et al. 2010:311). The presence of hopper mortars and anvils in the southeastern Plateau during Period II indicates root and bulb processing was occurring by this time. Pithouse villages appeared in the region for the first time by 5000 B.P., although evidence for residential structures is nearly nonexistent at the end of Period II, between 4000 and 3800 B.P. (Ames et al. 1998:109).

Pithouses reappear in the archaeological record at the start of Period III (3900 B.P. to A.D. 1720), along with an increasingly heavy reliance on fishing, salmon storage, intensive camas processing, and evidence of land use patterns that lasted into the nineteenth century (Ames et al. 1998:111). While salmon storage and riverine resources remained integral to subsistence, an emphasis was also placed on upland or non-riverine resources such as vegetable roots and bison (which were found locally)

during this time. Longhouses replaced the use of pithouses during the latter part of this period, though pithouses and longhouses were used simultaneously in some areas. Most major villages were composed of longhouses at the time of Euroamerican contact (Ames et al. 1998:112). Columbia Plateau groups were socially stratified (i.e., variation in house sizes, disparities in funerary goods, rock art, large cemeteries) and traded with coastal groups items such as dentalium shells, shell beads, steatite (soapstone) pipes, stone and bone clubs (Chatters and Pokotylo 1998:78). Human populations, village sizes, levels of mortuary inequality, and the use of upland environments declined in the latter half of this period (Chatters and Pokotylo 1998:79). The end of Period III was marked by the introduction of the horse and the beginning of the ethnographic pattern.

2.2.2 Ethnographic Context

The API is mapped as being within the traditional territory of the Nez Perce (Walker 1998:421). At the time of Euroamerican contact, the Nez Perce occupied the southeastern corner of Washington, the northeastern corner of Oregon, and a large swath of land in western Idaho up to the western slopes of Mount Idaho. Nez Perce dialect is related to Sahaptin in the Sahaptian language group prevalent in the southern Plateau, and the Nez Perce people were also culturally and socially related to the Sahaptin speaking groups (including the Palouse, Walla Walla, Yakima, Umatilla, and Wayampam) of eastern Oregon and Washington. In 1800, over 70 permanent Nez Perce villages each contained a population of between 30 and 200 people (Walker 1998:420).

During the winter months, the Nez Perce occupied permanent villages on the major tributary systems of the Salmon, Clearwater, and Snake Rivers. Villages consisted of one or more mat-covered, double lean-to constructed longhouses, shallow semisubterranean dormitories for the men and women, hemispherical sweathouses, and a variety of other possible small huts and structures (Josephy 1997). Villages typically included several extended families led by a headman, who was generally the eldest able man in the group and was subject to the approval of the village council (Walker 1998:425). Caches of stored food were primarily relied upon for sustenance during the winter months, and as early spring arrived so did the start of the annual subsistence cycle. Hunting in the river valleys dominated the early spring activities, but with the start of the salmon runs and the availability of early root crops at lower elevations in late spring hunting was of less importance (Walker 1998:420).

During the summer months, families moved out of the villages and lived in temporary camps near resource-gathering areas that were generally upland from the villages; these temporary camps often consisted of one or several mat-covered conical tent structures. Bison skin-covered conical tents became more popular during the during the late eighteenth and early nineteenth century as the Nez Perce became influenced by Plains cultures (Walker 1998:427). The highlands offered later season root crops, stream fishing, and hunting, and through the fall these activities increasingly added to their winter food stores. By November, most Nez Perce groups stopped travelling and settled into their winter villages (Walker 1998:421).

Large game animals taken by the Nez Perce included elk, deer, moose, mountain sheep and goat, black and grizzly bear, and bison. The Nez Perce also hunted small mammals such as rabbit, squirrel, badger, and marmot, as well as birds including ducks, geese, grouse, sage hens, and birds of prey. Nez Perce individuals consumed an average of over 500 pounds of fish per year. The extensive river systems in Nez Perce territory provided a diversity of fish including four species of salmon

(Chinook, Coho, chum, and sockeye), various trout, as well as several kinds of suckers, whitefish, sturgeon, lampreys, and Northern pikeminnow (Walker 1998). Abundant plant resources included camas, bitterroot, biscuit root, wild carrot, and wild onion, as well as, serviceberries, gooseberries, hawthorn berries, thornberries, huckleberries, currants, chokeberries, pine nuts, sunflower seeds, and black moss (Josephy 1997).

The Nez Perce way of life was greatly affected by European presence in North America, even before Euroamerican settlements were established in the area. In the 1770s, the first documented smallpox epidemic devastated the Native American population of western Oregon and extended into the Plateau and Plains, with a very high estimated mortality rate among the Nez Perce. Further epidemics struck the area through the 1850s, with outbreaks of malaria, measles, whooping cough, and scarlet fever, among others. By 1838, approximately 2,500 Nez Perce remained (Boyd 1998:467–474).

Euroamerican fur trappers were living in Nez Perce villages as early as 1811 and attempted to establish a trading post with the Nez Perce in 1812 (Walker 1998:429). By the 1830s, the first Euroamerican settlers and missionaries arrived in the Snake, Salmon, and Columbia River valleys and established permanent settlements (Walker 1998:429–433). Euroamerican settlement of the region increased, and by the 1850s through the 1870s, the Native groups of the Plateau signed a series of treaties in which they ceded ownership of most of their traditional lands to the U.S. government. Hostilities erupted and became the Nez Perce War of 1877 when Chief Joseph and his people in the Wallowa Valley were compelled to withdraw to the Nez Perce Reservation in Idaho. The Nez Perce retreated from the Army but were captured near the Canadian border and sent to reservations in Kansas and Oklahoma until 1885, when the surviving 280 people were removed to the Colville and Nez Perce Reservations (Beckham 1998:163).

2.2.3 Historic Period

After the Wallowa Valley's initial Euroamerican missionaries began moving into the area, another larger and more permanent wave of settlers began to flow into the vicinity of the proposed Project. Beginning in 1841, a massive migration of Americans crossed the continent on the Oregon Trail and its alternate routes, generally departing from Missouri and crossing the Columbia Plateau toward western Oregon (Bassett et al. 1998). The Oregon Trail and other later pathways established in the mid- and late nineteenth century facilitated permanent settlement in the Wallowa Valley.

The City of Joseph, Oregon, was founded in 1880 with the establishment of the post office in that year, though previously the settlement had been called Silver Lake or Lake City (McArthur and McArthur 2003:519). The City of Enterprise, Oregon, was named in 1887 during a mercantile meeting in a tent, and its post office was established in the same year (McArthur and McArthur 2003:333). Enterprise and Joseph lie approximately 17 mi and 16 mi, respectively, southwest of the API in Wallowa County.

Wallowa County was created from the eastern portion of Union County in 1887. Joseph served as an interim county seat until Enterprise was voted the seat in 1888, though the county did not build its courthouse until 1909 (Oregon Historical County Records Guide 2016).

The first recorded non-Indigenous settlement in the API was Issac N. Bare (Bear), whose 160-acre land patent issued in 1884 included much of the API (Serial Patent No. ORLGAA 102216) (BLM

1884). No structures or improvements to the land are depicted on General Land Office (GLO) map prior to Mr. Bare's land claim (GLO 1882; Figure 2-1). Much of the API appears to support wetland vegetation and may be associated with a larger "beaver dams" shown to the northeast of the API (GLO 1882).

By the early decades of the twentieth century, the large claims made under the 1850 Donation Land Act (allowing a married couple to claim up to 640 acres) had largely been subdivided into smaller more manageable family tracts. By 1935, Metsker Maps of Wallowa County show multiple parcels are owned within the API by a R.A Shinn, Fred Hemilwright and an E. P. Caster. The cemetery (at south end of API) is also mapped in its current location, within a parcel owned by E. P. Caster (Metsker Maps 1935a). Hurricane Creek, the Union Pacific Rail Line, and portions of Airport Rd. all appear to be located in their present alignments (Metsker Maps 1935a, 1935b). In 1955, the airport is show in its present location (USGS 1955).

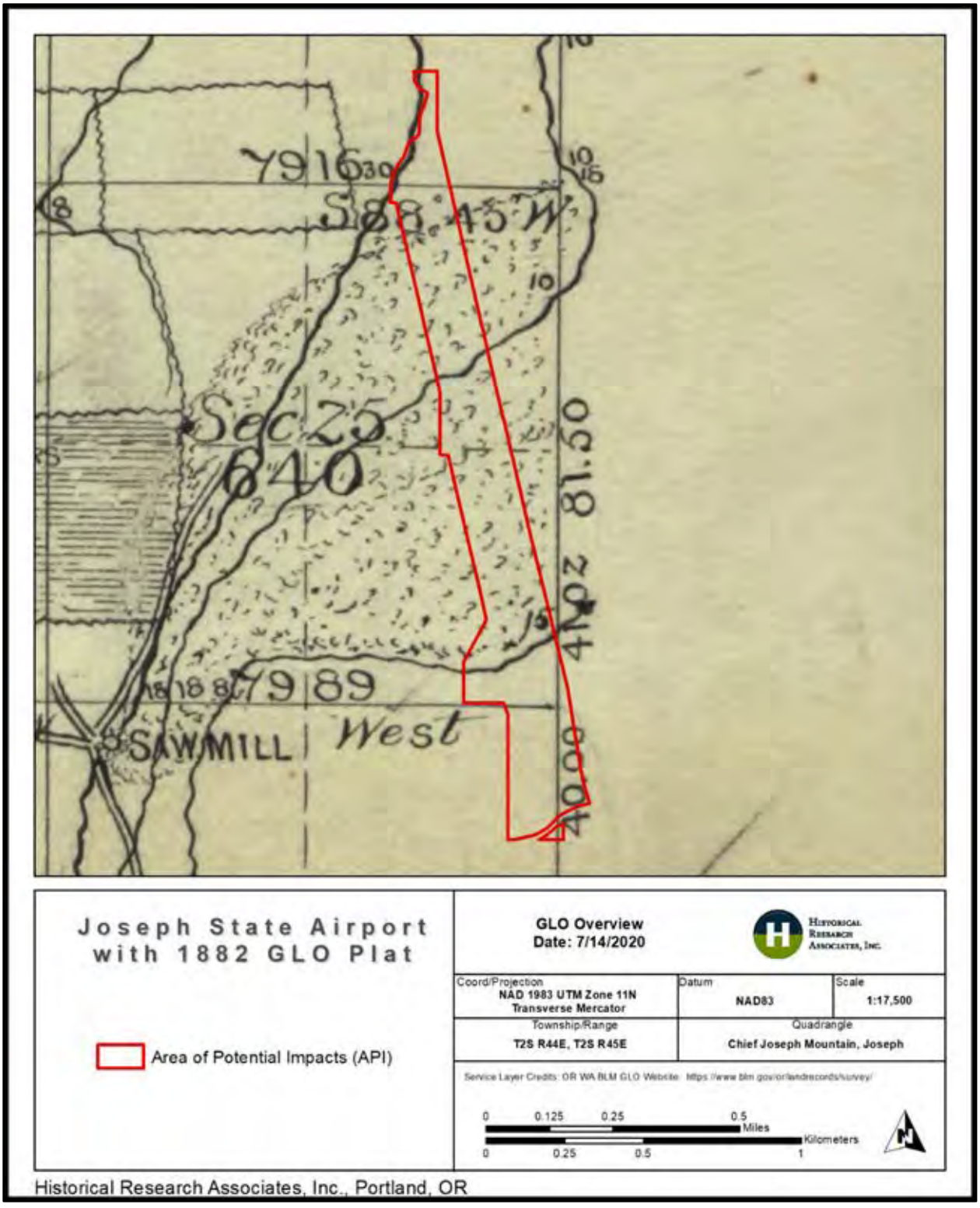


Figure 2-1. API depicted on 1882 GLO.

3. Archaeological Background Review

HRA examined the Oregon State Historic Preservation Office's (SHPO's) Oregon Archaeological Records Remote Access (OARRA) GIS server, which provides information about previous cultural resources studies and previously documented archaeological resources. HRA researchers also reviewed historic documents to assist in identifying development trends within and around the API.

3.1 Previous Surveys and Recorded Resources

Five cultural resources surveys have been conducted (Table 3-1), and one archaeological site has been formally recorded, within 1 mi of the API. Two of the surveys cover portions of the API and were conducted for the Joseph State Airport. In 1993, much of the API was pedestrian surveyed for the Joseph State Airport Expansion Project. No subsurface investigations were conducted as part of the survey. A possible historic-period rock wall/rock pile, located within the API, was identified during the 1993 airport survey (Cole 1993) and is recorded as a point on the Oregon SHPO GIS database. The rock pile has not been assigned a Smithsonian trinomial, and there is no associated resource form, but it is listed on the SHPO database as "unevaluated/important." Cole (1993) suggested the pile/wall may be associated with clearance of the field for the airport runway.

More recently, in 2013, WH Pacific archaeologists conducted pedestrian survey of three separate work areas within a portion of the API as part of an obstruction removal project for the airport. The survey was pedestrian only with no subsurface investigations, and no cultural resources were recorded, although the Joseph Pioneer Cemetery was mapped and photographed as part of the effort (see Section 4). Several "piles of debris" were also noted in the survey report. These could not be determined to be of archaeological age (75 years or older) and were thus not formally recorded as archaeological sites (Brownell 2013).

The other three cultural surveys within 1 mi of the API were conducted for a rail to trail project (O'Brien 2006), road improvements (Baxter 2011), and a telecommunications tower (Smith and Gall 2011). Only one resource has been formally recorded within 1 mi of the API. A historic-period site (35WA1487), located 0.14 mi east, was recorded during the survey of the Joseph to Enterprise Rail-To-Trail Project (O'Brien 2006). The site consists of an architectural debris scatter of metal, bricks, and mortar found adjacent to the railroad right-of-way. Several of the bricks are stamped with "Columbia" and likely date to 1921–1942 (O'Brien 2006). The site is currently unevaluated for listing in the NRHP.

Table 3-1. Previous Cultural Resources Investigations within 1 mi of the Project.

Distance/Direction from API	Year	Title	Authors	Study Type/ Investigation Methods	SHPO Number
Within API	1993	Report of Cultural Resources Survey of the Joseph State Airport Expansion Project	Cole, David	Pedestrian survey	14240
Within API	2013	Cultural Resource Inventory for the Proposed Joseph Sate Airport Obstruction Removal Project in Wallowa County, Oregon	Brownell, Sara	Pedestrian survey	25508
0.1 mi east	2006	Cultural Resource Inventory of the Wallowa Union Railroad Authority: Joseph o Enterprise Rail-With-Trail Pilot Project	O'Brien, Stephanie	Pedestrian survey	29096
0.6 mi east	2011	Cultural Resources Survey of the Joseph Telecommunications Facility	Smith, Michael, and Alexander W. Gall	Pedestrian survey	24904
0.8 mi west	2011	Hurricane Creek Road (Alt OR82) Project	Baxter, Paul	Pedestrian survey and shovel probes	2418

4. Historic-Period Architectural Review

HRA architectural historian Libby Provost, MA, conducted research via the Wallowa County tax assessor website, historic-period Oregon newspapers, historic-period maps and aerial images, and the Oregon Historic Cemeteries list. Additionally, HRA consulted the Oregon Historic Sites Database (OHSD) to determine if any architectural resources within the project area were previously surveyed, evaluated for listing, or listed in the NRHP.

4.1 Architectural Review Results

HRA reviewed all tax parcels in the API via a desktop analysis and identified two historic-period architectural resources within the API: Joseph State Airport, inclusive of the runway, access road, and buildings; and Joseph (Pioneer) Cemetery. Research reveals the cemetery was constructed by 1946 and the airport by 1955, however their exact build dates are unknown (Nationwide Environmental Title Research [NETR] 2020; USGS 1955) (Table 4-1). Of the approximately eight buildings on the airport property, two may date to the historic period; these two buildings are present on a 1981 aerial image, while the others do not appear on aerials until after 2005 (Google Earth Pro 2020; NETR 2020).

Research in the OHSD indicates that neither the airport nor the cemetery have been previously surveyed, evaluated for listing, or listed in the NRHP. Joseph Cemetery is not recorded in the Historic Cemeteries of Oregon list, which is documented by the Oregon SHPO Historic Cemeteries Program (Oregon SHPO 2020).

Table 4-1. Historic-Period Architectural Resources in the API.

Map/Taxlot	**Resource/Address**	**Year Built**
02S44E250000700; 02S44E360000100; 02S44E250001100	Joseph State Airport, 83838 Airport Ln.	Ca. 1955
02S44E360000200	Joseph Cemetery, within boundary of Joseph State Airport, 83838 Airport Ln.	Ca. 1946

5. Data Expectations and Recommendations

The preceding sections are the culmination of HRA's review of books and reports on the environmental history, archaeological research, local history, ethnographic overviews, and historical maps pertinent to the API. Much of the API has been pedestrian surveyed for cultural resources, with the most recent survey work occurring in 2013 (Brownell 2013). This survey was conducted within the last 10 years and meets SHPO requirements. One previously recorded rock pile/wall is located within the API, but it is unclear if the pile is related to original airport construction or predates the construction and is associated with prior occupation or use of the parcel. No subsurface investigations have been conducted within the API. Given the Project's proximity to Hurricane Creek and Wallowa River and associated plant and animal resources, there is potential for buried precontact deposits to be present. There is also potential for historic-period items related to early settlement and farming of the Wallowa Valley to be encountered.

ODA/CWE have not finalized the design for improvements to the Joseph State Airport, and HRA recommends that pedestrian survey be conducted for areas outside of the previous 2013 survey and that shovel probe investigations be conducted in the areas where ground disturbance is planned, specifically in the northern and southern portions of the API where no previous development has occurred and intact archaeological deposits may be present (Figure 5-1). There are currently no plans for construction in the vicinity of the recorded rock pile/wall, however it is recommended that the area be revisited by archaeologists to determine if the resource is considered archaeological. If so, additional documentation, submittal of an Oregon State site form, and preliminary determination of eligibility to the NRHP and project impacts are needed.

For historic-period architectural resources, HRA recommends, based on project actions, that the Joseph State Airport be surveyed at a compliance level. Compliance surveys are intended to be a first look at historic-period architectural resources. They record basic information to assess potential eligibility for listing in the NRHP, either individually or as a contributing resource to a historic district. Because compliance surveys are intended to evaluate resources under federal or state laws for assessment of effects/impacts, compliance surveys review a resource's eligibility under all criteria and assess integrity from the period of construction. However, because it is a first look, a compliance survey involves only a modicum of historic research into any particular resource. The compliance survey will build upon the limited research conducted as part of this effort (tax assessor data, SHPO data) along with the addition of easily accessible online archival materials such as historic maps (GLOs/Metsker/Sanborns), newspaper archives, and other sources as appropriate. Fieldwork methods mimic SHPO *Guidelines* for reconnaissance-level surveys and are generally conducted from the public right-of-way; however. access to portions of the airport property will be required if sufficient view of the property is not available from the right-of-way. Physical descriptions, integrity statements, and evaluations under all four criteria may include recommendations for additional research, if required. The results of the compliance survey are then presented on a SHPO Section 106 Clearance Form, which is submitted to SHPO for review and concurrence.

It does not appear, at this time, that the Joseph Pioneer Cemetery will be effected by the proposed airport improvements. If it is determined that project actions will impact the area surrounding the cemetery, additional recordation and investigations may be required.

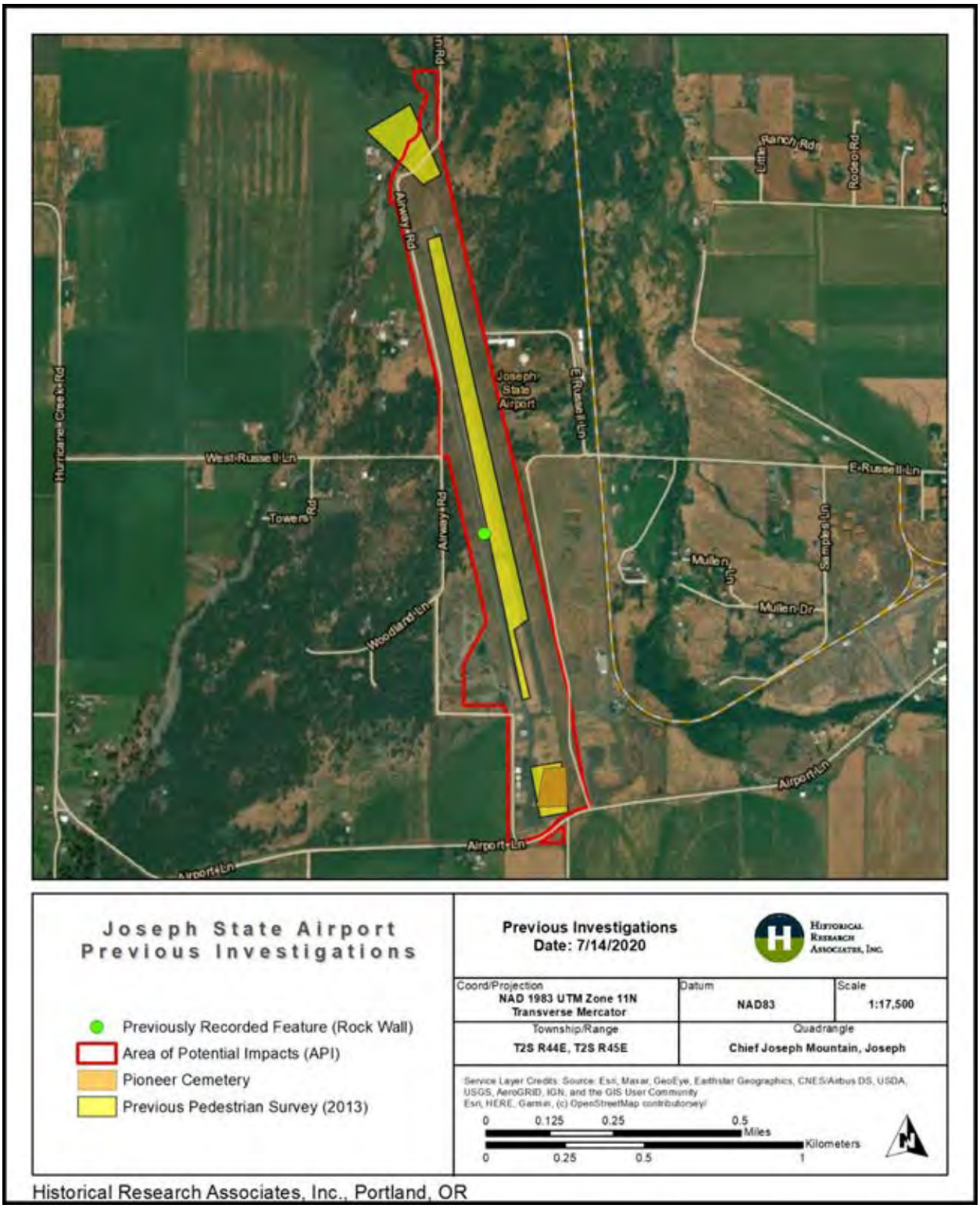


Figure 5-1. Recorded resources and previous cultural resource survey within the API.

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Appendix C

Wallowa County Zoning

Article 22

INDUSTRIAL (M-1)

SECTION 22.010, PURPOSE: The purpose of this zone is to provide areas for industrial activities which may require large land areas and to preserve those areas from being developed with such uses as residential that would inhibit or eliminate the future potential for industrial development.

SECTION 22.015, PERMITTED USES: The following uses, substantially similar uses, and their accessory uses are permitted in the Industrial Zone subject to Administrative Review.

01. Retail, wholesale, or service business establishment.

02. Lumber yards and retail - including mill works.

03. Machine shops.

04. Bottling works.

05. Equipment storage yards.

06. Hauling, freighting, and trucking yards or terminals.

07. Wholesale businesses, storage buildings, or warehouses.

08. Manufacturing, compounding, assembling, or treating products.

09. Concrete or ready-mix plants.

10. Resource uses of the Exclusive Farm Use and Timber Grazing Zones.

11. Home-based occupation where a new dwelling is not proposed in conjunction therewith.

12. Hospitals, healthcare, and medical facilities.

13. Correctional, emergency services, and law enforcement facilities.

14. Other industrial uses as long as the impacts on surrounding properties and uses are no greater than that of the above permitted uses.

15. Subject to the provisions of Article 3, Ministerial Review, an existing single family dwelling may be altered, restored, or replaced providing:

    A. The dwelling to be replaced meets all of the following criteria:

1. It was lawfully created; and

2. Has intact exterior walls and roof structure; and

3. Has indoor plumbing consisting of a kitchen sink, toilet, and bathing facilities connected to a sanitary waste disposal system; and

4. Has interior wiring for interior lights; and

5. Has a heating system; and

6. Will be removed, demolished, or converted to an allowable use within three months of the completion of the replacement dwelling; and

7. The application satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

SECTION 22.020, BUILDINGS AND ACTIVITIES PERMITTED CONDITIONALLY: In the Industrial Zone, the following uses and activities and their accessory buildings and uses are permitted subject to the provisions of Article 9, Conditional Use Permit.

01. A single-family residence necessary for the caretakers, watchperson, or the owner of the industry existing on the parcel. The residence shall be a temporary structure *like a* manufactured dwelling or an apartment in conjunction with the business as a temporary use for the term of the business. Retention of the temporary dwelling shall be examined by the review authority after the original need has ceased, or the property is sold and the review authority may require the residence, including the foundation and other related structures, to be removed or converted to a permitted use at the owners expense.

02. Automobile wrecking yard.

03. Other industrial uses where the impacts on surrounding properties and uses is greater than that of uses permitted in Section 22.015.

SECTION 22.025, PROPERTY DEVELOPMENT STANDARDS: The following standards are applicable to permitted and conditional developments in the Industrial Zone.

01**. POTENTIAL IMPACTS**

AIR QUALITY - The air quality standards set by the Department of Environmental Quality shall be the guiding standards in this zone.

NOISE - As permitted under all laws and regulations.

STORAGE - Materials shall be enclosed within a structure or concealed behind sight-

obscuring screening.

BUFFER - Where the Industrial Zone adjoins a zone other than the Industrial or Recreation Commercial Zone there shall be a buffer area of a depth adequate to provide for a natural visual landscape buffer or such other screening measure as may be prescribed by the review authority.

VIBRATION - No vibration other than that caused by highway vehicles, trains and aircraft shall be permitted which is discernible without instruments at the property line of the use concerned.

HEAT AND GLARE - Except for exterior lighting, operations producing heat or glare shall be constructed entirely within an enclosed building.

LIGHTING - Exterior lighting shall be directed away from adjacent property.

ELECTRICAL - No electrical interference shall be permitted which is discernible at the property line of the use concerned.

02. **PARCEL SIZE:** In the Industrial Zone the minimum lot size shall be five acres except if either a community water or sewer system is available for use then minimum lot area may be two acres, or if both are available for use the minimum lot area shall be determined by the user provided that in no instance shall the lot be less than 0.5 acre.

03. **SETBACKS:**

PROPERTY LINE - Not less than 25 feet - exception fences, roads, and signs.

STREAMS OR WETLANDS - Not less than100 feet.

04. **FRONTAGE:** All lots shall have a minimum 60 feet of access frontage.

05. **PARKING:** Off-street parking shall be required in accordance with Article 33, Parking.

06. **MAXIMUM INDUSTRIAL USE FLOOR AREA:** The maximum square footage in a building for a single allowable permitted use shall not exceed 35,000 square feet of floor area.
New buildings for industrial use or uses exceeding 35,000 square feet may be approved as a Conditional Use if found, through the Public Hearing process, to maintain the industrial zone as Arural@ consistent with Goal 14, and if the proposed development or use does not exceed the carrying capacity of the land, the scale of development is appropriate to the size of the parcel and the surrounding area, and there is an adequate plan for infrastructure including, but not limited to, transportation, parking, water, and sewer.

There is no size limitation for uses that are for the primary processing of raw materials produced in rural areas or for commercial or industrial uses related to agriculture.

07. **LAWFULLY ESTABLISHED PREEXISTING USES:** A lawfully established use that existed on or before the date of adoption of this amended Article may be expanded to a maximum of 35,000 square feet of floor area per use or an additional 25 percent of the floor area currently occupied by the existing use, whichever is greater.

08. **SALMON HABITAT RESTORATION:** Applications must satisfy any applicable criteria of Article 36, Salmon Habitat Restoration.

09. **SCENIC WATERWAYS, WILDLIFE HABITAT, WETLANDS AND RIPARIAN CORRIDORS:** Applications must satisfy any applicable criteria of Article 28, Goal 5 and 6 Resource Overlay Zone.

10. **FIRE AND FLOOD SAFETY DESIGN STANDARDS:**
In addition to the design standards in this base zone, land within special flood hazard areas, communities at risk (CARs) of wildland fires, and land within wildland urban interface (WUI) Zones, shall be subject to the provisions of Article 25, Natural Hazards.

Article 15

EXCLUSIVE FARM USE

SECTION 15.010, PURPOSE: The purpose of the Exclusive Farm Use (EFU) Zone is to protect and maintain agricultural lands for farm use, consistent with existing and future needs for agricultural products. The EFU zone is also intended to allow other uses that are compatible with agricultural activities, to protect forests, scenic resources and fish and wildlife habitat, and to maintain or improve the quality of air, water and land resources of the county. It is also the purpose of the EFU zone to qualify farms for farm use valuation under the provisions of ORS Chapter 308. The intention of the Exclusive Farm Use Zone is to guarantee the preservation of the areas classified as farm use free from conflicting non-farm uses.

The EFU zone has been applied to lands designated as Agriculture in the Comprehensive Plan. The provisions of the EFU zone reflect the agricultural policies of the Comprehensive Plan as well as the requirements of ORS Chapter 215 and OAR 660-033. The minimum parcel size and other standards established by this zone are intended to promote commercial agricultural operations.

SECTION 15.015, PERMITTED USES: In the Exclusive Farm Use Zone, the following uses and activities and their accessory buildings and uses are permitted subject to the general provisions and exceptions set forth by this ordinance:

01. Farm use. (No Review)

02. Propagation or harvesting of a forest product. (No Review)

03. Subject to the provisions of Article 3, Ministerial Review, a dwelling customarily provided in conjunction with farm use on a tract not identified as high-value farmland if:

    A. The parcel on which the dwelling will be located is at least

        1. 160 acres and not designated rangeland; or;

        2. 320 acres and designated rangeland

    B. The subject tract is currently employed for farm use.

C. The dwelling will be occupied by a person or persons who will be principally engaged in the farm use of the subject tract, such as planting, harvesting, marketing or caring for livestock, at a commercial scale.

D. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on the subject tract.

E. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

F. The application for the dwelling satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

G. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

04. Subject to the provisions of Article 3, Ministerial Review, a dwelling customarily provided in conjunction with farm use on land not identified as high-value farmland if:

A. The subject tract is at least as large as the median size of those commercial farm or ranch tracts capable of generating at least $10,000 in annual gross sales that are located within a study area that includes all tracts wholly or partially within one mile from the perimeter of the subject tract;

B. The subject tract is capable of producing at least the median level of annual gross sales of county indicator crops as the same commercial farm or ranch tracts used to calculate the tract size in Subsection A;

C. The subject tract is currently employed for a farm use, at a level capable of producing the annual gross sales required in Subsection A;

D. The subject lot or parcel on which the dwelling is proposed is not less than 20 acres;

E. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on the subject tract;

F. The dwelling will be occupied by a person or persons who will be principally engaged in the farm use of the subject tract, such as planting, harvesting, marketing or caring for livestock, at a commercial scale; and

G. If no farm use has been established at the time of application, land use approval shall be subject to a condition that no building permit may be issued prior to the establishment of the farm use required by Subsection C.

H. In determining the gross sales capability required by Subsection C:

1. The actual or potential cost of purchased livestock shall be deducted from the total gross sales attributed to the farm or ranch tract;

2. Only actual or potential sales from land owned, not leased or rented, shall be counted; and

3. Actual or potential gross farm sales earned from a lot or parcel that has been used previously to qualify another lot or parcel for the construction or siting of a primary farm dwelling may not be used.

I. In order to identify the commercial farm or ranch tracts to be used in this Subsection, the potential gross sales capability of each tract in the study area, including the subject tract, must be determined, using the gross sales figures prepared by the county pursuant to OAR 660-033-0135(2)(c).

J. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

K. The application for the dwelling satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

L. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

05. Subject to the provisions of Article 3, Ministerial Review, a dwelling customarily provided in conjunction with farm use on a tract not identified as high-value farmland if:

A. The subject tract is currently employed for the farm use on which, in each of the last two years or three of the last five years, or in an average of three of the last five years, the farm operator earned the lower of the following:

1. At least $40,000 in gross annual income from the sale of farm products; or

2. Gross annual income of at least the midpoint of the median income range of gross annual sales for farms in the county with gross annual sales of $10,000 or more according to the 1992 Census of Agriculture, Oregon; and

B. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on lands designated for exclusive farm use pursuant to ORS Chapter 215 owned by the farm or ranch operator or on the farm or ranch operation;

C. The dwelling will be occupied by a person or persons who produced the commodities that grossed the income in Subsection A; and

D. In determining the gross income required by Subsection A:

1. The cost of purchased livestock shall be deducted from the total gross income attributed to the farm or ranch operation;

2. Only gross income from land owned, not leased or rented, shall be counted; and

3. Gross farm income earned from a lot or parcel that has been used previously to qualify another lot or parcel for the construction or siting of a primary farm dwelling may not be used.

E. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

F. The application for the dwelling satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

G. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging

injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

06. Subject to the provisions of Article 3, Ministerial Review, a dwelling customarily provided in conjunction with farm use on land identified as high-value farmland if:

A. The subject tract is currently employed for the farm use on which the farm operator earned at least $80,000 in gross annual income from the sale of farm products in each of the last two years or three of the last five years, or in an average of three of the last five years; and

B. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on lands designated for exclusive farm use owned by the farm or ranch operator or on the farm or ranch operation; and

C. The dwelling will be occupied by a person or persons who produced the commodities that grossed the income in Subsection A;

D. In determining the gross income required by Subsection A:

1. The cost of purchased livestock shall be deducted from the total gross income attributed to the farm or ranch operation;

2. Only gross income from land owned, not leased or rented, shall be counted; and

3. Gross farm income earned from a lot or parcel that has been used previously to qualify another lot or parcel for the construction or siting of a primary farm dwelling may not be used.

E. The application for the dwelling satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

F. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

G. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging

injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

H. Additional Farm Income Standards. For the purpose of this Section, noncontiguous lots or parcels zoned for farm use in the same county or contiguous counties may be used to meet the gross income requirements. Lots or parcels in eastern or western Oregon may not be used to qualify a dwelling in the other part of the state.

1. Prior to the final approval for a dwelling authorized by this Subsection that requires one or more contiguous or non-contiguous lots or parcels of a farm or ranch operation to comply with the gross farm income requirements, the applicant shall complete and record with the county clerk the covenants, conditions, and restrictions form provided by the county (Exhibit A to OAR Chapter 660 Division 33). The covenants, conditions and restrictions shall be recorded for each lot or parcel subject to the application for the primary farm dwelling and shall preclude:

a. All future rights to construct a dwelling except for accessory farm dwellings, relative farm assistance dwellings, temporary hardship dwellings or replacement dwellings allowed by ORS Chapter 215; and

b. The use of any gross farm income earned on the lots or parcels to qualify another lot or parcel for a primary farm dwelling.

2. The covenants, conditions and restrictions are irrevocable, unless a statement of release is signed by an authorized representative of the county or counties where the property subject to the covenants, conditions and restrictions is located;

07. Subject to the provisions of Article 3, Ministerial Review, a dwelling may be considered customarily provided in conjunction with a commercial dairy farm and capable of earning the gross annual income requirements by Subsections 05 or 06 above, subject to the following requirements:

A. The subject tract will be employed as a commercial dairy as defined in Subsection G;

B. The dwelling is sited on the same lot or parcel as the buildings required by the commercial dairy;

C. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on the subject tract;

D. The dwelling will be occupied by a person or persons who will be principally engaged in the operation of the commercial dairy farm, such as the feeding, milking or pasturing of the dairy animals or other farm use activities necessary to the operation of the commercial dairy farm;

E. The building permits, if required, have been issued for and construction has begun for the buildings and animal waste facilities required for a commercial dairy farm; and

F. The Oregon Department of Agriculture has approved the following:

1. A permit for a "confined animal feeding operation" under ORS 468B.050 and 468B.200 to 468B.230; and

2. A Producer License for the sale of dairy products under ORS 621.072.

G. As used in this Section, "commercial dairy farm" is a dairy operation that owns a sufficient number of producing dairy animals capable of earning the gross annual income required by Subsections 05 or 06, whichever is applicable, from the sale of fluid milk.

H. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

I. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

08. Subject to the provisions of Article 3, Ministerial Review, a dwelling customarily provided in conjunction with farm use may be relocated if:

A. Within the previous two years, the applicant owned and operated a different farm or ranch operation that earned the gross farm income in each of the last five years or four of the last seven years as required by Subsection 05 or 06, whichever is applicable;

B. The subject lot or parcel on which the dwelling will be located is:

1. Currently employed for the farm use that produced in each of the last two years or three of the last five years, or in an average of three of the last five years the gross farm income required by Subsection 05 or 06, whichever is applicable; and

2. At least the size of the applicable minimum lot size under Section 15.035;

C. Except for seasonal farmworker housing approved prior to 2001, there is no other dwelling on the subject tract;

D. The dwelling will be occupied by a person or persons who produced the commodities that grossed the income in Subsection A; and

E. In determining the gross income required by Subsection A and Subsection B:

1. The cost of purchased livestock shall be deducted from the total gross income attributed to the tract; and

2. Only gross income from land owned, not leased or rented, shall be counted.

F. Farming of a marijuana crop, and the gross sales derived from selling a marijuana crop, may not be used to demonstrate compliance with the approval criteria for a primary farm dwelling.

G. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

09. Subject to the provisions of Article 3, Ministerial Review, a dwelling may be approved if:

A. The lot or parcel on which the dwelling will be sited was lawfully created and was acquired and owned continuously by the present owner as defined in Subsection J:

1. Since prior to January 1, 1985; or

2. By devise or by intestate succession from a person who acquired and had owned continuously the lot or parcel since prior to January 1, 1985.

B. The tract on which the dwelling will be sited does not include a dwelling;

C. The lot or parcel on which the dwelling will be sited was part of a tract on November 4, 1993, no dwelling exists on another lot or parcel that was part of that tract;

D. The proposed dwelling is not prohibited by, and will comply with, the requirements of the acknowledged comprehensive plan and land use regulations and other provisions of law;

E. The lot or parcel on which the dwelling will be sited is not high-value farmland except as provided in Subsections H and I; and

F. When the lot or parcel on which the dwelling will be sited lies within an area designated in the comprehensive plan as habitat of big game, the siting of the dwelling is consistent with the limitations on density upon which the acknowledged comprehensive plan and land use regulations intended to protect the habitat are based.

G. When the lot or parcel on which the dwelling will be sited is part of a tract, the remaining portions of the tract are consolidated into a single lot or parcel when the dwelling is allowed;

H. Notwithstanding the requirements of Subsection E, a single-family dwelling may be sited on high-value farmland if:

1. It meets the other requirements of Subsections A and G;

2. The lot or parcel is protected as high-value farmland as defined in Subsection 072.A and B of Article 1;

3. The planning director determines that:

a. The lot or parcel cannot practicably be managed for farm use, by itself or in conjunction with other land, due to extraordinary circumstances inherent in the land or its physical setting that do not apply generally to other land in the vicinity.

i. For the purposes of this Section, this criterion asks whether the subject lot or parcel can be physically put to farm use without undue hardship or difficulty because of extraordinary circumstances inherent in the land or its physical setting. Neither size alone nor a parcel's limited economic potential demonstrates that a lot or parcel cannot be practicably managed for farm use.

ii. Examples of "extraordinary circumstances inherent in the land or its physical setting" include very steep slopes, deep ravines, rivers, streams, roads, railroad or utility lines or other similar natural or physical barriers that by themselves or in combination separate the subject lot or parcel from adjacent agricultural land and prevent it from being practicably managed for farm use by itself or together with adjacent or nearby farms.

iii. A lot or parcel that has been put to farm use despite the proximity of a natural barrier or since the placement of a physical barrier shall be presumed manageable for farm use;

b. The dwelling will comply with the provisions of Section 9.020.7; and

c. The dwelling will not materially alter the stability of the overall land use pattern in the area by applying the standards set forth in Subsection 15.015.11.C.

I. Notwithstanding the requirements of Subsection E, a single-family dwelling may be sited on high-value farmland if:

1. It meets the other requirements of Subsections A and G;

2. The tract on which the dwelling will be sited is:

a. Not high-value farmland defined in Subsection 072.A and B of Article 1; and

b. Twenty-one acres or less in size; and

3. The tract is bordered on at least 67 percent of its perimeter by tracts that are smaller than 21 acres, and at least two such tracts had dwellings on January 1, 1993; or

4. The tract is not a flaglot and is bordered on at least 25 percent of its perimeter by tracts that are smaller than 21 acres, and at least four dwellings existed on January 1, 1993, within one-quarter mile of the center of the subject tract. Up to two of the four dwellings may lie within an urban growth boundary, but only if the subject tract abuts an urban growth boundary; or

5. The tract is a flaglot and is bordered on at least 25 percent of its perimeter by tracts that are smaller than 21 acres, and at least four dwellings existed on January 1, 1993, within one-quarter mile of the center of the subject tract and on the same side of the public road that provides access to the subject tract. The governing body of a county must interpret the center of the subject tract as the geographic center of the flag lot if the applicant makes a written request for that interpretation and that interpretation does not cause the center to be located outside the flag lot. Up to two of the four dwellings may lie within an urban growth boundary, but only if the subject tract abuts an urban growth boundary:

a. "Flaglot" means a tract containing a narrow strip or panhandle of land providing access from the public road to the rest of the tract.

b. "Geographic center of the flaglot" means the point of intersection of two perpendicular lines of which the first line crosses the midpoint of the longest side of a flaglot, at a 90-degree angle to the side, and the second line crosses the midpoint of the longest adjacent side of the flaglot.

J. For purposes of this Section, "owner" includes the wife, husband, son, daughter, mother, father, brother, brother-in-law, sister, sister-in-law, son-in-law, daughter-in-law, mother-in-law, father-in-law, aunt, uncle, niece, nephew, stepparent,

stepchild, grandparent or grandchild of the owner or a business entity owned by any one or a combination of these family members;

K. The county assessor shall be notified that the governing body intends to allow the dwelling.

L. An approved single-family dwelling under this Section may be transferred by a person who has qualified under this Section to any other person after the effective date of the land use decision.

M. The county shall provide notice of all applications for lot of record dwellings on high value farmland to the State Department of Agriculture. Notice shall be provided in accordance with land use regulations and shall be mailed at least 20 calendar days prior to the public hearing.

N. The application satisfies the pertinent criteria of Article 36, Salmon Habitat Restoration.

O. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

10. Subject to the provisions of Article 3, Ministerial Review, a single-family dwelling may be altered, restored, or replaced, when an application for a permit is submitted, the permitting authority finds to its satisfaction, based in evidence, that:

A. The dwelling to be altered, restored or replaced has, or formerly had:

1. Intact exterior walls and roof structure;

2. Indoor plumbing consisting of a kitchen sink, toilet and bathing facilities connected to a sanitary waste disposal system;

3. Interior wiring for interior lights;

4. A heating system; and

5. The dwelling was assessed as a dwelling for purposes of ad valorem taxation for the previous five property tax years, or, if the dwelling has existed for less than five years, from that time.

B. Notwithstanding Subsection A.5, if the value of the dwelling was eliminated as a result of either of the following circumstances, the dwelling was assessed as a dwelling until such time as the value of the dwelling was eliminated:

1. The destruction (i.e., by fire or natural hazard), or demolition in the case of restoration, of the dwelling; or

2. The applicant establishes to the satisfaction of the permitting authority that the dwelling was improperly removed from the tax roll by a person other than the current owner. "Improperly removed" means that the dwelling has taxable value in its present state, or had taxable value when the dwelling was first removed from the tax roll or was destroyed by fire or natural hazard, and the county stopped assessing the dwelling even though the current or former owner did not request removal of the dwelling from the tax roll.

C. For replacement of a lawfully established dwelling under Subsection 10:

1. The dwelling to be replaced must be removed, demolished or converted to an allowable nonresidential use:

a. Within one year after the date the replacement dwelling is certified for occupancy pursuant to ORS 455.055; or

b. If the dwelling to be replaced is, in the discretion of the permitting authority, in such a state of disrepair that the structure is unsafe for occupancy or constitutes an attractive nuisance, on or before a date set by the permitting authority that is not less than 90 days after the replacement permit is issued; and

c. If a dwelling is removed by moving it off the subject parcel to another location, the applicant must obtain approval from the permitting authority for the new location.

2. The applicant must cause to be recorded in the deed records of the county a statement that the dwelling to be replaced has been removed, demolished or converted.

3. As a condition of approval, if the dwelling to be replaced is located on a portion of the lot or parcel that is not zoned for exclusive farm use, the applicant shall execute and cause to be recorded in the deed records of the county in which the property is located a deed restriction prohibiting the siting of another dwelling on that portion of the lot or parcel. The restriction imposed is irrevocable unless the county planning director, or the director's designee, places a statement of release in the deed records of the county to the effect that the provisions of 2013 Oregon Laws, chapter 462, Section 2 and ORS 215.283 regarding replacement dwellings have changed to allow the lawful siting of another dwelling.

D. A replacement dwelling must comply with applicable building codes, plumbing codes, sanitation codes and other requirements relating to health and safety or to siting at the time of construction. However, the standards may not be applied in a manner that prohibits the siting of the replacement dwelling.

1. The siting standards of Subsection D.2 apply when a dwelling qualifies for replacement because the dwelling:

   a. Formerly had the features described in Subsection A;

   b. Was removed from the tax roll as described in Subsection B; or

   c. Had a permit that expired as described under Subsection E.3.

2. The replacement dwelling must be sited on the same lot or parcel:

   a. Using all or part of the footprint of the replaced dwelling or near a road, ditch, river, property line, forest boundary or another natural boundary of the lot or parcel; and

   b. If possible, for the purpose of minimizing the adverse impacts on resource use of land in the area, within a concentration or cluster of structures or within 500 yards of another structure.

3. Replacement dwellings that currently have the features described in Subsection A and that have been on the tax roll as described in Subsection B may be sited on any part of the same lot or parcel.

E. A replacement dwelling permit that is issued under Subsection 10:

1. Is a land use decision as defined in ORS 197.015 where the dwelling to be replaced:

a. Formerly had the features described in Subsection A; or

b. Was removed from the tax roll as described in Subsection B;

2. Is not subject to the time to act limits of ORS 215.417; and

3. If expired before January 1, 2014, shall be deemed to be valid and effective if, before January 1, 2015, the holder of the permit:

a. Removes, demolishes or converts to an allowable nonresidential use the dwelling to be replaced; and

b. Causes to be recorded in the deed records of the county a statement that the dwelling to be replaced has been removed, demolished or converted.

F. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

11. Subject to the provisions of Article 5, Public Hearing Review, a single-family residential dwelling, not provided in conjunction with farm may be approved if:

A. The dwelling or activities associated with the dwelling will not force a significant change in or significantly increase the cost of accepted farming or forest practices on nearby lands devoted to farm or forest use;

B. Non-farm dwelling suitability standards.

1. The dwelling, including essential or accessory improvements or structures, is situated upon a lot or parcel, or, in the case of an existing lot or parcel, upon a portion of a lot or parcel, that is generally unsuitable land for the production of farm crops and livestock or merchantable tree species, considering the terrain, adverse soil or land conditions, drainage and flooding, vegetation, location and size of the tract. A new parcel or portion of an existing lot or parcel shall not be considered unsuitable solely because of size or location if it can reasonably be put to farm or forest use in conjunction with other land; and

2. A new parcel or portion of an existing lot or parcel is not "generally unsuitable" simply because it is too small to be farmed profitably by itself. If a parcel or portion of a lot or parcel can be sold, leased, rented or otherwise managed as a part of a commercial farm or ranch, then it is not "generally unsuitable." A new parcel or portion of an existing lot or parcel is presumed to be suitable if it is composed predominantly of Class I-VI soils. Just because a new parcel or portion of an existing lot or parcel is unsuitable for one farm use does not mean it is not suitable for another farm use; or

3. If the lot or parcel is under forest assessment, the dwelling shall be situated upon generally unsuitable land for the production of merchantable tree species recognized by the Forest Practices Rules, considering the terrain, adverse soil or land conditions, drainage and flooding, vegetation, location and size of the parcel. If a lot or parcel is under forest assessment, the area is not "generally unsuitable" simply because it is too small to be managed for forest production profitably by itself. If a lot or parcel under forest assessment can be sold, leased, rented or otherwise managed as a part of a forestry operation, it is not "generally unsuitable". If a lot or parcel is under forest assessment, it is presumed suitable if it is composed predominantly of soils capable of producing 20 cubic feet of wood fiber per acre per year. If a lot or parcel is under forest assessment, to be found compatible and not seriously interfere with forest uses on surrounding land it must not force a significant change in forest practices or significantly increase the cost of those practices on the surrounding land.

C. The dwelling will not materially alter the stability of the overall land use pattern of the area. In determining whether a proposed nonfarm dwelling will alter the

stability of the land use pattern in the area, a county shall consider the cumulative impact of nonfarm dwellings on other lots or parcels in the area similarly situated by applying the standards set forth in (1) through (3) below. If the application involves the creation of a new parcel for the nonfarm dwelling, a county shall consider whether creation of the parcel will lead to creation of other nonfarm parcels, to the detriment of agriculture in the area by applying the standards set forth in (1) through (3) below;

1. Identify a study area for the cumulative impacts analysis. The study area shall include at least 2,000 acres or a smaller area not less than 1000 acres, if the smaller area is a distinct agricultural area based on topography, soil types, land use pattern, or the type of farm or ranch operations or practices that distinguish it from other, adjacent agricultural areas. Findings shall describe the study area, its boundaries, the location of the subject parcel within this area, why the selected area is representative of the land use pattern surrounding the subject parcel and is adequate to conduct the analysis required by this standard. Lands zoned for rural residential or other urban or nonresource uses shall not be included in the study area;

2. Identify within the study area the broad types of farm uses (irrigated or nonirrigated crops, pasture or grazing lands), the number, location and type of existing dwellings (farm, nonfarm, hardship, etc.), and the dwelling development trends since 1993. Determine the potential number of nonfarm/lot-of-record dwellings that could be approved under Subsection 15.015.09.A and Subsection 15.015.11, including identification of predominant soil classifications, the parcels created prior to January 1, 1993 and the parcels larger than the minimum lot size that may be divided to create new parcels for nonfarm dwellings under ORS 215.263(4), ORS 215.263(5), and ORS 215.284(4). The findings shall describe the existing land use pattern of the study area including the distribution and arrangement of existing uses and the land use pattern that could result from approval of the possible nonfarm dwellings under this Subsection; and

3. Determine whether approval of the proposed nonfarm/lot-of-record dwellings together with existing nonfarm dwellings will materially alter the stability of the land use pattern in the area. The stability of the land use pattern will be materially altered if the cumulative effect of existing and

potential nonfarm dwellings will make it more difficult for the existing types of farms in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area; and

D. If a single-family dwelling is established on a lot or parcel as set forth in Subsection 15.015.09, no additional dwelling may later be sited under the provisions of this Section.

E. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

12. Subject to the provisions of Article 5, Public Hearing Review, a dwelling on property used for farm use located on the same lot or parcel as the dwelling of the farm operator, and occupied by a relative of the farm operator or farm operator's spouse if the farm operator does, or will, require the assistance of the relative in the management of the farm provided that:.

A. A dwelling shall be occupied by relatives whose assistance in the management and farm use of the existing commercial farming operation is required by the farm operator. However, farming of a marijuana crop may not be used to demonstrate compliance with the approval criteria for a relative farm help dwelling. The farm operator shall continue to play the predominant role in the management and farm use of the farm.

B. A relative farm help dwelling must be located on the same lot or parcel as the dwelling of the farm operator and must be on real property used for farm use.

C. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

13. Subject to the provisions of Article 5, Public Hearing Review, an accessory farm dwellings for year-round and seasonal farm workers may be approved if:

A. The accessory farm dwelling will be occupied by a person or persons who will be principally engaged in the farm use of the land and whose seasonal or year-round assistance in the management of the farm use, such as planting, harvesting, marketing or caring for livestock, is or will be required by the farm operator;

B. The accessory farm dwelling will be located:

1. On the same lot or parcel as the primary farm dwelling;

2. On the same tract as the primary farm dwelling when the lot or parcel on which the accessory farm dwelling will be sited is consolidated into a single parcel with all other contiguous lots and parcels in the tract;

3. On a lot or parcel on which the primary farm dwelling is not located, when the accessory farm dwelling is limited to only a manufactured dwelling with a deed restriction. The deed restriction shall be filed with the county clerk and require the manufactured dwelling to be removed when the lot or parcel is conveyed to another party. The manufactured dwelling may remain if it is reapproved under these provisions;

4. On any lot or parcel, when the accessory farm dwelling is limited to only attached multi-unit residential structures allowed by the applicable state building code or similar types of farmworker housing as that existing on farm or ranch operations registered with the Department of Consumer and Business Services, Oregon Occupational Safety and Health Division under ORS 658.750. A county shall require all accessory farm dwellings approved under this Subsection to be removed, demolished or converted to a nonresidential use when farmworker housing is no longer required. "Farmworker housing" shall have the meaning set forth in 215.278 and not the meaning in 315.163; or

5. On a lot or parcel on which the primary farm dwelling is not located, when the accessory farm dwelling is located on a lot or parcel at least the size of the applicable minimum lot size under ORS 215.780 and the lot or parcel complies with the gross farm income requirements in OAR 660-033-0135(3) or (4), whichever is applicable; and

C. There is no other dwelling on the lands designated for exclusive farm use owned by the farm operator that is vacant or currently occupied by persons not working on the subject farm or ranch and that could reasonably be used as an accessory farm dwelling.

D. The primary farm dwelling to which the proposed dwelling would be accessory, meets one of the following:

1. On land not identified as high-value farmland, the primary farm dwelling is located on a farm or ranch operation that is currently employed for farm use, as defined in ORS 215.203, on which, in each of the last two years or three of the last five years or in an average of three of the last five years, the farm operator earned the lower of the following:

   a. At least $40,000 in gross annual income from the sale of farm products. In determining the gross income, the cost of purchased livestock shall be deducted from the total gross income attributed to the tract; or

   b. Gross annual income of at least the midpoint of the median income range of gross annual sales for farms in the county with gross annual sales of $10,000 or more according to the 1992 Census of Agriculture, Oregon. In determining the gross income, the cost of purchased livestock shall be deducted from the total gross income attributed to the tract;

2. On land identified as high-value farmland, the primary farm dwelling is located on a farm or ranch operation that is currently employed for farm use, as defined in ORS 215.203, on which the farm operator earned at least $80,000 in gross annual income from the sale of farm products in each of the last two years or three of the last five years or in an average of three of the last five years. In determining the gross income, the cost of purchased livestock shall be deducted from the total gross income attributed to the tract; or

3. It is located on a commercial dairy farm as defined in Section 15.015.07.G; and

a. The building permits, if required, have been issued and construction has begun or been completed for the buildings and animal waste facilities required for a commercial dairy farm;

b. The Oregon Department of Agriculture has approved a permit for a "confined animal feeding operation" under ORS 468B.050 and 468B.200 to 468B.230; and

c. A Producer License for the sale of dairy products under ORS 621.072.

E. No division of a lot or parcel for an accessory farm dwelling shall be approved pursuant to this Subsection. If it is determined that an accessory farm dwelling satisfies the requirements of this ordinance, a parcel may be created consistent with the minimum parcel size requirements in Section 15.035.01.

F. An accessory farm dwelling approved pursuant to this Section cannot later be used to satisfy the requirements for a dwelling not provided in conjunction with farm use pursuant to Subsection 15.015.11.

G. For purposes of this Subsection, "accessory farm dwelling" includes all types of residential structures allowed by the applicable state building code.

H. Farming of a marijuana crop shall not be used to demonstrate compliance with the approval criteria for an accessory farm dwelling.

I. No accessory farm dwelling unit may be occupied by a relative of the owner or operator of the farmworker housing. “Relative” means a spouse of the owner or operator or an ancestor, lineal descendant or whole or half sibling of the owner or operator or the spouse of the owner or operator.

J. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

14. Agricultural buildings customarily provided in conjunction with farm use (Ministerial Review).

15. Creation of, restoration of, or enhancement of wetlands (Ministerial Review).

16. Churches, and cemeteries in conjunction with churches. This use is not permitted on high-value farmland except that existing churches on high-value farmland may be maintained, enhanced, or expanded on the same tract, subject to other requirements of law (Administrative Review).

17. Utility facilities necessary for public service, including associated transmission lines as defined in Article 1 and wetland waste treatment systems, but not including commercial facilities for the purpose of generating electrical power for public use by sale or transmission towers over 200 feet in height subject to Subsection 15.040.01 (Administrative Review).

18. Operations for the exploration for minerals as defined by ORS 517.750.

19. Operations for the exploration for and production of geothermal resources as defined by ORS 522.005 and oil and gas as defined by ORS 520.005, including the placement and operation of compressors, separators and other customary production equipment for an individual well adjacent to the wellhead.

20. Replacement dwelling to be used in conjunction with farm use if the existing dwelling has been listed in a county inventory as historic property as defined in ORS 358.480 and listed on the National Register of Historic Places. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

21. Climbing and passing lanes within the right of way existing as of July 1, 1987.

22. Reconstruction or modification of public roads and highways, including the placement of utility facilities overhead and in the subsurface of public roads and highways along the public right of way, but not including the addition of travel lanes, where no removal or displacement of buildings would occur, or no new land parcels result (Ministerial Review).

23. Temporary public road and highway detours that will be abandoned and restored to original condition or use at such time as no longer needed (Ministerial Review).

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24. Minor betterment of existing public road and highway related facilities such as maintenance yards, weigh stations and rest areas, within right of way existing as of July 1, 1987, and contiguous public-owned property utilized to support the operation and maintenance of public roads and highways (Ministerial Review).

25. Irrigation reservoirs, canals, delivery lines and those structures and accessory operational facilities, not including parks or other recreational structures and facilities, associated with a district as defined in ORS 540.505 (Administrative Review).

26. Fire service facilities providing rural fire protection services (Administrative Review).

27. Onsite filming and activities accessory to onsite filming for 45 days or less as provided for in ORS 215.306 (Ministerial Review).

28. Firearms training facility in existence on September 9, 1995 (Ministerial Review).

29. An outdoor mass gathering of more than 500 persons that is expected to continue for more than 24 hours but less than 120 hours in any three-month period, as provided in ORS 433.735 (Ministerial Review).

30. A facility for the processing of farm crops, biofuel or poultry (Administrative Review). A farm on which a processing facility is located must provide at least one-quarter of the farm crops processed at the facility. A farm may also be used for an establishment for the slaughter, processing or selling of poultry or poultry products pursuant to ORS 603.038. If a building is established or used for the processing facility or establishment, the farm operator may not devote more than 10,000 square feet of floor area to the processing facility or establishment, exclusive of the floor area designated for preparation, storage or other farm use. A processing facility or establishment must comply with all applicable siting standards, but the standards may not be applied in a manner that prohibits the siting of the processing facility or establishment. A county may not approve any division of a lot or parcel that separates a processing facility or establishment from the farm operation on which it is located.

31. Dog training classes or testing trials subject to 15.040.02 (Ministerial Review).

32. Farm stands subject to 15.040.03 (Administrative Review).

33. A winery subject to 15.040.04. (Administrative Review).

34. A cider business subject to 15.040.04 (Administrative Review).

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35. Agri-tourism and other commercial events or activities subject to ORS 215.283(4) through (6) (Administrative Review).

36. Land application of reclaimed water, agricultural or industrial process water or biosolids, or the onsite treatment of septage prior to the land application of biosolids (Administrative Review). Land Application of Reclaimed or Process Water, agricultural process or industrial process water or biosolids, or the onsite treatment of septage prior to the land application of biosolids, for agricultural, horticultural or silvicultural production, or for irrigation in connection with a use allowed in an EFU zone is subject to the issuance of a license, permit or other approval by the Department of Environmental Quality under ORS 454.695, 459.205, 468B.050, 468B.053 or 468B.055, or in compliance with rules adopted under 468B.095, and with the requirements of ORS 215.246, 215.247, 215.249 and 215.251. Onsite treatment of septage prior to the land application of biosolids is limited to treatment using treatment facilities and transportable by truck trailer, as defined in ORS 801.580, during a period of time within which land application of biosolids is authorized under the license, permit, or other approval.

37. Utility facility service lines (Ministerial Review). Utility facility service lines are utility lines and accessory facilities or structures that end at the point where the utility service is received by the customer and that are located on one or more of the following:

    A. A public right of way;

    B. Land immediately adjacent to a public right of way, provided the written consent of all adjacent property owners has been obtained; or

    C. The property to be served by the utility.

38. A site for the takeoff and landing of model aircraft (Administrative Review). Buildings and facilities associated with a site for the takeoff and landing of model aircraft shall not be more than 500 square feet in floor area or placed on a permanent foundation unless the building or facility preexisted the use approved under this Section. The site shall not include an aggregate surface or hard surface area unless the surface preexisted the use approved under this Section. An owner of property used for the purpose authorized in this Section may charge a person operating the use on the property rent for the property. An operator may charge users of the property a fee that does not exceed the operator's cost to maintain the property, buildings and facilities. As used in this Section, "model aircraft" means a small-scale version of an airplane, glider, helicopter, dirigible or balloon that is

used or intended to be used for flight and is controlled by radio, lines or design by a person on the ground.

39. Any outdoor gathering of more than 3,000 persons that is anticipated to continue for more than 120 hours in any three-month period is subject to review by a county planning commission under ORS 433.763.

40. Parking of up to seven log trucks (This use is subject to Administrative Review pursuant to Article 4 and the approval criteria in Section 9.020.07).

41. A landscape contracting business, as defined in ORS 671.520, or a business providing landscape architecture services, as described in ORS 671.318, if the business is pursued in conjunction with the growing and marketing of nursery stock on the land that constitutes farm use (This use is subject to Administrative Review pursuant to Article 4 and the approval criteria in Section 9.020.07).

42. Onsite filming and activities accessory to onsite filming for more than 45 days as provided for in ORS 215.306 (This use is subject to Administrative Review pursuant to Article 4 and the approval criteria in Section 9.020.07).

SECTION 15.020, BUILDINGS AND ACTIVITIES PERMITTED CONDITIONALLY: In the EFU Zone, the following uses and activities and their accessory buildings and uses are permitted subject to the provisions of Article 9 (Public Hearing Review).

01. The propagation, cultivation, maintenance and harvesting of aquatic species that are not under the jurisdiction of the State Fish and Wildlife Commission or insect species.

02. A facility for the primary processing of forest products provided that the facility shall not seriously interfere with accepted farming practices and shall be compatible with farm uses described in Article 1. Such facility may be approved for a one-year period that is renewable and is intended to be only portable or temporary in nature. The primary processing of a forest product, as used in this Section, means the use of a portable chipper or stud mill or other similar methods of initial treatment of a forest product in order to enable its shipment to market. Forest products as used in this Section means timber grown upon a tract where the primary processing facility is located.

03. Commercial activities in conjunction with farm use, including the processing of farm crops into biofuel not permitted under Subsection 15.015.30, but excluding activities in conjunction with a marijuana crop, and subject to the following:

A. The commercial activity is either exclusively or primarily a customer or supplier of farm products;

B. The commercial activity is limited to providing products and services essential to the practice of agriculture by surrounding agricultural operations that are sufficiently important to justify the resulting loss of agricultural land to the commercial activity; or

C. The commercial activity significantly enhances the farming enterprises of the local agricultural community, of which the land housing the commercial activity is a part. Retail sales of products or services to the general public that take place on a parcel or tract that is different from the parcel or tract on which agricultural product is processed, such as a tasting room with no on-site winery, are not commercial activities in conjunction with farm use.

04. Home-based occupations as provided Article 35, Home-Based Occupation. Home-based occupations may not be authorized in structures accessory to resource use. A home-based occupation located on high-value farmland may employ only residents of the home.

A. When a bed and breakfast facility is sited as a home occupation on the same tract as a winery or cider business established pursuant to Subsection 15.015.34 and is operated in association with the winery or cider business:

1. The bed and breakfast facility may prepare and serve two meals per day to the registered guests of the bed and breakfast facility; and

2. The meals may be served at the bed and breakfast facility or at the winery or cider business.

05. Destination resort. A destination resort is not permitted on high-value farmland except that existing destination resorts may be expanded wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

06. Community centers owned by a governmental agency or a nonprofit organization and operated primarily by and for residents of the local rural community. A community center may provide services to veterans, including but not limited to emergency and transitional shelter, preparation and service of meals, vocational and educational counseling and referral to local, state or federal agencies providing medical, mental health, disability income replacement and substance abuse services, only in a facility that is in existence on

January 1, 2006. The services may not include direct delivery of medical, mental health, disability income replacement or substance abuse services.

07. Private parks, playgrounds, hunting and fishing preserves, and campgrounds subject to 15.040.06.

08. Public parks and playgrounds. Public parks subject to 15.040.07:

09. Golf courses as defined in Article 1 and subject to 15.040.08. This use is not permitted on high-value farmland as defined in ORS 195.300 except that existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law and consistent with the criteria in Subsection 9.020.08.

10. Commercial utility facilities for the purpose of generating power for public use by sale, not including wind power generation facilities or photovoltaic solar power generation facilities subject to 15.040.09.

11. Operations conducted for mining and processing of geothermal resources as defined by ORS 522.005 and oil and gas as defined by ORS 520.005 not otherwise permitted.

12. Operations conducted for mining, crushing or stockpiling of aggregate and other mineral and other subsurface resources subject to ORS 215.298. Mining, crushing or stockpiling of aggregate and other mineral and subsurface resources are also subject to the following:

    A. A land use permit is required for mining more than one thousand (1,000) cubic yards of martial or excavation preparatory to mining of a surface area of more than one (1) acre.

    B. A land use permit for mining of aggregate shall be issued only for a site included on the mineral and aggregate inventory in the Comprehensive Plan.

13. Processing as defined by ORS 517.750 of aggregate into asphalt or portland cement. Facilities that batch and blend mineral and aggregate into asphalt cement may not be authorized within two miles of a planted vineyard. Planted vineyard means one or more vineyards totaling 40 acres or more that are planted as of the date the application for batching and blending is filed.

14. Processing of other mineral resources and other subsurface resources.

15. Personal-use airports for airplanes and helicopter pads, including associated hangar, maintenance and service facilities. A personal-use airport, as used in this Section, prohibits aircraft other than those owned or controlled by the owner of the airstrip. Exceptions to the activities allowed under this definition may be granted through waiver action by the Oregon Department of Aviation in specific instances. A personal-use airport lawfully existing as of September 13, 1975, shall continue to be allowed subject to any applicable rules of the Oregon Department of Aviation.

16. Temporary hardship dwelling subject to 15.040.10.

17. Residential home as defined in ORS 197.660, in existing dwellings. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

18. Room and board arrangements for a maximum of five unrelated persons in existing residences. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

19. A site for the disposal of solid waste for which a permit has been granted under ORS 459.245 by the Department of Environmental Quality together with equipment, facilities or buildings necessary for its operation and subject to 15.040.11.

20. Transmission towers over 200 feet in height.

21. Commercial dog boarding kennels or dog training classes or testing trials that cannot be established under Subsection 15.015.31.

22. Construction of additional passing and travel lanes requiring the acquisition of right of way but not resulting in the creation of new land parcels.

23. Reconstruction or modification of public roads and highways involving the removal or displacement of buildings but not resulting in the creation of new land parcels.

24. Improvement of public road and highway related facilities, such as maintenance yards, weigh stations and rest areas, where additional property or right of way is required but not resulting in the creation of new land parcels.

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25. Transportation improvements on rural lands allowed by and subject to the requirements of OAR 660-012-0065.

26. Public or private schools for kindergarten through grade 12, including all buildings essential to the operation of a school, primarily for residents of the rural area in which the school is located. This use is not permitted on high value farmland except that existing schools on high value farmland may be expanded subject to Subsections A and B below:

    A. Schools as formerly allowed pursuant to ORS 215.283(1)(a) that were established on or before January 1, 2009, may be expanded if:

        1. The Conditional Use Review Criteria in Section Subsection 9.020.07 are met; and

        2. The expansion occurs on the tax lot on which the use was established on or before January 1, 2009 or a tax lot that is contiguous to the tax lot and that was owned by the applicant on January 1, 2009.

    B. Existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

27. Guest ranch subject to the provisions in 15.040.12.

28. Photovoltaic solar power generation facilities as commercial utility facilities for the purpose of generating power for public use by sale subject to 15.040.13.

29. Composting facilities for which a permit has been granted by the Department of Environmental Quality under ORS 459.245 and OAR 340-093-0050 and 340-096-0060, subject to 15.040.14

30. Living history museum as defined in Article 1. A living history museum shall be related to resource based activities and shall be owned and operated by a governmental agency or a local historical society. A living history museum may include limited commercial activities and facilities that are directly related to the use and enjoyment of the museum and located within authentic buildings of the depicted historic period or the museum administration building, if areas other than an exclusive farm use zone cannot accommodate the museum and related activities or if the museum administration buildings and parking lot are located within one quarter mile of an urban growth boundary. "Local historical society" means the local historical society, recognized as such by the county governing body and organized under ORS Chapter 65.

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31. Expansion of existing county fairgrounds and activities directly relating to county fairgrounds governed by county fair boards established pursuant to ORS 565.210.

32. Equine and equine-affiliated therapeutic and counseling activities are subject to the following:

    A. The activities are conducted in existing buildings that were lawfully constructed on the property before the January 1, 2019 or in new buildings that are accessory, incidental, and subordinate to the farm use on the tract; and

    B. All individuals conducting therapeutic or counseling activities are acting within the proper scope of any licenses required by the state.

SECTION 15.025, PROPERTY DEVELOPMENT STANDARDS

01. PARCEL SIZE: The minimum lot size for creation of a new lot or parcel in the Exclusive Farm Use Zone shall be consistent with the requirements in Section 15.035.

02. ACCESS:

    A. When considering creation of a new parcel or parcels, those less than the minimum lot size must have existing public access and must be within existing public-school bus service.

    B. When considering creation of a new parcel or parcels, those meeting the minimum lot size may be served by a private easement.

03. SETBACKS:

    A. PROPERTY LINES - Not less than 25 feet - exceptions fences and/or signs.

    B. STATE HIGHWAYS, STREAMS, RIVERS, AND LAKES - Not less than 100 feet.

    C. URBAN GROWTH BOUNDARY SETBACKS

        1. The following uses are subject to additional setback standards:

            a. Churches and cemeteries in conjunction with churches as provided in 15.015.16;

b. Community centers owned by a governmental agency or a nonprofit organization as provided in 15.020.06;

c. Private parks, playgrounds, hunting and fishing preserves, and campgrounds as provided in 15.020.07; and

d. Public parks and playgrounds as provided in 15.020.08;

e. Golf courses as provided in 15.020.09.

f. Public or private schools as provided in 15.020.26;

g. Living History Museum as provided in 15.020.30;

2. No enclosed structure with a design capacity greater than 100 people, or group of structures with a total design capacity of greater than 100 people, shall be approved in connection with the use within three miles of an urban growth boundary, unless an exception is approved pursuant to ORS 197.732 and OAR chapter 660, division 4, or unless the structure is described in a master plan adopted under the provisions of OAR chapter 660, division 34.

3. Any enclosed structures or group of enclosed structures described in Subsection 2 within a tract must be separated by at least one-half mile. For purposes of this Subsection, "tract" means a tract that is in existence as of June 17, 2010.

4. Existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law, but enclosed existing structures within a farm use zone within three miles of an urban growth boundary may not be expanded beyond the requirements of this ordinance.

04. FRONTAGE:

Minimum lot frontage for all parcels abutting a public road shall be 200 feet.

SECTION 15.030, SPECIAL NOTIFICATION: Ditch companies that may be affected by partition, subdivision, or change in land use being considered for approval shall receive notification.

SECTION 15.035, LAND DIVISIONS

01. Minimum Parcel Size. The minimum size for creation of a new parcel shall be 160 acres.

02. A division of land to accommodate a use permitted by Section 15.020, except a residential use, smaller than the minimum parcel size provided in Subsection 01 may be approved if the parcel for the nonfarm use is not larger than the minimum size necessary for the use.

03. A division of land to create up to two new parcels smaller than the minimum size established under Subsection 01, each to contain a dwelling not provided in conjunction with farm use, may be permitted if:

    A. The nonfarm dwellings have been approved under Subsection 15.015.11;

    B. The parcels for the nonfarm dwellings are divided from a lot or parcel that was lawfully created prior to July 1, 2001;

    C. The parcels for the nonfarm dwellings are divided from a lot or parcel that complies with the minimum size in Subsection 01; and

    D. The remainder of the original lot or parcel that does not contain the nonfarm dwellings complies with the minimum size established under Subsection 01.

04. A division of land to divide a lot or parcel into two parcels, each to contain one dwelling not provided in conjunction with farm use, may be permitted if:

    A. The nonfarm dwellings have been approved under Subsection 15.015.11;

    B. The parcels for the nonfarm dwellings are divided from a lot or parcel that was lawfully created prior to July 1, 2001;

    C. The parcels for the nonfarm dwellings are divided from a lot or parcel that is equal to or smaller than the minimum size in Subsection A but equal to or larger than 40 acres;

    D. The parcels for the nonfarm dwellings are:

1. Not capable of producing more than at least 20 cubic feet per acre per year of wood fiber; and

2. Either composed of at least 90 percent Class VII and VIII soils, or composed of at least 90 percent Class VI through VIII soils and are not capable of producing adequate herbaceous forage for grazing livestock. The Land Conservation and Development Commission, in cooperation with the State Department of Agriculture and other interested persons, may establish by rule objective criteria for identifying units of land that are not capable of producing adequate herbaceous forage for grazing livestock. In developing the criteria, the commission shall use the latest information from the United States Natural Resources Conservation Service and consider costs required to utilize grazing lands that differ in acreage and productivity level; and

E. The parcels for the nonfarm dwellings do not have established water rights for irrigation.

05. This Section does not apply to the creation or sale of cemetery lots, if a cemetery is within the boundaries designated for a farm use zone at the time the zone is established.

06. This Section does not apply to divisions of land resulting from lien foreclosures or divisions of land resulting from foreclosure of recorded contracts for the sale of real property.

07. This Section does not allow a division or a property line adjustment of a lot or parcel that separates a use described in Subsection 15.015.12, 15.020.04, or 15.020.16 from the lot or parcel on which the primary residential use exists.

08. This Section does not allow a division or a property line adjustment of a lot or parcel that separates a processing facility from the farm operation specified in Subsection 15.015.30.

09. A division of land may be permitted to create a parcel with an existing dwelling to be used:

A. As a residential home as described in ORS 197.660 (2) only if the dwelling has been approved under Subsection 15.015.11; and

B. For historic property that meets the requirements of Subsection 15.015.20.

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10. Notwithstanding the minimum lot or parcel size described in Subsection 01,

A. A division of land may be approved provided:

1. The land division is for the purpose of allowing a provider of public parks or open space, or a not-for-profit land conservation organization, to purchase at least one of the resulting parcels; and

2. A parcel created by the land division that contains a dwelling is large enough to support continued residential use of the parcel.

3. The landowner signs and records in the deed records for the county an irrevocable deed restriction prohibiting the owner, and the owner's successors in interest, from pursuing a cause of action or claim of relief alleging an injury from farming or forest practices for which no claim or action is allowed under ORS 30.936 or 30.937.

B. A parcel created pursuant to this Subsection that does not contain a dwelling:

1. Is not eligible for siting a dwelling, except as may be authorized under ORS 195.120;

2. May not be considered in approving or denying an application for siting any other dwelling;

3. May not be considered in approving a redesignation or rezoning of forestlands except for a redesignation or rezoning to allow a public park, open space or other natural resource use; and

4. May not be smaller than 25 acres unless the purpose of the land division is to facilitate the creation of a wildlife or pedestrian corridor or the implementation of a wildlife habitat protection plan or to allow a transaction in which at least one party is a public park or open space provider, or a not-for-profit land conservation organization, that has cumulative ownership of at least 2,000 acres of open space or park property.

11. A division of land smaller than the minimum lot or parcel size in Subsection 01 may be approved provided:

A. The division is for the purpose of establishing a church, including cemeteries in conjunction with the church;

B. The church has been approved under Subsection 15.015.16;

C. The newly created lot or parcel is not larger than five acres; and

D. The remaining lot or parcel, not including the church, meets the minimum lot or parcel size described in Subsection 01 either by itself or after it is consolidated with another lot or parcel.

12. Notwithstanding the minimum lot or parcel size described Subsection 01, a division for the nonfarm uses set out in Subsection 15.015.26 if the parcel for the nonfarm use is not larger than the minimum size necessary for the use.

13. The governing body of a county may not approve a division of land for nonfarm use under Subsection 02, 03, 04, 09, 10, 11, or 12 unless any additional tax imposed for the change in use has been paid.

14. A land division may not be approved for the land application of reclaimed water, agricultural or industrial process water, or biosolids as described under 15.015.36

15. Parcels used or to be used for training or stabling facilities may not be considered appropriate to maintain the existing commercial agricultural enterprise in an area where other types of agriculture occur.

16. A division of a lawfully established unit of land may occur along an urban growth boundary where the parcel remaining outside the urban growth boundary is zoned for agricultural uses and is smaller than the minimum parcel size, provided that:

A. If the parcel contains a dwelling, the parcel must be large enough to support the continued residential use.

B. If the parcel does not contain a dwelling, it:

1. Is not eligible for siting a dwelling, except as may be authorized in ORS 195.120;

2. May not be considered in approving or denying an application for any other dwelling; and

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3. May not be considered in approving a redesignation or rezoning of agricultural lands, except to allow a public park, open space, or other natural resource use.

4. The landowner signs and records in the deed records for the county an irrevocable deed restriction prohibiting the owner, and the owner's successors in interest, from pursuing a cause of action or claim of relief alleging an injury from farming or forest practices for which no claim or action is allowed under ORS 30.936 or 30.937.

SECTION 15.040, USE STANDARDS

01. A utility facility that is necessary for public service.

A. A utility facility is necessary for public service if the facility must be sited in the exclusive farm use zone in order to provide the service.

1. To demonstrate that a utility facility is necessary, an applicant must show that reasonable alternatives have been considered and that the facility must be sited in an exclusive farm use zone due to one or more of the following factors:

a. Technical and engineering feasibility;

b. The proposed facility is locationally-dependent. A utility facility is locationally-dependent if it must cross land in one or more areas zoned for exclusive farm use in order to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

c. Lack of available urban and nonresource lands;

d. Availability of existing rights of way;

e. Public health and safety; and

f. Other requirements of state and federal agencies.

2. Costs associated with any of the factors listed in Subsection 1 of this subsection may be considered, but cost alone may not be the only consideration in determining that a utility facility is necessary for public

service. Land costs shall not be included when considering alternative locations for substantially similar utility facilities and the siting of utility facilities that are not substantially similar.

3. The owner of a utility facility approved under this subsection shall be responsible for restoring, as nearly as possible, to its former condition any agricultural land and associated improvements that are damaged or otherwise disturbed by the siting, maintenance, repair or reconstruction of the facility. Nothing in this Subsection shall prevent the owner of the utility facility from requiring a bond or other security from a contractor or otherwise imposing on a contractor the responsibility for restoration.

4. The county shall impose clear and objective conditions on an application for utility facility siting to mitigate and minimize the impacts of the proposed facility, if any, on surrounding lands devoted to farm use in order to prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on surrounding farmlands.

5. Utility facilities necessary for public service may include on-site and off-site facilities for temporary workforce housing for workers constructing a utility facility. Such facilities must be removed or converted to an allowed use under the EFU Zone or other statute or rule when project construction is complete. Off-site facilities allowed under this Subsection are subject to Subsection 9.020.7. Temporary workforce housing facilities not included in the initial approval may be considered through a minor amendment request. A minor amendment request shall have no effect on the original approval.

6. In addition to the provisions of Subsection A.1 through 4, the establishment or extension of a sewer system as defined by OAR 660-011-0060(1)(f) shall be subject to the provisions of 660-011-0060.

7. The provisions of Subsection A do not apply to interstate natural gas pipelines and associated facilities authorized by and subject to regulation by the Federal Energy Regulatory Commission.

B. An associated transmission line is necessary for public service upon demonstration that the associated transmission line meets either the following requirements of Subsection 1 or Subsection 2 of this Subsection.

1. An applicant demonstrates that the entire route of the associated transmission line meets at least one of the following requirements:

    a. The associated transmission line is not located on high-value farmland, as defined in ORS 195.300, or on arable land;

    b. The associated transmission line is co-located with an existing transmission line;

    c. The associated transmission line parallels an existing transmission line corridor with the minimum separation necessary for safety; or

    d. The associated transmission line is located within an existing right of way for a linear facility, such as a transmission line, road or railroad, that is located above the surface of the ground.

2. After an evaluation of reasonable alternatives, an applicant demonstrates that the entire route of the associated transmission line meets, subject to Subsections B.3 and 4, two or more of the following criteria:

    a. Technical and engineering feasibility;

    b. The associated transmission line is locationally-dependent because the associated transmission line must cross high-value farmland, as defined in ORS 195.300, or arable land to achieve a reasonably direct route or to meet unique geographical needs that cannot be satisfied on other lands;

    c. Lack of an available existing right of way for a linear facility, such as a transmission line, road or railroad, that is located above the surface of the ground;

    d. Public health and safety; or

    e. Other requirements of state or federal agencies.

3. As pertains to Subsection 2, the applicant shall demonstrate how the applicant will mitigate and minimize the impacts, if any, of the associated transmission line on surrounding lands devoted to farm use in order to

prevent a significant change in accepted farm practices or a significant increase in the cost of farm practices on the surrounding farmland.

4. The county may consider costs associated with any of the factors listed in Subsection 2, but consideration of cost may not be the only consideration in determining whether the associated transmission line is necessary for public service.

02. Dog training classes or testing trials conducted outdoors, or in farm buildings that existed on January 1, 2013, are limited as follows:

A. The number of dogs participating in training does not exceed 10 per training class and the number of training classes to be held on-site does not exceed six per day; and

B. The number of dogs participating in a testing trial does not exceed 60 and the number of testing trials to be conducted on-site does not exceed four per calendar year.

03. Farm stands are subject to the following:

A. The structures are designed and used for sale of farm crops and livestock grown on the farm operation, or grown on the farm operation and other farm operations in the local agricultural area, including the sale of retail incidental items and fee-based activity to promote the sale of farm crops or livestock sold at the farm stand if the annual sales of the incidental items and fees from promotional activity do not make up more than 25 percent of the total annual sales of the farm stand; and

B. The farm stand does not include structures designed for occupancy as a residence or for activities other than the sale of farm crops and livestock and does not include structures for banquets, public gatherings or public entertainment.

C. As used in this Section, "farm crops or livestock" includes both fresh and processed farm crops and livestock grown on the farm operation, or grown on the farm operation and other farm operations in the local agricultural area.

D. As used in this Subsection, "processed crops and livestock" includes jams, syrups, apple cider, animal products and other similar farm crops and livestock that have been processed and converted into another product but not prepared food items.

E. As used in this Section, "local agricultural area" includes Oregon or an adjacent county in Washington, Idaho, Nevada or California that borders the Oregon county in which the farm stand is located.

F. A farm stand may not be used for the sale, or to promote the sale, of marijuana products or extracts.

G. Farm Stand Development Standards

1. Adequate off-street parking will be provided pursuant to provisions of the County Article 33 - Parking.

2. Roadways, driveway aprons, driveways and parking surfaces shall be surfaces that prevent dust, and may include paving, gravel, cinders, or bark/wood chips.

3. All vehicle maneuvering will be conducted on site. No vehicle backing or maneuvering shall occur within adjacent roads, streets or highways.

4. No farm stand building or parking is permitted within the right-of-way.

5. Approval is required from the County Road Department regarding adequate egress and access. All egress and access points shall be clearly marked.

6. Vision clearance areas. No visual obstruction (e.g., sign, structure, solid fence, wall, planting or shrub vegetation) may exceed three (3) feet in height within “vision clearance areas” at street intersections.

a. Service drives shall have a minimum clear-vision area formed by the intersection of the driveway centerline, the road right-of-way line, and a straight line joining said lines through points twenty (20) feet from their intersection.

b. Height is measured from the top of the curb or, where no curb exists, from the established street center line grade.

c. Trees exceeding three (3) feet in height may be located in this area, provided all branches and foliage are removed to a height of six (6) feet above grade.

7. All outdoor light fixtures shall be directed downward, and have full cutoff and full shielding to preserve views of the night sky and to minimize excessive light spillover onto adjacent properties, roads and highways.

8. Signs are permitted consistent with Article 34 - Signs

H. Permit approval is subject to compliance with the Department of Agriculture requirements and with the development standards of this zone.

04. Wineries and Cider Business

A. Small Wineries and Cider Businesses. Small wineries and cider businesses are separate uses. The small winery provisions and standards of Subsection A may not be applied to a cider business, nor may the provisions and standards for a cider business be applied to a small winery.

1. A winery or cider business may be established as a permitted use if the proposed winery or cider business will produce wine with a maximum annual production of:

a. Less than 50,000 gallons of wine for a winery or 100,000 gallons of cider for a cider business and the owner:

i. Owns an on-site vineyard of at least 15 acres;

ii. Owns a contiguous vineyard of at least 15 acres;

iii. Has a long-term contract for the purchase of all of the grapes for a winery or apples or pears for a cider business from at least 15 acres of a vineyard contiguous to the winery or from an orchard contiguous to the cider business; or

iv. Obtains grapes for a winery or apple or pears for a cider business from any combination of Subsection i, ii, or iii; or

b. At least 50,000 gallons of wine for a winery or 100,000 gallons of cider for a cider business and the owner:

i. Owns an on-site vineyard for a winery or orchard for a cider business of at least 40 acres;

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ii. Owns a contiguous vineyard for a winery or orchard for a cider business of at least 40 acres;

iii. Has a long-term contract for the purchase of all of the grapes for a winery or apples or pears for a cider business from at least 40 acres of a vineyard contiguous to the winery or from an orchard contiguous to the cider business;

iv. Owns an on-site vineyard for a winery or orchard for a cider business of at least 15 acres on a tract of at least 40 acres and owns at least 40 additional acres of vineyards for a winery or orchards for a cider business in Oregon that are located within 15 miles of the winery or cider business site; or

v. Obtains grapes for a winery or apples or pears for a cider business from any combination of Subsection i, ii, iii or iv.

2. In addition to producing and distributing wine or cider, a small winery or cider business established under this Section may:

a. Market and sell wine produced in conjunction with the winery or cider produced in conjunction with the cider business.

b. Conduct operations that are directly related to the sale or marketing of wine produced in conjunction with the winery or cider produced in conjunction with the cider business, including:

i. Wine or cider tastings in a tasting room or other location on the premises occupied by the winery for wine tastings or cider business for cider tastings;

ii. Wine or cider club activities;

iii. Winemaker or cidermaker luncheons and dinners;

iv. Winery and vineyard or cider business and orchard tours;

v. Meetings or business activities with winery or cider business suppliers, distributors, wholesale customers and wine-industry or cider industry members;

vi. Winery or cider business staff activities;

vii. Open house promotions of wine produced in conjunction with the winery or cider produced in conjunction with the cider business; and

viii. Similar activities conducted for the primary purpose of promoting wine produced in conjunction with the winery or cider produced in conjunction with the cider business.

c. Market and sell items directly related to the sale or promotion of wine produced in conjunction with the winery or cider produced in conjunction with the cider business, the marketing and sale of which is incidental to on-site retail sale of wine for a winery or cider for a cider business, including food and beverages:

i. Required to be made available in conjunction with the consumption of wine or cider on the premises by the Liquor Control Act or rules adopted under the Liquor Control Act; or

ii. Served in conjunction with an activity authorized by Subsection A.2.b, d, or e.

d. Carry out agri-tourism or other commercial events on the tract occupied by the winery or cider business subject to Subsections E.

e. Host charitable activities for which the winery or cider business does not charge a facility rental fee.

f. Site a home occupation on the same tract, and in association with, the winery or cider business as provided by Subsection 15.020.04.A.

3. A winery or cider business may include on-site kitchen facilities licensed by the Oregon Health Authority under ORS 624.010 to 624.121 for the

preparation of food and beverages described in Subsection A.2.c. Food and beverage services authorized under Subsection A.2.c may not utilize menu options or meal services that cause the kitchen facilities to function as a café or other dining establishment open to the public.

4. The gross income of the winery or cider business from the sale of incidental items or services provided pursuant to Subsection A.2.c through e may not exceed 25 percent of the gross income from the on-site retail sale of wine produced in conjunction with the winery or cider produced in conjunction with the cider business. The gross income of a winery or cider business does not include income received by third parties unaffiliated with the winery or cider business. At the request of the county, the winery or cider business shall submit to the county a written statement that is prepared by a certified public accountant and certifies the compliance of the winery or cider business with this Subsection for the previous tax year.

5. A winery or cider business may carry out up to 18 days of agri-tourism or other commercial events annually on the tract occupied by the winery or the cider business subject to:

    a. If a winery conducts agri-tourism or other commercial events authorized under this Section, the winery may not conduct agri-tourism or other commercial events or activities authorized by Subsections 15.040.05.A through D.

    b. Agri-tourism and other commercial events or activities are subject to the requirements of Subsection 15.040.05.H.

6. A winery or cider business operating under this Section shall provide parking for all activities or uses of the lot, parcel or tract on which the winery or cider business is established.

7. Prior to the issuance of a permit to establish a winery or cider business under Subsection A.1, the applicant shall show that vineyards described in Subsection A.1 have been planted or that the contract has been executed, as applicable.

8. For the sole purpose of limiting demonstrated conflicts with accepted farming or forest practices on adjacent lands, the winery or cider business shall:

   a. Establish a setback of at least 100 feet from all property lines for the winery or cider business and all public gathering places unless the local government grants an adjustment or variance allowing a setback of less than 100 feet; and

   b. Provision of direct road access and internal circulation.

B. Large Wineries

1. A large winery may be established if:

   a. The winery owns and is sited on a tract of 80 acres or more, at least 50 acres of which is a vineyard;

   b. The winery owns at least 80 additional acres of planted vineyards in Oregon that need not be contiguous to the acreage described in Subsection B.1.a; and

   c. The winery has produced annually, at the same or a different location, at least 150,000 gallons of wine in at least three of the five calendar years before the winery is established under this Subsection.

2. In addition to producing and distributing wine, a large winery may:

   a. Market and sell wine produced in conjunction with the winery;

   b. Conduct operations that are directly related to the sale or marketing of wine produced in conjunction with the winery, including:

      i. Wine tastings in a tasting room or other location on the premises occupied by the winery;

      ii. Wine club activities;

      iii. Winemaker luncheons and dinners;

iv. Winery and vineyard tours;

v. Meetings or business activities with winery suppliers, distributors, wholesale customers and wine-industry members;

vi. Winery staff activities;

vii. Open house promotions of wine produced in conjunction with the winery; and

viii. Similar activities conducted for the primary purpose of promoting wine produced in conjunction with the winery;

c. Market and sell items directly related to the sale or promotion of wine produced in conjunction with the winery, the marketing and sale of which is incidental to retail sale of wine on-site, including food and beverages:

i. Required to be made available in conjunction with the consumption of wine on the premises by the Liquor Control Act or rules adopted under the Liquor Control Act; or

ii. Served in conjunction with an activity authorized by Subsection B.2.b.ii, iv, or v;

d. Provide services, including agri-tourism or other commercial events, hosted by the winery or patrons of the winery, at which wine produced in conjunction with the winery is featured, that:

i. Are directly related to the sale or promotion of wine produced in conjunction with the winery;

ii. Are incidental to the retail sale of wine on-site; and

iii. Are limited to 25 days or fewer in a calendar year; and

iv. Host charitable activities for which the winery does not charge a facility rental fee.

3. Income requirements:

a. The gross income of the winery from the sale of incidental items pursuant to Subsection B.2.c and services provided pursuant to Subsection B.2.d may not exceed 25 percent of the gross income from the on-site retail sale of wine produced in conjunction with the winery.

b. At the request of a local government with land use jurisdiction over the site of a winery, the winery shall submit to the local government a written statement, prepared by a certified public accountant, that certifies compliance with Subsection a for the previous tax year.

4. A large winery shall provide parking for all activities or uses of the lot, parcel or tract on which the winery is established.

5. A large winery may operate a restaurant, as defined in ORS 624.010, in which food is prepared for consumption on the premises of the winery.

6. Permit requirements:

a. A winery shall obtain a permit if the winery operates a restaurant that is open to the public for more than 25 days in a calendar year or provides for agri-tourism or other commercial events authorized under Subsection B.2.d occurring on more than 25 days in a calendar year.

b. In addition to any other requirements, a local government may approve a permit application under this Subsection if the local government finds that the authorized activity:

i. Complies with the standards described in Subsections 9.020.07.B;

ii. Is incidental and subordinate to the retail sale of wine produced in conjunction with the winery; and

iii. Does not materially alter the stability of the land use pattern in the area.

c. If the local government issues a permit under this Subsection for agri-tourism or other commercial events, the local government shall review the permit at least once every five years and, if appropriate, may renew the permit.

7. A person may not have a substantial ownership interest in more than one large winery operating a restaurant.

8. Prior to the issuance of a permit to establish a large winery, the applicant shall show that vineyards described in Subsection B.1 have been planted.

9. A large winery operating under Subsection B.1 shall provide for:

a. Establishment of a setback of at least 100 feet from all property lines for the winery and all public gathering places; and

b. Direct road access and internal circulation.

10. A large winery operating under may receive a permit to host outdoor concerts for which admission is charged, facility rentals or celebratory events if the winery received a permit in similar circumstances before August 2, 2011.

C. As used in this Section:

1. "Agri-tourism or other commercial events" includes outdoor concerts for which admission is charged, educational, cultural, health or lifestyle events, facility rentals, celebratory gatherings and other events at which the promotion of wine produced in conjunction with the winery or cider produced in conjunction with a cider business is a secondary purpose of the event.

2. "Cider" means an alcoholic beverage made from the fermentation of the juice of applies or pears and includes, but is not limited to, flavored cider, sparkling cider, and carbonated cider.

3. "Cider business" means a facility used primarily for the commercial production, shipping and distribution, wholesale or retail sales, tasting, crushing, making, blending, storage, bottling, administrative functions or warehousing of cider.

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4. "On-site retail sale" for wineries includes the retail sale of wine in person at the winery site, through a wine club or over the Internet or telephone. For cider businesses, "On-site retail sale" includes the retail sale of cider in person at a cider business, through a cider club, or over the internet or telephone.

05. The following agri-tourism and other commercial events or activities that are related to and supportive of agriculture may be established:

A. A single agri-tourism or other commercial event or activity on a tract in a calendar year that is personal to the applicant and is not transferred by, or transferable with, a conveyance of the tract, if the agri-tourism or other commercial event or activity meets any local standards that apply and:

1. The agri-tourism or other commercial event or activity is incidental and subordinate to existing farm use on the tract;

2. The duration of the agri-tourism or other commercial event or activity does not exceed 72 consecutive hours;

3. The maximum attendance at the agri-tourism or other commercial event or activity does not exceed 500 people;

4. The maximum number of motor vehicles parked at the site of the agri-tourism or other commercial event or activity does not exceed 250 vehicles;

5. The agri-tourism or other commercial event or activity complies with the standards described in Subsections 9.020.07.B;

6. The agri-tourism or other commercial event or activity occurs outdoors, in temporary structures, or in existing permitted structures, subject to health and fire and life safety requirements; and

7. The agri-tourism or other commercial event or activity complies with conditions established for:

a. Planned hours of operation;

b. Access, egress and parking;

c. A traffic management plan that identifies the projected number of vehicles and any anticipated use of public roads:

d. Sanitation and solid waste; or

e. Must comply with the requirements in 05.B.1-7.

B. In the alternative to Subsections A and C, the county may authorize, through an expedited, single-event license, a single agri-tourism or other commercial event or activity on a tract in a calendar year by an expedited, single-event license that is personal to the applicant and is not transferred by, or transferable with, a conveyance of the tract. A decision concerning an expedited, single-event license is not a land use decision, as defined in ORS 197.015. To approve an expedited, single-event license, the governing body of a county or its designee must determine that the proposed agri-tourism or other commercial event or activity meets any local standards that apply, and the agri-tourism or other commercial event or activity:

1. Must be incidental and subordinate to existing farm use on the tract;

2. May not begin before 6 a.m. or end after 10 p.m.;

3. May not involve more than 100 attendees or 50 vehicles;

4. May not include the artificial amplification of music or voices before 8 a.m. or after 8 p.m.;

5. May not require or involve the construction or use of a new permanent structure in connection with the agri-tourism or other commercial event or activity;

6. Must be located on a tract of at least 10 acres unless the owners or residents of adjoining properties consent, in writing, to the location; and

7. Must comply with applicable health and fire and life safety requirements.

C. In the alternative to Subsections A and B, the county may authorize up to six agri-tourism or other commercial events or activities on a tract in a calendar year by a limited use permit that is personal to the applicant and is not transferred by, or transferable with, a conveyance of the tract. The agri-tourism or other commercial

events or activities must meet any local standards that apply, and the agri-tourism or other commercial events or activities:

1. Must be incidental and subordinate to existing farm use on the tract;

2. May not, individually, exceed a duration of 72 consecutive hours;

3. May not require that a new permanent structure be built, used or occupied in connection with the agri-tourism or other commercial events or activities;

4. Must comply with the standards described in Subsections 9.020.07.B;

5. May not, in combination with other agri-tourism or other commercial events or activities authorized in the area, materially alter the stability of the land use pattern in the area; and

6. Must comply with the requirements of 05.H

7. A permit authorized by this Subsection shall be valid for two calendar years. When considering an application for renewal, the county shall ensure compliance with the provisions of Subsection C, any local standards that apply and conditions that apply to the permit or to the agri-tourism or other commercial events or activities authorized by the permit.

D. In addition to Subsections A to C, the county may authorize agri-tourism or other commercial events or activities that occur more frequently or for a longer period or that do not otherwise comply with Subsections A to C if the agri-tourism or other commercial events or activities comply with any local standards that apply and the agri-tourism or other commercial events or activities:

1. Are incidental and subordinate to existing commercial farm use of the tract and are necessary to support the commercial farm uses or the commercial agricultural enterprises in the area;

2. Comply with the requirements of 05.C.3, 4, 5, and 6;

3. Occur on a lot or parcel that complies with the acknowledged minimum lot or parcel size; and

4. Do not exceed 18 events or activities in a calendar year.

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E. A holder of a permit authorized by a county under Subsection D must request review of the permit at four-year intervals. Upon receipt of a request for review, the county shall:

1. Provide public notice and an opportunity for public comment as part of the review process; and

2. Limit its review to events and activities authorized by the permit, conformance with conditions of approval required by the permit and the standards established by Subsection D.

F. Temporary structures established in connection with agri-tourism or other commercial events or activities may be permitted. The temporary structures must be removed at the end of the agri-tourism or other event or activity. Alteration to the land in connection with an agri-tourism or other commercial event or activity including, but not limited to, grading, filling or paving, are not permitted.

G. The authorizations provided by Section are in addition to other authorizations that may be provided by law, except that "outdoor mass gathering" and "other gathering," as those terms are used in ORS 197.015 (10)(d), do not include agri-tourism or other commercial events and activities.

H. Conditions of Approval. Agri-tourism and other commercial events permitted under Subsections C and D are subject to the following standards and criteria:

1. A permit application for an agri-tourism or other commercial event or activity shall include the following:

a. A description of the type of agri-tourism or commercial events or activities that are proposed, including the number and duration of the events and activities, the anticipated daily attendance and the hours of operation and, for events not held at wineries or cider businesses, how the agri-tourism and other commercial events or activities will be related to and supportive of agriculture and incidental and subordinate to the existing farm use of the tract.

b. The types and locations of all existing and proposed temporary structures, access and egress, parking facilities, sanitation and solid waste facilities to be used in connection with the agri-tourism or other commercial events or activities;

c. Authorization to allow inspection of the event premises. The applicant shall provide in writing a consent to allow law enforcement, public health, and fire control officers and code enforcement staff to come upon the premises for which the permit has been granted for the purposes of inspection and enforcement of the terms and conditions of the permit and the Exclusive Farm Use Zone and any other applicable laws or ordinances.

2. Approval Criteria:

a. The area in which the agri-tourism or other commercial events or activities are located shall be setback at least 100 feet from the property line.

b. No more than two agri-tourism or commercial events or activities may occur in one month.

c. The maximum number of people shall not exceed 500 per calendar day.

d. Notification of agri-tourism and other commercial events or activities.

i. The property owner shall submit in writing the list of calendar days scheduled for all agri-tourism and other commercial events or activities by April 1 of the subject calendar year or within 30 days of new or renewed permits to County's Planning Department and a list of all property owners within 500 feet of the subject property, as notarized by a title company.

ii. The list of calendar dates for all agri-tourism, commercial events and activities may be amended by submitting the amended list to the Department at least 72 hours prior to any change in the date of approved dates.

iii. If notice pursuant to i is not provided, the property owner shall provide notice by Registered Mail to the same list above at least 10 days prior to each agri-tourism and other commercial event or activity.

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iv. The notification shall include a contact person or persons for each agri-tourism and other commercial event or activity who shall be easily accessible and who shall remain on site at all times, including the person(s) contact information.

e. Hours of Operation. No agri-tourism and other commercial event or activity may begin before 7:00 a.m. or end after 11:00 p.m.

f. Overnight camping is prohibited.

g. Noise Control:

i. All noise, including the use of a sound producing device such as, but not limited to, loud speakers and public address systems, musical instruments that are amplified or unamplified, shall be in compliance with applicable state regulations.

ii. A standard sound level meter or equivalent, in good condition, that provides a weighted sound pressure level measured by use of a metering characteristic with an "A" frequency weighting network and reported as dBA shall be available on-site at all times during agri-tourism and other commercial events or activities.

h. Transportation Management:

i. Roadways, driveway aprons, driveways and parking surfaces shall be surfaces that prevent dust, and may include paving, gravel, cinders, or bark/wood chips.

ii. Driveways extending from paved roads shall have a paved apron, requiring review and approval by the County Road Department.

iii. The parcel, lot or tract must have direct access from a public road or is accessed by an access easement or private road, whereby all underlying property owners and property owners taking access between the subject property and the

public road consent in writing to the use of the road for agri-tourism and other commercial events or activities at the time of initial application.

iv. Adequate traffic control must be provided by the property owner and must include one traffic control person for each 200 persons expected or reasonably expected to be in attendance at any time. All traffic control personnel shall be certified by the State of Oregon and shall comply with the current edition of the Manual of Uniform Traffic Control Devices.

v. Adequate off-street parking will be provided pursuant to provisions of Article 33.

i. Health and Safety Compliance:

i. Sanitation facilities shall include, at a minimum, portable restroom facilities and stand-alone hand washing stations.

ii. All permanent and temporary structures and facilities are subject to fire, health and life safety requirements, and shall comply with all requirements of the County Building Codes Department any other applicable federal, state and local laws.

iii. Compliance with the requirements of the Building Codes Department shall include meeting all building occupancy classification requirements of the State of Oregon adopted building code.

06. Private parks and playgrounds

A. Except on a lot or parcel contiguous to a lake or reservoir, private campgrounds shall not be allowed within three miles of an urban growth boundary unless an exception is approved pursuant to ORS 197.732 and OAR chapter 660, division 4. A campground shall be designed and integrated into the rural agricultural and forest environment in a manner that protects the natural amenities of the site and provides buffers of existing native trees and vegetation or other natural features between campsites. Campgrounds shall not include intensively developed

recreational uses such as swimming pools, tennis courts, retail stores or gas stations. Overnight temporary use in the same campground by a camper or camper's vehicle shall not exceed a total of 30 days during any consecutive six-month period.

B. Campsites may be occupied by a tent, travel trailer, yurt or recreational vehicle. Separate sewer, water or electric service hook-ups shall not be provided to individual camp sites except that electrical service may be provided to yurts allowed by Subsection C.

C. A private campground may provide yurts for overnight camping. No more than one-third or a maximum of 10 campsites, whichever is smaller, may include a yurt. The yurt shall be located on the ground or on a wood floor with no permanent foundation.

D. This use is not permitted on high-value farmland except that existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

07. Public parks and playgrounds. Public parks may include:

A. All outdoor recreation uses allowed under ORS 215.213 or 215.283.

B. The following uses, if authorized in a local or park master plan that is adopted as part of the local comprehensive plan, or if authorized in a state park master plan that is adopted by OPRD:

1. Campground areas: recreational vehicle sites; tent sites; camper cabins; yurts; teepees; covered wagons; group shelters; campfire program areas; camp stores;

2. Day use areas: picnic shelters, barbecue areas, swimming areas (not swimming pools), open play fields, play structures;

3. Recreational trails: walking, hiking, biking, horse, or motorized off-road vehicle trails; trail staging areas;

4. Boating and fishing facilities: launch ramps and landings, docks, moorage facilities, small boat storage, boating fuel stations, fish cleaning stations, boat sewage pumpout stations;

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5. Amenities related to park use intended only for park visitors and employees: laundry facilities; recreation shops; snack shops not exceeding 1500 square feet of floor area;

6. Support facilities serving only the park lands wherein the facility is located: water supply facilities, sewage collection and treatment facilities, storm water management facilities, electrical and communication facilities, restrooms and showers, recycling and trash collection facilities, registration buildings, roads and bridges, parking areas and walkways;

7. Park Maintenance and Management Facilities located within a park: maintenance shops and yards, fuel stations for park vehicles, storage for park equipment and supplies, administrative offices, staff lodging; and

8. Natural and cultural resource interpretative, educational and informational facilities in state parks: interpretative centers, information/orientation centers, self-supporting interpretative and informational kiosks, natural history or cultural resource museums, natural history or cultural educational facilities, reconstructed historic structures for cultural resource interpretation, retail stores not exceeding 1500 square feet for sale of books and other materials that support park resource interpretation and education.

9. Visitor lodging and retreat facilities if authorized in a state park master plan that is adopted by OPRD: historic lodges, houses or inns and the following associated uses in a state park retreat area only:

   a. Meeting halls not exceeding 2000 square feet of floor area;

   b. Dining halls (not restaurants).

C. Existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

08. Accessory uses provided as part of a golf course shall be limited consistent with the following standards:

A. An accessory use to a golf course is a facility or improvement that is incidental to the operation of the golf course and is either necessary for the operation and maintenance of the golf course or that provides goods or services customarily

provided to golfers at a golf course. An accessory use or activity does not serve the needs of the non-golfing public. Accessory uses to a golf course may include: Parking; maintenance buildings; cart storage and repair; practice range or driving range; clubhouse; restrooms; lockers and showers; food and beverage service; pro shop; a practice or beginners course as part of an 18 hole or larger golf course; or golf tournament. Accessory uses to a golf course do not include: Sporting facilities unrelated to golfing such as tennis courts, swimming pools, and weight rooms; wholesale or retail operations oriented to the non-golfing public; or housing;

B. Accessory uses shall be limited in size and orientation on the site to serve the needs of persons and their guests who patronize the golf course to golf. An accessory use that provides commercial services (e.g., pro shop, etc.) shall be located in the clubhouse rather than in separate buildings; and

C. Accessory uses may include one or more food and beverage service facilities in addition to food and beverage service facilities located in a clubhouse. Food and beverage service facilities must be part of and incidental to the operation of the golf course and must be limited in size and orientation on the site to serve only the needs of persons who patronize the golf course and their guests. Accessory food and beverage service facilities shall not be designed for or include structures for banquets, public gatherings or public entertainment.

09. Commercial utility facilities for the purpose of generating power for public use by sale, not including wind power generation facilities or photovoltaic solar power generation facilities subject to the following:

A. Permanent features of a power generation facility shall not use, occupy, or cover more than:

1. 12 acres on high value farmland unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4; or

2. 20 acres on land other than high-value farmland unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4.

B. A power generation facility may include on-site and off-site facilities for temporary workforce housing for workers constructing a power generation facility. Such facilities must be removed or converted to an allowed use under

OAR 660-033-0130(19) or other statute or rule when project construction is complete.

C. Temporary workforce housing facilities not included in the initial approval may be considered through a minor amendment request. A minor amendment request shall be subject to 660-033-0130(5) and shall have no effect on the original approval.

10. Temporary hardship dwelling subject to the following:

A. One manufactured dwelling, or recreational vehicle, or the temporary residential use of an existing building may be allowed in conjunction with an existing dwelling as a temporary use for the term of the hardship suffered by the existing resident or relative, subject to the following:

1. The manufactured dwelling shall use the same subsurface sewage disposal system used by the existing dwelling, if that disposal system is adequate to accommodate the additional dwelling. If the manufactured home will use a public sanitary sewer system, such condition will not be required;

2. The county shall review the permit authorizing such manufactured homes every two years; and

3. Within three months of the end of the hardship, the manufactured dwelling or recreational vehicle shall be removed or demolished, or, in the case of an existing building, the building shall be removed, demolished or returned to an allowed nonresidential use.

B. A temporary residence approved under this Section is not eligible for replacement under Subsection 15.015.10. Department of Environmental Quality review and removal requirements also apply.

C. As used in this Section “hardship” means a medical hardship or hardship for the care of an aged or infirm person or persons.

D. The landowner shall sign and record in the deed records for the county a document binding the landowner, and the landowner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices for which no action or claim is allowed under ORS 30.936 or 30.937.

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11. A site for the disposal of solid waste for which a permit has been granted under ORS 459.245 by the Department of Environmental Quality together with equipment, facilities or buildings necessary for its operation. This use is not permitted on high-value farmland except that existing facilities on high-value farmland may be expanded subject to Subsection J below. Solid waste disposal facilities shall meet the performance and permitting requirements of the Department of Environmental Quality under ORS 459.245, shall meet the requirements of Subsection 9.020.07, and shall comply with the following requirements.

    A. The facility shall be designed to minimize conflicts with existing and permitted uses allowed under plan designations for adjacent parcels as outlined in policies of the Comprehensive Plan.

    B. The facility must be of a size and design to minimize noise or other detrimental effects when located adjacent to farm, forest and grazing dwellings(s) or a residential zone.

    C. The facility shall be fenced when the site is located adjacent to dwelling(s) or a residential zone and landscaping, buffering and/or screening shall be provided.

    D. The facility does not constitute an unnecessary fire hazard. If located in a forested area, the county shall condition approval to ensure that minimum fire safety measures will be taken, which may include but are not limited to the following:

        1. The area surrounding the facility is kept free from litter and debris.

        2. Fencing will be installed around the facility, if deemed appropriate to protect adjacent farm crops or timber stand.

        3. If the proposed facility is located in a forested area, construction materials shall be fire resistant or treated with a fire-retardant substance and the applicant will be required to remove forest fuels within 75 feet of structures.

    E. The facility shall adequately protect fish and wildlife resources by meeting minimum Oregon State Department of Forestry regulations.

F. Access roads or easements for the facility shall be improved to the county's Transportation System Plan standards and comply with grades recommended by the Public Works Director.

G. Road construction for the facility must be consistent with the intent and purposes set forth in the Oregon Forest Practices Act to minimize soil disturbance and help maintain water quality.

H. Hours of operation for the facility shall be limited to 8 am – 7 pm.

I. Comply with other conditions deemed necessary.

J. Existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

12. Guest ranch. A guest ranch must comply with the following provisions:

A. Definitions

1. "Guest lodging unit" means a guest room in a lodge, bunkhouse, cottage or cabin used only for transient overnight lodging and not for a permanent residence.

2. "Guest ranch" means a facility for guest lodging units, passive recreational activities described in Subsection F and food services described in Subsection G that are incidental and accessory to an existing and continuing livestock operation that qualifies as a farm use.

3. "Livestock" means cattle, sheep, horses, and bison.

B. A guest ranch may be established unless the proposed site of the guest ranch is within the boundaries of or surrounded by:

1. A federally designated wilderness area or a wilderness study area;

2. A federally designated wildlife refuge;

3. A federally designated area of critical environmental concern; or

4. An area established by an Act of Congress for the protection of scenic or ecological resources.

C. The guest ranch must be located on a lawfully established unit of land that:

1. Is at least 160 acres;

2. Contains the dwelling of the individual conducting the livestock operation; and

3. Is not high-value farmland.

D. Except as provided in Subsection E, the guest lodging units of the guest ranch cumulatively must:

1. Include not fewer than four nor more than 10 overnight guest lodging units; and

2. Not exceed a total of 12,000 square feet in floor area, not counting the floor area of a lodge that is dedicated to kitchen area, rest rooms, storage or other shared or common indoor space.

E. For every increment of 160 acres that the lawfully established unit of land on which the guest ranch is located exceeds the minimum 160-acre requirement described in Subsection C, up to five additional overnight guest lodging units not exceeding a total of 6,000 square feet of floor area may be included in the guest ranch for a total of not more than 25 guest lodging units and 30,000 square feet of floor area.

F. A guest ranch may provide passive recreational activities that can be provided in conjunction with the livestock operation's natural setting including, but not limited to, hunting, fishing, hiking, biking, horseback riding, camping and swimming. A guest ranch may not provide intensively developed recreational facilities, including golf courses as identified in ORS 215.283.

G. A guest ranch may provide food services only for guests of the guest ranch, individuals accompanying the guests and individuals attending a special event at the guest ranch. The cost of meals, if any, may be included in the fee to visit or stay at the guest ranch. A guest ranch may not sell individual meals to an individual who is not a guest of the guest ranch, an individual accompanying a guest or an individual attending a special event at the guest ranch.

H. The governing body of a county or its designee may not allow a guest ranch in conjunction with:

1. A campground

2. A golf course

I. The governing body of a county or its designee may not approve a proposed division of land:

1. for a guest ranch; or

2. to separate the guest ranch from the dwelling of the individual conducting the livestock operation.

13. Photovoltaic Solar Power Generation Facility. A proposal to site a photovoltaic solar power generation facility shall be subject to the following definitions and provisions:

A. "Arable land" means land in a tract that is predominantly cultivated or, if not currently cultivated, predominantly comprised of arable soils.

B. "Arable soils" means soils that are suitable for cultivation as determined by the governing body or its designate based on substantial evidence in the record of a local land use application, but "arable soils" does not include high-value farmland soils described at ORS 195.300(10) unless otherwise stated.

C. "Nonarable land" means land in a tract that is predominantly not cultivated and predominantly comprised of nonarable soils.

D. "Nonarable soils" means soils that are not suitable for cultivation. Soils with an NRCS agricultural capability class V–VIII and no history of irrigation shall be considered nonarable in all cases. The governing body or its designate may determine other soils, including soils with a past history of irrigation, to be nonarable based on substantial evidence in the record of a local land use application.

E. "Photovoltaic solar power generation facility" includes, but is not limited to, an assembly of equipment that converts sunlight into electricity and then stores, transfers, or both, that electricity. This includes photovoltaic modules, mounting and solar tracking equipment, foundations, inverters, wiring, storage devices and

other components. Photovoltaic solar power generation facilities also include electrical cable collection systems connecting the photovoltaic solar generation facility to a transmission line, all necessary grid integration equipment, new or expanded private roads constructed to serve the photovoltaic solar power generation facility, office, operation and maintenance buildings, staging areas and all other necessary appurtenances. For purposes of applying the acreage standards of this Section, a photovoltaic solar power generation facility includes all existing and proposed facilities on a single tract, as well as any existing and proposed facilities determined to be under common ownership on lands with fewer than 1320 feet of separation from the tract on which the new facility is proposed to be sited. Projects connected to the same parent company or individuals shall be considered to be in common ownership, regardless of the operating business structure. A photovoltaic solar power generation facility does not include a net metering project established consistent with ORS 757.300 and OAR chapter 860, division 39 or a Feed-in-Tariff project established consistent with ORS 757.365 and OAR chapter 860, division 84.

F. For high-value farmland described at ORS 195.300(10), a photovoltaic solar power generation facility shall not preclude more than 12 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4. The governing body or its designate must find that:

1. The proposed photovoltaic solar power generation facility will not create unnecessary negative impacts on agricultural operations conducted on any portion of the subject property not occupied by project components. Negative impacts could include, but are not limited to, the unnecessary construction of roads dividing a field or multiple fields in such a way that creates small or isolated pieces of property that are more difficult to farm, and placing photovoltaic solar power generation facility project components on lands in a manner that could disrupt common and accepted farming practices;

2. The presence of a photovoltaic solar power generation facility will not result in unnecessary soil erosion or loss that could limit agricultural productivity on the subject property. This provision may be satisfied by the submittal and county approval of a soil and erosion control plan prepared by an adequately qualified individual, showing how unnecessary

soil erosion will be avoided or remedied and how topsoil will be stripped, stockpiled and clearly marked. The approved plan shall be attached to the decision as a condition of approval;

3. Construction or maintenance activities will not result in unnecessary soil compaction that reduces the productivity of soil for crop production. This provision may be satisfied by the submittal and county approval of a plan prepared by an adequately qualified individual, showing how unnecessary soil compaction will be avoided or remedied in a timely manner through deep soil decompaction or other appropriate practices. The approved plan shall be attached to the decision as a condition of approval;

4. Construction or maintenance activities will not result in the unabated introduction or spread of noxious weeds and other undesirable weed species. This provision may be satisfied by the submittal and county approval of a weed control plan prepared by an adequately qualified individual that includes a long-term maintenance agreement. The approved plan shall be attached to the decision as a condition of approval;

5. The project is not located on high-value farmland soils unless it can be demonstrated that:

    a. Non high-value farmland soils are not available on the subject tract;

    b. Siting the project on non-high-value farmland soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

    c. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of non-high-value farmland soils; and

6. A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:

    a. If fewer than 48 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and

obtained building permits within the study area, no further action is necessary.

b. When at least 48 acres of photovoltaic solar power generation have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities within the study area, the local government or its designate must find that the photovoltaic solar energy generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar energy generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland or acquire water rights, or will reduce the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area.

G. For arable lands, a photovoltaic solar power generation facility shall not preclude more than 20 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4. The governing body or its designate must find that:

1. The project is not located on high-value farmland soils or arable soils unless it can be demonstrated that:

a. Nonarable soils are not available on the subject tract;

b. Siting the project on nonarable soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

c. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract than other possible sites also located on the subject tract, including those comprised of nonarable soils;

2. No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10) unless an exception is taken pursuant to 197.732 and OAR chapter 660, division 4;

3. A study area consisting of lands zoned for exclusive farm use located within one mile measured from the center of the proposed project shall be established and:

   a. If fewer than 80 acres of photovoltaic solar power generation facilities have been constructed or received land use approvals and obtained building permits within the study area no further action is necessary.

   b. When at least 80 acres of photovoltaic solar power generation have been constructed or received land use approvals and obtained building permits, either as a single project or as multiple facilities, within the study area the local government or its designate must find that the photovoltaic solar energy generation facility will not materially alter the stability of the overall land use pattern of the area. The stability of the land use pattern will be materially altered if the overall effect of existing and potential photovoltaic solar energy generation facilities will make it more difficult for the existing farms and ranches in the area to continue operation due to diminished opportunities to expand, purchase or lease farmland, acquire water rights or diminish the number of tracts or acreage in farm use in a manner that will destabilize the overall character of the study area; and

4. The requirements of Subsections F.1 through 4 are satisfied.

H. For nonarable lands, a photovoltaic solar power generation facility shall not preclude more than 320 acres from use as a commercial agricultural enterprise unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4. The governing body or its designate must find that:

1. The project is not located on high-value farmland soils or arable soils unless it can be demonstrated that:

a. Siting the project on nonarable soils present on the subject tract would significantly reduce the project's ability to operate successfully; or

b. The proposed site is better suited to allow continuation of an existing commercial farm or ranching operation on the subject tract as compared to other possible sites also located on the subject tract, including sites that are comprised of nonarable soils;

2. No more than 12 acres of the project will be sited on high-value farmland soils described at ORS 195.300(10);

3. No more than 20 acres of the project will be sited on arable soils unless an exception is taken pursuant to ORS 197.732 and OAR chapter 660, division 4;

4. The requirements of Subsection F.4 are satisfied;

5. If a photovoltaic solar power generation facility is proposed to be developed on lands that contain a Goal 5 resource protected under the county's comprehensive plan, and the plan does not address conflicts between energy facility development and the resource, the applicant and the county, together with any state or federal agency responsible for protecting the resource or habitat supporting the resource, will cooperatively develop a specific resource management plan to mitigate potential development conflicts. If there is no program present to protect the listed Goal 5 resource(s) present in the local comprehensive plan or implementing ordinances and the applicant and the appropriate resource management agency(ies) cannot successfully agree on a cooperative resource management plan, the county is responsible for determining appropriate mitigation measures; and

6. If a proposed photovoltaic solar power generation facility is located on lands where the potential exists for adverse effects to state or federal special status species (threatened, endangered, candidate, or sensitive), or to wildlife species of concern identified and mapped by the Oregon Department of Fish and Wildlife (including big game winter range and migration corridors, golden eagle and prairie falcon nest sites, and pigeon springs), the applicant shall conduct a site-specific assessment of the

subject property in consultation with all appropriate state, federal, and tribal wildlife management agencies. A professional biologist shall conduct the site-specific assessment by using methodologies accepted by the appropriate wildlife management agency and shall determine whether adverse effects to special status species or wildlife species of concern are anticipated. Based on the results of the biologist's report, the site shall be designed to avoid adverse effects to state or federal special status species or to wildlife species of concern as described above. If the applicant's site-specific assessment shows that adverse effects cannot be avoided, the applicant and the appropriate wildlife management agency will cooperatively develop an agreement for project-specific mitigation to offset the potential adverse effects of the facility. Where the applicant and the resource management agency cannot agree on what mitigation will be carried out, the county is responsible for determining appropriate mitigation, if any, required for the facility.

7. The provisions of Subsection H.6 are repealed on January 1, 2022.

I. The project owner shall sign and record in the deed records for the county a document binding the project owner and the project owner's successors in interest, prohibiting them from pursuing a claim for relief or cause of action alleging injury from farming or forest practices as defined in ORS 30.930(2) and (4).

J. Nothing in this Section shall prevent the county from requiring a bond or other security from a developer or otherwise imposing on a developer the responsibility for retiring the photovoltaic solar power generation facility.

14. Composting operations and facilities shall meet the performance and permitting requirements of the Department of Environmental Quality under OAR 340-093-0050 and 340-096-0060. Buildings and facilities used in conjunction with the composting operation shall only be those required for the operation of the subject facility. Onsite sales shall be limited to bulk loads of at least one unit (7.5 cubic yards) in size that are transported in one vehicle.

A. A condition of approval may be issued requiring compost facility operators must prepare, implement and maintain a site-specific Odor Minimization Plan that:

1. Meets the requirements of OAR 340-096-0150;

2. Identifies the distance of the proposed operation to the nearest residential zone;

3. Includes a complaint response protocol;

4. Is submitted to the DEQ with the required permit application; and

5. May be subject to annual review by the county to determine if any revisions are necessary.

B. Compost operations include:

1. A new disposal site for composting that sells, or offers for sale, resulting product; or

2. An existing disposal site for composting that sells, or offers for sale, resulting product that:

3. Accepts as feedstock nonvegetative materials, including dairy products and mixed food waste; or

4. Increases the permitted annual tonnage of feedstock used by the disposal site by an amount that requires a new land use approval.

C. This use is not permitted on high-value farmland, except that existing facilities wholly within a farm use zone may be maintained, enhanced or expanded on the same tract, subject to other requirements of law.

ARTICLE 29

AIRPORT PROTECTION ZONE

SECTION 29.010, PURPOSE: In order to carry out the provisions of this protection zone, there is hereby created an overlay zone which includes all of the land lying beneath the airport imaginary surfaces. This protection zone is intended to encourage and support the continued operation and vitality of public use airports with non-precision instrument approaches by preventing the establishment of air space obstructions in airport approaches and surrounding areas through height restrictions and other land use controls deemed essential to reduce potential safety hazards in order to protect the health, safety, and welfare of the people of Wallowa County.

SECTION 29.015, COMPLIANCE: In addition to complying with the provisions of the underlying zones, uses and activities shall comply with the provisions of this protection zone. In the event of any conflict between any provisions of this protection zone and the underlying zones, the more restrictive provision shall apply. This Article shall apply to all County lands beneath the imaginary surfaces and impact areas generated by a public airport. Private airports shall conform to applicable State and federal regulations.

SECTION 29.020, SPECIAL DEFINITIONS:

01. **AIRPORT PROTECTION ZONE**: An overlay zone whose boundaries include all lands lying beneath a public airport's imaginary surfaces. See Table 1 for limitations and restrictions on allowed uses in the Airport Protection Zone.

02. **AIRPORT ELEVATION**: The highest point of an airport's useable runway, measured in feet above mean sea level.

03. **AIRPORT NOISE IMPACT BOUNDARY**: Areas located within 1,500 feet of an airport runway or within established noise contour boundaries exceeding 55 Dnl.

04. **AIRPORT OBSTRUCTION**: Any structure, tree, plant, or use of land which exceeds height limits established by the airport imaginary surfaces.

05. **AIRPORT SPONSOR**: The owner, manager, or other person or entity designated to represent the interests of an airport.

06. **AIRPORT IMAGINARY SURFACES**: Imaginary areas in space and on the

ground that are established in relation to the airport and its runways. Imaginary areas are defined by the primary surface, runway protection zone, approach surface, horizontal surface, conical surface and transitional surface. The dimensions of the imaginary surfaces are based on a non-precision instrument approach utility runway.

Approach Surface: A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface.

A. The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of 2000 ft.
B. The approach surface extends for a horizontal distance of 5,000 feet at a slope of 20 feet outward for each foot upward.
C. The outer width of an approach surface will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

Conical Surface: A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Horizontal Surface: A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified 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. The radius of each arc is 5000 feet.

Primary Surface: A surface longitudinally centered on a runway. When a runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. When a 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. The width of the primary surface is 500 ft.

Runway Protection Zone (RPZ): An area off the runway end used to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The inner width of the RPZ is the same as the width of the primary surface. The outer width of the RPZ is a function of the type of aircraft and specified approach visibility minimum associated with the runway end. The RPZ

extends from each end of the primary surface for a horizontal distance of 1,000 feet. [NOTE: the outer width of the RPZ is specified by airport type in OAR 660,
Division 13, Exhibit 4]

Transitional Surface: Those surfaces that extend upward and outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to the point of intersection with the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at a 90 degree angle to the extended runway centerline.

07. **PLACE OF PUBLIC ASSEMBLY:** A permanent or temporary structure or facility, place or activity where concentrations of people gather in reasonably close quarters for purposes such as deliberation, education, worship, shopping, employment, entertainment, recreation, sporting events, or similar activities. Public assembly facilities include, but are not limited to, schools, churches, conference or convention facilities, employment and shopping centers, arenas, athletic fields, stadiums, clubhouses, museums, and similar facilities and places, but do not include parks, golf courses or similar facilities unless used in a manner where people are concentrated in reasonably close quarters. Public assembly facilities also do not include air shows, structures or uses approved by the FAA in an adopted airport master plan, or places where people congregate for short periods of time such as parking lots or bus stops.

08. **UTILITY RUNWAY:** A runway that is constructed and intended to be used by aircraft of 12,500 pounds maximum gross weight or less.

29.022 NOTICE OF LAND USE AND PERMIT APPLICATIONS: Except as otherwise provided herein, written notice of applications for permitted land use or limited land use decisions, including comprehensive plan or zoning amendments, in an area within the imaginary surfaces of this protection zone, shall be provided to the airport sponsor and the Department of Aviation in the same manner as notice is provided to property owners entitled by law to written notice of permitted land use or limited land use applications.

01. Notice of land use shall be provided for by the relevant level of review as

specified by Section 29.025.

02. In addition to the notice provided for above, notice shall be provided to the airport sponsor and the Department of Aviation when the property, or a portion thereof, that is subject to the land use or limited land use application is located within 5,000 feet of the sides or ends of a runway.

SECTION 29.024, AVIGATION EASEMENT

Within the imaginary surfaces of the protection zone, the owners of properties that are the subjects of applications for land use or limited land use decisions, for building permits for new residential, commercial, industrial, institutional or recreational buildings or structures intended for inhabitation or occupancy by humans or animals, or for expansions of such buildings or structures by the lesser of 50% or 1000 square feet, shall, as a condition of obtaining such approval or permits, dedicate an avigation easement to the airport sponsor. The avigation easement shall be in a form acceptable to the airport sponsor and shall be signed and recorded in the deed records of the County. The avigation easement shall allow unobstructed passage for aircraft and ensure safety and use of the airport for the public. Property owners or their representatives are responsible for providing the recorded instrument prior to issuance of building permits.

SECTION 29.025, USES NOT ALLOWED, PERMITTED USES, AND CONDITIONAL USES WITHIN THE AIRPORT APPROACH SAFETY ZONE:

Applications for land use or building permits for properties within the boundaries of this protection zone shall comply with the requirements of this chapter as provided herein.

01. To meet the standards and reporting requirements established in FAA regulations, Part 77, no structure shall penetrate into the airport imaginary surfaces as defined above under Section 29.025.

02. **Conflicts.** Whenever there is a conflict in height limitations prescribed by this protection zone and the underlying zone, the lowest height limitation fixed shall govern; however, the height limitations here imposed shall not apply to such structures customarily employed for aeronautical purposes.

03. **Noise.** Within airport noise impact boundaries, land uses shall be established consistent with the levels identified in OAR 660, Division 13, Exhibit 5. A declaration of anticipated noise levels shall be attached to any subdivision or

partition approval or other land use approval or building permit affecting land within airport noise impact boundaries. In areas where the noise level is anticipated to be at or above 55 Dnl, prior to issuance of a building permit for construction of a noise sensitive land use (real property normally used for sleeping or as a school, church, hospital, public library or similar use), the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design that will achieve an indoor noise level equal to or less than 55 Dnl. [NOTE: FAA Order 5100.38A, Chapter 7 provides that interior noise levels should not exceed 45 decibels in all habitable zones.]

04. **Outdoor lighting.** No new or expanded industrial, commercial or recreational use shall project lighting directly onto an existing runway or taxiway or into existing airport approach surfaces except where necessary for safe and convenient air travel. Lighting for these uses shall incorporate shielding in their designs to reflect light away from airport approach surfaces. No use shall imitate airport lighting or impede the ability of pilots to distinguish between airport lighting and other lighting.

05. **Glare.** No glare producing material, including but not limited to unpainted metal or reflective glass, shall be used on the exterior of structures located within an approach surface or on nearby lands where glare could impede a pilot's vision.

06. **Industrial emissions.** No new industrial, mining or similar use, or expansion of an existing industrial, mining or similar use, shall, as part of its regular operations, cause emissions of smoke, dust or steam that could obscure visibility within airport approach surfaces, except upon demonstration, supported by substantial evidence, that mitigation measures imposed as approval conditions will reduce the potential for safety risk or incompatibility with airport operations to an insignificant level. The review authority shall impose such conditions as necessary to ensure that the use does not obscure visibility.

07. **Communications Facilities and Electrical Interference.** No use shall cause or create electrical interference with navigational signals or radio communications between an airport and aircraft. Proposals for the location of new or expanded radio, radiotelephone, and television transmission facilities and electrical transmission lines within this protection zone shall be coordinated with the Department of Aviation and the FAA prior to approval. Approval of cellular and other telephone or radiocommunication towers on leased property located within airport imaginary surfaces shall be conditioned

to require their removal within 90 days following the expiration of the lease agreement. A bond or other security shall be required to ensure this result.

08. **Limitations and Restrictions on Allowed Uses in the Runway Protection Zone (RPZ), Approach Surface, and Airport Direct and Secondary Impact Areas:** The land uses identified in Table 1, and their accessory uses, are permitted, permitted under limited circumstances, or prohibited in the manner therein described. In the event of conflict with the underlying zone, the more restrictive provisions shall control. As used in this section, a limited use means a use that is allowed subject to special standards specific to that use.

Table 1: Limitations and Restrictions on Allowed Uses

	RPZ[1]	Approach Surface	Horizontal Surface	Conical Surface
Public Airport	L[2]	L[9]	P	P
Residential	N	L[10]	L[14]	P
Commercial	N	L[9]	L[15]	P
Industrial	N	L[9]	P	P
Institutional	N	L[9]	L[15]	P
Farm Use	P[3]	P[3]	P[3]	P[3]
Roads/Parking	L[4]	P	P	P
Utilities	L[5]	L[5]	L[5]	L[5]
Parks/Open Space	L[6]	P	P	P
Golf Courses	L[7]	L[7 9]	L[7]	L[7]
Athletic Fields	N	L[9]	L[14]	P
Sanitary Landfills	N	N	N	N
Water Treatment Plants	N	N[12]	N[16]	N[16]
Mining	N	L[11]	L[11]	L[11]
Water Impoundments	N	N[12]	N[16]	N[16]
Wetland Mitigation	N	L[13]	L[13]	L[13]

P = Use is Permitted
L = Use is Allowed Under Limited Circumstances (See Footnotes)
N = Use is Not Allowed

Table 1 Footnotes:

1. No structures shall be allowed within the Runway Protection Zone. Exceptions shall be made only for structures accessory to airport operations whose location within the RPZ has been approved by the Federal Aviation Administration.
2. In the RPZ, public airport uses are restricted to those uses and facilities that require location in the RPZ.
3. Farming practices that minimize wildlife attractants are encouraged.
4. Roads and parking areas are permitted in the RPZ only upon demonstration that there are no practicable alternatives. Lights, guardrails and related accessory structures are prohibited. Cost may be considered in determining whether practicable alternatives exist.
5. In the RPZ, utilities, powerlines and pipelines must be underground. In approach surfaces and in airport direct and secondary impact areas, the proposed height of utilities shall be coordinated with the airport sponsor and the Department of Aviation.
6. Public assembly facilities are prohibited within the RPZ.
7. Golf courses may be permitted only upon demonstration, supported by substantial evidence, that management techniques will be utilized to reduce existing wildlife attractants and avoid the creation of new wildlife attractants. Such techniques shall be required as conditions of approval. Structures are not permitted within the RPZ. For purposes of this Chapter, tee markers, tee signs, pin cups and pins are not considered to be structures.
8. Within 10,000 feet from the end of the primary surface of a nonprecision instrument runway, and within 50,000 feet from the end of the primary surface of a precision instrument runway.
9. Public assembly may be allowed in an approach surface only if the potential danger to public safety is minimal. In determining whether a proposed use is appropriate, consideration shall be given to: proximity to the RPZ; density of people per acre; frequency of use; level of activity at the airport; and other factors relevant to public safety. In general, high density uses should not be permitted within airport approach surfaces, and nonresidential structures should be located outside approach surfaces unless no practicable alternatives exist.
10. Residential densities within approach surfaces should not exceed the following densities: (1) within 500 feet of the outer edge of the RPZ, 1 unit/acre; (2) within 500 to 1,500 feet of the outer edge of the RPZ, 2

units/acre; (3) within 1,500 to 3,000 feet of the outer edge of the RPZ, 4 units/acre.

11. Mining operations involving the creation or expansion of water impoundments shall comply with the requirements of this Chapter regulating water impoundments.
12. Water impoundments are prohibited within 5,000 feet from the edge or end of a runway.
13. Wetland mitigation required for projects located within an approach surface or airport direct or secondary impact area shall be authorized only upon demonstration, supported by substantial evidence, that it is impracticable to provide mitigation outside of these areas. Proposals for wetland mitigation shall be coordinated with the airport sponsor, the Department of Aviation, the FAA, and wetland permitting agencies prior to the issuance of required permits. Wetland mitigation shall be designed and located to avoid creating a wildlife hazard or increasing hazardous movements of birds across runways and approach surfaces. Conditions shall be imposed as are appropriate and necessary to prevent in perpetuity an increase in hazardous bird movements across runways and approach surfaces. See Section .090 for best management practices for airports located near significant wetlands or wildlife habitat areas.
14. ~~Within the transition surface, residential uses and athletic fields are not permitted.~~ (Removed via AMD#08-02 on 09/17/2008) *
15. Within the transition surface, overnight accommodations, such as hotels, motels, hospitals, and dormitories, are not permitted.
16. See Section .035 prohibiting or regulating water impoundments within 5,000 and 10,000 feet of the end or edge of a runway.

SECTION 29.026, LEVEL OF REVIEW: As determined in Table 1 of Section 29.025, Permitted Uses will be subject to Administrative Review and Limited Uses will be considered as Conditional Uses and will be subject to Public Hearing Review.

SECTION 29.028, HEIGHT LIMITATIONS ON ALLOWED USES: All uses permitted by the underlying zone shall comply with the height limitations in this Section. When height limitations of the underlying zone are more restrictive than those of this protection zone, the underlying zone height limitations shall control.

01. Except as provided in subsections 02 and 03 of this Section, no structure or tree, plant or other object of natural growth shall penetrate an airport imaginary surface.

02. For areas within airport imaginary surfaces but outside the approach and transition surfaces, where the terrain is at higher elevations than the airport

* The Oregon Department of Aviation does not acknowledge the removal of Footnote 14, based upon the Oregon Department of Land Conservation and Development (DLCD) letter dated 10/22/2021, which states Wallowa County "failed to provide notice to the department [DLCD] on local adoption of AMD 08-02/PAPA 002-08. As such, the state considers this code provision to be `unacknowledged'." Removal of Footnote 14 is not consistent or compatible with the Oregon Airport Land Use Compatibility Guidebook.

runway surfaces such that existing structures and permitted development penetrate or would penetrate the airport imaginary surfaces, the review authority may authorize structures up to 35 feet in height.

03. Other height exceptions or variances may be permitted when supported in writing by the airport sponsor, the Department of Aviation and the FAA. Applications for height variances shall follow the procedures for other variances and shall be subject to such conditions and terms as recommended by the Department of Aviation and the FAA.

SECTION 29.030, PROCEDURES: An applicant seeking a land use or limited land use approval in an area within this protection zone shall provide the following information in addition to any other information required in the permit application:

01. A map or drawing showing the location of the property in relation to the airport imaginary surfaces. The Planning Department shall provide the applicant with appropriate base maps upon which to locate the property.

02. Elevation profiles and a site plan, both drawn to scale, including the location and height of all existing and proposed structures, measured in feet above mean sea level.

03. If a height variance is requested, letters of support from the airport sponsor, the Department of Aviation and the FAA.

SECTION 29.035, WATER IMPOUNDMENTS

01. No new or expanded water impoundments of one-quarter acre in size or larger are permitted within 5,000 feet from the end or edge of a runway.

02. The establishment of a new water impoundment one-quarter acre in size or larger within 5,000 to 10,000 feet from the edge or end of a runway may be permitted only upon determination that such water impoundment, with reasonable and practicable mitigation measures, is not likely to result in a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces. [NOTE: FAA Part 77 discourages water impoundments within 50,000 feet of a runway within an approach surface.]

A. **Process.** An application for approval of a new water impoundment shall be considered utilizing the review process applied to applications for conditional

use permits. In addition to the parties required by law to be mailed written notice of the public hearing on the application, written notice of the hearing shall be mailed to the airport sponsor, the Department of Aviation, the FAA, and the FAA's technical representative.

1. Prior to filing its application, the applicant shall coordinate with the airport sponsor, the Department of Aviation, the FAA, and FAA's technical representative regarding the proposed water impoundment, its short and long term potential to significantly increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces, and proposed mitigation.

    a) For water impoundments individually or cumulatively exceeding five (5) acres in size on the subject property, the applicant shall prepare a draft bird strike study as provided in subsection .2 of this section. The airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative shall have 45 days to review the study draft. Their comments shall be included and addressed in a final bird strike study.

    b) For water impoundments that do not individually or cumulatively exceed five (5) acres in size on the subject property, the bird strike study requirements in subsection 2 of this section may be reduced or waived upon agreement by the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative if the applicant can demonstrate, to the satisfaction of the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative that the proposed water impoundment, with appropriate short and long term mitigation, will not result in a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces. As used herein, "appropriate mitigation" means small scale measures of proven reliability that can be applied in perpetuity and that the applicant has the financial resources to support.

2. An application shall not be deemed complete for land use review purposes until the applicant has filed with the Director the final bird strike study addressing comments from the airport sponsor, the Department of Aviation, and the FAA and FAA's technical

representative. When no bird strike study is required, the application shall not be deemed complete until the applicant has filed with the Director correspondence or other proof demonstrating agreement among the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative that no bird strike study is required.

B. **Bird Strike Study.** A bird strike study required under this section shall contain at least the following information:

1. A description of the proposed project, its location in relation to the airport, and the bird strike study area, which shall include at least the project site, the airport property, all lands within 10,000 feet from the end or edge of the airport runway, and other surrounding habitat areas which form the local bird ecosystem.

2. A description of bird feeding, watering and roosting habitats in the bird strike study area, including discussion of feeding behavior and food sources and identification of loafing, watering, roosting and nesting area locations.

3. A description of existing and planned airport operations and air traffic patterns and any available history of bird strike incidents.

4. Wildlife surveys and documentation of existing bird species, populations, activities and flight patterns in the bird strike study area. The surveys shall address bird species and their composition; bird population estimates and densities per unit area; feeding behavior; food sources; seasonal use patterns; frequency of occurrence; location of loafing, roosting and nesting areas; and analysis of the relation of bird flight movements to airport traffic patterns and navigational safety. The airport sponsor shall provide approach and departure air space information up to five statutory miles from the airport.

5. An evaluation of the anticipated effects of the proposal on the population density, behavior patterns, movements and species composition of birds within the bird strike study area and of the impact of these effects on air navigation and safety considering possible mitigation.

6. Identification and evaluation of proposed and alternative short and long term mitigation measures that would prevent a significant increase in hazardous movements of birds feeding, watering or

roosting in areas across runways and approach surfaces that otherwise might result from the proposed use. The evaluation shall discuss the proven reliability of proposed measures, their effectiveness over both the short and long term, their costs, and the applicant's financial ability to assure their perpetual implementation, i.e. ongoing implementation for as long as a potential bird strike hazard persists.

7. Such other information as is recommended by the FAA's technical representative or is required to demonstrate compliance with the requirements of subsection .3 of this section.

C. **Required Findings.** The determination whether a proposed new water impoundment, with reasonable and practicable mitigation measures, is likely to significantly increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces shall be based upon the proposal's potential, both in the short term and in the long term, to significantly increase bird strike hazards to air navigation, and the appropriateness, effectiveness and affordability of proposed mitigation measures or other conditions needed to reduce bird strike hazards. In determining compliance with this standard, the findings shall address each of the following factors:

1. The demonstrated overall effectiveness and reliability of proposed measures and conditions, in both the short and long term and under similar circumstances and conditions, to avoid a significant increase in bird strike hazards to air navigation. Experimental measures or measures not based on accepted technology and industry practices shall be considered ineffective, inappropriate and of unproven reliability.

2. The economic, social and environmental impacts of proposed measures to the neighboring community and the affected natural environment.

3. The applicant's ability to pay for necessary short and long-term mitigation measures, including fallback measures that may be required if initially proposed mitigation measures prove ineffective, and to assure the perpetual implementation of those measures for as long as a potential bird strike hazard persists. An applicant's failure to demonstrate its financial ability to assure the perpetual implementation of necessary and appropriate measures shall render those measures

unreasonable and impracticable for purposes of the application.

4. The applicant's ability to accurately monitor the effectiveness of mitigation over time.

5. The potential impacts to navigational safety and air travel if the applicant cannot perform necessary mitigation measures or maintain those measures in perpetuity, or if those measures prove to be ineffective at avoiding a significant increase in bird strike hazards to air navigation.

6. The applicant's reclamation plan.

D. **Mitigation Measures and Approval Conditions**. A decision approving an application shall require, as conditions of approval, all measures and conditions deemed appropriate and necessary to prevent in perpetuity a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways and approach surfaces.

1. Only customary measures based on accepted technology and industry practice may be considered and imposed as approval conditions.

2. Serious consideration shall be given to all measures and conditions recommended by the Department of Aviation and the FAA and FAA's technical representative. Generally, such measures and conditions shall be attached to a decision approving an application unless findings are adopted, supported by substantial evidence, demonstrating why such measures and conditions are not necessary to reduce bird hazard impacts resulting from the water impoundment to an insignificant level.

3. A decision to approve shall require from the applicant a performance bond or other form of secure financial support. Such bond or security shall be in an amount sufficient to assure perpetual implementation of appropriate and necessary mitigation measures for as long as a potential bird strike hazard persists.

4. A decision to approve shall require appropriate monitoring of the effectiveness of mitigation over time. Upon request, monitoring data and reports shall be made available to the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative. The decision shall allow for modifications to approval

conditions should existing mitigation measures prove ineffective at preventing a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways and approach surfaces. Modifications to approval conditions shall be considered utilizing the review process applied to applications for conditional use permits.

E. **Exemptions**. The requirements of this section shall not apply to:

1. Storm water management basins established by an airport identified under ORS 836.610.

2. Seaplane landing areas within airports identified under ORS 836.610

SECTION 29.040, WETLANDS MITIGATION

01. Notwithstanding the requirements of Section 29.040, wetland mitigation, creation, enhancement or restoration projects located within areas regulated under Section 29.040 shall be allowed upon demonstration of compliance with this requirements of this Section.

02. Wetland mitigation, creation, enhancement or restoration projects existing or approved on the effective date of this ordinance and located within areas regulated under Section 29.040 are recognized as lawfully existing uses.

03. To help avoid increasing safety hazards to air navigation near public use airports, the establishment of wetland mitigation banks in the vicinity of such airports but outside approach surfaces and areas regulated under Section 29.040 is encouraged.

04. Applications to expand wetland mitigation projects in existence as of the effective date of this ordinance, and new wetland mitigation projects, that are proposed within areas regulated under Section29.040 shall be considered utilizing the review process applied to applications for conditional use permits and shall be permitted upon demonstration that:

A. It is not practicable to provide off-site mitigation; or

B. The affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water discharge, and the area proposed for mitigation is located outside an approach surface.

05. Wetland mitigation permitted under subsection 04 of this Section shall be designed and located to avoid creating a wildlife hazard or increasing hazardous movements of birds across runways or approach surfaces.

06. Applications to create, enhance or restore wetlands that are proposed to be located within approach surfaces or within areas regulated under Section 29.040, and that would result in the creation of a new water impoundment or the expansion of an existing water impoundment, shall be considered utilizing the review process applied to applications for conditional use permits and shall be permitted upon demonstration that:

A. The affected wetlands provide unique ecological functions, for threatened or endangered species or ground water discharge; and

B. The wetland creation, enhancement or restoration is designed and will be maintained in perpetuity in a manner that will not increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces.

07. Proposals for new or expanded wetland mitigation, creation, enhancement or restoration projects regulated under this Section shall be coordinated with the airport sponsor, the Department of Aviation, the FAA and FAA's technical representative, the Oregon Department of Fish & Wildlife (ODFW), the Oregon Division of State Lands (DSL), the US Fish & Wildlife Service (USFWS), and the US Army Corps of Engineers (Corps) as part of the permit application.

08. A decision approving an application under this Section shall require, as conditions of approval, measures and conditions deemed appropriate and necessary to prevent in perpetuity an increase in hazardous bird movements across runways and approach surfaces.

SECTION 29.045, NONCONFORMING USES

01. These regulations shall not be construed to require the removal, lowering or alteration of any structure not conforming to these regulations. These regulations shall not require any change in the construction, alteration or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this protection zone.

02. Notwithstanding subsection 1. of this section, the owner of any existing

structure that has an adverse effect on air navigational safety as determined by the Department of Aviation shall install or allow the installation of obstruction markers as deemed necessary by the Department of Aviation, so that the structures become more visible to pilots.

03. No land use or limited land use approval or other permit shall be granted that would allow a nonconforming use or structure to become a greater hazard to air navigation than it was on the effective date of this protection zone.

ARTICLE 24

WATERSHED PROTECTION AREA

SECTION 24.010, PURPOSE: It is the finding of Wallowa County that continued residential development, selected agricultural practices, and certain industrial and commercial uses pose a threat to the City of Enterprise's municipal water source, and if left unregulated, such use and development poses an immediate and unacceptable threat to the public health, safety, and welfare of more than 2,000 residents dependent upon that water source. The purpose of this Watershed Protection Area is to provide additional restrictions upon uses permitted outright or conditionally in the underlying zones in order to protect the purity of the City of Enterprise's municipal water source. The zoning maps for Wallowa County shall designate areas to be encompassed by the Watershed Protection Area designation. The Watershed Protection Area designation on the zoning maps shall be in addition to the zone as described by this ordinance as applied to the area within described by this ordinance as applied to the area within the Watershed Protection Area.

SECTION 24.015, ADDITIONAL RESTRICTIONS: Within the Watershed Protection Area designated on the zoning maps, the additional restrictions, prohibitions, and requirements set forth in Sections 24.010 through 24.080 shall apply and where inconsistent with the provisions of the underlying zone or other provisions of this ordinance or other ordinance shall supersede same.

SECTION 24.020, LIVESTOCK RESTRICTIONS: Maintenance of domestic livestock within the Watershed Protection Area is subject to the following restrictions and limitations:

01. **DEFINITIONS:**

A. As used herein; animal unit means: one cow and calf; one horse, donkey or mule; two pigs; or five sheep.

B. Density means: the number of animal units carried per acre of pasture or other fenced enclosure shall be calculated based upon the number of animal units maintained in a fenced enclosure. Enclosure of livestock for limited times and durations, on portions of a parcel at night for customary or usual calving and normal and customary animal husbandry purposes (other than livestock feeding) shall not be subject to the density limitations of this section.

02. **LIMITATIONS ON DENSITY:** In the Watershed Protection Area the following

limitations shall apply to the keeping of domestic livestock:

A. Within 1,000 feet of a spring utilized as a municipal water source, the maximum density shall be two animals units per acre.

B. In all other areas of the Watershed Protection Area, the maximum density shall be ten animal units per acre.

C. At no time shall the maintenance of domestic livestock up to the density limits set forth above be such as to result in an accumulation of animal waste that could cause, materially contribute to, or create a material risk of any adverse effect upon the city of Enterprise's municipal water source.

03. **APPLICABILITY OF DENSITY RESTRICTIONS:** Restrictions contained in this section shall be applicable to all livestock operations within the Watershed Protection Area - including those established prior to the effective date hereof. Existing livestock uses not in conformance with the limitations contained herein shall be in compliance with the terms hereof within 120 days of the effective date of this ordinance.

SECTION 24.025, STORAGE OF CROPS: No storage of potatoes or other putrescent crops which are likely to ferment or rot is permitted within 1,000 feet of the diversion point for any of the City of Enterprise's springs as marked upon the ground by the City. Beyond 1,000 feet storage of potatoes or other putrescence crops likely to ferment or rot is permitted if stored in silos or other storage facility adequate to insure there will be no leaching into the groundwater.

SECTION 24.030, CHEMICAL APPLICATIONS: Application of fertilizer pesticide, and herbicide is prohibited within 500 feet of the City of Enterprise's springs unless authorization for such application is received from the Wallowa County Court. Aerial application of fertilizer, pesticide, and herbicide is prohibited within one-fourth mile of the City of Enterprise's springs as designated on the ground.

SECTION 24.035, FUEL STORAGE: Storage of gasoline, fuel oil, diesel or other petroleum distillates (hereafter "fuel storage") is subject to the following restrictions and limitations.

01. **PROHIBITED FUEL STORAGE:** No fuel storage is permitted within 1,000 feet of the City of Enterprise's springs.

02. **FUEL STORAGE PERMITTED OUTRIGHT:** At a distance in excess of 1,000 feet of the City of Enterprise's springs, fuel storage is permitted outright in above-ground tanks not to exceed 500 gallons in capacity provided that a

buried tank may be installed for the purpose of storing fuel of a type which is required to be stored in buried tanks under provisions of Oregon Law. Up to four separate 500 gallon fuel storage tanks, which are not cross-connected for storage of a particular fuel type, may be permitted outright under this subparagraph.

03. **FUEL STORAGE PERMITTED CONDITIONALLY:** Fuel storage tanks in excess of 500 gallons are permitted only as a conditional use within the Watershed Protection Area upon the Planning Commission's findings that:

A. There is a need for said fuel tank within the Watershed Protection Area that cannot be reasonably satisfied by the applicant in an alternate location outside the Watershed Protection Area

B. The applicant has a need for storage of fuels in tanks of the capacity requested that cannot reasonably be met by fuel tanks permitted outright or of a size smaller than requested.

C. In the event of a major spill or leak involving the proposed tank and after consideration of any impoundment or other mitigating measures proposed or required by this ordinance or the Planning Commission; said spill will not cause, materially contribute to, create a material risk of, or have an adverse effect upon the City of Enterprise's water source. All such permits shall require (as condition thereof) compliance with the standards contained in 24.035(4).

04. **REQUIRED PROTECTIVE MEASURES:** In the event a permit is granted for a fuel storage tank under this 24.035 (3), the Planning Commission shall require all above ground tanks of 1,000 gallons or more to have a berm and an impervious surface installed to provide a catch basin to contain any fuel spills. In the event a buried fuel storage tank of 1,000 gallons capacity or more is approved; installation of monitoring wells adequate in number, location, and design to detect any leakage from said fuel tank shall be required.

05. **PRE-EXISTING BURIED TANKS:** Within one year from the effective date of this ordinance, all existing buried fuel tanks of 1,000 gallons capacity, or more, shall be abated unless a permit is obtained for said tank and monitoring wells installed within the said one year period or within such other time as may be imposed by the Planning Commission. It is the intent of this subsection to require all existing buried fuel storage tanks over 1,000 gallons to be removed unless they meet the criteria specified in 24.035(3)(4) - including installation of monitoring wells.

06. **PRE-EXISTING ABOVE GROUND TANKS:** All existing above ground tanks

in excess of 5,000 gallons capacity shall be abated within one year of the effective date of this ordinance unless a permit is received under 24.035(3) above. It is the intent of this subsection to require removal of all such tanks that are not in compliance with the criteria specified in 24.035(3) (4) - including installation of a berm and impervious surfaces.

07. **PUBLIC NUISANCE:** All leaking fuel storage tanks within the Watershed Protection Area are hereby declared a public nuisance; therefore, Wallowa County, the City of Enterprise, or any affected person may maintain an action in circuit court for the State of Oregon to obtain an order requiring the abatement of any such leaking fuel tank.

08. **MONITORING WELLS:** Whenever monitoring wells are required to be installed under the provisions of 24.035(4); a monitoring well or wells adequate in depth, design, and proximity to the fuel tank to have reasonable assurance of detection of leaking fuel into the ground water shall be required and, depending upon topography, more than one monitoring well may be required. The monitoring well facilities required may be varied in accordance with the risk to the City of Enterprise's water source created by the proposed fuel tank and a greater number of wells and more stringent specifications may be required for fuel tanks which, due to size or proximity to the water source, create serious risks to the purity of such water source.

09. **PERMISSION TO DRAW SAMPLES:** Under the provisions of 24.035 (4), it shall be a condition of any permit for a fuel storage tank which requires monitoring wells that the owner of the property on which said monitoring wells are installed shall grant permission to responsible officials of either the City of Enterprise, the County of Wallowa, the State of Oregon, or the United States Government to enter said premises at reasonable times and reasonable hours for the purpose of drawing water samples from said monitoring wells. In the event that a property owner refuses to allow access to his property for said purpose, the permit to install the fuel storage tank shall immediately terminate, and the fuel storage tank shall be immediately abated.

SECTION 24.040, CHEMICAL STORAGE: Storage of chemicals - including pesticides, herbicides, and fertilizers - is prohibited in the Watershed Protection Area (except as permitted by this Section or in conjunction with a use permitted by Section 24.050). Storage of chemicals in conjunction with farm and domestic use is permitted, but only in amounts customarily required for continuing the farm operation or for domestic use if stored above ground on a site protected from weather and stored in the manufacturer's containers or other approved storage means. Disposal of used or empty containers shall only be in the manner required by Oregon Law and at sites approved under Oregon Law. Storage of chemicals in conjunction with a commercial application business is prohibited in the Watershed Protection Area

(except as permitted at the Joseph Airport). Storage and handling of chemicals in exclusive conjunction with an aerial application business is prohibited at the Joseph Airport unless the airport has a pesticide management site plan in full compliance with Federal and Oregon Law and as approved by the Oregon Department of Environmental Quality. Pending development and implementation of a pesticide management site plan, aerial application activity may occur from the airport provided the Planning Director issues a zoning permit, and the applicant provides evidence that an interim management plan has been accepted by the Department of Environment Quality for the operation. The Planning Director's permit shall be good for a period of 12 months. Utilization of the airport for application of fire retardant shall comply with the provisions required for other chemicals associated with aerial application.

SECTION 24.045, SOLID WASTE DISPOSAL: On-site disposal of putrescent waste, garbage, or other solid waste is prohibited within the Watershed Protection Area. Solid waste transfer sites, as cited and approved by the Department of Environmental Quality, may be permitted within the Watershed Protection Area provided the site is found to present no threat to the City of Enterprise's springs.

SECTION 24.050, COMMERCIAL AND INDUSTRIAL USES: Commercial and industrial uses are permitted when allowed in the underlying zone subject to the procedures and restrictions in the underlying zone and subject to the following additional limitations and restrictions:

01. New commercial and industrial uses or change in uses or the enlargement and alteration of commercial and industrial uses existing as of the effective date of this ordinance and permitted outright in the underlying zone are permitted outright in the Watershed Protection Area when no chemicals or other products are used, produced by, or commonly associated with the activity which (in the event of introduction of a large quantity thereof into the ground water) might cause or materially contribute to or create a material risk of or cause any adverse effect upon the City of Enterprise's municipal water source.

02. A new commercial or industrial use or change in use not permitted outright under 24.050(1) may be permitted by the Planning Commission after issuance of a special use permit following public hearing and upon a finding that the proposed use (considering the quantity and character of the chemical or other product, the methods of use, and the distance from the City of Enterprise's municipal water source) would not have an adverse effect upon the City of Enterprise's municipal water source in the event of a major spill, improper storage and handling, or improper disposal of said chemical or other product. If said use is permitted outright in the underlying zone, review by the Planning Commission shall be limited to the determination of whether the standard contained in this subparagraph is met. Conditions may be imposed upon the

permit by the Planning Commission to insure protection of the City of Enterprise's municipal water source.

03. Enlargement or alteration of a commercial or industrial use existing as of the effective date of this ordinance or the addition of a process or ancillary facility in conjunction with a use existing as of the effective date of this ordinance, but not permitted outright under 24.050(1) may be permitted in the Watershed Protection Area. This may take place after issuance of a special use permit and upon finding the proposed enlargement or expansion of the use (considering the quantities and character of the chemical or other product, the method of use, and the distance from the City of Enterprise's water source) would not have an adverse effect, materially contribute to an adverse effect, or create a material risk of an adverse effect upon the City of Enterprise's municipal water source but only after consideration of any impoundment or other mitigating measures imposed by State and Federal Law, this ordinance, the Planning Director, or the Planning Commission.

Upon receipt of an application to enlarge or alter an existing commercial or industrial use or to add a process or ancillary facility in conjunction with a pre-existing use, said permit not reviewable under the provisions of 24.050(1), the Planning Director shall notify the City of Enterprise. Prior to scheduling a public hearing before the Planning Commission, shall arrange a conference to be attended by the applicant, the City's representative, and the Planning Director. The purpose of the conference shall be to review the application, the nature of the processes, chemicals, and the impoundment and other mitigating measures to be employed by the applicant to comply with the standards of 24.050(3). If, following the conference, the City of Enterprise and the applicant are in agreement and the application meets the burden of proof set forth in 24.050(3), the Planning Director shall proceed to review and issue the special use permit under the procedures set forth in Section 24.080(1). If, following the conference, the City of Enterprise and the applicant cannot reach agreement as to the compliance of the application to the standards set forth in 24.050(3), the Planning Director shall schedule a public hearing before the Planning Commission as required by Section 24.080(1). Failure to conduct the conference within 45 days of the date of the application's submission shall require the Planning Director to schedule the hearing before the Planning Commission. If the proposed use or development is permitted outright in the underlying zone, review by the Planning Director or Planning Commission shall be limited to determination of the application's compliance with the standards set forth in 24.050(3). In the event the proposed use complies with Federal and State Laws and Regulations, the City of Enterprise, or other opponent, shall have the burden of coming forth with evidence sufficient to provide a reasonable basis for concluding that said State and Federal Laws and Regulations are inadequate to assure compliance with the standards set forth

in 24.050(3). Upon presentation of such evidence, the burden shall shift to the Planning Director or Planning Commission which insure the protection of the City of Enterprise's municipal water source.

SECTION 24.055, RESIDENTIAL USES: Within the Watershed Protection Area the minimum lot size allowed for single-family dwellings shall be five acres.

SECTION 24.060, SEPTIC TANKS: No septic tank or other on-site subsurface sewage disposal system shall be installed within 300 feet of the City of Enterprise's springs. Privies shall not be permitted within the Watershed Protection Area - except for portable privies used on a temporary basis in conjunction with construction activity.

SECTION 24.065, OTHER USES: In the event that any use otherwise permitted, either outright or conditionally, in the underlying zone will cause, materially contribute to, or create a material risk of any adverse effect upon the City of Enterprise's municipal water source; said use is prohibited unless permitted by the Planning Commission subject to conditions adequate to assure the protection of the City of Enterprise's water source. The burden of proving the adverse effect shall be upon the City of Enterprise or other opponent of the use.

SECTION 24.070, USE REVIEW REQUIRED: In addition to the uses and developments requiring permit application and review under the provisions of the underlying zones, the following uses and developments shall require review and authorization by the Planning Director or Planning Commission.

01. Storage of crops pursuant to Section 24.080(1).

02. Fuel storage as provided for in Section 24.050.

03. Chemical storage at the Joseph Airport pursuant to Section 24.080(2), the Planning Commission to be the review authority.

SECTION 24.075, VARIANCE: Following public hearing, a Variance to a regulation or restriction enacted through the Watershed Protection Area which affects a use or development permitted by or unregulated within the underlying zone may be permitted by the Planning Commission provided the requested variance:

01. Relates solely to a regulation or restriction of the Watershed Protection Area and is not a variance which can be heard pursuant to the provisions of Article 8, Amendments.

02. The variance is the minimum variance necessary to alleviate a hardship on the property owner related to the use and enjoyment of the property caused by the regulation or restriction as enacted within the Watershed Protection Area.

***

03. The Planning Commission finds the variance will not cause, materially contribute to, or create a material risk of any adverse effect upon the City of Enterprise's municipal water source - under reasonably possible hydrological or geological conditions.

SECTION 24.080, BURDEN OF PROOF: The burden of proof shall be upon the applicant except where specifically provided to the contrary.

SECTION 24.085, PROCEDURES: In addition to the review procedures specified in this ordinance, the following review procedures shall apply to all land within the Watershed Protection Area.

01. **ADMINISTRATIVE ACTION:** The following procedures shall apply to review and authorization of uses and developments permitted outright in the underlying zone or requiring review and authorization under Section 3.010 and 3.015 and which do not require notice be given or public hearing be conducted.

A. The Wallowa County Planning Department shall provide the City of Enterprise written notice of review for all applications requiring administrative action. The notice of review shall provide the City no less than 30 days to review the application and provide a written response.

B. The Planning Director shall take final action on an application brought forth under this 24.085 no sooner than 31 days following the date of the notice of review or upon receipt of the City of Enterprise's written response whichever occurs first. The Planning Director shall inform the city of all final actions taken on applications reviewed administratively. The notice of final action given to the City of Enterprise shall include the findings of act used to establish conformance with the requirements and restrictions of the Watershed Protection Area and any conditions of approval related to the requirements and restrictions contained herein on the grounds for denial of the application.

C. Applications for single-family dwellings permitted in the underlying zone shall be exempt from the notice of review procedures of the above provided the residence is to be sited on a lot or parcel no less than five acres in size, and the residence is to be sited no closer than one-fourth mile from the City of Enterprise's springs.

02. **REVIEWS REQUIRING NOTICE OF HEARING:** The following procedures shall apply to all permit reviews which require notice and/or hearing. These include home-based occupation permits, conditional uses, non-conforming

uses, variances, reviews, zone ordinance text and/or map amendment, land use plan text and/or map amendments and uses or developments requiring such review.

A. The City of Enterprise shall be given written notice of all applications to the Planning Department which fall within the above categories and which relate to lands within the Watershed Protection Area.

B. The City of Enterprise shall be given no less than 30 days to review the application and prepare a written response to the Planning Director or for submission into the record of the hearing before the Planning Commission whichever is the review authority.

C. The City of Enterprise shall be notified, in a timely manner, of all final actions taken on applications subject to these review procedures. The decision of the Planning Director shall be rendered no sooner than 31 days from the date of notice to the City of Enterprise or upon receipt and review of the City of Enterprise's written response whichever occurs first. The notice of decision by the Planning Director or Planning Commission shall include the findings of fact used to establish conformance with the regulations and restrictions of the Watershed Protection Area. The conditions of approval related to the Watershed Protection Area regulations and restrictions are the grounds for denial of the application.

D. Hearings before the Planning Commission initiated solely by provisions of the Watershed Protection Area and not otherwise required shall be restricted to the single issue of the application's compliance with the relevant regulations and restrictions of the Watershed Protection Area.

03. **APPEAL:** The City of Enterprise shall have standing to appeal any actions taken by the Planning Director or Planning Commission on permits and other reviews within the Watershed Protection Area and for which the City of Enterprise is entitled to notice.

SECTION 24.090, SPECIAL PROCEDURES: In addition to the review procedures specified in this ordinance, the following review procedures shall apply to all land located within the Watershed Protection Area as designated in The Wallowa County Ordinance - Section 24.010 through 24.080.

01. **EXCLUDED DEVELOPMENTS:** There shall be excluded from the procedures and requirements of 24.090 all residential minor partition applications if the site thereof is more than 1,320 feet from the exterior boundary of the City of Enterprise's municipal water source provided the residential use is permitted

outright in the underlying zone and none of the parcels are less than five acres in size. All other partitions and subdivisions shall be subject to review under the procedures of this section.

02. **REVIEWS REQUIRING NOTICE:**

A. The City of Enterprise shall be given written notice of all applications submitted to the Planning Department for minor partitions, major partitions, subdivisions, and amendments to the text of this ordinance which relate to any lands and zones within the Watershed Protection Area.

B. Notice of review to the City of Enterprise shall give the City no less than 30 days to review the requests and prepare a written response to the Wallowa County Planning Director or Planning Commission whichever is responsible for the review and decision.

C. The Planning Director shall inform the City of Enterprise of all final actions taken on applications for minor partitions, major partitions, subdivisions, or amendments to the text of this ordinance relating to lands within the Watershed Protection Area. Said notice of action given to the City of Enterprise shall include the factual evidence used to establish conformance with the requirements and restrictions of the Watershed Protection Area contained in the Wallowa County zoning ordinance or grounds for denial of the application.

D. The City of Enterprise has standing to appeal any action taken by the Planning Director or Planning Commission on land division applications issued within the Watershed Protection Area and for which the City of Enterprise is to receive notice.

Appendix D

FAA Approval

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 St
Des Moines, WA 98198

November 12, 2020

Mr. Anthony Beach
3040 25TH ST SE
Salem, OR 97302-1125

Joseph State Airport
Joseph, OR
AIP: 3-41-0092-011-2019
Forecast Approval

Dear Mr. Beach:

The Federal Aviation Administration (FAA) reviewed forecast information for the subject airport. FAA approves the forecast as presented in Chapter 3 of the Master Plan and as shown below:

TABLE 3-15: FORECAST SUMMARY

Activity	2020	2025	2030	2035	2040
Itinerant Operations					
General Aviation	2,294	2,536	2,802	3,035	3,353
Air Taxi (Fire & Medevac)	792	875	966	1,045	1,154
Military	100	100	100	100	100
Total Itinerant Operations	**3,186**	**3,511**	**3,868**	**4,181**	**4,607**
Local Operations	1,006	1,109	1,221	1,320	1,455
Total Local & Itinerant Operations	**4,192**	**4,620**	**5,089**	**5,501**	**6,062**
Based Aircraft	12	13	15	16	18
Operations per Based Aircraft	349	355	339	344	337

Source: Century West Engineering

The FAA also approves the Cessna 182 (A-I) for the existing and future critical aircraft. We found the forecast to be supported by reasonable planning assumptions and current data. Your forecast appears to be developed using acceptable forecasting methodologies.

This forecast was prepared prior to the impacts of COVID-19. The forecast approval is 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, there is lower than normal confidence in future growth projections. FAA approval of the forecast does not provide justification to begin airport development.

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 St
Des Moines, WA 98198

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. Further, the approved forecasts may be subject to additional analysis or the FAA may request a sensitivity analysis if this data is to be used for environmental or Part 150 noise planning purposes.

If you have questions, please call me at 206-231-4134.

Sincerely,

BENJAMIN JOSEPH MELLO

Digitally signed by BENJAMIN JOSEPH MELLO
Date: 2020.11.12 13:27:55 -08'00'

Benjamin Mello
Airport Planner, FAA Seattle Airports District Office

Federal Aviation Administration

December 28, 2021

TO:
Oregon Department of Aviation
Attn: Heather Peck
3040 25th Street SE
Salem, OR 97302
heather.peck@aviation.state.or.us

CC:
OREGON DEPT. OF AVIATION
3040 25TH ST SE
SALEM, OR 97302-1125
Anthony.BEACH@odav.oregon.gov

RE: *(See attached Table 1 for referenced case(s))*
ALP 7460 No Objection Letter
FINAL DETERMINATION

DRAFT

Table 1 - Letter Referenced Case(s)

ASN	Prior ASN	Location	Latitude (NAD83)	Longitude (NAD83)	AGL (Feet)	AMSL (Feet)
2021-ANM-3473-NRA		JOSEPH,OR	45-21-34.38N	117-15-13.82W	0	4126

Description: This master plan/ALP reflects the following changes from the previous master plan: RWY/TWY System: - No change of existing runway and parallel taxiway geometry Terminal Aprons - Expanded apron pavement at north and south ends of existing terminal apron - Transient AC/heli parking area with blast fence added at northeast corner of terminal apron - Remove 12 tiedowns on terminal apron. - Expand fuel apron the north - Removal of pavement between fuel apron and TWY A1 to address direct RWY access. Property Acquisition/Development: - 1.9 acres property acquired west of TWY A1 for development of box and T-hangars with appurtenant access taxiways, fencing, and vehicle parking. - Existing vehicle access at Airway Road and Juniper Road removed and replaced west of future hangar development area off Juniper Road. - Reconfigured hangar/FBO/SRE development areas along south edge of the future expanded terminal apron, includes vehicle access and parking. - Two additional future hangar sites west of taxilane, north of terminal apron. - Relocate waste/recycling depot west of future hangar development.

The proposed change to your currently approved Airport Layout Plan (ALP) submitted, 2021-10-18 11:17:38.0 has been reviewed under the authority of Part 77 and under the requirements of the Terms and Conditions of Accepting Airport Improvement Program Grants dated September 1, 1999. This review has considered the safety and utility of aircraft operations and planned navigational aids as related to this proposal.

The proposal does not exceed any federal obstruction standard and has no effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, we have no objection to this proposal.

It should be noted that this study did not consider the height of construction equipment. This information needs to be coordinated with this office via an "Airspace Study Checklist" before construction begins.

This study did not evaluate the plans for operational safety during construction. Those plans should be submitted to this office for coordination and review prior to construction.

This determination does not include any environmental analysis or environmental approval for this proposal. All local and state requirements and/or permits must be obtained to prior to construction of this proposal.

This determination does not include approval of any lease, does not release any surplus or grant agreement acquired airport property, nor does it relieve the airport owner or the proponent of compliance with Part 155, or any other law, ordinance, or regulation of federal, state, or local government body or organization. Furthermore, the design and location of any stormwater retention/detention facilities on or near the airport must comply with FAA Advisory Circular 150/5200-33 "Hazardous Wildlife Attractants on or Near Airports", and must be approved on the ALP prior to construction.

We look forward to working with you in the continued development of your airport. If you have any questions, please contact me at (206) 231-4134, benjamin.j.mello@faa.gov.

Benjamin J. Mello
ADO
Signature Control No: 497860425-DRAFT

ALP & Exhibit A Approval Letter

Date:	January 3, 2022
To:	Benjamin Mello, Airport Planner, Seattle Airports District Office
From:	Betty Stansbury, Director, Oregon Department of Aviation Heather Peck, Planning & Projects Manager, Oregon Department of Aviation Matt Rogers, Project Manager, Century West Engineering

Background

The updated Airport Layout Plan (ALP) for the Joseph State Airport (JSY) consists of Sheets 1 through 12, dated October 2021. These documents were developed based on the conclusions of the 2020 Airport Master Plan study. This determination does not constitute FAA approval or disapprovalof 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.

This ALP approval is conditioned on acknowledgement that any development on airport property requiring Federal environmental approval must receive such written approval from the FAA prior to commencement of the subject development. This ALP approval is also conditioned on acceptance of the plan under local land use laws. The FAA encourages 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 (FAA) will participate in the cost of any development proposed. AIP funding requires evidence of eligibility and justification at the time a funding request is submitted for consideration. When construction of any proposed structure or development indicated on the plan is undertaken, such construction requires a 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.

ALP

The ALP consists of Sheets 1 through 12. It was prepared in accordance with current FAA airport design standards, FAA Standard Operating Procedure 2.00. The last ALP for JSY was approved by FAA in 2008. A summary of the significant changes in this 2021 ALP from the previous version include:

- Runway 15/33
  - A future non-precision RNAV GPS approach is planned for the Airport (Runway 15/33).
- Taxiways
  - A partial east parallel taxiway reserve is identified to support long-term development and provide adequate setback guidance for adjacent off-airport development.
- Landside
  - Future taxilanes are planned in the southwest landside area to support future hangar development.
  - Property acquisition (1.9 ac) is planned in the southwest landside area.
  - Future reconfigured fuel apron to prevent direct taxi to Runway 33 end.
  - Future expansion of the south tiedown apron to support aircraft turnarounds including the loss of four existing tiedowns and the addition of a blast fence to protect Hurricane Creek Cemetery.
  - Future expansion of the south apron to support hangar development, resulting in the loss

of nine existing tiedowns.
- Portion of Airway Road to be closed for future taxilane and hangar development. A new vehicle access road and gate to be constructed along Juniper Road.

Exhibit A

The Exhibit A – Airport Property Map consists of Sheet 09. It has been prepared in accordance with FAA Standard Operating Procedure 3.00 and developed based on the following:

- Airport parcels
  - Existing fee and easement parcels are based on recorded conveyance documents obtained through Airport and local records.
  - Future and ultimate airport property interests are shown based on the development plans and design standards shown on the ALP.
- Existing fee and easement parcels, as well as recorded encumbrance boundaries, were drawn as legally described in conveyance documents.
- A review of the Federal grant history and associated parcel naming convention was completed.

The last Exhibit A - Property Map was updated in 2008. Major changes in this October 2021 Exhibit A Update from the previous version includes:

- Updated existing property boundary.
- Updated property acquisition details.

Signature Blocks

The FAA signature below acknowledges approval of the ALP and acceptance of the Exhibit A.

Federal Aviation Administration (FAA)

BENJAMIN JOSEPH MELLO
Digitally signed by BENJAMIN JOSEPH MELLO
Date: 2022.01.12 11:19:32 -08'00'

Benjamin Mello, Airport Planner

Oregon Department of Aviation (ODA)

Betty Stansbury, Director

Century West Engineering Corp.

Matt Rogers, Project Manager

Oregon Department of Aviation (ODA)

Heather Peck, Planning & Projects Manager

Appendix E

Instrument Approach Development

Technical Appendix

Instrument Approach Feasibility – Joseph State Airport

Overview

The airside planning evaluations at Joseph State Airport are focused primarily on the proposed addition of an instrument approach and identification of potential taxiway improvements that may be driven by various development factors. A summary of the propose instrument approach options are provided in Chapter 5. The technical details associated with the approach options and airspace implications are detailed in this appendix.

As noted in Chapter 5, the FAA's Western Flight Procedures Team (TWSE)Operations Support Group evaluated the "rough feasibility" of available approach procedures for the Airport.

The following email summarizes the FAA's preliminary assessment of approach procedure feasibility at Joseph State Airport.

From: Stocking, Christopher M (FAA) <Christopher.M.Stocking@faa.gov>
Sent: Tuesday, December 8, 2020 10:42 AM
To: LUCAS Sarah <Sarah.LUCAS@aviation.state.or.us>
Subject: Joseph State Airport (KJSY) RNAV (GPS) A

This message was sent from outside the organization. Treat attachments, links and requests with caution. Be conscious of the information you share if you respond.

Sarah,

After taking a look at straight in requirements for runway 15 and using a Glide Path Angle (GPS) of 4.00° and a Threshold Crossing Height (THC) of 43ft, matching the VGSI Data on file, the following Vertical Guidance Surface (VGS) area penetrations exist and would need to be removed (entirely or shortened) as the obstacle also penetrates the 20:1 surface as shown below:

Final Segment - VGS (LNAV) - Penetrating Obstacles																
Area	Name	Source	Obs Type	Latitude	Longitude	Height (ft)	Height (ft) AGL	Height (ft) AMSL	AC (H/V (ft))	Effective Height (ft)	Adjustments (ft)	Distance to Centerline (ft)	Distance to Origin (ft)	Surface Height (ft) AMSL	Amount of Penetration (ft)	Required GPA
VGS (LNAV)	41-024126	IFPA	TREE	N45° 22' 10.59"	W117° 15' 24.15"	4118	0	4118	2C (+50/+20)	4118	0	113.75	1139.48	4116.17	1.83	4.14

Additionally, in order to publish a Visual Descent Point (VDP), receive visibility minima lower than 1sm (does not apply for this procedure), and authorization to fly the procedure or applicable minimums at night, precluding any additional factors, the following 20:1 penetrations will need to be mitigated (lighted, lowered, removed). There are a few additional factors that can affect the publication of a VDP and visibility minima, though unmitigated 20:1 penetrations are a show stopper for night mins. Aircraft will be unable to fly the procedure at night if no action is taken.

Final Segment - Visual Area (NPA) - 20:1 Penetrating Obstacles																	
Area	Name	Source	Obs Type	Lighted	Latitude	Longitude	Height (ft)	Height (ft) AGL	Height (ft) AMSL	AC (H/V (ft))	Effective Height (ft)	Distance to Centerline (ft)	Distance to Origin (ft)	20:1 Surface Height (ft) AMSL	20:1 Amount of Penetration (ft)	34:1 Surface Height (ft) AMSL	34:1 Amount of Penetration (ft)
Visual Area (NPA)	41-024108	IFPA	TREE	NO	N45° 22' 04.73"	W117° 15' 27.33"	4139	0	4139	2C (+50/+20)	4139	242.18	413.04	4083.75	55.25	4075.25	63.75
Visual Area (NPA)	41-024107	IFPA	TREE	NO	N45° 22' 06.57"	W117° 15' 27.47"	4134	0	4134	2C (+50/+20)	4134	209.58	596.8	4092.94	41.06	4080.65	53.35
Visual Area (NPA)	41-087545	IFPA	TREE	NO	N45° 22' 05.99"	W117° 15' 27.75"	4120	70	4120	1A (+20/+3)	4120	242.39	544.13	4090.31	29.69	4079.1	40.9
Visual Area (NPA)	41-087925	IFPA	TREE	NO	N45° 22' 09.92"	W117° 15' 21.23"	4122	83	4122	1A (+20/+3)	4122	301.35	826.03	4104.4	17.6	4087.4	34.6
Visual Area (NPA)	41-088891	IFPA	TREE	NO	N45° 22' 11.65"	W117° 15' 21.20"	4124	88	4124	1A (+20/+3)	4124	343.24	996.19	4112.91	11.09	4092.4	31.6
Visual Area (NPA)	41-024106	IFPA	TREE	NO	N45° 22' 09.57"	W117° 15' 21.31"	4113	0	4113	2C (+50/+20)	4113	287.74	792.81	4102.74	10.26	4086.42	26.58
Visual Area (NPA)	41-022907	IFPA	POLE	NO	N45° 22' 03.91"	W117° 15' 26.78"	4088	33	4088	2C (+50/+20)	4088	222.81	323.23	4079.26	8.74	4072.61	15.39
Visual Area (NPA)	41-024126	IFPA	TREE	NO	N45° 22' 10.59"	W117° 15' 24.15"	4118	0	4118	2C (+50/+20)	4118	113.75	939.48	4110.07	7.93	4090.73	27.27
Visual Area (NPA)	41-024127	IFPA	TREE	NO	N45° 22' 06.41"	W117° 15' 25.35"	4094	0	4094	2C (+50/+20)	4094	65.86	546.63	4090.43	3.57	4079.18	14.82

If you wanted to proceed with pursuing a straight in procedure, I would need you or your selected representative to verify that these obstacles do or do not penetrate the above mentioned areas. If these are confirmed to penetrate the VGS and or 20:1 surfaces I will need you to provide a mitigation plan that outlines the actions to be taken and estimated completion date.

The following table identifies the circling RWY 33 20:1 penetrating obstacles. If you decided you would like circling to RWY 33 authorized at night, I would need verification that the below obstacles/terrain do or do not penetrate the 20:1. All verified penetrations must be mitigated and I would need the airports mitigation plan and expected completion date.

Obstacle Evaluation Results for Visual Area (Circling KJSY:RW33)															
Area	Name	Source	Obs Type	Lighted	Latitude	Longitude	Height (ft)	Height (ft) AGL	Height (ft) AMSL	AC (H/V (ft))	Effective Height (ft)	Distance to Centerline (ft)	Distance to Origin (ft)	20:1 Surface Height (ft) AMSL	20:1 Amount of Penetration (ft)
Visual Area (Circling KJSY:RW33)	41-088814	IFPA	TREE	NO	N45° 19' 31.39"	W117° 14' 51.75"	4726	117	4726	1A (+20/+3)	4726	1295.01	9689.17	4605.56	120.44
Visual Area (Circling KJSY:RW33)	41-087319	IFPA	TREE	NO	N45° 19' 30.77"	W117° 14' 43.72"	4669	108	4669	1A (+20/+3)	4669	750.53	9880.62	4615.13	53.87
Visual Area (Circling KJSY:RW33)	41-087304	IFPA	TREE	NO	N45° 19' 45.20"	W117° 14' 50.44"	4573	87	4573	1A (+20/+3)	4573	886.19	8348.23	4538.51	34.49
Visual Area (Circling KJSY:RW33)	41-087667	IFPA	TREE	NO	N45° 19' 45.93"	W117° 14' 51.94"	4568	83	4568	1A (+20/+3)	4568	973.76	8251.89	4533.69	34.31
Visual Area (Circling KJSY:RW33)	41-088294	IFPA	TREE	NO	N45° 19' 46.91"	W117° 14' 49.23"	4565	100	4565	1A (+20/+3)	4565	762.67	8199.19	4531.06	33.94
Visual Area (Circling KJSY:RW33)	41-086636	IFPA	TREE	NO	N45° 19' 46.47"	W117° 14' 55.25"	4562	60	4562	1A (+20/+3)	4562	1191.64	8144.91	4528.35	33.65
Visual Area (Circling KJSY:RW33)	41-087433	IFPA	TREE	NO	N45° 19' 50.54"	W117° 14' 58.61"	4539	64	4539	1A (+20/+3)	4539	1331.78	7688.93	4505.55	33.45
Visual Area (Circling KJSY:RW33)	41-087501	IFPA	TREE	NO	N45° 19' 45.40"	W117° 14' 50.35"	4569	85	4569	1A (+20/+3)	4569	875.33	8329.96	4537.6	31.4
Visual Area (Circling KJSY:RW33)	41-088269	IFPA	TREE	NO	N45° 19' 44.68"	W117° 14' 48.81"	4565	79	4565	1A (+20/+3)	4565	784.74	8425.97	4542.4	22.6
Visual Area (Circling KJSY:RW33)	41-086913	IFPA	BUILDING	NO	N45° 19' 38.05"	W117° 14' 53.53"	4593	14	4593	1A (+20/+3)	4593	1265.66	9003.36	4571.27	21.73
Visual Area (Circling KJSY:RW33)	41-087380	IFPA	ELECTRICAL_SYSTEM	NO	N45° 19' 42.54"	W117° 14' 54.99"	4565	34	4565	1A (+20/+3)	4565	1263.96	8536.78	4547.94	17.06
Visual Area (Circling KJSY:RW33)	41-088006	IFPA	TERRAIN	NO	N45° 21' 07.00"	W117° 15' 06.68"	4130	0	4130	1A (+20/+3)	4130	134.02	16.16	4121.91	8.09
Visual Area (Circling KJSY:RW33)	41-086736	IFPA	TERRAIN	NO	N45° 21' 07.41"	W117° 15' 04.89"	4127	0	4127	1A (+20/+3)	4127	0.09	4.75	4121.34	5.66
Visual Area (Circling KJSY:RW33)	41-087788	IFPA	ELECTRICAL_SYSTEM	NO	N45° 20' 58.83"	W117° 15' 01.80"	4171	38	4171	1A (+20/+3)	4171	17.41	901.19	4166.16	4.84
Visual Area (Circling KJSY:RW33)	41-087427	IFPA	ELECTRICAL_SYSTEM	NO	N45° 19' 41.54"	W117° 14' 50.31"	4559	34	4559	1A (+20/+3)	4559	961.34	8711.36	4556.67	2.33

The following is a very rough estimate on what straight in minimums may be able to achieve. Though, as a precaution during your decision making process on whether to pursue, I would expect that the straight in minimums will be effected by the terrain directly south of the airport. Due to the terrain, either a non-standard missed approach climb gradient will be required, an increase in the straight-in minimums, movement of the missed approach point, or a combination of all three. As of right now and again I must stress, this is very early and unlikely to be the final result but I do not expect there to be a drastic difference:

RNAV (GPS) 15	CAT A	CAT B
LNAV	4720-1 615 (700-1)	4720-1 615 (700-1)
Circling*	5140-1 ¼ 1019 (1100- 1 ¼)	5660-1 ½ 1539 (1600- 1 ½)

Furthermore, I have asked the question in regards to what actions need to be accomplished (airport and flight procedures) in order to begin officially working on adjusting this work to a straight in procedure and if changing to a straight in procedure would affect the current estimated publication date (9/8/22) if you decide this is what you would like to pursue. When I receive more information on that regards I will let you know. Additionally, I have done my best to provide you with graphics that can assist in identifying the aforementioned penetrations though do to limitations on file size, the quality of the images isn't that great. You will also need to rotate them so that they are viewable.

If you have any further questions, please do not hesitate to contact me. It was a pleasure speaking with you and I look forward to continuing to work with you and your department.

From: LUCAS Sarah [mailto:Sarah.LUCAS@aviation.state.or.us]
Sent: Friday, December 11, 2020 7:31 AM
To: PECK Heather <heather.peck@aviation.state.or.us>; BEACH Anthony <Anthony.BEACH@aviation.state.or.us>
Cc: David Miller <dmiller@CenturyWest.com>; W. Matt Rogers <WRogers@CenturyWest.com>; Mike Dane <MDane@CenturyWest.com>; Samantha Peterson <SPeterson@CenturyWest.com>
Subject: FW: Joseph State Airport (KJSY) RNAV (GPS) A

Everyone –

See below for new comments from Christopher Stocking. We address most of the questions in the Master Plan (justification, etc). I'm not sure why the PAPI was set at 4.0° GPA, and defer Tony. Maybe James would know, too, since he has history at the airport.

Sarah Lucas, MPA
OREGON DEPARTMENT OF AVIATION
Planner

OFFICE 503-378-2211 **CELL** 971-304-5467
EMAIL sarah.lucas@aviation.state.or.us
3040 25TH STREET SE, SALEM, OR 97302
WWW.OREGON.GOV/AVIATION

From: Stocking, Christopher M (FAA) <Christopher.M.Stocking@faa.gov>
Sent: Thursday, December 10, 2020 3:29 PM
To: LUCAS Sarah <Sarah.LUCAS@aviation.state.or.us>
Subject: RE: Joseph State Airport (KJSY) RNAV (GPS) A

This message was sent from outside the organization. Treat attachments, links and requests with caution. Be conscious of the information you share if you respond.

Sarah,

I have reviewed the current ALP on file with the FAA dated 23 Dec 2010, in addition to the items discussed earlier, the following will need to be addressed/updated (considered by you and your team) prior to approval for a straight in approach.

		EXISTING CONDITIONS		FUTURE CONDITIONS	
RUNWAY LIGHTING		MIRL		SAME	
RUNWAY END		15	33	15	33
RUNWAY APPROACH CATEGORY		VISUAL	VISUAL	VISUAL	VISUAL
RUNWAY APPROACH SLOPE	PART 77 REQUIRED	20:1	20:1	20:1	20:1
	ACTUAL	19:1	20:1	20:1	20:1
APPROACH VISIBILITY MINIMUMS		VISUAL & ≥ 1 MILE	VISUAL & ≥ 1 MILE	VISUAL & ≥ 1 MILE	VISUAL & ≥ 1 MILE
RUNWAY MARKINGS		VISUAL	VISUAL	VISUAL	VISUAL
RUNWAY END COORDINATES	LAT.	N 45° 21'59.37"	N 45° 21'9.38"	N 45° 21'59.37"	N 45° 21'9.38"
	LONG.	W 117° 15'22.07"	W 117° 15'5.54"	W 117° 15'22.07"	W 117° 15'5.54"
INSTRUMENTATION AND APPROACH AIDS		NONE	NONE	GPS (WAAS)	NONE
VISUAL AIDS		PAPI, REIL	NONE	PAPI, REIL	PAPI

KJSY's FAR 77 category is currently A(V) which qualifies for a circling procedure only and would need to be updated to NPI (Non-Precision Instrument), this in turn will update the Runway Approach Category and Runway Approach Slope sections. The Approach Visibility minimums I do not believe needs changed as from what I have look at so far, visibility of less than a mile is not achievable without an approach lighting system. Only items within RWY 15 should be updated, but in the future if an approach is desired for RWY 33, those same items would need updating, including the addition of GPS (WAAS) to RWY 33.

IFR Airports in the area- this is where justification for your procedure is very important. If further justification is needed and I would expect, items such as ambulance down time, etc., and what you have previously mentioned to me will be crucial in "selling" your need for the procedure. After taking a look at the IFR low chart, Baker City (BKE) is 39 nm to the South/South West with IFR procedures and is a VOR/MON airport and La Grande is 32 nm west with an RNAV procedure. I understand this is a straight line distance and driving conditions, roads, etc may inhibit travel during times, which if requested, should be added to your justification if there are significant impacts driving to these airports. We can work on coming up with a justification later, I just wanted to point out a few things to consider.

JSY has an old 2 light PAPI, which as I mentioned in my obstacles discussion is set to a 4.0° GPA. I would like to inquire as to the reason why the PAPI was set to this as I could not easily identify any.

In my previous email, I misspoke about the VGS penetrations needing to be removed. Currently, there is criteria but it is not being enforced. So as of right now, the VGS penetration is not an issue, but may become an issue at a later time. Though, in this particular situation, the VGS penetration mentioned is also a 20:1 penetration and would need to be removed in order for the procedure to be authorized at night.

I have spoken with the ADO/ARP to find out if there any additional items the airport may have to accomplish before a straight in procedure could be authorized and their only comments are ensuring the ALP is updated (which they forecast the airport will have done fall 2021) and NPI runway markings are added to the runway. Additionally, during the updating of the ALP additional obstacles could be identified that may require mitigation, such as lighting, shortening, or removal.

Lastly, saving the bad news for last, pertaining to how to move this forward, I was informed the validation process does not normally (very few exceptions) allow an airport to request a procedure without the proper requirements in place. Once you have decided on which action you want to take, I will try to work with the ADO and ARP to see what the airport will need to show in hopes we can get the procedure through validation.

I hope I have covered everything that may impact your decision and provided you with enough information to make the best decision for your airport. If you have any questions, please email me or call me at your convenience.

v/r,

Christopher Stocking
Western Flight Procedures Team (TWSE)
Operations Support Group
O: 206-231-4233
C: 229-300-4157
Visit the IFP Gateway here

From: LUCAS Sarah <Sarah.LUCAS@aviation.state.or.us>
Sent: Tuesday, December 8, 2020 2:47 PM
To: Stocking, Christopher M (FAA) <Christopher.M.Stocking@faa.gov>
Subject: RE: Joseph State Airport (KJSY) RNAV (GPS) A

Christopher,

Thanks for providing this detailed overview. I'm looking it over with others at ODA and will be in touch soon.

Appreciate your work on this.

Sarah Lucas, MPA
OREGON DEPARTMENT OF AVIATION
Planner

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Joseph State (KJSY) RNAV (GPS) RWY 15



VGS Penetrations (4.0° GPA/ 43' TCH)

The following penetrations must be mitigated in order for Straight-In Minimums to be authorized for RWY 15.

Legend

- 41-024126 (4118 ft) Tree
- 41-024127 (4094 ft) Tree

41-024126 (4118 ft)

41-024127 (4094 ft)

Airway Rd

15

Google Earth

© 2020 Google

N

500 ft

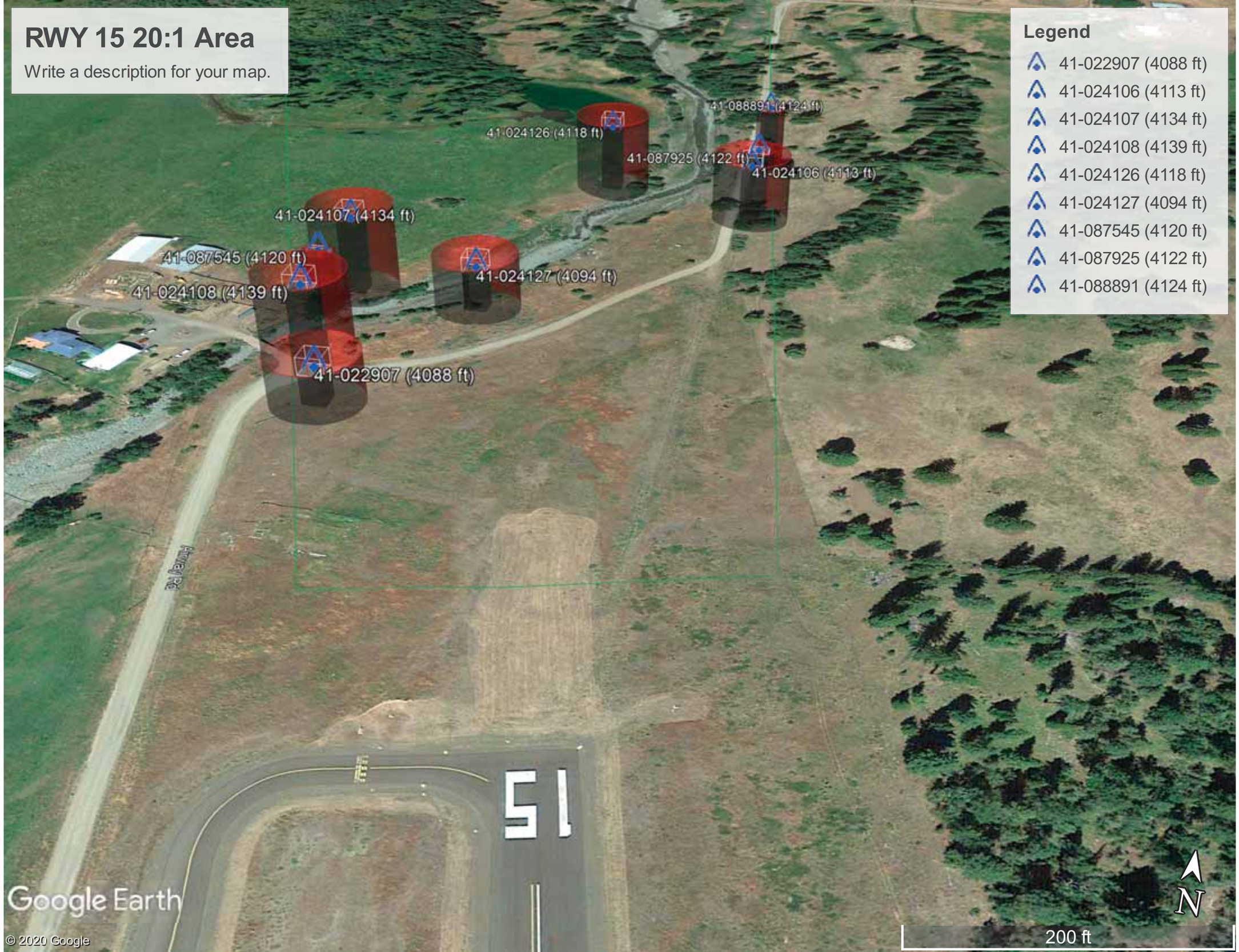
20:1 Penetrations

The following penetrations must be mitigated in order for Night Mimimums to be authorized for RWY 15.

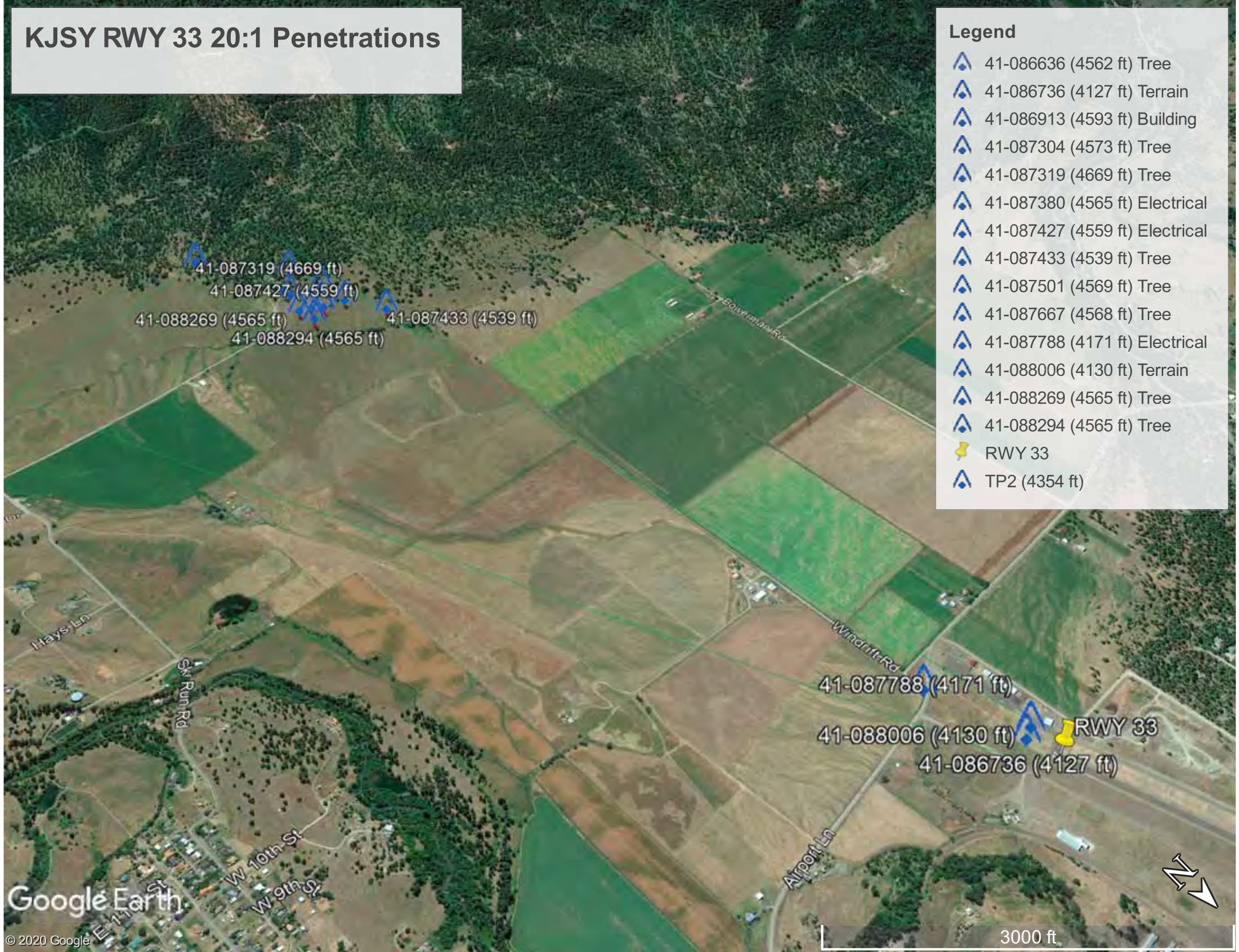


RWY 15 20:1 Area

Write a description for your map.



KJSY RWY 33 20:1 Penetrations



Legend

- 41-086636 (4562 ft) Tree
- 41-086736 (4127 ft) Terrain
- 41-086913 (4593 ft) Building
- 41-087304 (4573 ft) Tree
- 41-087319 (4669 ft) Tree
- 41-087380 (4565 ft) Electrical
- 41-087427 (4559 ft) Electrical
- 41-087433 (4539 ft) Tree
- 41-087501 (4569 ft) Tree
- 41-087667 (4568 ft) Tree
- 41-087788 (4171 ft) Electrical
- 41-088006 (4130 ft) Terrain
- 41-088269 (4565 ft) Tree
- 41-088294 (4565 ft) Tree
- RWY 33
- TP2 (4354 ft)

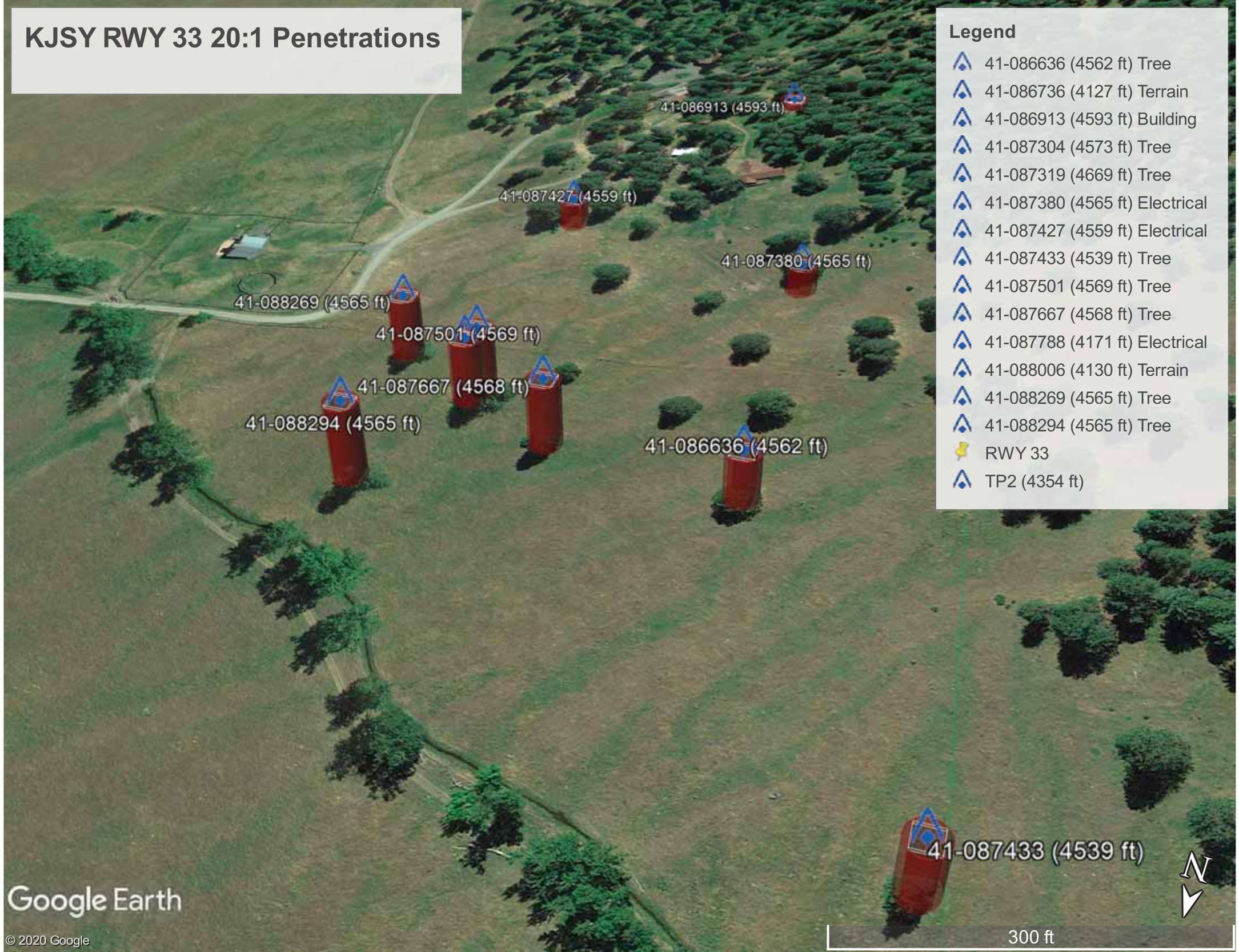
KJSY RWY 33 20:1 Penetrations



Legend

- 41-086636 (4562 ft) Tree
- 41-086736 (4127 ft) Terrain
- 41-086913 (4593 ft) Building
- 41-087304 (4573 ft) Tree
- 41-087319 (4669 ft) Tree
- 41-087380 (4565 ft) Electrical
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- 41-087501 (4569 ft) Tree
- 41-087667 (4568 ft) Tree
- 41-087788 (4171 ft) Electrical
- 41-088006 (4130 ft) Terrain
- 41-088269 (4565 ft) Tree
- 41-088294 (4565 ft) Tree
- RWY 33
- TP2 (4354 ft)

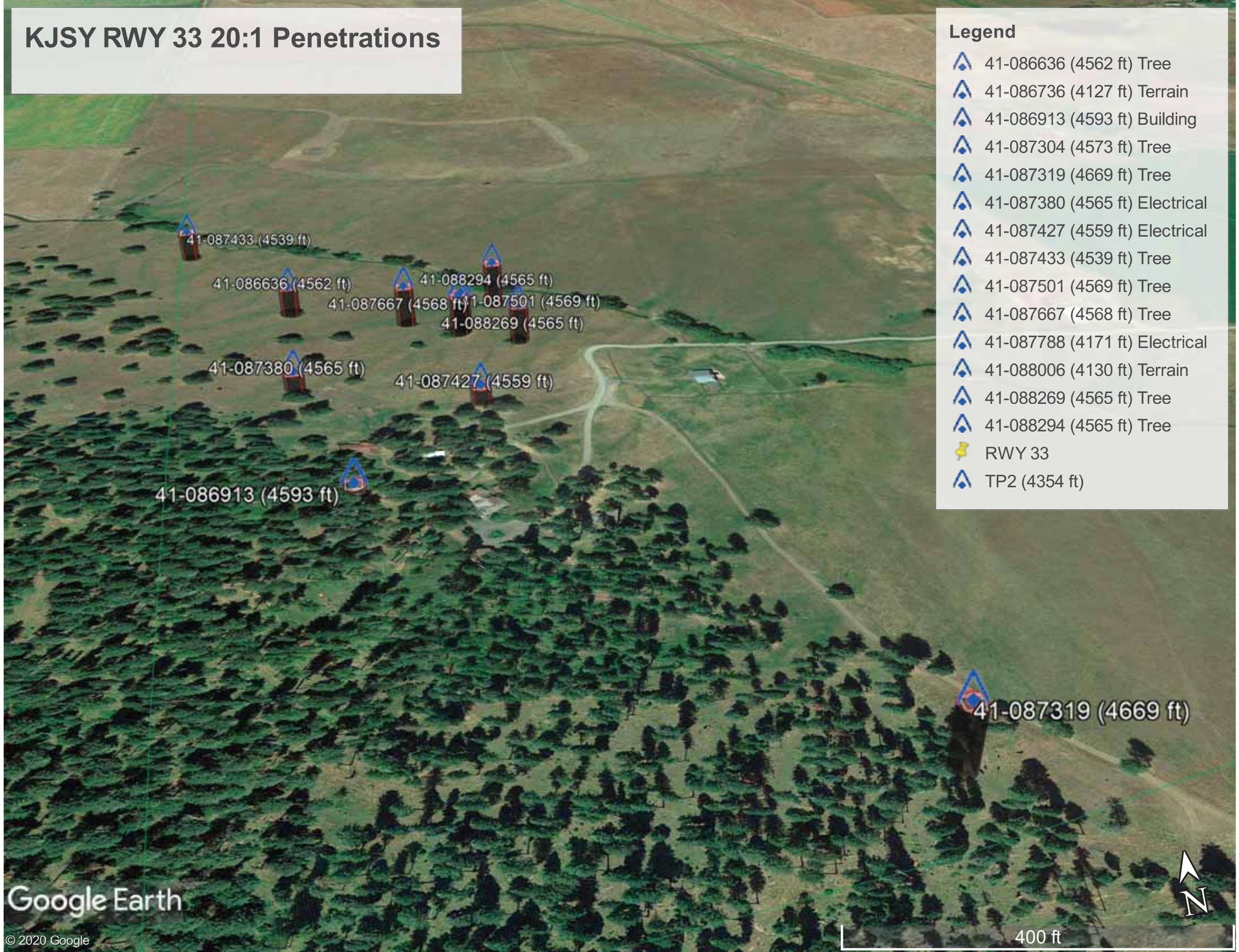
KJSY RWY 33 20:1 Penetrations



Legend

- 41-086636 (4562 ft) Tree
- 41-086736 (4127 ft) Terrain
- 41-086913 (4593 ft) Building
- 41-087304 (4573 ft) Tree
- 41-087319 (4669 ft) Tree
- 41-087380 (4565 ft) Electrical
- 41-087427 (4559 ft) Electrical
- 41-087433 (4539 ft) Tree
- 41-087501 (4569 ft) Tree
- 41-087667 (4568 ft) Tree
- 41-087788 (4171 ft) Electrical
- 41-088006 (4130 ft) Terrain
- 41-088269 (4565 ft) Tree
- 41-088294 (4565 ft) Tree
- RWY 33
- TP2 (4354 ft)

KJSY RWY 33 20:1 Penetrations



Legend

- 41-086636 (4562 ft) Tree
- 41-086736 (4127 ft) Terrain
- 41-086913 (4593 ft) Building
- 41-087304 (4573 ft) Tree
- 41-087319 (4669 ft) Tree
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- 41-087667 (4568 ft) Tree
- 41-087788 (4171 ft) Electrical
- 41-088006 (4130 ft) Terrain
- 41-088269 (4565 ft) Tree
- 41-088294 (4565 ft) Tree
- RWY 33
- TP2 (4354 ft)

...

The FAA technical evaluation involves analysis of airspace surfaces defined in FAA Order 8260.3E – United States Standard for Terminal Instrument Procedures (TERPS). TERPS surfaces are designed to safely accommodate aircraft operating in instrument meteorological conditions (IMC) where navigation is provided exclusively through electronic guidance. Aircraft performance limitations and mandatory vertical and lateral clearances for obstacles (terrain, natural and built items) are used to design inbound approaches, missed approach procedures, and instrument departure procedures. TERPS surfaces are similar to FAR Part 77 airspace surfaces in the vicinity of a runway, but also extend beyond an airport to protect aircraft during the transition between enroute and terminal airspace, which often involves flight over obscured mountainous terrain.

The preliminary TWSE evaluation indicates that developing a non-precision instrument NPI approach appears to be feasible, assumingseveral penetrating obstacles identified in the vicinity of the runway are mitigated (removed, lowered, lighted, etc.). The evaluation identified 25 penetrating obstacles for the critical TERPS surfaces associated with a straight- inprocedure to Runway 15 and a circling procedure to the Airport (assumed clearance required for landing on Runway 33):

- Final Segment – 20: 1 vertical guidance surface (VGS) for Runway 15 (1 item);
- Final Segment – 20:1 visual area (NPA) surface (9 items); and
- Visual Area - 20:1 surface required for Runway 33 landing (circling) (15 items).

18 of the 25 identified obstacles are trees; the remaining items include: building (1), pole (1), electrical systems (3)(assumed to be overhead powerlines), and terrain (2). The majority of penetrating obstacles are located in the final segments of each procedure. This suggests that the ability of Joseph State Airport to accommodate an NPI approach is primarily determined by the mitigation of obstacles located near the runway.

The preliminary assessment was based on availableobstruction data, which is considered sufficient to support the feasibility-level analysis of approach options until the Airport Global Information System (AGIS) obstruction survey is approved by FAA and incorporated into the flight procedures database. Once the AGIS survey data is available, the obstruction analysis will be updated. The overall assessment of feasibility would not be expected to change, although the identification of additionalpenetrating obstacles in the AGIS may affect procedure design and minimums.

The preliminary evaluation indicates that an Approach Category A or B aircraft could descend to approximately 615 feet above runway end elevation for the straight-in procedure (referenced as LNAV by FAA for Lateral Navigation) and to approximately 1,019 to 1,539 feet above the airport for a circling procedure. The minimum approach visibility of 1-statute mile for the straight in procedure increases to 1.25 or 1.5-statute miles for the circling procedure, depending on the aircraft type. The Pilatus PC-12, operated by Life Flight, is a single-engine turboprop with an approach speed below 91 knots (Approach Category A).

Based on airport site conditions and area terrain, the most feasible inbound/outbound paths for instrument procedures at Joseph State Airport are located north of Runway 15/33. Two NPI approach options were identified:

- **Option 1** creates a straight-in approach to a fixed point near the north end of the runway (Runway 15) that is closelyaligned with the runway centerline; and
- **Option 2** creates a circling approach to the airport environment.

Option 1 provides an approach to Runway 15 (referred to as a straight-in procedure); Option 2 provides an approach to the airport environment (referred to as a circling procedure). Based on airport site conditions and area terrain, the most feasible inbound/outbound paths for instrument procedures at Joseph State Airport are located north of Runway 15/33. The preliminary analysis indicates that both options are feasible for the Airport, assuming that identified close-in penetrating obstacles are adequately mitigated. The TWSE procedure analyst provided the following information:

"The following is a very rough estimate on what straight in minimums may be able to achieve. Though, as a precaution during your decision making process on whether to pursue, I would expect that the straight-in minimums will be effected by the terrain directly south of the airport. Due to the terrain, either a non-standard missed approach climb gradient will be required, an increase in the straight-in minimums, movement of the missedapproach point, or a combination of all three."

TABLE 5-2: JSY NON-PRECISION INSTRUMENT APPROACH MINIMUMS (ESTIMATED BY FAA)

RNAV (GPS) 15	CAT A	CAT B
LNAV	4720-1 615 (700-1)	4720-1 615 (700-1)
Circling	5140-1 ¼ 1019 (1100- 1 ¼)	5660-1 ½ 1539 (1600- 1 ½)

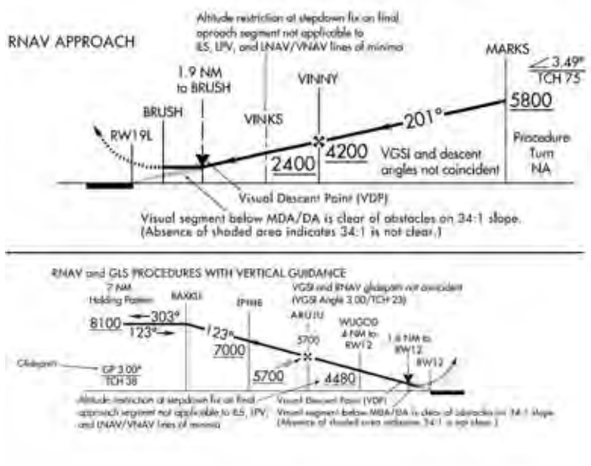
NOTE: TABLE 5-2 PRESENTS THE SAME SEQUENCE OF NUMBERS FOR EACH APPROACH TYPE/CATEGORY. LNAV PROCEDURE USED AS EXAMPLE: THE FIRST NUMBER LISTED [**4720**-1 615 (700-1)] IS THE MINIMUM DESCENT ALTITUDE FOR THE AIRCRAFT IN FEET ABOVE MEAN SEA LEVEL (MSL). THE SECOND NUMBER LISTED [4720-**1** 615 (700-1)] IS THE MINIMUM VISIBILITY REQUIRED FOR THE PROCEDURE TO BE AUTHORIZED (DATA FROM ON-AIRPORT WEATHER OBSERVATION SYSTEM) MEASURED IN STATUTE MILES. THE THIRD NUMBER LISTED [4720-1 **615** (700-1)] IS THE AIRCRAFT HEIGHT ABOVE THE RUNWAY END OR AIRPORT, AT THE MISSED APPROACH POINT, MEASURED IN FEET ABOVE GROUND LEVEL (AGL). THESE NUMBERS CORRESPOND TO THE JOSEPH STATE AIRPORT ELEVATION (4,121 FEET MSL) OR THE RUNWAY 15 END ELEVATION (4,063 FEET MSL). THE FINAL NUMBERS LISTED [4720-1 615 **(700-1)**] ARE DESCENT ALTITUDE AND VISIBILITY REQUIREMENTS FOR MILITARY USE ONLY.

Straight-In vs. Circling

Generic examples of straight-in and circling NPI approach procedures are provided below.

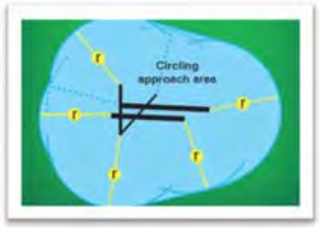
Straight-In NPI Approach Features (Generic)

Source: FAA Aeronautical Information Manual

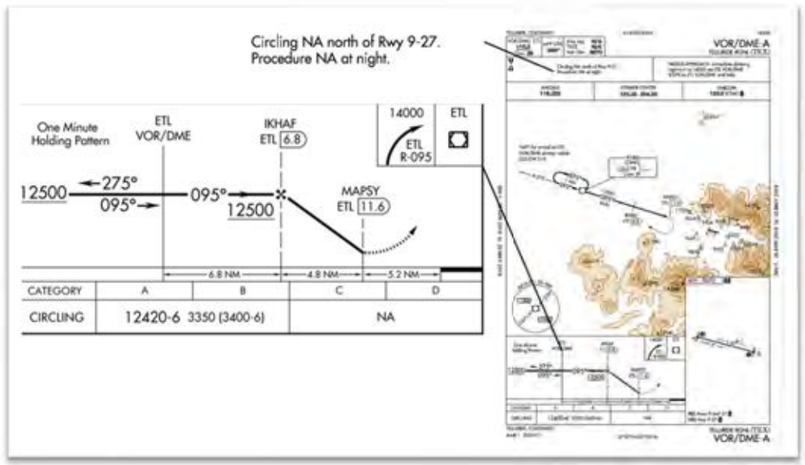


Circling NPI Approach Features (Generic)

Source: AOPA; FAA Instrument Procedures Manual







Airspace Planning and Development – FAR Part 77

Federal Aviation Regulation (FAR) Part 77, defines runways as Visual, Non-Precision Instrument, or Precision Instrument based on their current or planned approach capability. Part 77 airspace surfaces are intended to protect runways from obstructions that could create a hazard to air navigation. As noted earlier, these surfaces generally increase in size and become more restrictive for each incremental increase in approach capability. Thismay result in additional obstruction clearing requirements and increased development setbacks for common airport facilities such as hangars and aircraft parking areas.

- **NPI Circling Procedure** - The existing FAR Part 77 Visual designation for Runway 15/33 is maintained with the proposed NPI circling procedure. No changes are required to the current FAR Part 77 airspace surface configurations, dimensions, or markings for Runway 15/33. This is accomplished by combining electronic guidance for the aircraft to the missed approach point and then requiring the pilot maintain visual contact with the airport environment during the transition to landing on either runway end.
- **NPI Straight-In Procedure** - The FAR Part 77 designation for Runway 15/33 is upgraded to Non-Precision Instrument because the approach is designed for a specific runway end. Required changes in FAR Part 77 surfaces are driven by an increase in primary surface width, which then affects the location of the transitionalsurface slopes that extend upward from the sides of the primary surface. The runway markings for the approach end are upgraded to NPI.

Since both NPI approach options have been determined to be feasible, the master plan evaluation should focuson the relative benefits and the potential impacts of each procedure.

Table A-1 summarizes several design elements that are associated with a future non-precision instrument (NPI) approach for straight-in and circling procedure options described in Chapter 5. The more demanding straight-in approach requires an upgrade to NPI FAR Part 77 airspace for Runway 15/33. These items are shownin bold and are compared to the existing visual airspace definitions for Runway 15/33, which are maintained with the circling procedure.

APPENDIX TABLE 1: RUNWAY 15/33 - INSTRUMENT APPROACH AIRSIDE STANDARDS/REQUIREMENTS[1,2,3,4,5]

Airside Item	Non-Precision Instrument Approach (straight-in procedure)	Non-Precision Instrument Approach (circling procedure)
Primary Surface Width	**500 feet[1]**	250 feet
Runway Designation (FAR Part 77	**NPI**	Visual
Approach Surface Type	**NPI**	Visual
Runway Markings (on procedure approach end)	**NPI**	**Visual**
Approach Surface Inner Width	**500 feet**	250 feet
Approach Surface Width	**2,000 feet**	1,250 feet
Approach Surface Length	5,000 feet	Same
Approach Surface Slope	20:1	Same
Transitional Surface	7:1 Slope to 150 feet above runway[2]	Same
Horizontal Surface Elevation	150 feet above runway	Same
Horizontal Surface Radius	5,000 feet for each runway end (measured from end of primary surface - 200 feet from runway end)	Same
Conical Surface	20:1 for 4,000 feet	Same
Runway Width	60 feet	Same
Runway-Parallel Taxiway Separation	150 feet	Same

1. Portions of the parallel taxiway (Taxiway A) are elevated above the runway by up to 3.6 feet. These sections of taxiway would penetrate a 500-foot wide primary surface for Runway 15/33. FAA indicates that mitigation would be required, which would involve reconstruction of either the runway or taxiway to eliminate the surface penetration. No other known penetrations to the primary surface.
2. The base of the 7:1 transitional surface slope will shift outward 125 feet due to the wider primary surface. The net change in vertical clearance for all objects beneath the shifted transitional surface is 17.9 feet (e.g., a structure that is 1 foot below the current visual transitional surface would penetrate the NPI surface by 16.9 feet).
3. Runway 15/33 is classified in FAR Part 77 as a "Utility" category runway, which is designed to accommodate airplanes weighing 12,500 pounds or less.
4. FAA design standards based on Airport Reference Code (ARC) A/B-I (small aircraft).
5. Approach visibility minimums not less than 1-mile design threshold assumed for airfield geometry; actual approach minimums may be higher based on required terrain clearances.

Appendix F

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, 25, 30, 32, 33, and 34 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 project including but not limited to the following:

a. Title 49, U.S.C., subtitle VII, as amended.

b. Davis-Bacon Act - 40 U.S.C. 276(a), 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 Title 42 U.S.C. 4601, et seq.[1 2]

f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).[1]

g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.[1]

h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.

i. Clean Air Act, P.L. 90-148, as amended.

j. Coastal Zone Management Act, P.L. 93-205, as amended.

k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.[1]

l. Title 49, U.S.C., Section 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 -42 U.S.C. 4151, et seq.[1]

s. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.[1]

t. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, 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.

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. 702 through 706.

z. The Federal Funding Accountability and Transparency Act of 2006, as amended (Pub. L. 109-282, as amended by section 6202 of Pub. L. 110-252).

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 13788 - Buy American and Hire American

h. Executive Order 13858 – Strengthening Buy-American Preferences for Infrastructure Projects

FEDERAL REGULATIONS

a. 2 CFR Part180 – OMB Guidelines to Agencies on Government-wide Debarment and Suspension (Non-procurement).

b. 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. [OMB Circular A-87 Cost Principles Applicable to Grants and Contracts with State and Local Governments, and OMB Circular A-133 - Audits of States, Local Governments, and Non-Profit Organizations].[4, 5, 6]

c. 2 CFR Part 1200 – Non-procurement Suspension and Debarment

d. 14 CFR Part 13 - Investigative and Enforcement Procedures14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.

e. 14 CFR Part 150 - Airport noise compatibility planning.

f. 28 CFR Part 35- Discrimination on the Basis of Disability in State and Local Government Services.

g. 28 CFR § 50.3 - U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964.

h. 29 CFR Part 1 - Procedures for predetermination of wage rates.[1]

i. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.[1]

j. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).[1]

k. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).[1]

l. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.[3]

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 Programs.

r. 49 CFR Part 27 – Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from 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 –Government-wide Requirements for Drug-Free Workplace (Financial Assistance)

v. 49 CFR Part 37 –Transportation Services for Individuals with Disabilities (ADA).

w. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.

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.

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] 49 CFR Part 18 and 2 CFR Part 200 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

[4] On December 26, 2013 at 78 FR 78590, the Office of Management and Budget (OMB) issued the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR Part 200. 2 CFR Part 200 replaces and combines the former Uniform Administrative Requirements for Grants (OMB Circular A-102 and Circular A-110 or 2 CFR Part 215 or Circular) as well as the Cost Principles (Circulars A-21 or 2 CFR part 220; Circular A-87 or 2 CFR part 225; and A-122, 2 CFR part 230). Additionally it replaces Circular A-133 guidance on the Single Annual Audit. In accordance with 2 CFR section 200.110, the standards set forth in Part 200 which affect administration of Federal awards issued by Federal agencies become effective once implemented by Federal agencies or when any future amendment to this Part becomes final. Federal agencies, including the Department of Transportation, must implement the policies and procedures applicable to Federal awards by promulgating a regulation to be effective by December 26, 2014 unless different provisions are required by statute or approved by OMB.

[5] Cost principles established in 2 CFR part 200 subpart E must be used as guidelines for determining the eligibility of specific types of expenses.

[6] Audit requirements established in 2 CFR part 200 subpart F are the guidelines for audits.

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 insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure 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.**

    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 section 44706 of Title 49, United States Code, 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, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), 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 Section 47112 of Title 49, United States Code. 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 airmen 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 Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 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 Section 47107 of Title 49, United States Code.

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, or rights in buildings of the sponsor 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, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any 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 §§ 21.23 (b) and 21.23 (e) of 49 CFR § 21, 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 **(Name of Sponsor)**, 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 that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin 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 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, creed, sex, age, or handicap 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 Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid 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, (1) 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 Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid 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.**

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 the project in accordance with policies, standards, and specifications approved by the Secretary including, but not limited to, the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated , and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.

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 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 1936 (31 U.S.C. 3801).

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 section 47102 of title 49, U.S.C.) 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 G

PAC and Public Participation

PAC Meeting #1 – July 20, 2020
Recap of Meeting #1 – August 12, 2020

Who is conducting the Airport Master Plan Update?

The Oregon Department of Aviation has retained the services of Century West Engineering, DEA, HRA, Flightline, and Miller Creek Associates to conduct the Airport Master Plan update.

Can the public provide input?

Public participation in the Airport Master Plan update is encouraged. A series of Planning Advisory Committee meetings are planned at key points during the planning process. The public may contact Sarah Lucas, ODA Planner, at any time to become informed and discuss ideas or concerns.

Airport planning work products will be available on Century West's project website at:

https://centurywest.com/joseph-state-airport-master-plan/



If you have questions or comments about the Airport Master Plan update, please contact:

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Planner
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David Miller
Lead Aviation Planner
Century West Engineering
509.933.2477
dmiller@centurywest.com

Joseph State Airport (JSY)



AIRPORT MASTER PLAN UPDATE





Overview

Located just outside of the City of Joseph, within Wallowa County, Joseph State Airport has been serving the community as a general aviation airport since 1945.

Joseph State Airport has one runway (15/33) and a full length parallel taxiway. The runway is 5,200' in length and 60' wide, constructed of asphalt in good condition. The runway is equipped with medium intensity runway lighting (MIRL), and has both runway end identifier lights (REIL) and precision approach path indicator (PAPI) lights on the 15 end.

The airport currently has 11 based aircraft and received an estimated 3,850 operations annually, according to the most recent FAA Airport Master Record.

The Airport Master Plan serves as a strategic tool for establishing airport improvement priorities and obtaining funding. This brochure is intended to answer frequently asked questions about the planning process.

How is the Airport Master Plan funded?

The Airport Master Plan is funded through a Federal Aviation Administration (FAA) Grant and Oregon Department of Aviation (ODA) local match.

Why update the Airport Master Plan?

Updating the Airport Master Plan is necessary to re-assess the future development direction of the airport, in order to meet the needs of the local community and the ever-changing air transportation industry. The FAA recommends that airports review and update their master plan every five to ten years, or as necessary to ensure future planning accounts for any changes from the previous plan.

The previous Airport Master Plan for Joseph State Airport was updated in August 1993.

What's included in the Airport Master Plan?

An Airport Master Plan is one of the most important documents from an airport management perspective. It details a plan for efficiently meeting aviation demand through the 20-year planning period, while providing flexibility to respond to changing industry standards. The plan identifies facility needs and future development alternatives to accommodate growth. Following the selection of the preferred development alternative, the projects needed to accomplish the vision are included in the airport's 20-year Capital Improvement Program (CIP). The Airport Master Plan update will include an evaluation of the airport land use, FAA compliance issues, and environmental conditions.

The 2019-2039, Joseph State Airport Master Plan will include the following chapters:

- Introduction and Project Overview
- Airports GIS (AGIS) Survey
- Airport Data Collection and Facilities Inventory
- Aeronautical Activity Forecasts and Demand Capacity Analysis
- Facility Requirements
- Alternatives Analysis
- Airport Layout and Terminal Area Plans
- Compatible Land Use Planning in the Vicinity of Airports
- Airport Financial Plan and Capital Improvement Plan
- Planning for Compliance & Recycling and Solid Waste Management Plan
- Appendix – Environmental Technical Memorandum



Photos by Andy McKee

Joseph State Airport
AIRPORT MASTER PLAN UPDATE

NOTICE OF A MEETING OF THE JOSEPH STATE AIRPORT

Airport Master Plan Project Public Meeting

Notice is hereby given that the Oregon Department of Aviation (ODA) is updating the Joseph State Airport Master Plan. A Planning Advisory Committee (PAC) Meeting will be held on **July 21st from 2:00 - 3:30pm** at the **Joseph High School Aviation Building** located at **400 E. Williams Avenue, Joseph, OR 97846.**

This meeting will provide an opportunity for the PAC, community, and neighbors to learn about the project and provide input. Airport planning work products will be available on Century West's project website at:

www.centurywest.com/joseph-state-airport-master-plan/

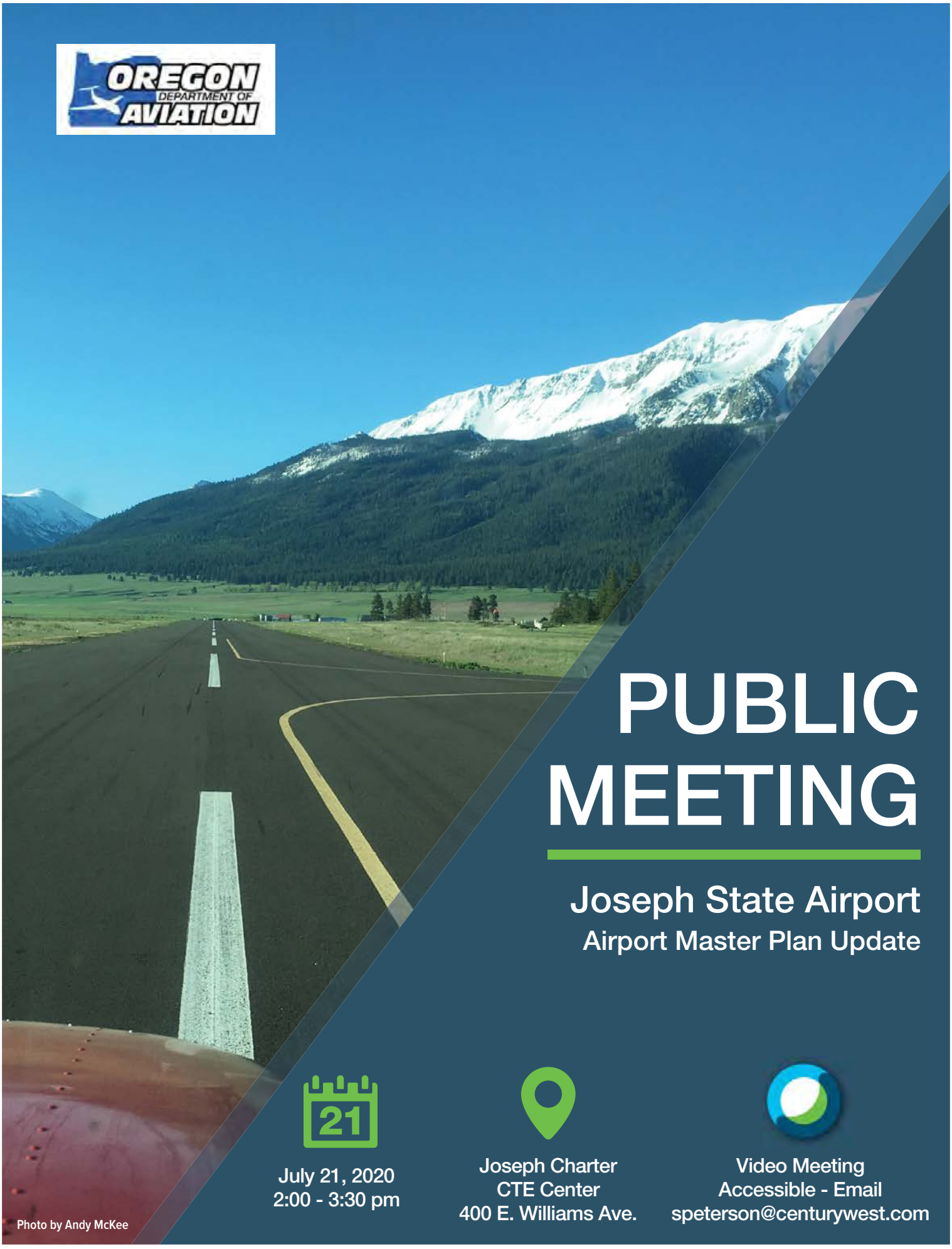
This meeting is open to the public and will be accessible online. For online meeting details and to RSVP please contact Samantha Peterson at speterson@centurywest.com.

For Additional Information, Please Contact:

Sarah Lucas
Oregon Department of Aviation, Planner
Phone: 503-378-2211
sarah.lucas@aviation.state.or.us



Joseph State Airport



OREGON DEPARTMENT OF AVIATION

PUBLIC MEETING

Joseph State Airport

Airport Master Plan Update

July 21, 2020
2:00 - 3:30 pm

Joseph Charter
CTE Center
400 E. Williams Ave.

Video Meeting
Accessible - Email
speterson@centurywest.com

Photo by Andy McKee

JOSEPH STATE AIRPORT
AIRPORT MASTER PLAN

PAC Meeting #1
7/21/20

Name	Company/Affiliation	Email	Phone
David Miller	Century West Engr	dmiller@centurywest.com	503 | 680 1947
Bill Ables	IAA/Wallowa Pilot		263-1327
Wyp Winn	Joseph Airport		263-2968
Sarah Lucas	ODA	sarah.lucas@aviation.state.or.us	503 378-2211
Nancy Knoble	—	NancyKnoble@gmail.com	541-263-1812
Doug Hellinger	CFII, Joseph OR	dhellingr@hotmail.com	(850) 333-9931
Ken Goad	GoodAir LLC	goodairken@gmail.com	406-260-6757
Russell Rotzler	—	rjrotzler@eoni.com	541-263-0714
Susan Roberts	Wallowa County	sroberts@co.wallowa.or.us	541.426.7733
PETER BENJAMIN	LIFE FLIGHT NETWORK	pbenjamine lifeflight.org	541-975-3190
JD Clay	PILOT	jdclay@cableone.net	208-869-9420
Paula Krieger	S & P Properties LLC Pilot	pkriegerii@gmail.com	949-2740004
Kathleen Ackley	Wallowa Land Trust		541 426 2042
Franz Gabel	Wallowa City Planning	plandir@co.wallowa.or.us	(541) 426 4543
Jeff & Carolyn Dawson	Airport neighbor	jeff.dawson@hurricane-industries.com	541-432-030
Miles Hancock	USFS Wallowa-Whitman	miles.hancock@USDA.Gov	541-786-1359
Bill Hall	Bowerman Ranch	imahall@earthlink.net	503-791-7460

CENTURY WEST ENGINEERING

Name	Company/Affiliation	Email	Phone
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Dick Stangel	" "	dns@eoni.com	541-805-0364
Wendy McCullough	Interested Party	sallybfarms@eoni.com	541-432-4832
DAVID BRUNKOW	INTERESTED PARTY	dbrunkow@comcast.net	503.784.2566
JIM BRENNAN	HOMEOWNER	jim.brennan@msn.com	208-286-8832
Joe Basile	Hangar Tenant	jbasile185@gmail.com	541-561-4426
RICH FRASCH	HANGAR OWNER	RICH.FRASCHE HOTMAIL.COM	541-263-1139
Timothy Peck	Wallowa Memorial Hosp-EMS	timothy.peck@wchcd.org	541-398-1198
Tim Gilbert	Airport neighbor	Gilbert@eoni.com	541-519-5663

Joseph State Airport
July 21, 2020 PAC Meeting

WEBEX	IN-PERSON	NAME	EMAIL
	X	Tony Beach	Anthony.BEACH@aviation.state.or.us
	X	Matt Rogers	WRogers@CenturyWest.com
	X	John Wilson	John.P.WILSON@aviation.state.or.us
X		Angie Rubin	angr1398@aol.com
X		Brian Mcdowell	brian.mcdowell@oregon.gov
X		Courtney Crowell	courtney.crowell@oregon.gov
X		David Mildrexler	d.mildrexler@gmail.com
	X	David Miller	dmiller@centurywest.com
	X	Heather Peck	heather.peck@aviation.state.or.us
X		John Barsalou	jbarsalou@klamathfalls.city
X		Jessica Keys	jessica_keys@merkley.senate.gov
X		James Kirby	jkirby@centurywest.com
X		Joe Dalke	joseph.dalke@faa.gov
X		Mark Lacey	mark.h.lacey@gmail.com
X		Noreen Bowdon AOPA -ASN Cascade Locks Airport	noreen110@gmail.com
	X	Wendy McCullough (bringing two other people)	sallybfarms@eoni.com
	X	Sarah Lucas	sarah.lucas@aviation.state.or.us
X		Scott Eaton	scott.eaton@faa.gov
X		Samantha Peterson	speterson@centurywest.com
X		Tamra Mabbott	tamra.mabbott@state.or.us
	X	Nancy Knoble	nancyknoble@gmail.com
	X	Miles & Yun Mcfall	yunmcfall@comcast.net
X		Tara Kramer	tara@meltarsupply.com
X		Jean Pekarek	jean@balancepointgolf.com
X		Toby Koehn	Toby.koehn@school.josephcharter.org

X		Kate O'Neill (Resides on Daggett Rd)	emsaaldadulou@gmail.com
X		Sara Miller	saramiller@neoedd.org
X		Lisa Dawson	lisadawson@neoedd.org
X		Gary Veatch	Garyv7161@msn.com

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE July 21, 2020

TIME 2:00 PM – 3:30 PM

LOCATION Joseph Charter School – CTE Center
400 E. Williams Ave
Joseph, OR 97846

LIVESTREAM

Webex Meeting
https://centurywest.my.webex.com/centurywest.my/j.php?MTID=mc0d3ac994b8c0b6d61efaaa22ddb81db

Meeting Password: Joseph

Meeting Access Code: 126 674 1784
Join by Phone:

+1-408-418-9388 United States Toll

PRESENTING: Century West Engineering (CWE) & Oregon Department of Aviation (ODA)
ATTENDEE LIST: See Sign-In Sheet

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
Tuesday July 21, 2020				
1	Info	2:00 PM	Welcome	CWE & ODA
2	Info		Agenda & Online Viewing Directions	Rogers & Peterson
3	Info		Introductions *Century West: David Miller, Matt Rogers* *ODA: Sarah Lucas, Heather Peck, Tony Beach* *Project Team: ODA, CWE, DEA, HRA, Miller Creek Associates, Flightline Geomatics* *PAC Members*	CWE & ODA
4	Info		Public Participation *Planning Advisory Committee Overview* *Public Involvement Process* *Project Schedule* *Airport Master Plan Elements*	Rogers
5	Info		Existing Conditions Overview *National Airport System* *FAA Defined Airport Master Plan* *Airport Master Plan Funding* *2008 Airport Layout Plan Overview*	Miller

			Airport Location & Zoning Overview *Airfield Changes 1994-2016* *FAA Design Standards Overview* *Current Design Aircraft (1994 Airport Layout Plan)* *Existing Conditions Overview* *Pavement Condition Analysis (2017 Inspection)* *Known Issues & Opportunities*	
6	Info		Open Discussion *Questions & Comments* *PAC & Public Goals of the AMP* *Local Expertise & Airport History*	CWE & ODA
7	Info		Next Steps *Aviation Activity Forecasts* *Facility Requirements*	Miller
		3:00 PM	Adjourn	CWE & ODA

PUBLIC COMMENTS & QUESTIONS:

Sarah Lucas
- Coordinating with flight procedures office to look at instrument approach.

John Barsalou
- State apportionment, why did it end in 2003?
- David Miller explained that this funding is actually FAA funds, not State and its broken out into three different pots of money, State Apportionment, Discretionary, and Non-Primary Entitlements.
- Heather Peck explained that ODA manages the FAA funds and uses mostly NPEs and transfers them as needed from other State-owned airports.

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- What is the road on the side of the hangars? Is it accessible and a public road?
- What is the airport boundary? It would be good to add it to the other drawings?

Kathleen Cathey
- Hangar capacity – are you looking at unmanned aerial vehicles (UAV)?
    - Matt Rogers explained that typically at these smaller GA airports UAS specific developments aren't included unless there is demand for the area/airport.
- How long does the Airport Master Plan take to complete and can it be amended as new opportunities come up?
    - 2020-2040 Plan and can be amended as conditions change. Typically, the FAA and airport sponsor will update the plans as needed in the 20-year planning period.

Lisa Dawson
- Can hangars be located adjacent to the taxiway?
- It was mentioned there is limited space for additional hangars? Is land acquisition part of the project?
    - Sarah Lucas explained that this is a plan that acknowledges the needs and future growth that is anticipated at Joseph, and if needed, it can identify potential locations for property acquisition in the future, if demand requires.
    - David Miller explained the areas that were evaluated for property acquisition and future development on the 1994 Airport Layout Plan.

Peter Benjamin
- Thanks for the input on working on a potential instrument approach, as it is important to Life Flight's operations.

Tim Peck (Representative from the Hospital) emphasized the need for an instrument approach;

Doug Hellinger (a pilot and tenant) asked if the PAC was open or closed for new members, and asked "who is the voice for Wallowa County?"
- Sarah answered that the PAC is closed and includes a large group of local representation, will be more visible and known in future meetings
- Doug indicated a need for additional hangar space and capability for instrument flight instruction; and
- Suggested there is lots of interest and future growth in aviation with Joseph's youth.

Joe Basile (a pilot and tenant) asked if the County Economic Opportunity Analysis is participating/being considered in the airport master planning process so we're not "planning in silos"
- Suggested the airport is underutilized, and needs more flight and avionics services, etc.

Mr. Ables stated that Joseph State Airport is heavily used by "back country aviators," and would benefit from the addition of a turf landing strip.

Joseph State Airport
Airport Master Plan



Planning Advisory Committee Meeting #1 - RECAP
WebEx Online Meeting
August 12, 2020

Thank you for joining. Please standby for the meeting to start at 2pm.

Online Viewing (via WEBEX)

Or Join by Phone (510) 338-9438
Access Code: 126 674 1784

Online Viewing Instructions

- Please ensure you're muted when not speaking.
- Please raise your hand or use the chat box if you have a question.
- If you are unable to hear the presentation, but can see the presentation. Try calling in with your phone while viewing online.
- Technical issues during the meeting, please email speterson@centurywest.com



Agenda

- Introductions: ODA & Project Team
- Planning Advisory Committee (PAC) Roles & Responsibilities
- Public Involvement Process
- Airport Master Plan Project Schedule
- Airport Master Plan Elements
- About Airport Master Plans
- Prior Planning (1993 Airport Master Plan)
- Location & Zoning
- Grants & Project History
- Design Standards & Critical Aircraft
- Existing Conditions
- Known Issues & Opportunities
- Open Discussion



Oregon Department of Aviation (ODA)

Betty Stansbury
Director
Betty.Stansbury@aviation.state.or.us

Heather Peck
Planning & Project Manager
Heather.Peck@aviation.state.or.us

Tony Beach
Deputy Director, State Airports Manager
Anthony.Beach@aviation.state.or.us

Sarah Lucas
Aviation Planner
Sarah.Lucas@aviation.state.or.us

John Wilson
Operations Specialist
John.p.Wilson@aviation.state.or.us

Seth Thompson
Aviation Planner
Seth.Thompson@aviation.state.or.us

Century West Engineering (CWE)

Matt Rogers
Project Manager
wrogers@centurywest.com

David Miller
Lead Aviation Planner
dmiller@centurywest.com

Samantha Peterson
Aviation Planner
speterson@centurywest.com

Project Team

Airport Owner (Sponsor)

Oregon Department of Aviation

Planning & Engineering

Century West Engineering

Environmental Review

David Evans and Associates Inc.

Cultural Resources

Historical Research Associates, Inc.

AGIS Survey

Miller Creek Associates

Flightline Geomatics

PAC Members

Name	Title	Representing
Adam Stein	Self	Airport Tenant
Ken Good	Self	Airport Tenant
Wup (Derek) Winn	Airport Maintenance	Back Country Connection / ODA Maintenance
Stacey Karvoski	Mayor	City of Enterprise
Teresa Sajonia	Mayor	City of Joseph
Catherine Dickson	Archaeologist	Confederated Tribes of the Umatilla Indian Reservation
Austin Greene	Tribal Chairman	Confederated Tribes of the Warm Springs Reservation of Oregon
Toby Koehn	CTE Instructor	Joseph Charter School
Ian Goodrich	Co-Student Representative	Joseph Charter School
Storm Lynch	Co-Student Representative	Joseph Charter School
Peter Benjamin	Region 2 Customer Service Manager	LifeFlight Inc.
Rich Frasch	Member	NE Oregon Aviation Foundation
Shannon Wheeler	Tribal Chairman	Nez Perce Tribe
John Wilson	Airport Operations	Oregon Department of Aviation
Tamra Mabbott	Eastern OR Regional Rep	Oregon Departmentt of Land Conservation & Development
Jessica Keys	Field Representative	Senator Jeff Merkley
Miles Hancock	Aviation Unit Manager	US Forest Service
Franz Goebel	Planning Director	Wallowa County
John Hillock	Commissioner	Wallowa County
Vicki Searles	Executive Director	Wallowa County Chamber of Commerce
Larry Davy	CEO	Wallowa Memorial Hospital

Planning Advisory Committee (PAC)

A **PAC** has been assembled to assist ODA and the Consultant in developing the Airport Master Plan update.

The **PAC** is responsible for:

- Attending PAC meetings;
- Reviewing/commenting on draft chapters;
- Providing input and representation of your group during the planning process;
- Providing local expertise to reflect community interests and goals; and
- Disseminate accurate information to the community.

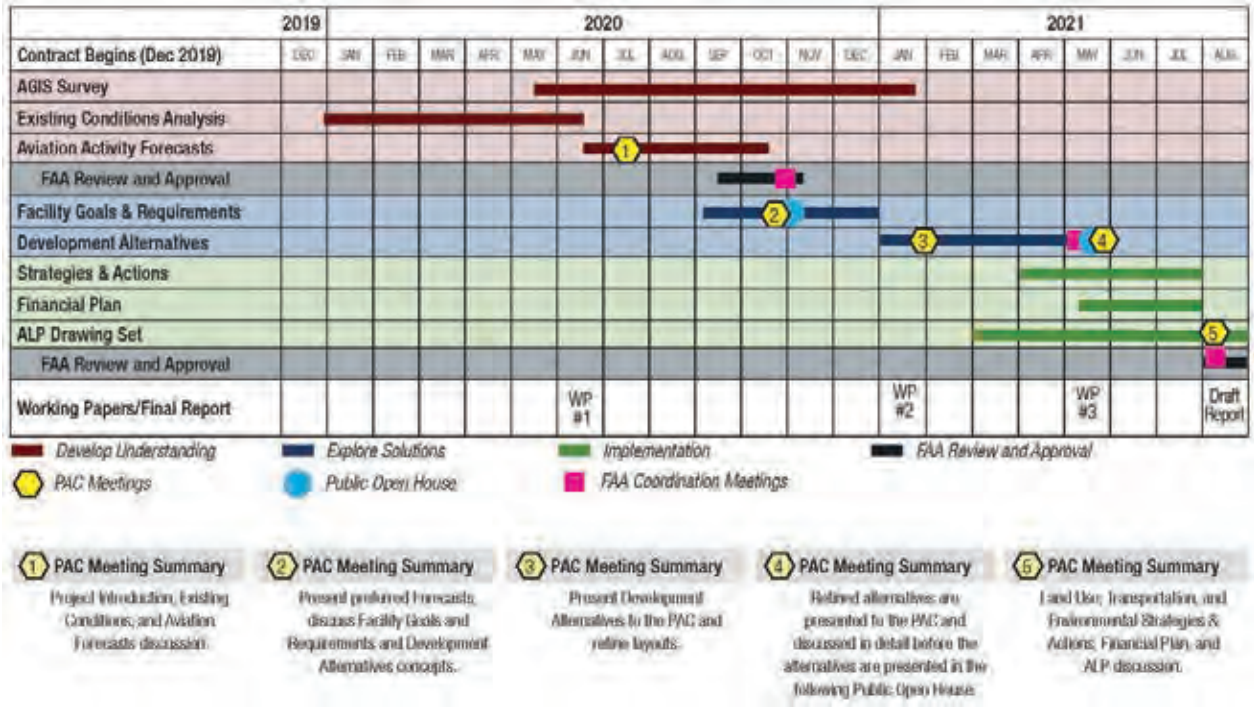


Public Involvement

- The Airport Master Plan will take approximately 18-24 months to complete, including FAA review and approval;
- Five PAC meetings and two open houses are scheduled at key points during the study to present information and seek local input;
- PAC meetings will be open to the public in addition to a public open house; and
- Draft work products will be available for public review and may be accessed through the project website, or by request to ODA.

Project Website: www.centurywest.com/joseph-state-airport-master-plan/

Project Schedule



Airport Master Plan Elements



National Airport System

- **Joseph State Airport** is in the National Plan of Integrated Airport Systems (NPIAS)
- **3,331** NPIAS airports in U.S. (16,029 Non-NPIAS)
- **57** NPIAS airports in Oregon
- Only NPIAS airports are eligible to receive FAA funding

FAA funding is available for projects consistent with FAA design standards and included on the FAA-approved Airport Layout Plan

FAA Airport Master Planning

The goal of a master plan is to provide the framework needed to guide future airport development that will cost-effectively satisfy aviation demand, while considering potential environmental and socioeconomic impacts.

Airport master plans are prepared to support the modernization or expansion of existing airports or the creation of a new airport. The master plan is the sponsor's strategy for the development of the airport.

FAA Airport Master Planning

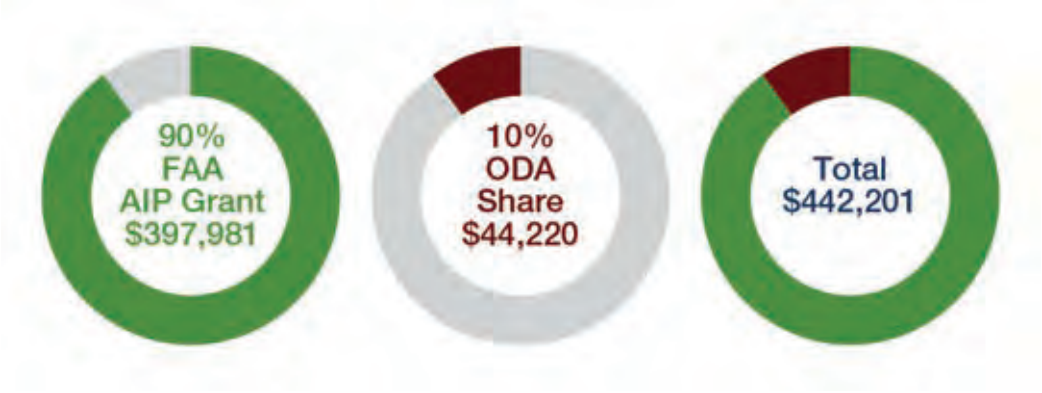
FAA Airport Master Plans have a 20-year planning horizon that is divided into three periods:

- Short-term (0-5 years)
- Intermediate-term (6-10 years)
- Long-term (11-20 years)



Airport master plans are typically updated every 10 years, or as changing conditions require.

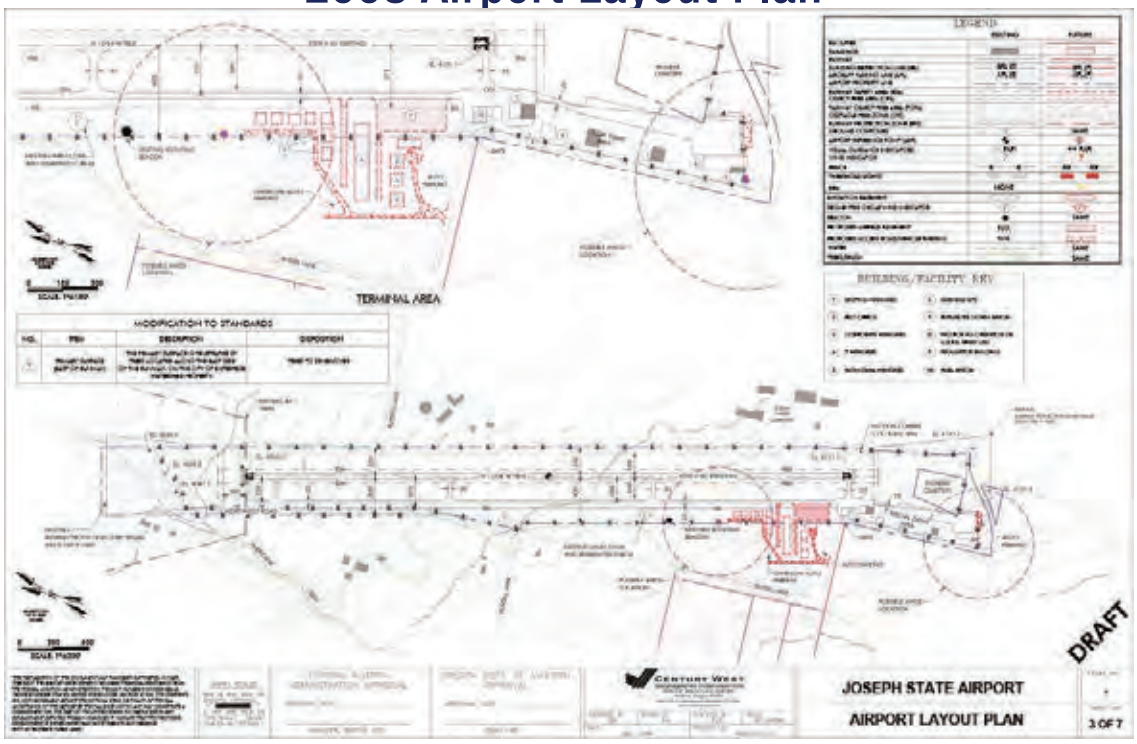
Airport Master Plan Funding



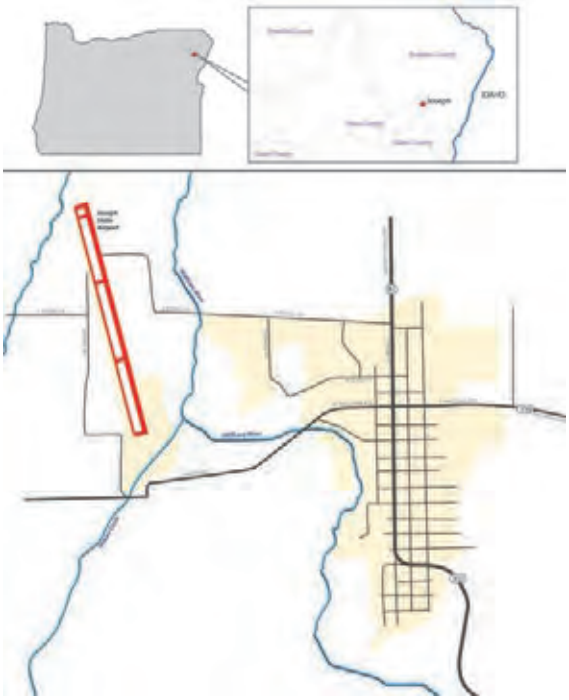
The Airport Master Plan is funded through an FAA Airport Improvement Program (AIP) grant with a local match provided by ODA.

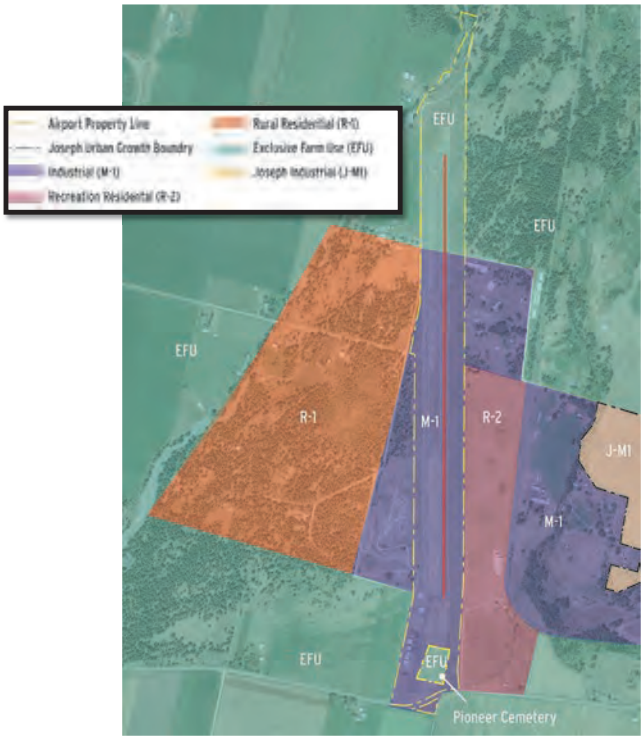
Prior Planning

2008 Airport Layout Plan

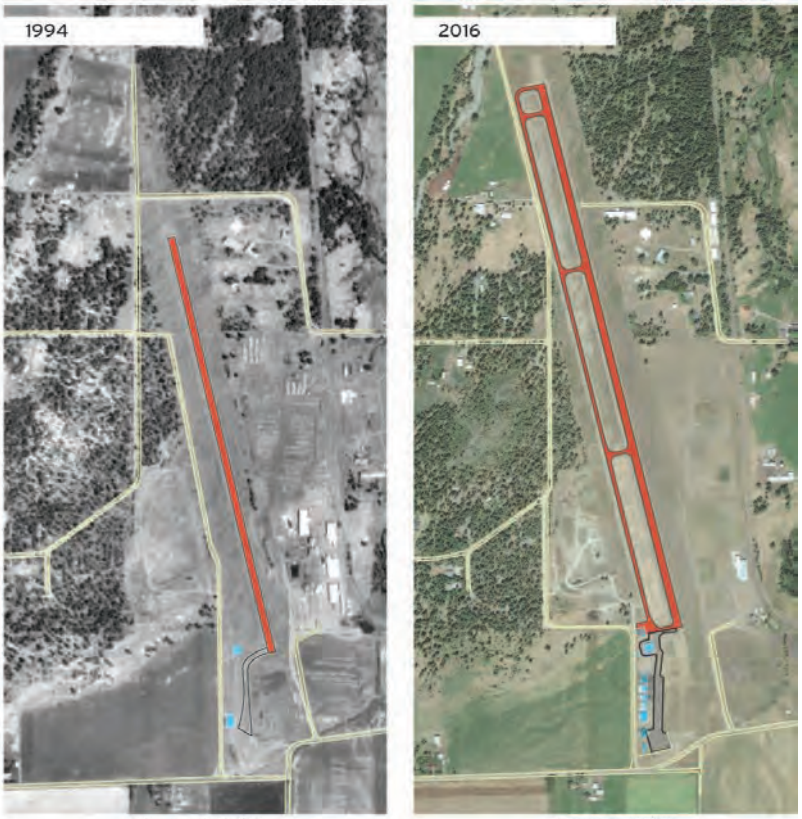


Airport Location & Zoning





Airfield Changes
1994 to 2016



20-Year FAA Grant History

	FISCAL YEAR	STATE APPORTIONMENT	TOTAL FEDERAL
Install Perimeter Fencing	2003	$5,867	$24,133
Install Airfield Guidance Signs	2003	$6,090	$16,090
Install Runway Vertical/Visual Guidance System	2003	$7,820	$32,180
Construct Taxiway	2003	$282,403	$1,161,981
Update Airport Master Plan Study	2007	$0	$15,000
Install Weather Reporting Equipment	2007	$0	$85,000
Install Miscellaneous NAVAIDS	2007	$0	$25,621
Rehabilitate Runway	2009	$0	$40,000
Install Weather Reporting Equipment	2009	$0	$204,612
Install Miscellaneous NAVAIDS	2009	$0	$74,000
Rehabilitate Apron	2011	$0	$150,000
Rehabilitate Runway	2011	$0	$1,217,415
Rehabilitate Taxiway	2011	$0	$150,000
Install Perimeter Fencing	2013	$0	$30,000
Remove Obstructions	2013	$0	$125,000
Install Perimeter Fencing	2014	$0	$50,000
Remove Obstructions	2014	$0	$262,183
Update Airport Master Plan Study	2019	$0	$397,981
Total		$300,000	$3,294,004



FAA Design Standards

- The design standards for an airport are determined by the current and future **Critical Aircraft;**
- The Critical Aircraft is defined as the most demanding aircraft or grouping of aircraft that make **regular use** of the airport; and
- **Regular use** is 500 annual operations (takeoffs and landings), including both itinerant and local operations, but excluding touch-and-go operations.

Current Design Aircraft



DESIGN AIRCRAFT AND AIRPORT REFERENCE CODE (ARC)

The design aircraft represents the most demanding aircraft using the airport on a regular basis and determines the appropriate airport reference code (ARC) and airport design standards for airport development.

AIRPORT REFERENCE CODE (ARC)

Aircraft Approach Category	Aircraft Approach Speed	Airplane Design Group	Aircraft Wingspan
A	less than or equal to 91	I	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'

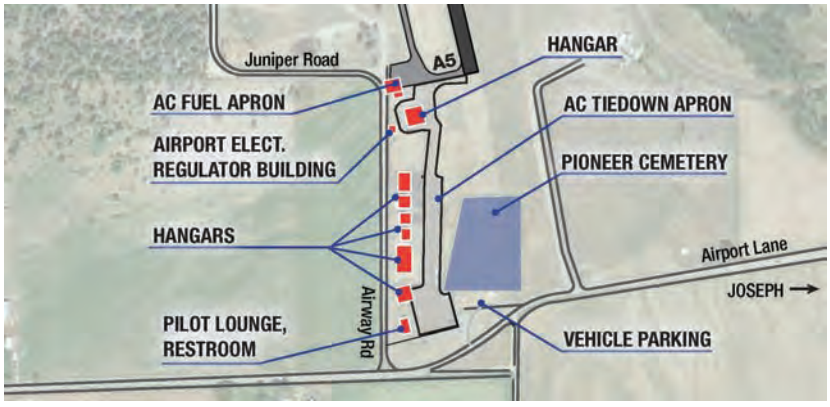
1994 Airport Layout Plan



Existing Conditions

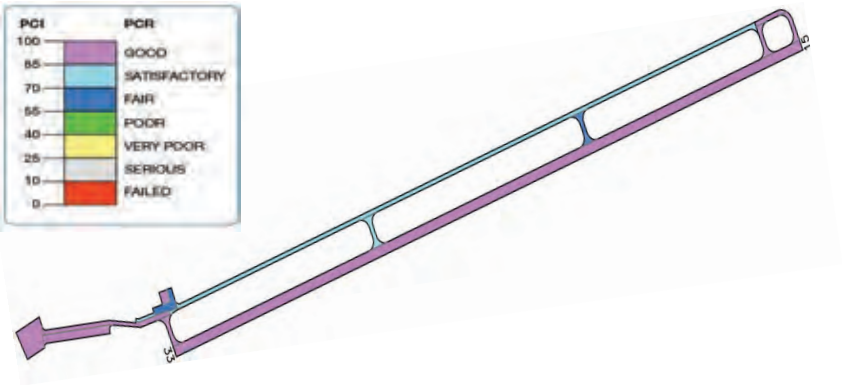


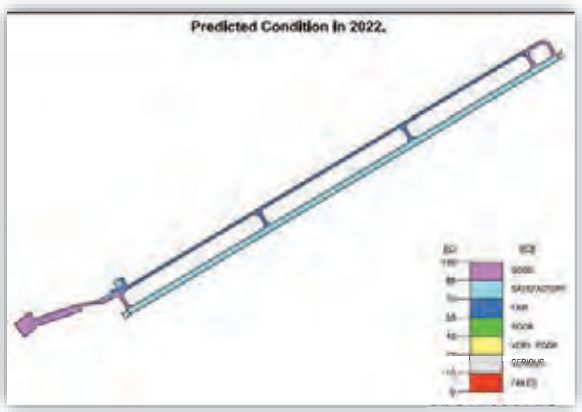




Pavement Condition Analysis

ODA completed its most recent pavement evaluation in June 2017.





Known Issues & Opportunities



Limited Airport Land Area

Airport Instrumentation

Local Environmental Considerations

Parallel Taxiway Operational Limits





Open Discussion

Do you have questions about the plan?
Do you have any general comments?
What are some goals you'd like this plan to accomplish?
Please share with us your local expertise.
We want to hear your airport knowledge and history.



Public Comments from PAC #1

Community would benefit from adding a turf runway.
There is a need for instrument approach capabilities.
The Airport needs area for development of additional hangars & services (*i.e.*, avionics).

Thank You

Sarah Lucas – Sarah.Lucas@aviation.state.or.us
David Miller - dmiller@centurywest.com
Matt Rogers - wrogers@centurywest.com

Project Website
www.centurywest.com/joseph-state-airport-master-plan/

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE	August 12, 2020
TIME	2:00 PM – 3:30 PM
LOCATION	Webinar
LIVESTREAM	Webex Meeting Meeting Password: Joseph Meeting Access Code: 146 499 3463 Join by Phone: +1-408-418-9388 United States Toll
PRESENTING:	Century West Engineering (CWE) & Oregon Department of Aviation (ODA)
ATTENDEE LIST:	David Miller, Matt Rogers, and Samantha Peterson, Sarah Lucas, Heather Peck, Tony Beach, Wup Winn, Peter Benjamin, John Barsalou, Lisa Dawson, Storm Lynch, Norden, Tara Kramer, John Hillock, Kathleen Cathey, and Jessica Keys.

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
WEDNESDAY AUGUST 12, 2020				
1	Info	2:00 PM	Welcome	CWE & ODA
2	Info		Agenda & Online Viewing Directions	Rogers & Peterson
3	Info		Introductions *Century West: David Miller, Matt Rogers* *ODA: Sarah Lucas, Heather Peck, Tony Beach* *Project Team: ODA, CWE, DEA, HRA, Miller Creek Associates, Flightline Geomatics* *PAC Members*	CWE & ODA
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7	Info		Next Steps *Aviation Activity Forecasts* *Facility Requirements*	Miller
		3:00 PM	Adjourn	CWE & ODA

PUBLIC COMMENTS & QUESTIONS (MEETING #1 & RECAP):

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- Coordinating with flight procedures office to look at instrument approach.

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- State apportionment, why did it end in 2003?
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Tim Peck (Representative from the Hospital) emphasized the need for an instrument approach;

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- Suggested the airport is underutilized, and needs more flight and avionics services, etc.

Mr. Ables stated that Joseph State Airport is heavily used by "back country aviators," and would benefit from the addition of a turf landing strip.

PAC Meeting #2 – October 29, 2020



This meeting location is accessible. Special accommodations are available upon advance request.
Please contact Sarah Lucas at least 48 hours prior to the event to discuss specific needs.
Phone: 503-378-2211 email: sarah.lucas@aviation.state.or.us

Joseph State Airport
AIRPORT MASTER PLAN UPDATE

NOTICE OF A MEETING OF THE JOSEPH STATE AIRPORT

Notice is hereby given that the Oregon Department of Aviation (ODA) will hold a Planning Advisory Committee (PAC) Meeting and Public Open House.

When: **Thursday, October 29, 2020**
PAC Meeting from 5:30pm-7:00pm
Open House directly following until 8:00pm

Where: **Joseph Community Center**
102 East 1st Street, Joseph, OR 97846

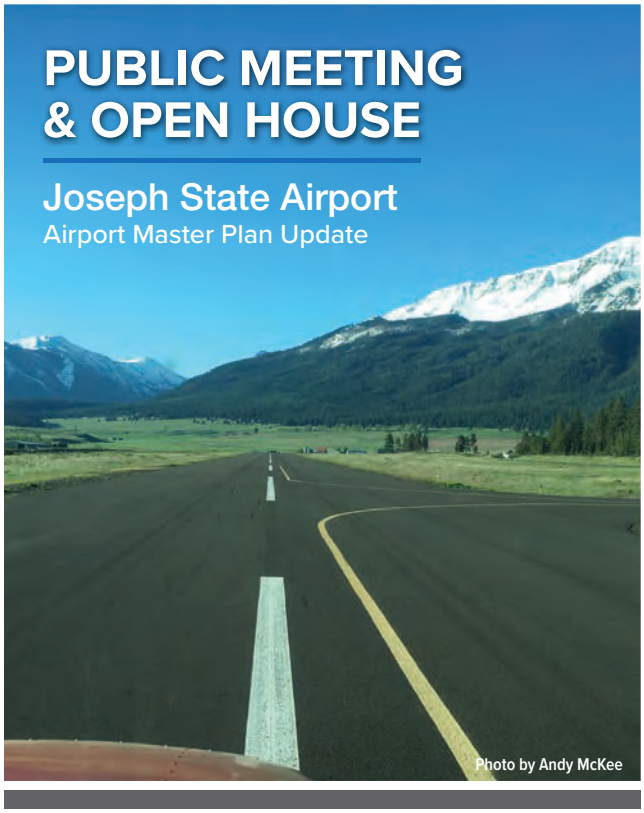
This meeting will provide an opportunity for the PAC, community, neighbors, and other project stakeholders to learn about the Airport Master Plan project. Airport planning work products will be available on Century West's project website at:

www.centurywest.com/joseph-state-airport-master-plan/

This meeting is open to the public and available online. For online meeting details and to RSVP please contact Samantha Peterson at speterson@centurywest.com.

For Additional Information, Please Contact:
Sarah Lucas, Planner
Oregon Department of Aviation
Phone: 503-378-2211
sarah.lucas@aviation.state.or.us

This meeting location is accessible. Special accommodations are available upon advance request. Please contact Sarah Lucas at least 48 hours prior to the event to discuss specific needs.



Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE	October 29, 2020
TIME	5:30 PM – 7:00 PM
LOCATION	Joseph Community Center 102 E 1st St. Joseph, OR 97846
LIVESTREAM	Webex Meeting https://cwe.webex.com/cwe/j.php?MTID=ma4acecb0bef4925f274be7567a521f83 Meeting Access Code: 146 114 1568 Join by Phone: +1-408-418-9388 United States Toll
PRESENTING AGENDA:	Century West Engineering (CWE) & Oregon Department of Aviation (ODA)
ATTENDEES:	See Sign-in Sheet

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
Thursday October 29, 2020				
1	Info	5:35 PM	Introductions *Century West: David Miller, Samantha Peterson* *ODA: Sarah Lucas, Heather Peck, Tony Beach*	Miller & Lucas
2	Info		Agenda & Online Viewing Directions	Miller & Peterson
3	Info		Project Update *Updated schedule review* *Airport master plan elements*	Miller
4	Info		Airport Activity Forecasts *COVID-19 Impacts & FAA Guidance* *Local Conditions at Joseph* *Historic & Existing Based Aircraft at Joseph* *Historic & Existing Aircraft Operations at Joseph* *Airport Activity at Joseph* - *General Aviation* - *Medevac Flights* - *USDA-Forest Service Seasonal Aerial Firefighting* - *Fuel Sales* - *Hangar Construction* *Based Aircraft Forecast Models* *Aircraft Operations Forecast Models* *Recommended Forecast Summary*	Miller

5	Info		Facility Requirements *FAA Design Standards* *Joseph Airport Reference Code & Standards* *Existing Conditions Review* *ADG-I Small Design Standards & Conformance* *Known Issues & Opportunities* *Airside Facility Requirements* *Landside Facility Requirements* *Summary of Key Facility Requirements* - *Runway Length & Width* - *Parallel Taxiway to Runway Separation* - *Instrument Approach Development* - *Non-Precision Instrument Straight-in versus Circling Approach* - *FAA Runway Incursion Standards (Apron to Runway)* - *Alternate Landing Areas (Between TWY A1 and A2)* - *Parallel Taxiway Object Free Area (TOFA) Penetrations* - *Aircraft Parking Demands* - *Hangar Demands* - *Existing Land Utilization* - *Land Use Jurisdictions*	Miller
6	Info		Next Steps *Aviation Activity Forecasts* - *PAC/Public Review* - *FAA Review & Approval* *Facility Requirements & Airport Development Options* - *Prepare preliminary development concepts* - *Present preliminary concepts at PAC Meeting #3*	Miller
		07:05 PM	Adjourn	Miller & Lucas

PUBLIC COMMENTS & QUESTIONS:

Sara Miller: Forecast demand by pilots? Who is demanding it? Local community can't do anything except accommodate forecast demand?

- David Miller addressed comment. Forecast demand is based on FAA guidelines for calculating the growth based on local drivers and information.

Sara Miller: Can we get the data that he is talking about? Since I can't hear half of it, it would be great to actually see the information. Do you think the recording will be better?

- Samantha Peterson addressed comment. The data will be provided in the forecast chapter.

Sara Miller: Are the development reserved voluntary land purchases or condemnation?

- David Miller addressed the comment. The facility requirements evaluates how much land is needed to accommodate the development reserve, but is not at a point of recommending land acquisition to accommodate it.

Sara Miller: Will the proposed improvements likely attract more use by jets?

- David Miller addressed the comment. Not directly. The current runway length accommodates the use by the airport's design aircraft. The jet traffic that currently is able to come into Joseph may continue, but without an extension, some larger jets won't be able. The airport's services as they improve may attract more jet traffic.

Franz Goebel: Not sure where this comment fits in to feedback. Private land owner to East has interest in developing mixed use zone for residential/aircraft zone. Something like hangars with residence, where small aircraft could taxi to private hangar, with accommodations. This would require some taxi ability of aircraft to the east. No response required for this meeting, just a consideration to consider.

Public Comment: Don't agree with the demand forecast. Already have multiple people interested in building hangars.

- Sarah Lucas addressed comment. Unfortunately, none of these interested individuals have reached out to ODA with that information and without having it, we cannot use the data for the forecasts. Recommended that he advise these individuals to reach out to Tony Beach the new Airport Manager.

Public Comment: What are the survey stakes in the ground around the airport?

- Sarah Lucas addressed comment. The survey stakes were placed for the AGIS survey in support of the airport master plan project. Not placed for future development.

Public Comment: Suggests that the pilot lounge be replaced with a larger building with education facilities included.

Joseph State Airport
Airport Master Plan



Planning Advisory Committee Meeting #2
Joseph Community Center
October 29, 2020

Online viewers, thank you for joining. Please standby for the meeting to start at 5:30pm.

Online Viewing (via WEBEX)

Or Join by Phone (510) 338-9438

Access Code: 126 674 1784

Online Viewing Instructions

- Please ensure you're muted when not speaking.
- Please raise your hand or use the chat box if you have a question.
- If you are unable to hear the presentation, but can see the presentation. Try calling in with your phone while viewing online.
- Technical issues during the meeting, please email WRogers@centurywest.com



Agenda

1. Introductions & Schedule
2. Master Plan Process
3. Aviation Activity Forecasts (Draft Chapter 3)
4. Airport Facility Requirements (Draft Chapter 4)
5. Next Steps



Image: Century West Engineering

Oregon Department of Aviation (ODA)

Betty Stansbury
Director
Betty.Stansbury@aviation.state.or.us

Heather Peck
Planning & Project Manager
Heather.Peck@aviation.state.or.us

Tony Beach
Deputy Director, State Airports Manager
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Aviation Planner
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John Wilson
Operations Specialist
John.p.Wilson@aviation.state.or.us

Seth Thompson
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Project Manager
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David Miller
Lead Aviation Planner
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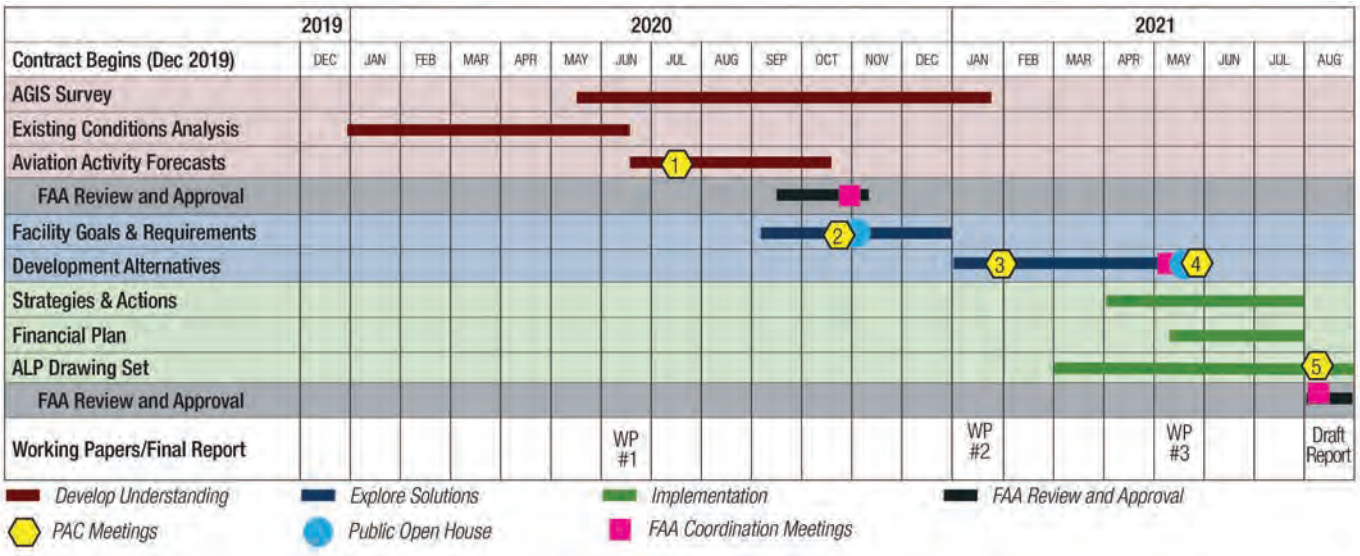
Samantha Peterson
Aviation Planner
speterson@centurywest.com

PAC Membership

Name	Title	Organization
Adam Stein	Self	Airport Tenant
Ken Good	Self	Airport Tenant
Wup (Derek) Winn	Airport Maintenance	Back Country Connection / ODA Maintenance
Stacey Karvoski	Mayor	City of Enterprise
Teresa Sajonia	Mayor	City of Joseph
Catherine Dickson	Archaeologist	Confederated Tribes of the Umatilla Indian Reservation
Austin Greene	Tribal Chairman	Confederated Tribes of the Warm Springs Reservation of Oregon
Toby Koehn	CTE Instructor	Joseph Charter School
Ian Goodrich	Co-Student Representative	Joseph Charter School
Storm Lynch	Co-Student Representative	Joseph Charter School
Peter Benjamin	Region 2 Customer Service Mgr	Life Flight Network

Name	Title	Organization
Rich Frasch	Member	NE Oregon Aviation Foundation
Shannon Wheeler	Tribal Chairman	Nez Perce Tribe
John Wilson	Airport Operations	Oregon Department of Aviation
Tamra Mabbott	Eastern OR Regional Rep	Oregon Dept of Land Conservation & Development
Jessica Keys	Field Representative	Senator Jeff Merkley
Miles Hancock	Aviation Unit Manager	US Forest Service
Franz Goebel	Planning Director	Wallowa County
John Hillock	Commissioner	Wallowa County
Vicki Searles	Executive Director	Wallowa County Chamber of Commerce
Larry Davy	CEO	Wallowa Memorial Hospital

Project Schedule



Airport Master Plan Elements

	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 Instrument Flight Procedures Runway/Helipad Taxiways/Taxilanes Aprons/Tiedowns Pavement Condition Airside Support Facilities	Terminal Building Hangars Airport Fencing Airport Surface Roads Vehicle Parking Utilities	Airport Ownership & Management Airport Financials Airport Rates and Charges Local Rules & Regulations Oregon Aviation Laws FAA Compliance Overview
Explore Solutions				
Implementation				

Forecast Introduction

Purpose & Methodology

- The forecasts of aviation activity are used to define facility needs for the current twenty-year planning period.
- The forecasts are consistent with the current and historic role as a local general aviation airport.
- The forecasts are unconstrained and assume ODA will be able to make the facility improvements necessary to accommodate the anticipated demand unless specifically noted.

Key Forecast Outputs

- Based Aircraft
- Annual Aircraft Operations
- Current & Future Critical (Design) Aircraft Designations
- Operational Peaks

COVID-19
FAA Guidance on Aviation Activity Forecasts

"…there is a lower than normal confidence in future growth projections…

Justification for future projects will be made at the time the project is requested rather than forecast approval…"



Image: Century West Engineering

Local Conditions

- Wallowa County population increased by 142 *(+2%)* between 2010 and 2019
- Mixed population forecast through 2040
  - Joseph and Enterprise *net increase (+2.4%)*
  - Wallowa County *net decrease (-6.6%)*
- Modest regional employment growth forecast during the planning period
- Visitor spending and tourism are strong economic drivers in Wallowa County and locally

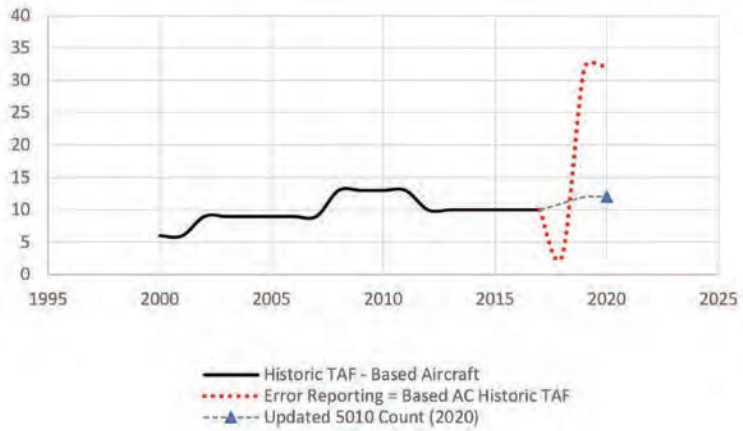


Image: Century West Engineering

Historic & Existing Based Aircraft Joseph State Airport

Aircraft Type	Updated Airport Count[1] (2020)	Airport Master Record[2] (12 months ending 6/18/2020)	1993 ALP Update Report[3]
Single Engine	12	13	6
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	12	13	6
Annual Operations	**4,192**	**3,850**	**1,980**

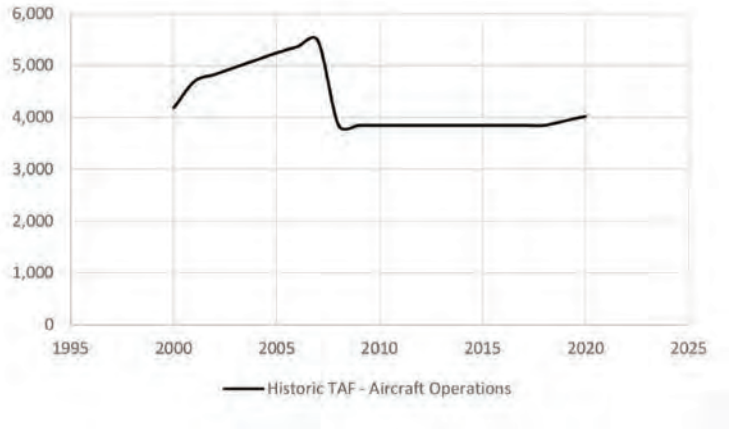
1. www.BasedAircraft.com (Validated June, 2020)
2. Airport Master Record (5010) June 18, 2020
3. Airport Layout Plan Report – Joseph State Airport Layout Plan Update (Final Report, August 1993. R.O. Brown)



Historic & Existing Aircraft Operations
Joseph State Airport

Operator	A/C Type	ARC	Annual Operations
Medevac[1]	Pilatus PC-12	A-II	40
	Augusta Westland AW119Kx	Heli	32
Wallowa Fly-In[2]	Varies	A-I to A-III	400
USFS Fire[1,2]	K-Max, S-64	Heli	640
	Aero Comm 690	B-II	80
Other Local & Transient Activity[3]	SE Piston	A-I	2,820
	ME Piston	B-I	90
	Turboprop	B-I	15
	Jet	B-II	15
	Helicopter	Heli	60
TOTAL OPS - ALL			4,192
TOTAL OPS - A-I			3,212
TOTAL OPS - B-I			113
TOTAL OPS - A-II			40
TOTAL OPS - B-II			95
TOTAL OPS - HELI			732
TOTAL OPS - ALL A/C			4,192

Source: Century West Engineering
1. Operations counts provided by aircraft operators.
2. Includes private contract AC and USFS aircraft.
3. Operations are estimates using 250 OPBA applied to based aircraft counts and are exclusive of counts provided by operators.



Joseph State Airport Activity

Primary Activity Segments

- General Aviation (local and transient)
- Medevac Flights (helicopter and fixed wing)
- USDA-FS Seasonal Aerial Firefighting
- Local Events (Wallowa County Fly-in, etc.)

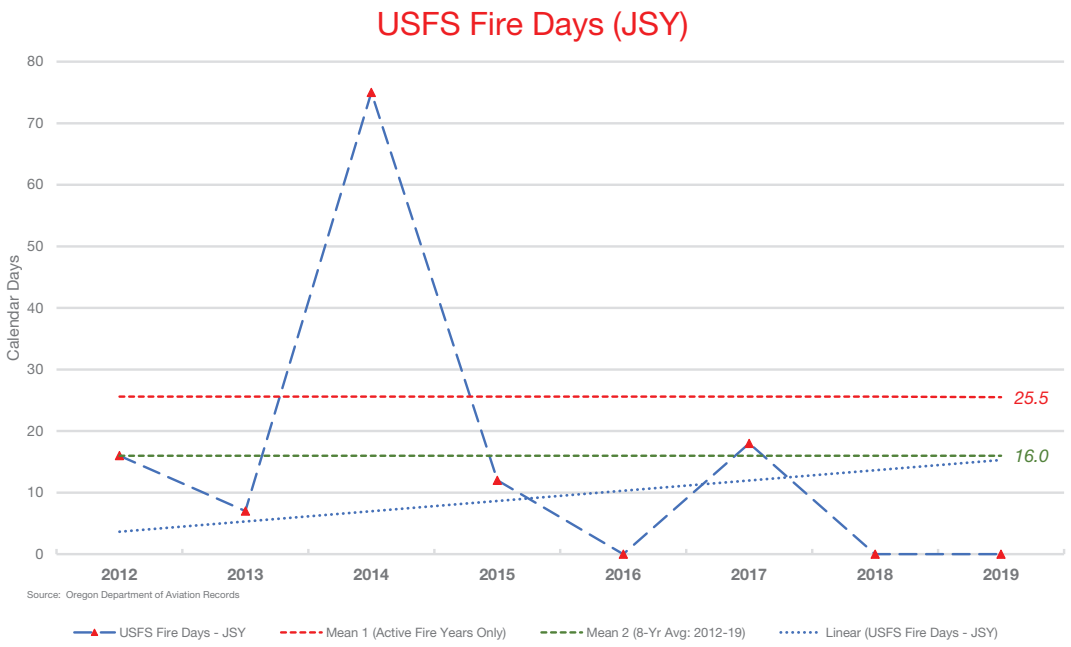
Local Growth Trends

- Aircraft Fuel Sales
- Hangar Construction

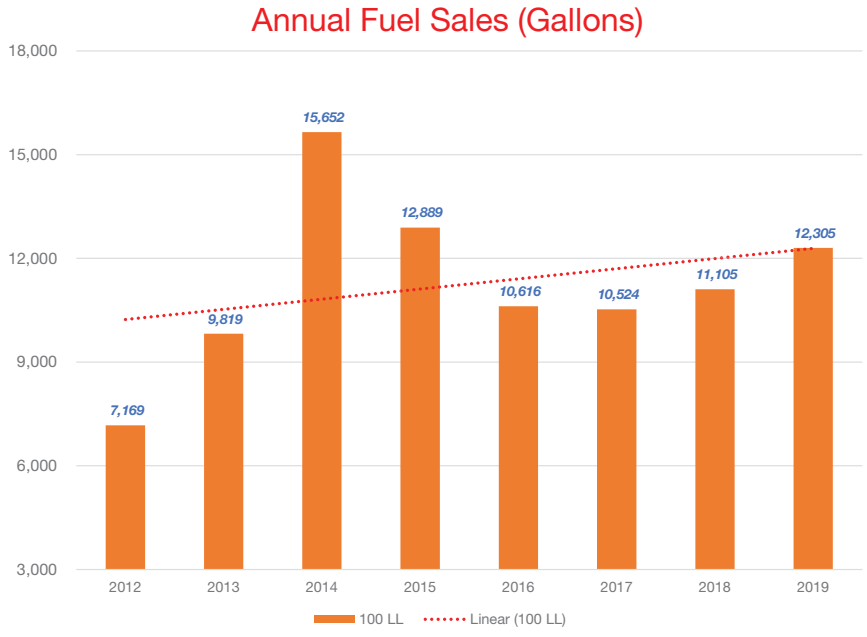


Image: Century West Engineering

Joseph State Airport Activity



Joseph State Airport Activity



Source: ODA Records

Joseph State Airport Activity
Hangar Construction And Based Aircraft

2020

12 Based Aircraft

8 Aircraft Hangars

- *7 Conventional Hangars*
- *1 Multi-Unit Hangar (4 spaces)*

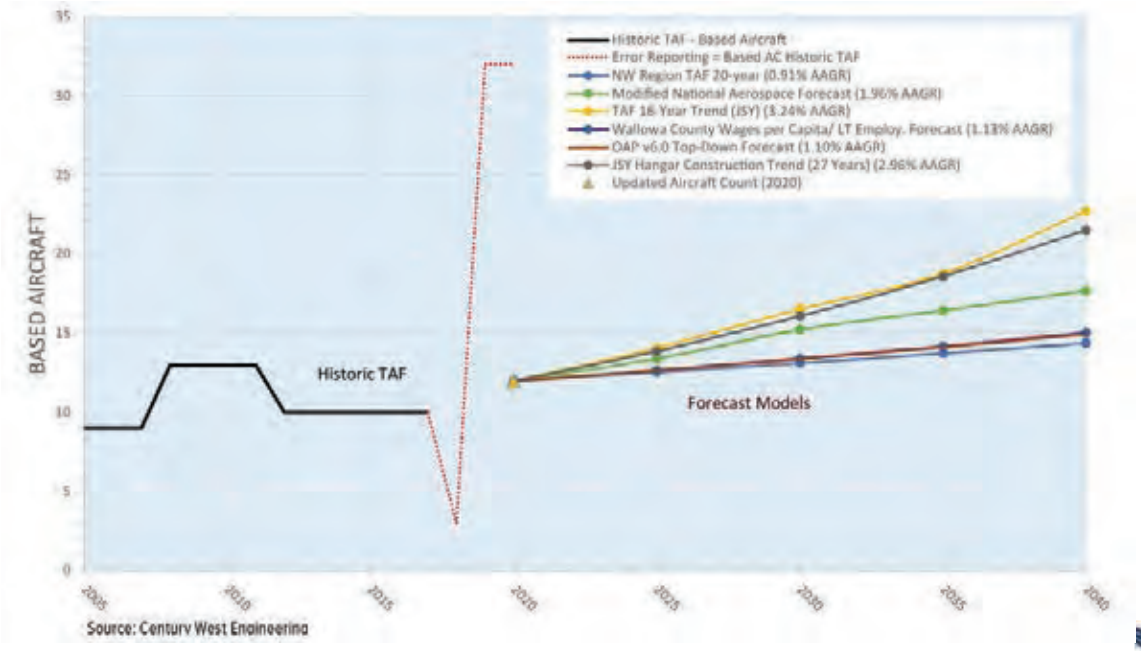
1993 (Last Master Plan)

6 Based Aircraft

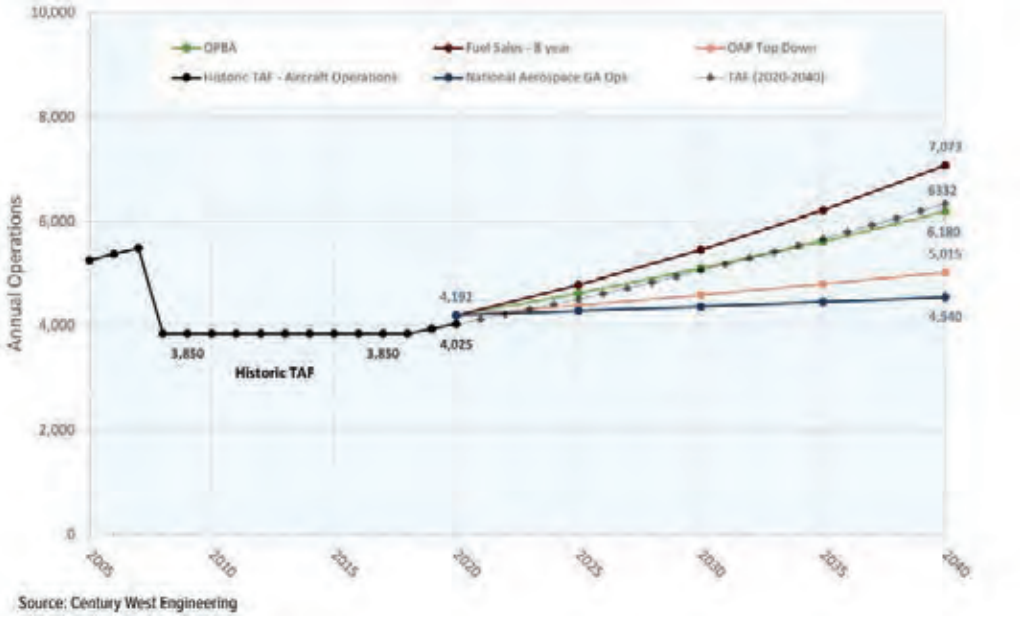
2 Aircraft Hangars

- *1 Conventional Hangar*
- *1 Multi-Unit Hangar (4 spaces)*

Based Aircraft Forecast Models



Aircraft Operations Forecast Models



Source: Century West Engineering

Recommended Forecast Summary

Activity	2020	2025	2030	2035	2040
Itinerant Operations					
General Aviation	2,294	2,536	2,802	3,035	3,353
Air Taxi (Fire & Medevac)	792	875	966	1,045	1,154
Military	100	100	100	100	100
Total Itinerant Operations	**3,186**	**3,511**	**3,868**	**4,181**	**4,607**
Local Operations	1,006	1,109	1,221	1,320	1,455
Total Local & Itinerant Operations	**4,192**	**4,620**	**5,089**	**5,501**	**6,062**
Based Aircraft	12	13	15	16	18
Operations per Based Aircraft	349	355	339	344	337

Source: Century West Engineering

Current & Future Design Aircraft



AIRPORT REFERENCE CODE (ARC)

Aircraft Approach Category	Aircraft Approach Speed (knots)	Airplane Design Group	Aircraft Wingspan
A	less than or equal to 91	I	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

FAA Design Standards

- The design standards for an airport are determined by the current and future **Critical Aircraft;**
- The Critical Aircraft is defined as the most demanding aircraft or grouping of aircraft that make **regular use** of the airport; and
- **Regular use** is 500 annual operations (takeoffs and landings), including both itinerant and local operations, but excluding touch-and-go operations.

Overview – Joseph State Airport Facility Requirements

All existing airfield facilities were designed to meet or exceed Airport Reference Code A/B-I (small) standards:

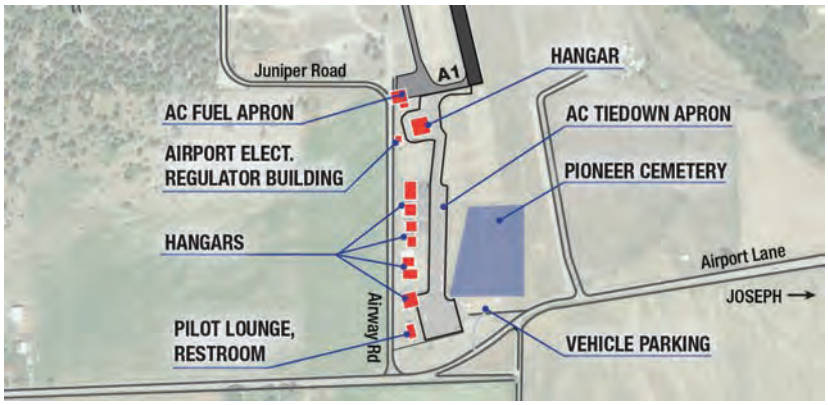
- Runway 15/33
- Taxiway A (Parallel Taxiway) and Exit Taxiways A1-A5
- South Apron and Access Taxiway

Conformance with current FAA ADG I design standards is good; minor conformance items identified

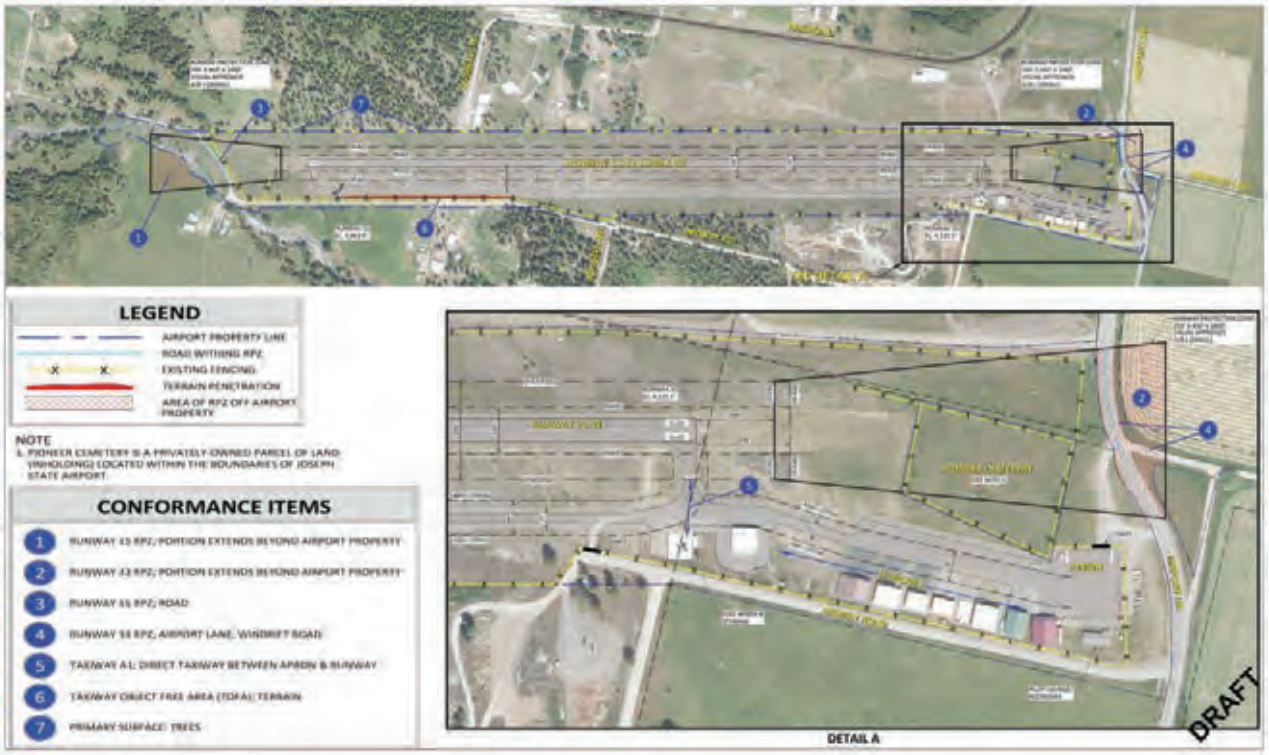
Existing Conditions







ADG I (Small) Design Standards Conformance



Known Issues & Opportunities

- Limited Airport Land Area (Landside Facilities)
- Airport Instrumentation
- Local Environmental Considerations
- Parallel Taxiway Operational Limits
- Alternate Landing Area (between runway and parallel taxiway)

Overview – Joseph State Airport Facility Requirements

Airside Facilities

- Airspace (FAR Part 77)
- Runways (width, length, protected areas)
- Taxiways (width, runway separation, protected areas)
- Airfield Pavement Condition
- Runway Protection Zones (RPZ)

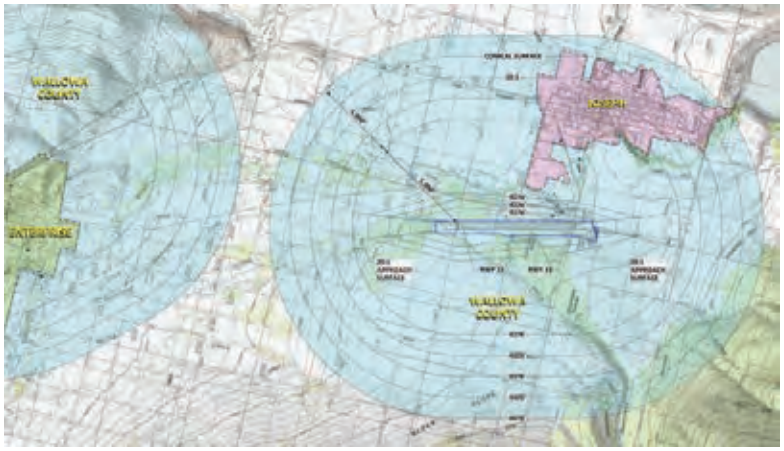


Image: Century West Engineering

Overview – Joseph State Airport Facility Requirements

Landside Facilities

- Aircraft Parking Apron
  - Small Aircraft Tiedowns
  - Transient Business Aircraft and Helicopter Parking
- Aircraft Hangars



Image: Century West Engineering

Summary of Key Facility Requirements

- **Runway Length and Width**: Existing 5,200 x 60 feet meets FAA standard for critical aircraft (ADG I small)
- **Parallel Taxiway-Runway Separation** exceeds FAA standard for critical aircraft (ADG I small)
- **Instrument Approach Development**
  - Existing airspace, runway markings, and lighting can support a non-precision instrument approach with a *circling* instrument approach procedure.
  - A *straight-in* instrument approach procedure would require larger airspace surfaces (adjacent to the runway) that may impact existing airport facilities and future development options, and required additional site grading/clearing. Upgraded runway markings required.

Non Precision Instrument Straight-In vs. Circling



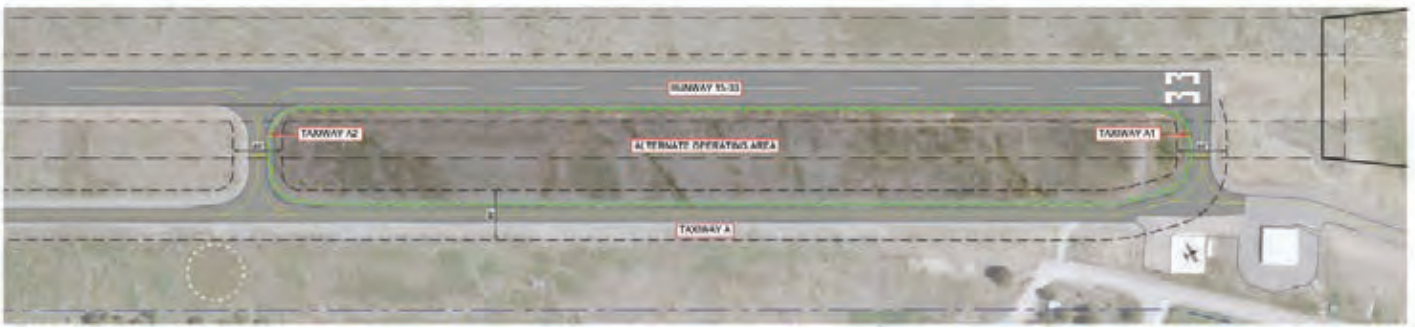
- Straight-In Non Precision Instrument Procedure requires a 500-foot wide Primary Surface
- Circling Non Precision Instrument Procedure requires a 250-foot wide Primary Surface

Summary of Key Facility Requirements

- **FAA Runway Incursion Standard (Apron to Runway)**
  - The aircraft fueling apron is directly aligned with Taxiway A1, providing direct access between the apron and the runway
  - FAA design guidance requires changes in taxiing direction between aprons and runways to increase pilot situational awareness



Alternate Landing Area



Located Between Taxiways A1 and A2, Runway and Parallel Taxiway

The turf area is used by tailwheel aircraft and other aircraft capable of operating on unimproved surfaces. Not a designated runway area, pilots use at own risk.

Summary of Key Facility Requirements

- **Parallel Taxiway Object Free Area (TOFA)**
  - Preliminary AGIS survey data indicates minor terrain penetration to the ADG I TOFA on north section of Taxiway A
  - ADG II TOFA clearance (for larger aircraft) is limited by terrain, the airport fence, and vehicles on the adjacent road on north section of Taxiway A
    - Some larger aircraft back-taxi on the runway north of Taxiway A3

Taxiway A - Object Free Area Penetration

ADG I Aircraft



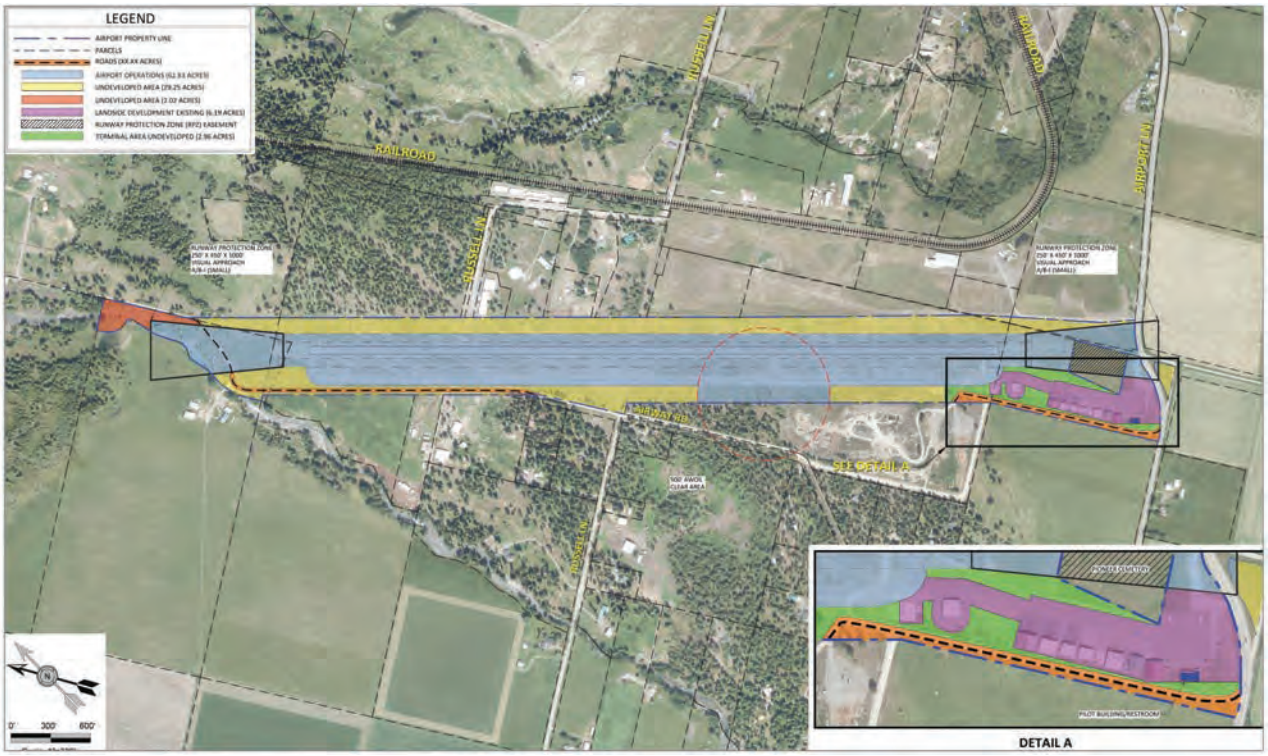
ADG II Aircraft



Summary of Key Facility Requirements

- **Aircraft Parking Demand**
  - Existing small aircraft tiedown capacity (19 aircraft) is adequate for forecast demand
  - Adding designated parking for transient business aircraft and helicopters recommended
  - Defined facilities/operations areas for seasonal fire fighting aircraft and support should be considered
- **Hangar Demand**
  - Forecast hangar demand is 6 additional hangar spaces during the current twenty year planning period. Defining an additional development reserve is recommended to account for potential growth beyond forecast.

Existing Airport Land Utilization



Local Land Use Jurisdictions



Next Steps

- **Aviation Activity Forecasts**
  - Draft forecast chapter available for PAC and public review/comment
  - Draft forecast submitted to FAA for formal review/comment
  - Completion of forecast review and approval process
- **Airport Facility Requirements – Airport Development Options**
  - Develop preliminary concepts capable of meeting facility requirements defined in master plan
  - Present preliminary concepts at PAC Meeting #3
  - PAC-led evaluation of concepts with goal of identifying preferred airside and landside options

Thank You

Sarah Lucas – Sarah.Lucas@aviation.state.or.us

David Miller - dmiller@centurywest.com

Matt Rogers - wrogers@centurywest.com

Project Website

www.centurywest.com/joseph-state-airport-master-plan/

PAC Meeting #3 – February 25, 2021

Joseph State Airport
AIRPORT MASTER PLAN UPDATE

NOTICE OF A MEETING OF THE JOSEPH STATE AIRPORT

Notice is hereby given that the Oregon Department of Aviation (ODA) will hold a Planning Advisory Committee (PAC) Meeting and Public Open House.

When: **Thursday, February 25, 2021**
PAC Meeting from 2:30pm-4:00pm
Open House 4:00pm-5:00pm

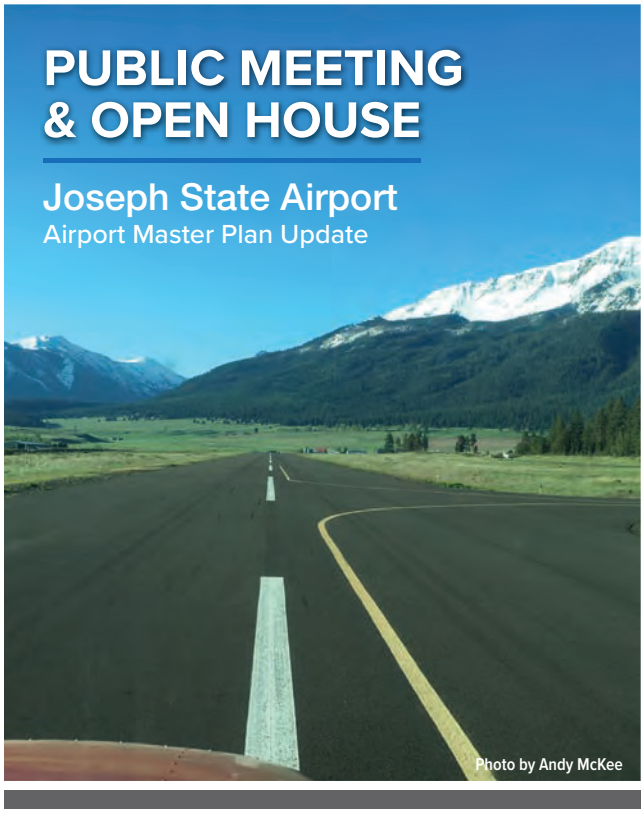
Where: **Webinar (WEBEX)**
Join by Phone (Option)

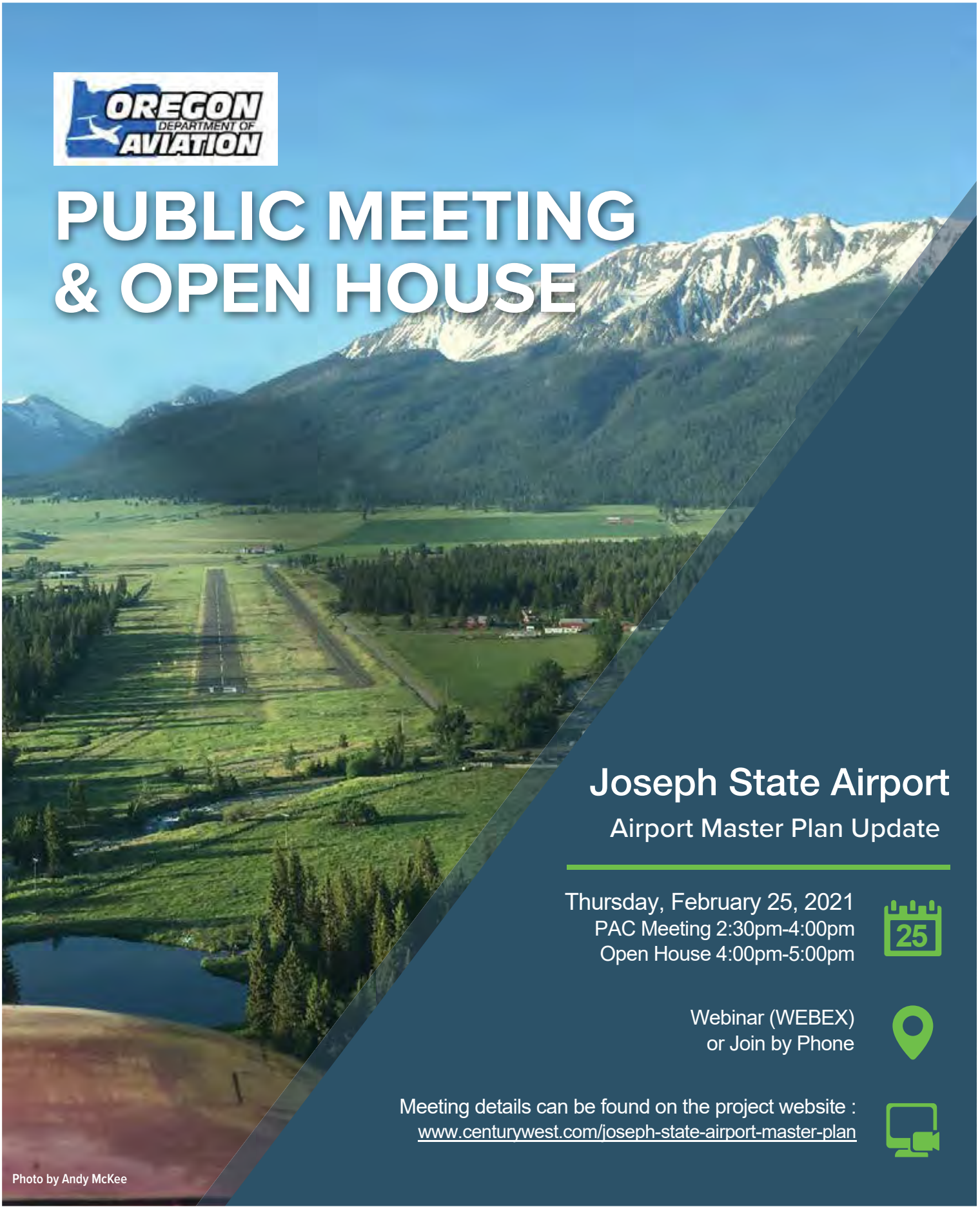
This meeting will provide an opportunity for the PAC, community, neighbors, and other project stakeholders to learn about the Airport Master Plan project and preliminary development concepts. Airport planning work products will be available on Century West's project website at: www.centurywest.com/joseph-state-airport-master-plan/

The WEBEX meeting information and join by phone option is available on the project website at the link above. Meeting questions can be sent to Samantha Peterson at speterson@centurywest.com.

For Additional Information, Please Contact:

Sarah Lucas, Planner
Oregon Department of Aviation
Phone: 503-378-2211
sarah.lucas@aviation.state.or.us





OREGON DEPARTMENT OF AVIATION

PUBLIC MEETING & OPEN HOUSE

Joseph State Airport

Airport Master Plan Update

Thursday, February 25, 2021
PAC Meeting 2:30pm-4:00pm
Open House 4:00pm-5:00pm

Webinar (WEBEX)
or Join by Phone

Meeting details can be found on the project website :
www.centurywest.com/joseph-state-airport-master-plan

Photo by Andy McKee

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE	February 25, 2021
TIME	2:30 PM – 4:00 PM
LOCATION	Virtual (Online)
LIVESTREAM	Webex Meeting https://cwe.webex.com/cwe/j.php?MTID=ma4acecb0bef4925f274be7567a521f83 Meeting Access Code: 146 114 1568 Join by Phone: +1-408-418-9388 United States Toll
PRESENTING AGENDA: **ATTENDEES:**	CWE – Matt Rogers, David Miller, Samantha Peterson ODA – Sarah Lucas, Heather Peck, Tony Beach, Seth Thompson, & Wup Winn PAC/Public – Michael Fleming, Shay Mann, Franz Goebel, Peter Benjamin, Rocky Lemberger, Jennifer Piper, John Barsalou, Belinda Buswell, Joseph Basile, Lucas Stangel, Patrick Wingard, Mikes Hancock, Bill Ables.

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
Thursday February 25, 2021				
1	Info	2:30 PM	Introductions	Rogers
2	Info		Agenda & Online Viewing Directions CWE & ODA Staff Overview PAC Membership	Rogers
3	Info		Project Schedule & Master Plan Elements	Rogers
4	Info		Brief Recap -Forecast Demand -Facility Goals and Requirements	Rogers
5	Info		Existing Conditions	Miller
6	Info		Known Issues & Opportunities	Miller

7	Info		Existing Airport Land Utilization	Miller
8	Info		Non-Precision Instrument Approach Development	Miller
9	Info		Preliminary Development Alternatives - Public Input	Miller
10	Info		Next Steps	Rogers
11		*07:05 PM*	Adjourn	Miller & Lucas

PAC/PUBLIC COMMENTS & QUESTIONS:

Q: Michael Fleming – On the circling approach, is that an acceptable approach for Life Flight.
A: Rocky Lemberger – For Joseph, Life Flight doesn't have a go or no-go number established. Once there is an approach even with high minimums, Life Flight can make a decision as to whether they can come in.

Q: Rocky Lemberger – Is FAA considering any departure procedures as well.
A: Sarah Lucas – That would be ideal, but at this point we are discussing whether it was something we want to pursue, but if we do, we'd coordinate a departure procedure as well.

Q: Joseph Basile – Is it safe to presume that if we can get a straight-in approach then we can also get a circling approach as well?
A: David Miller – Its probable, it'll just require clearing both sets of airspace and obstructions associated with it.
Q: Joseph Basile – If we just have just the circling, then its probably not as common to have the straight-in.
A: David Miller – The main cause for airports to often just have a circling approach has to do with terrain around the airport. Straight-in approaches are limited as to where you enter the approach and is more limited in airports with terrain obstacles.

Q: Bill Ables – Can we discuss the AOA, I missed this portion of the presentation?
A: David Miller – Recap of Slide 11 Alternative Landing Area
Q: Bill Ables – I know these are common in Idaho and other states, has the alternative landing area been coordinated with FAA.
A: Sarah Lucas – The FAA is providing preliminary guidance for these alternative landing areas. Right now, they've asked that we do not identify them on the Airport Layout Plan.

Q: Call in user – In early discussions we talked about moving the double-wide, does this plan call for any funding for a building like this or is it just a plan for where it goes?
A: David Miller – At this point the plan will show the siting for the building, the FAA doesn't participate in funding these types of buildings. ODA would work with stakeholders for funding the replacement.

Joseph State Airport

Airport Master Plan



Planning Advisory Committee Meeting #3
Virtual Meeting via Webex
February 25, 2021

Please standby – meeting will start promptly at 2:30 PM

Online Viewing (via WEBEX)

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)

Or Join by Phone (408) 418-9388

Access Code: 146 324 9773

Online Viewing Instructions

- Please ensure you're muted when not speaking.
- Please raise your hand or use the chat box if you have a question.
- If you are unable to hear the presentation, but can see the presentation. Try calling in with your phone while viewing online.
- Technical issues during the meeting, please email WRogers@centurywest.com







Agenda

- Project Schedule
- Brief Recap
  - Forecast Demand
  - Facility Goals and Requirements
- Preliminary Development Alternatives
- Public Comments
- Next Steps



Image: Century West Engineering

Oregon Department of Aviation (ODA)

Betty Stansbury
Director
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Planning & Project Manager
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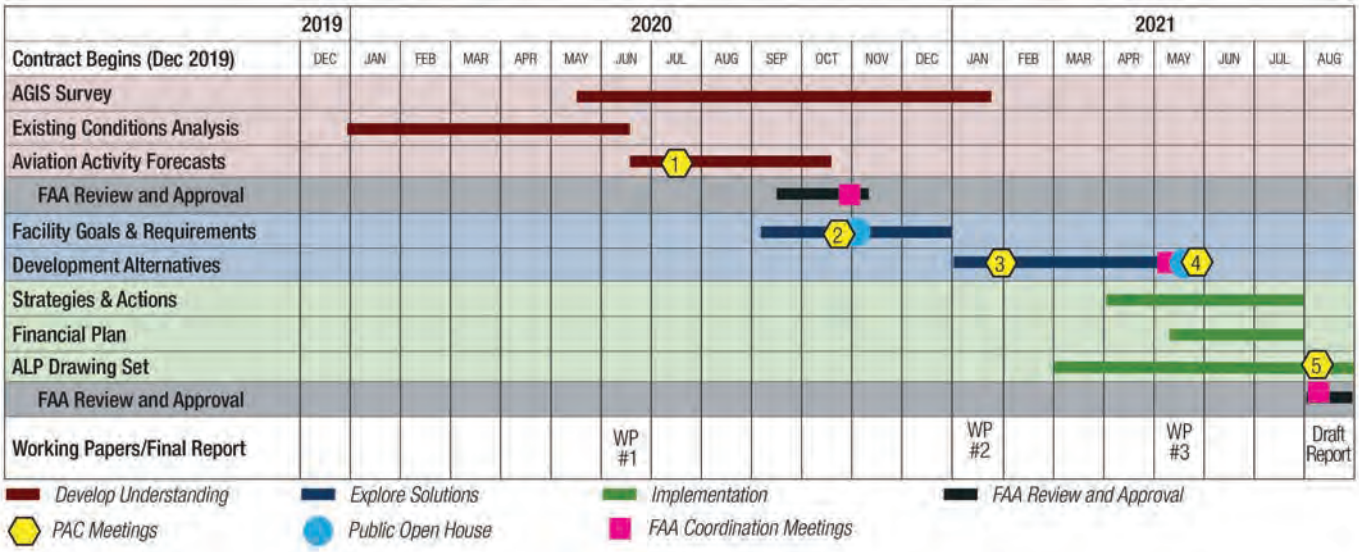
speterson@centurywest.com

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Jessica Keys	Field Representative	Senator Jeff Merkley
Kathleen Cathey	Field Representative	Senator Ron Wyden
Miles Hancock	Aviation Unit Manager	US Forest Service
Franz Goebel	Planning Director	Wallowa County
John Hillock	Commissioner	Wallowa County
Jennifer Piper	Executive Director	Wallowa County Chamber of Commerce
Larry Davy	CEO	Wallowa Memorial Hospital

Project Schedule

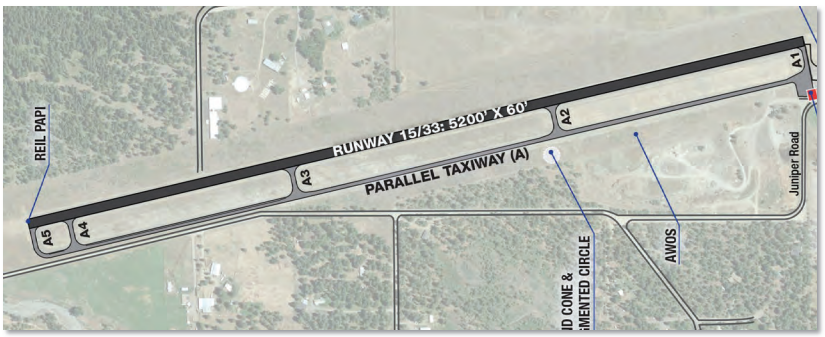


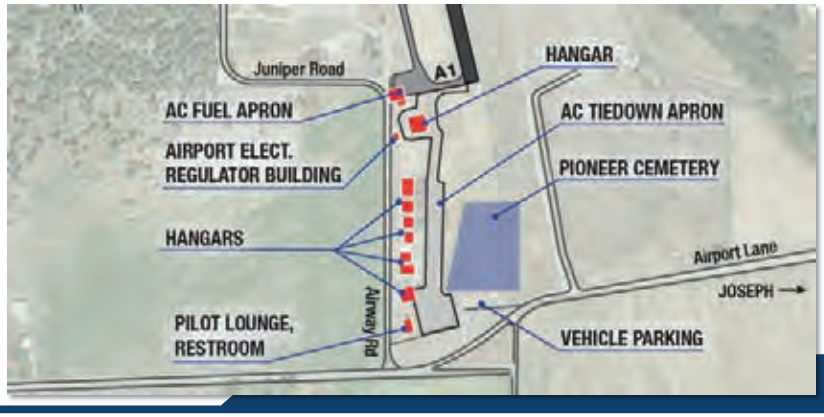
Airport Master Plan Elements

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

Existing Conditions



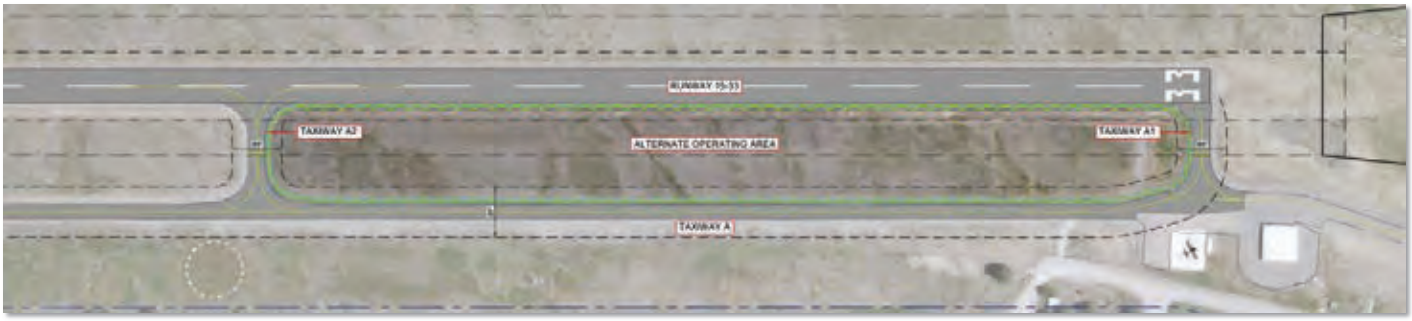




Known Issues & Opportunities

- Limited Airport Land Area (Landside Facilities)
- Airport Instrumentation
- Local Environmental Considerations
- Parallel Taxiway Operational Limits
- Alternate Landing Area (ALA), also known as Alternate Operating Area (AOA) - between runway and parallel taxiway

Alternate Landing Area

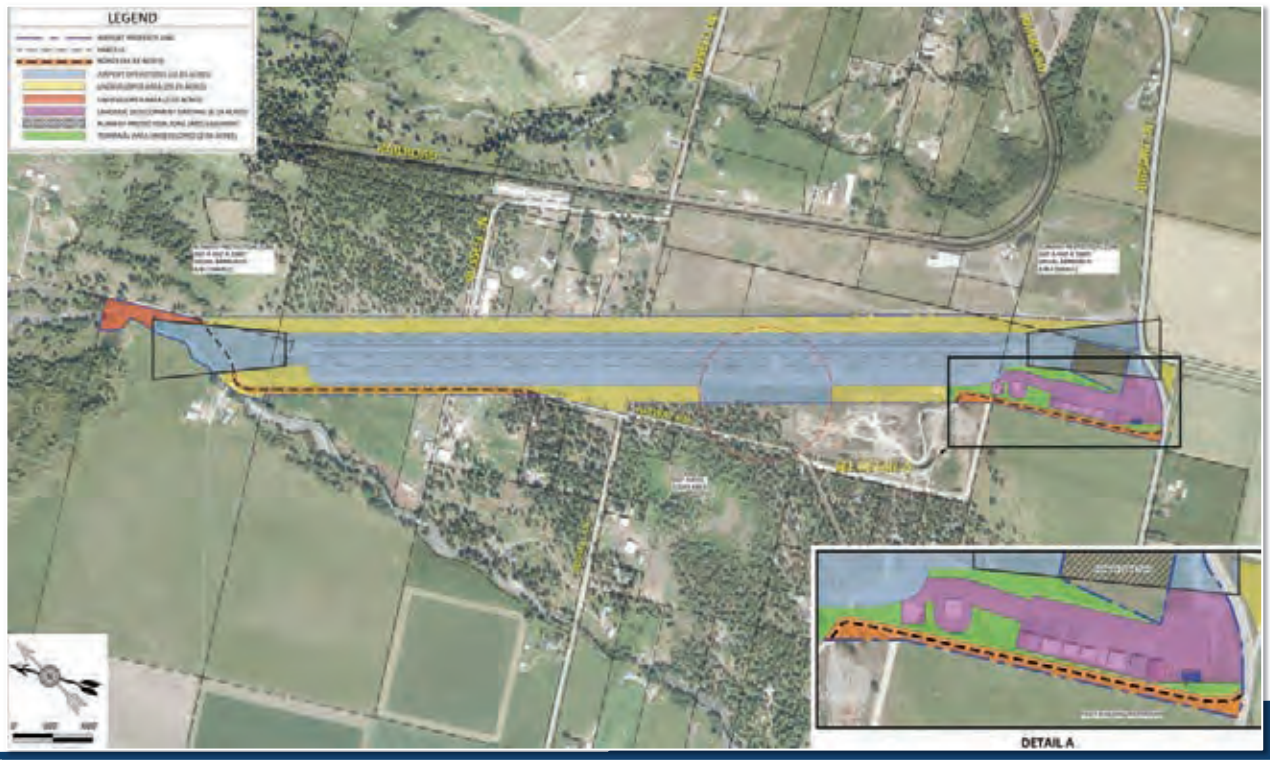


Located Between Taxiways A1 and A2, Runway and Parallel Taxiway

The turf area is used by tailwheel aircraft and other aircraft capable of operating on unimproved surfaces. Not a designated runway area, pilots use at own risk.

In consultation with FAA, an evaluation of an alternative landing area will not be included in the evaluation of airside alternatives and the area will not be depicted on the ALP drawing. No change in current use is proposed.

Existing Airport Land Utilization



Airside Development Alternatives / Improvement Options

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)

Design Aircraft and Airport Reference Code (ARC)

Example Aircraft	Aircraft Approach Category	Minimum Descent Altitude for Aircraft (above ground level) and Minimum Required Airport Visibility: Circling Procedure	Minimum Descent Altitude for Aircraft (above ground level) and Minimum Required Airport Visibility: Straight-In (Rwy 15) Procedure
 Piaggio P-12	Category A	Not lower than 1,019 feet above airport before establishing visual contact with runway for landing 1.25-Mile Visibility Required	Not lower than 615 feet above runway end before establishing visual contact with runway for landing 1-Mile Visibility Required
	Category B	Not lower than 1,539 feet above airport before establishing visual contact with runway for landing 1.5-Mile Visibility Required	Not lower than 615 feet above runway end before establishing visual contact with runway for landing 1-Mile Visibility Required

Source: Century West Engineering

Non-Precision Instrument Approach Development





Non Precision Instrument Approach Circling vs. Straight-In Procedure



- Circling Non Precision Instrument Procedure requires a 250-foot wide Primary Surface
- Straight-In Non Precision Instrument Procedure requires a 500-foot wide Primary Surface

NPI RUNWAY PRIMARY SURFACE PENETRATION (EXISTING PARALLEL TAXIWAY)



Issue: A review of AGIS survey data indicates that about 75 percent of Taxiway A is elevated above the runway, with a maximum excess elevation of 3.59 feet near its south end. The image depicts the areas of the taxiway (shown in red) that would penetrate the NPI primary surface.

Two runway-taxiway mitigation options are available to address the potential NPI runway primary surface obstruction:

- Lower the parallel taxiway to eliminate the primary surface penetration
- Raise the runway to elevate the primary surface above the parallel taxiway

No runway-taxiway mitigation is required if the current Visual runway primary surface is maintained to support development of a circling NPI approach procedure.

Reconstruction Taxiway Option A



- Reconstruction of Taxiway A and the northern section of the south apron taxilane.
- Changing the parallel taxiway elevation will also require reconstruction of the exit taxiway connections to maintain FAA design gradient standards.

Reconstruction Runway Option B



- Reconstruction of Runway 15/33 and its five exit taxiways.
- This alternative reconstructs the runway to elevate it above the parallel taxiway.

Landside Development Alternatives / Improvement Options

Alternative 1A & 1B



ALTERNATIVE 1A (EXISTING, VISUAL AIRSPACE)

ALTERNATIVE 1B (PROPOSED NON-PRECISION INSTRUMENT AIRSPACE)

Alternative 2A



ALTERNATIVE 2A - WEST SIDE HANGAR DEVELOPMENT AREA - FAR PART 77 (VIS) AIRSPACE

Alternative 2B



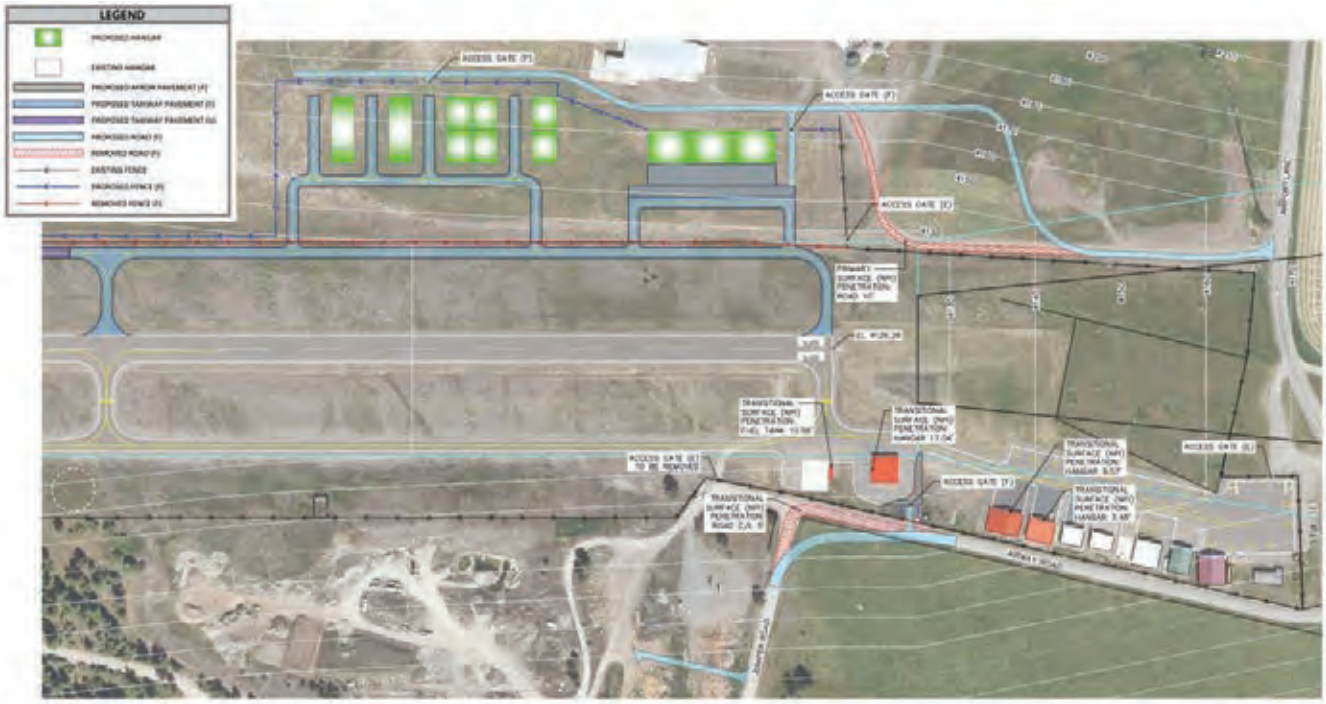
ALTERNATIVE 2B - WEST SIDE HANGAR DEVELOPMENT AREA - FAR PART 77 (NPI) AIRSPACE

Alternative 3A



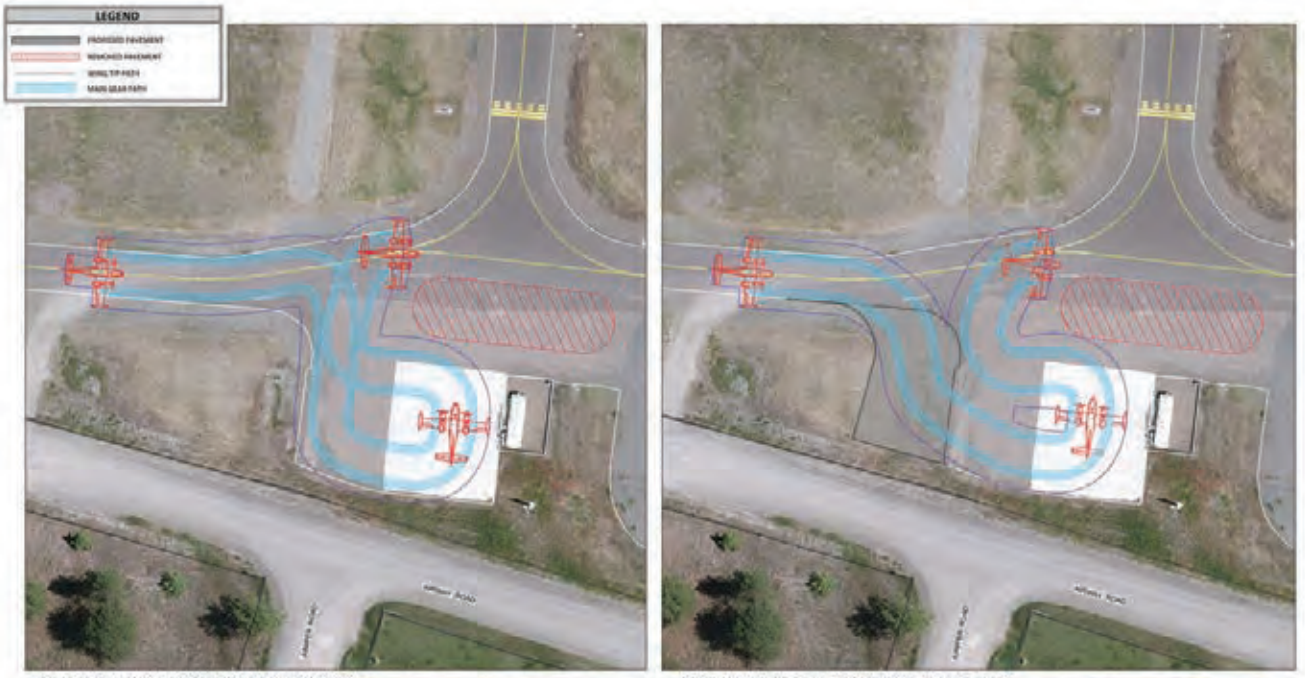
ALTERNATIVE 3A - EAST SIDE HANGAR AREA - FAR PART 77 (VIS) AIRSPACE

Alternative 3B



ALTERNATIVE 3B - EAST SIDE HANGAR AREA - FAR PART 77 (NPI) AIRSPACE

Alternative 4A



ALTERNATIVE 4A - EXISTING APRON PAVEMENT

ALTERNATIVE 4B - EXPANDED APRON PAVEMENT

Summary of Key Facility Requirements

- FAA Runway Incursion Standard (Apron to Runway)
  - The aircraft fueling apron is directly aligned with Taxiway A1, providing direct access between the apron and the runway
  - FAA design guidance requires changes in taxiing direction between aprons and runways to increase pilot situational awareness



Next Steps

- Preliminary Development Alternatives
  - Draft Alternatives Analysis chapter
    - PAC Meeting and Project Open House (February 25, 2021)
    - Documents Available for PAC and public review/comment
      centurywest.com/joseph-state-airport-master-plan/
    - Submitted to FAA for formal review/comment
- Airport Development Alternatives Refinement
  - ODA will analyze PAC review comments and all other stakeholder review comments provided on Draft Alternatives Analysis chapter
  - ODA will define the elements of the preliminary preferred alternative and/or identify additional evaluations required to support decision
  - The Alternatives Analysis chapter will be updated to include the recommended preferred alternative, and presented for PAC, stakeholder, and public review.
  - ODA will present its recommendations to the State Aviation Board at its April 1, 2021 meeting.

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)

Thank You

Sarah Lucas – Sarah.Lucas@aviation.state.or.us

David Miller - dmiller@centurywest.com

Matt Rogers - wrogers@centurywest.com

Project Website

www.centurywest.com/joseph-state-airport-master-plan/

PAC Meeting #4 – May 26, 2021

Joseph State Airport
AIRPORT MASTER PLAN UPDATE

NOTICE OF A MEETING OF THE JOSEPH STATE AIRPORT

Notice is hereby given that the Oregon Department of Aviation (ODA) will hold a Planning Advisory Committee (PAC) Meeting and Public Open House.

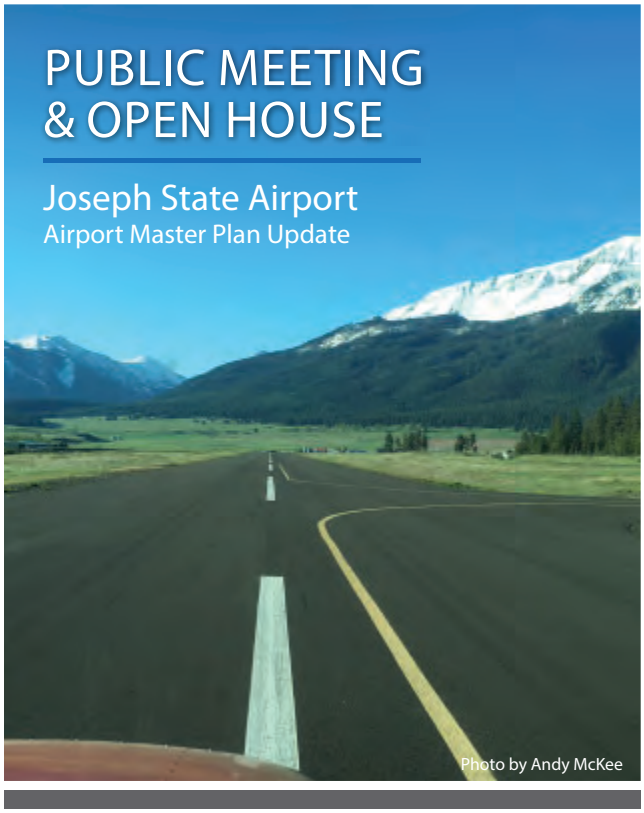
When: Wednesday, May 26, 2021
Online PAC Meeting from 2:30pm-4:00pm
Online Open House 4:00pm-5:00pm

Where: Webinar (WEBEX)
www.centurywest.com/joseph-state-airport-master-plan/
or Join by Phone: 1-408-418-9388 (Code 187 071 4168)

This meeting will provide an opportunity for the PAC, community, neighbors, and other project stakeholders to learn about the Airport Master Plan project and the vision for the Airport over the next 20-years. Airport planning work products will be available on Century West's project website at: www.centurywest.com/joseph-state-airport-master-plan/

For Additional Information,
Please Contact:

Sarah Lucas, Planner
Oregon Department of Aviation
Phone: 503-378-2211
sarah.lucas@aviation.state.or.us





OREGON DEPARTMENT OF AVIATION

PUBLIC MEETING & OPEN HOUSE

Joseph State Airport

Airport Master Plan Update

Wednesday, May 26, 2021
PAC Meeting 2:30pm-4:00pm
Public Open House 4:00-5:00pm

Webinar (Webex)
or Join by Phone

Meeting details can be found on the project website:
centurywest.com/joseph-state-airport-master-plan

Photo by Andy McKee

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE	May 26, 2021
TIME	2:30 PM – 4:00 PM
LOCATION	Online (Webinar)
LIVESTREAM	Webex Meeting https://cwe.webex.com/cwe/j.php?MTID=m673d8f4b8514afd3b935741509ab10a6 Meeting Access Code: 187 071 4168 Join by Phone: +1-408-418-9388 United States Toll
PRESENTING AGENDA: **ATTENDEES:**	Century West Engineering (CWE) & Oregon Department of Aviation (ODA) ODA – Heather Peck, Sarah Lucas, Tony Beach, Seth Thompson, John Wilson CWE – Matt Rogers, David Miller, Samantha Peterson PAC – Franz Goebel, John Hillock, Patrick Wingard, Rich Frasch Ian Goodrich, Peter Benjamin, Jessica Keys Public – Judy Swank, Lucas Stangel, John Barsalou, Michael Fleming

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
Wednesday May 26, 2021				
1	Info	2:30PM	Introductions	Rogers
2	Info		Agenda & Online Viewing Directions	Rogers
3	Info		Project Schedule Update	Rogers
4	Info		Airport Master Plan Elements - *We are in the implementation phase*	Miller
5	Info		Recap of Alternatives - *Last PAC meeting was February 25th and presented the preliminary alternatives.* - *ODA reviewed the PAC's comments and other input they had received and coordinated with CWE to develop a preferred alternative.* - *The preferred alternative was then presented to members of the Oregon State Aviation Board, who concurred with*	Miller

			the direction taken.	
6	Info		PAC Member Input (Survey #1) - *Do you generally concur with the preferred alternative and layout of future facilities?* *6 Votes YES* *1 Vote NO* - *Should ODA seek property acquisition in order to accommodate future hangar demand?* *6 Votes YES* *1 Vote NO* **There was opportunity for the No vote to speak about their response, but person opted to not.*	Miller & Peterson
7	Info		Capital Improvement Plan - *Short-term (0-5 Years) Total Project Costs $4,528,190* - *Mid-term (6-10 Years) Total Project Costs $4,323,882* - *Long-term (11-20 Years) Total Project Costs $8,796,407* - *44% of projects are airfield pavement maintenance and rehabilitation.* - *33% of projects are new airfield development.* - *12% of projects are instrument approach development and airfield lighting system replacements.* - *11% include all other projects.*	Miller
8	Info		PAC Member Input (Survey #2) - *Do you generally agree with the Capital Improvement Plan and list of projects identified?* *4 Votes YES* *1 Vote NO* *The No vote expressed a desire to bump the multi-use/pilot building higher up in the priority list.	Peterson
8	Info		Next Steps - *Finalize the draft ALP plans set for ODA and FAA review* - *Prepare draft AMP report for ODA and FAA review* - *Final PAC meeting (anticipated in August)* - *Submit final AMP report* - *Project closeout*	Miller
9	Info	*04:00 PM*	Adjourn - *Virtual open house to follow (4:00-5:00pm)* - *Two people remained on the meeting for the Open House – no new attendees joined the Open House.*	

PAC/PUBLIC COMMENTS & QUESTIONS:
Q: Question A: Answer C: Comment R: Response

Q: Michael Fleming – How would the public access the recycling center with the new access gate planned?
A: David Miller – Proposing to relocate the recycling center, which would require coordination with the City. It's feasible to maintain the recycling center on the same parcel, but vehicle access to the facility would be from Juniper. A secondary access gate has been identified for airport tenants.

Q; Michael Fleming – Is there a gate on Airport Lane?
A: David Miller – Yes, that would be the entry point into the west hangar area.

Q: Rich Frasch – Would the access gates be automated?
A: David Miller – They will be configured to be automated, depending on budget.

Q: Michael Fleming – Recycling center, if the gate was implemented then the access to the recycling center would be through-the-fence? Is there another access route?
A: Sarah Lucas – Explains the correct route and reiterates that this is conceptual and that access to the recycling center will be maintained. Access to these parcels and their uses will not be removed. No matter what happens, if the hangar area is approved, then the recycling center will receive access from another route.

Q: Rich Frasch – There's some confusion with how the map depicts fencing and gates.
A: Sarah Lucas – The confusion may be caused by how it appears on the presentation electronically, if you review the figure printed, it is more legible.

Q: Ian Goodrich - What is the disposition of an instruction building on the airport?
A: David Miller – As far as for the configuration, its wide open. The instruction building would probably fit into Phase 2.

C: POLL #1 Comments: Patrick Wingard – He was supportive of the plan and appreciates ODA's efforts to make the best use of existing land. Michael Fleming stated the Plan "all goes in the right direction." Rich Frasch said it was "prudent and logical." John Barsalou said while the CIP may be aggressive, but overall he agrees with the priorities.

Q: Rich Frasch – Would it be cheaper and more efficient to contract out the snow blower versus purchase?
A: Tony Beach – Typically airport plowing is done in-house for safety and cost effectiveness, but I am open to suggestions and comments. At this time, I'd prefer to acquire the equipment.

C: Sarah Lucas – Regarding the Commissioner Hillock's question (which was via chat box) on the date for the instrument approach, it is a long process with the FAA and right now we are looking at September of 2022.

C: Sarah Lucas – Discussed ODA's budget and that ODA does not receive funding from the general fund, which deviates slightly from comments made by Governor Brown to Wallowa County in regards to implementing an instrument approach for medical evacuation. Sarah offered to discuss questions from the Commissioner offline.

C: Heather Peck – Noted that ODA's revenues must fully support staff and airports and ODA only receives funding from fuel taxes and leasing.

C: Michael Fleming – Voted no on the 2nd poll (CIP and projects), specifically the sequence on the 2021-2025 timeline. His organization leases at Joseph State Airport and the multi-use building being pushed out with a modular is not the right answer. He would like to see the multi-use building as a priority.
R: Heather Peck – Offered to meet with Michael to discuss other funding opportunities to see if it can happen sooner.
R: Sarah Lucas – Explained that some of the projects are demand-driven versus needed-driven from the community. A multi-use/pilot building is a demand-driven project. If the community desires a building and has matching funds, it doesn't mean the project can't happen until it's listed in the CIP.ODA encourages discussions with community input.

Open House – Rich Frasch asked if there has been much traffic on the project/Open House website. At this time, CWE cannot track "hits" on the website, but will look into with their IT department. Sarah Lucas said the GovDelivery emails can track clicks and typically the click rate is very low.

Joseph State Airport

Airport Master Plan



Planning Advisory Committee Meeting #4
Virtual Meeting via Webex
May 26, 2021

Please standby – meeting will start promptly at 2:30 PM

Online Viewing (via WEBEX)

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)

Or Join by Phone (408) 418-9388

Access Code: 187 071 4168

Online Viewing Instructions

- Please ensure you're muted when not speaking.
- Please raise your hand or use the chat box if you have a question.
- If you are unable to hear the presentation, but can see the presentation. Try calling in with your phone while viewing online.
- Technical issues during the meeting, please email Speterson@centurywest.com







Agenda

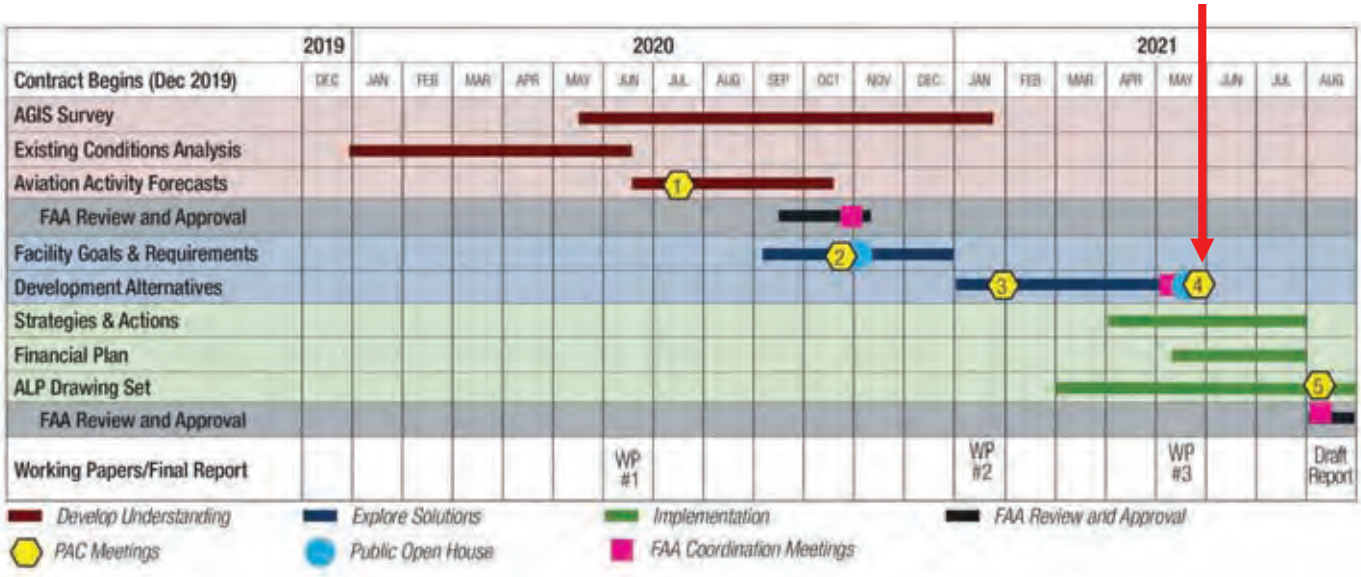
- Brief Recap
- Preferred Alternative
- ALP (Airport Layout Plan)
- Terminal Area Plan
- CIP (Capital Improvement Program)
- Next Steps



Image: Century West Engineering

Project Schedule

WE ARE HERE



Airport Master Plan Elements



Recap of Alternatives

- ODA analyzed PAC review comments and all other stakeholder review comments provided on Draft Alternatives Analysis chapter.
- ODA defined the elements of the preliminary preferred alternative.
- The Alternatives Analysis chapter has been updated to include the recommended preferred alternative.
- ODA presented its recommendations to the State Aviation Board at its April 1, 2021 meeting.

Preferred Alternative

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)



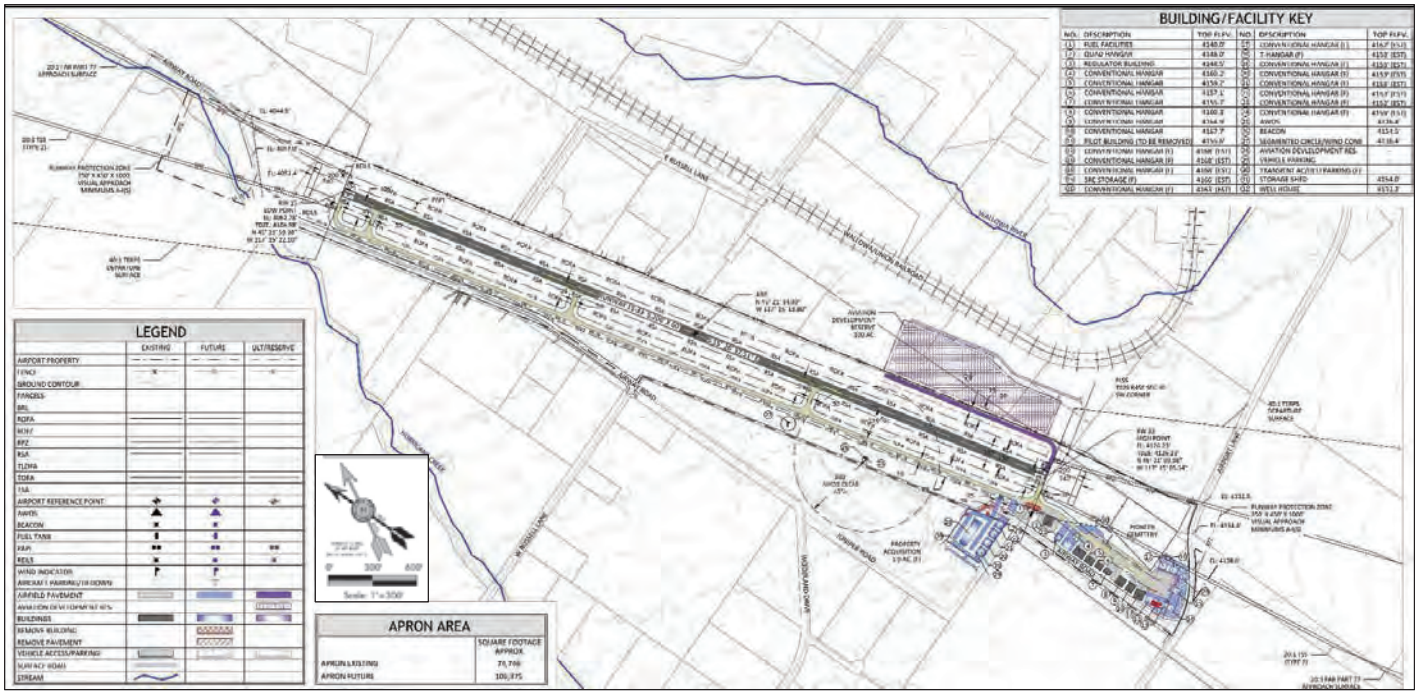
Preferred Alternative
Terminal Apron & Development Areas

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)



ALP

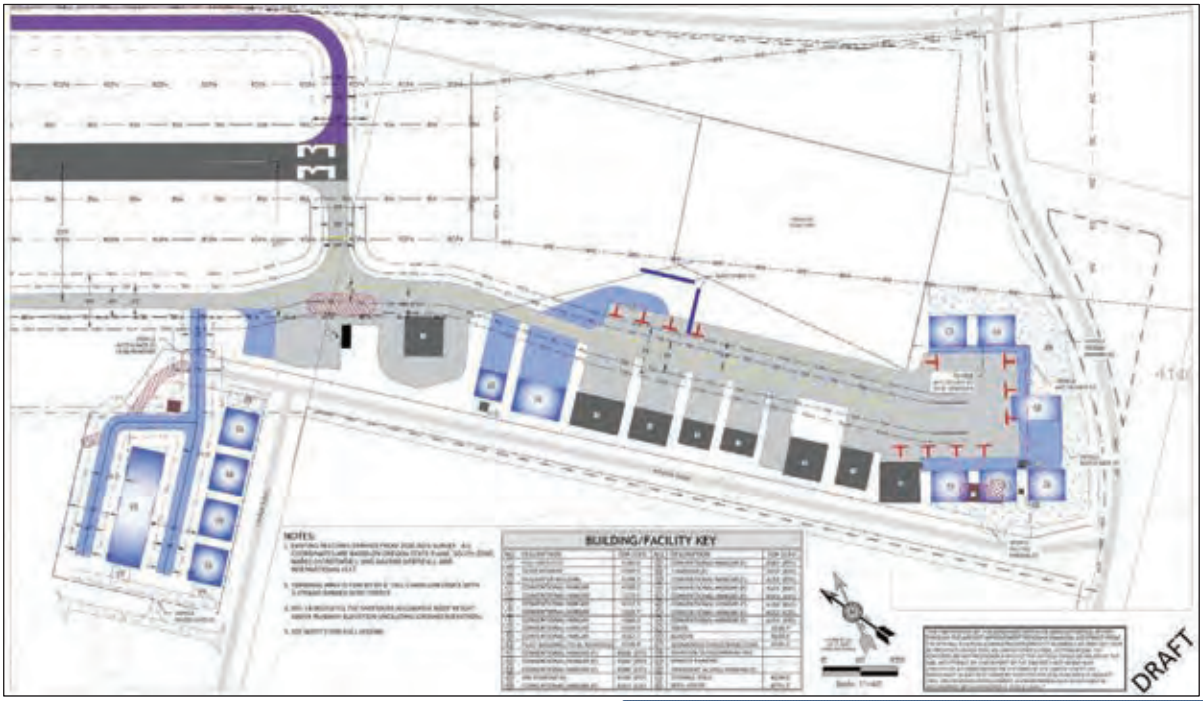
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JOSEPH STATE AIRPORT (JSY)



CENTURY WEST ENGINEERING

ALP

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)



CENTURY WEST ENGINEERING

PAC Member Input

- Do you generally concur with the preferred alternative and layout of future facilities?
- Should ODA seek property acquisition in order to accommodate future hangar demand?



If you have any additional input, feel free to email Sarah Lucas – Sarah.Lucas@aviation.state.or.us

Capital Improvement Program (CIP)

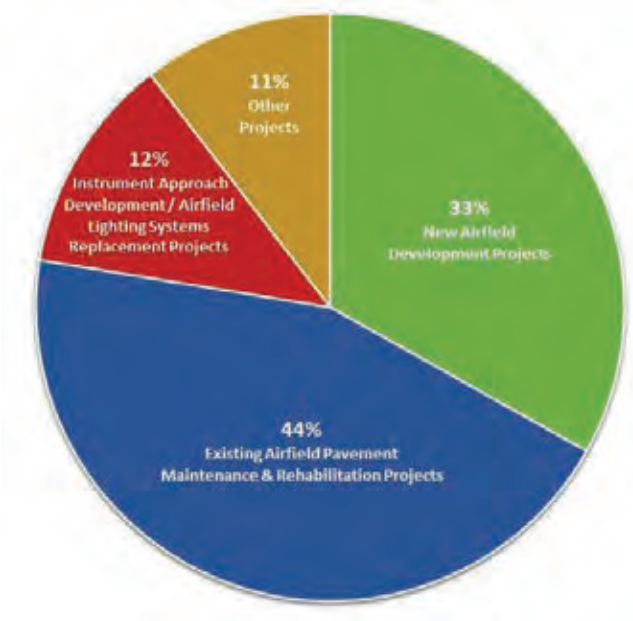
New Airfield Development Projects:
New Airfield Pavement Areas (Aprons, Taxilanes), Hangar Site Development, Fencing, Access, Utility Extensions

Existing Airfield Pavement Maintenance & Rehabilitation Projects:
Maintenance/Rehabilitation (Sealcoats and Overlays) of Existing Airfield Pavements (Runway, Taxiways, Apron, Taxilanes)

Instrument Approach Development / Airfield Lighting Systems Replacement Projects:
Obstruction Mitigation (Environmental, Design, Construction); Replace Runway Edge Lights, PAPI, REILs, and Airport Beacon

Other Projects:
Property Acquisition (West Hangar Area); Snow Removal Equipment and Building; Pilot Building, Master Plan Update

Phases	Total Phase Costs
Short-Term (0-5 Years)	$4,528,190
Mid-Term (6-10 Years)	$4,323,882
Long-Term (11-20 Years)	$8,796,407
TOTAL	$17,648,479



Short-Term Projects (2021-2025)

Year	Short-Term Projects (2021-2025) Description	Total Project Costs
2021-2022	Instrument Approach Procedure (IAP) Obstruction Removal (Environmental/Design)	$526,500
2022	Obstruction Removal/Mitigation (IAP)	$42,900
2022	Runway 15/33 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$687,900
2022	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
2022	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates	$607,500
2023	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates/Fencing (Construction)	$1,364,790
2024	Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction)	$487,500
2025	Airport Snow Plow/Blower	$350,000
	SHORT-TERM TOTAL (1-5 Years)	**$4,528,190**

Mid-Term Projects (2026-2030)

Year	Mid-Term Projects (2026-2030) Description	Total Project Costs
2026	Mid-Term Airside/Landside Projects (Environmental/Design)	$682,500
2027	South Apron – Transient AC Parking Expansion	$257,833
2028	TWY A and Connectors A2-A3 Rehabilitation (Overlay); Repaint Markings, Replace Edge Reflectors	$1,057,263
2028	TWY A – TOFA Grading, Fence Reinforcement	$331,250
2028	Fuel Apron Reconfiguration/Expansion	$153,586
2028	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$237,700
2029	Airfield Lighting Replacement/Upgrade: Runway 15/33 MIRL; Rwy 15 PAPI, REIL; Airfield Signs; Airport Beacon; Wind Cone	$1,542,000
2030	Property Acquisition – West Hangar Parcel (Owner – City of Joseph)	$61,750
	MID-TERM TOTAL (6-10 Years)	$4,323,882

Long-Term Projects (2031-2040)

Long Term Projects (2031-2040) Description	Total Project Costs
Pilot Building (Expand SRE – Phase 2)	$297,500
West Hangar Site Development & Taxilanes (Environmental/Design)	$525,000
West Hangar Site Development (Access & Stub Taxilanes Connection to TWY A, Site Preparation, Fencing, Vehicle Parking, New Access Road (Construction)	$2,257,760
TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
Runway 15/33 Maintenance Project (Slurry Seal, Crackfill, Markings)	$687,900
South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$235,700
Airport Master Plan Update	$650,000
RWY 15/33 TWY A Connectors A2-A3 Rehabilitation (Overlay)	$2,820,565
South Apron and Access TWY Rehabilitation (Overlay)	$860,882
LONG-TERM TOTAL (11-20 Years)	$8,796,407

Phases	Total Phase Costs
Short-Term (0-5 Years)	$4,528,190
Mid-Term (6-10 Years)	$4,323,882
Long-Term (11-20 Years)	$8,796,407
TOTAL	$17,648,479

Next Steps

- Finalize the draft ALP plans set for ODA review
- Submit draft ALP plans set to FAA for review (45-90 day process)
- Prepare the draft AMP report for ODA/FAA review
- Final PAC meeting (no open house)
- Submit final AMP report
- Project closeout

Thank You



Sarah Lucas – Sarah.Lucas@aviation.state.or.us

David Miller - dmiller@centurywest.com

Matt Rogers - wrogers@centurywest.com

Project Website

www.centurywest.com/joseph-state-airport-master-plan/

We invite you to browse the online open house webpage: https://centurywest.com/joseph-open-house-may26/

PAC Meeting #5 – August 25, 2021

Joseph State Airport
AIRPORT MASTER PLAN UPDATE

NOTICE OF A MEETING OF THE JOSEPH STATE AIRPORT

Notice is hereby given that the Oregon Department of Aviation (ODA) will hold a Planning Advisory Committee (PAC) Meeting.

When: Wednesday, August 25, 2021
Online PAC Meeting from 2:30pm-4:00pm

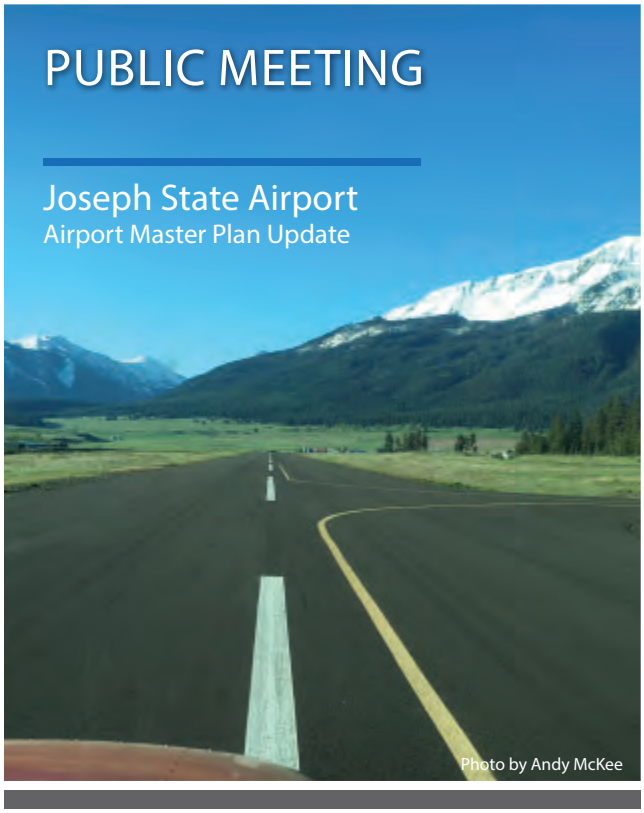
Where: Webinar
www.centurywest.com/joseph-state-airport-master-plan/
or Join by Phone: 1-323-694-9791 ID: 695 842 872#

This meeting will provide an opportunity for the PAC, community, neighbors, and other project stakeholders to learn about the Airport Master Plan project and the vision for the Airport over the next 20-years. Airport planning work products will be available on Century West's project website at:

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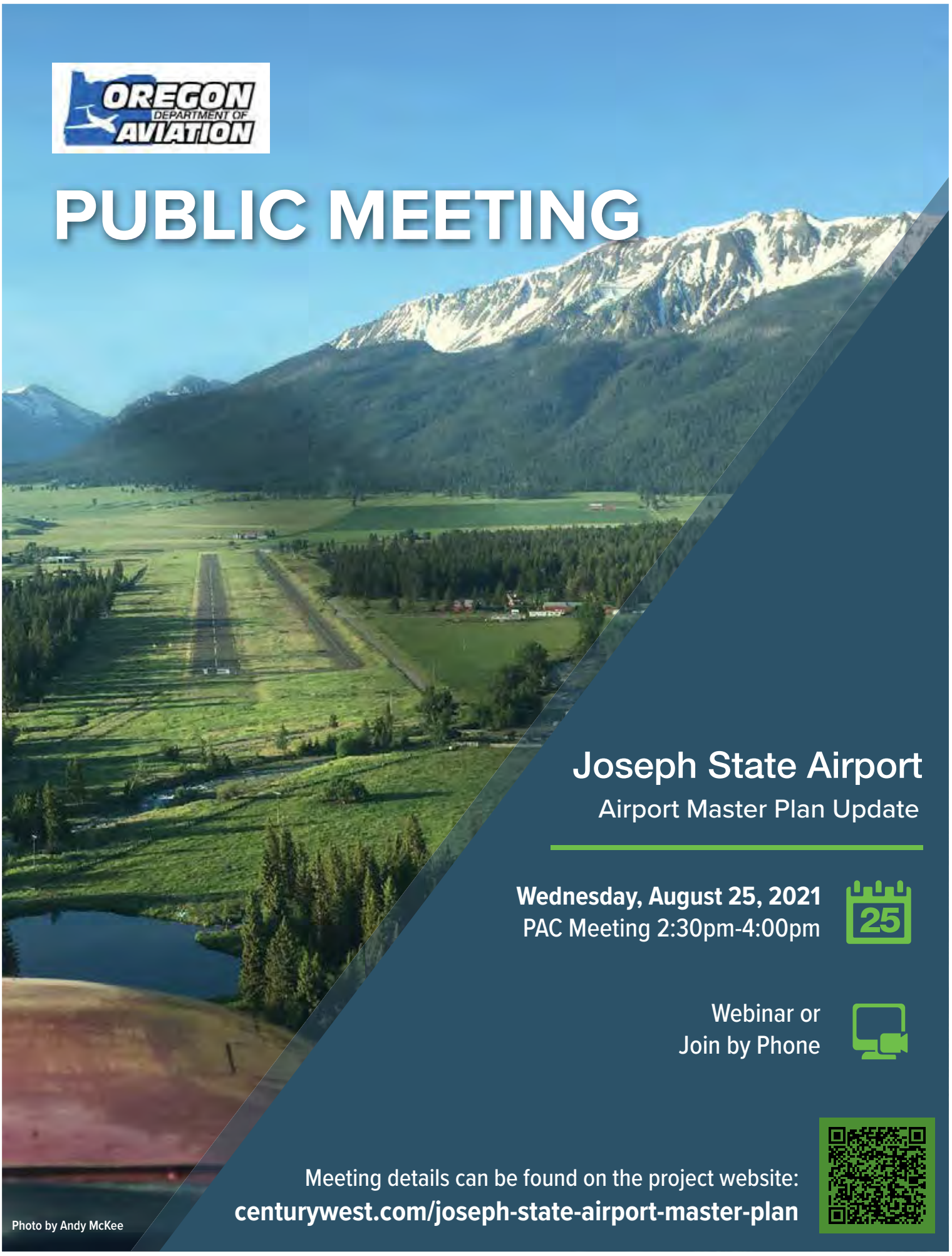
For Additional Information,
Please Contact:

Sarah Lucas, Planner
Oregon Department of Aviation
Phone: 503-378-2211
sarah.lucas@aviation.state.or.us



OREGON DEPARTMENT OF AVIATION

PUBLIC MEETING



Joseph State Airport

Airport Master Plan Update

Wednesday, August 25, 2021
PAC Meeting 2:30pm-4:00pm

Webinar or
Join by Phone

Meeting details can be found on the project website:
centurywest.com/joseph-state-airport-master-plan

Photo by Andy McKee

Oregon
Kate Brown, Governor

OREGON DEPARTMENT OF AVIATION

MEETING SUMMARY

DATE	August 25, 2021
TIME	2:30 PM – 4:00 PM
LOCATION	Online (Webinar)
LIVESTREAM	Webex Meeting www.centurywest.com/joseph-state-airport-master-plan/ Meeting Access Code: 695 842 872# Join by Phone: +1-323-694-9791
PRESENTING AGENDA: **ATTENDEES:**	Century West Engineering (CWE) & Oregon Department of Aviation (ODA) ODA – Heather Peck, Sarah Lucas, Tony Beach, Seth Thompson FAA – Ben Mello, Kate Key CWE – Matt Rogers, David Miller, Samantha Peterson PAC – Franz Goebel, John Hillock, Patrick Wingard, Rich Frasch, Ian Goodrich, Peter Benjamin, Jessica Keys John Barsalou, Michael Fleming

PAC INFORMATION & PRESENTATION

#	TYPE	Estimated TIME	ITEM	LEAD(S)
Wednesday August 25, 2021				
1	Info	2:30PM	Introductions	Rogers
2	Info		Agenda & Online Viewing Directions	Rogers
3	Info		Project Schedule Update - Project Recap (PAC Meetings Summary)	Rogers
4	Info		Airport Layout Plan	Peterson
5	Info		FAR Part 77	Peterson
6	Info		Land Use Plan	Peterson

7	Info	Exhibit A (Property Map)	Peterson
8	Info	Capital Improvement Plan (CIP)	Peterson
8	Info	Next Steps - *Submit final AMP report* - *Project closeout* - *Implementation*	Rogers
9	Info	PAC Feedback - *Poll* *1. Were the PAC meetings informative and easy to understand?* *2. Did you feel you had sufficient opportunities to provide comments or ask questions on draft work products throughout the planning process?* *3. During the course of the master plan, did you visit the virtual open house website or project website? If so, do you have feedback on how these could be improved?*	Peterson
10	Info	Adjourn	Rogers

PAC/PUBLIC COMMENTS & QUESTIONS:
Q: Question A: Answer C: Comment R: Response

Q: Ben Mello – ALP Sheet, looking at the building facility key I couldn't locate any of the numbers 30 and above on the map.
A: Sarah Lucas – That is the transfer station, which will get added to the ALP.
A: Matt Rogers – If anyone has any comments or edits as they review the draft materials, please email David Miller so we can get those cleaned up before submitting draft final.

Q: Rich Frasch – What would be the trigger point for ODA to make an offer on property acquisition? Would it be when all the property on-airport is filled?
A: Sarah Lucas – It will depend on available time and money in order to purchase property. It's difficult to justify property acquisition when there is still available space on-airport for development.
A: Tony Beach – Echo's Sarah's comments.

C. John Barsalou – Comment that it was a good presentation and that there were difficulties with the Poll.
R. Samantha Peterson – Advises everyone who would like to leave a comment to feel free and email Tony, Heather, and Sarah.

C: Tony Beach – Sends appreciation to the group for their participation in the PAC and these meetings.

Q: Rich Frasch – Curious as to what input the PAC can provide at this point in the project?
A: Matt Rogers – If you have a project that you feel should move on the list, send an email with a case for why it should move and the planning team can discuss. There is still opportunity for refinement.
Q: Rich Frasch – What is the window of time for providing any comments before it needs to be locked in?
A: Matt Rogers – We would like to get comments in the next two to four weeks.
A: Sarah Lucas – If you can provide any information and interest from the community who may be interested in participating in funding.

Joseph State Airport

Airport Master Plan



Planning Advisory Committee Meeting #5
Virtual Meeting via Teams
August 25, 2021

Please standby – meeting will start promptly at 2:30 PM

Online Viewing

Or Join by Phone (408) 418-9388

Access Code: 187 071 4168

Online Viewing Instructions

- Please ensure you're muted when not speaking.
- Please raise your hand or use the chat box if you have a question.
- If you are unable to hear the presentation but can see the presentation, try calling in with your phone while viewing online.



Agenda

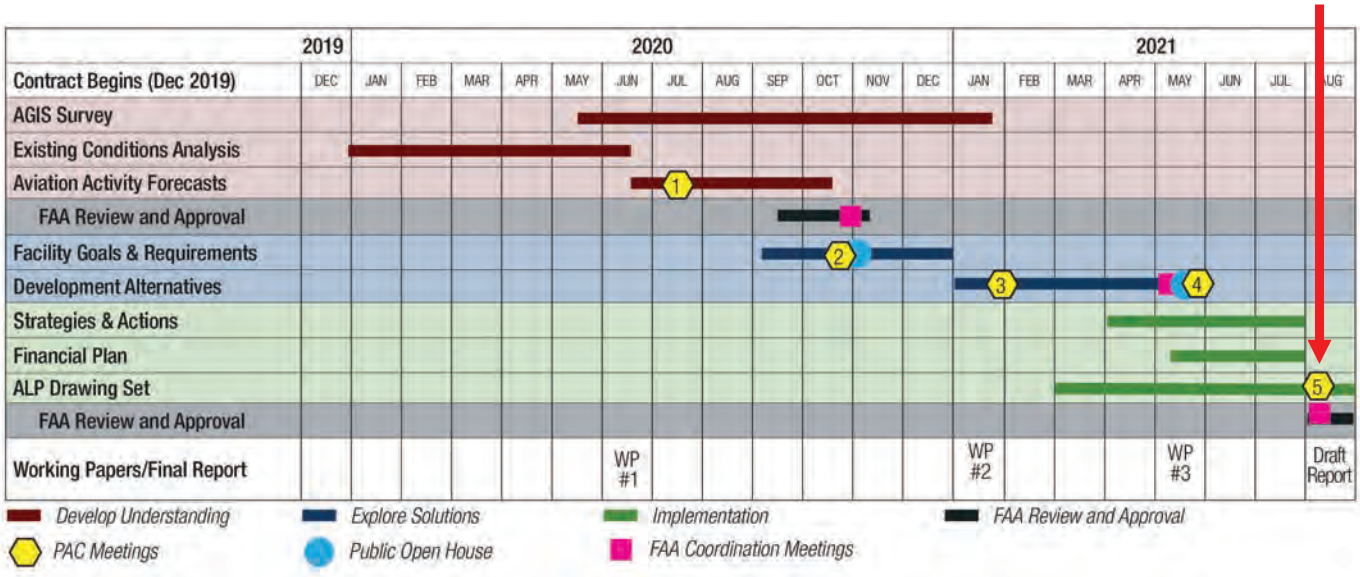
- Project Schedule
- ALP (Airport Layout Plan)
- Terminal Area Plan
- FAR Part 77
- Land Use Plan
- Exhibit A (Property Map)
- CIP (Capital Improvement Program)
- Next Steps
- PAC Feedback



Image: Century West Engineering

Project Schedule

WE ARE HERE



Airport Master Plan Elements



Project Recap (*how we got here*)

PAC Meeting 1 (7/21/20) & PAC Meeting 1 Recap (8/12/20)

- What is an Airport Master Plan
- Overview of Existing Conditions & Known Issues and Opportunities

PAC Meeting 2 (10/29/20)

- Reviewed the draft aviation activity forecasts & draft facility requirements

PAC Meeting 3 (2/25/21)

- Presented preliminary development alternatives for the airside and landside areas

PAC Meeting 4 (5/26/21)

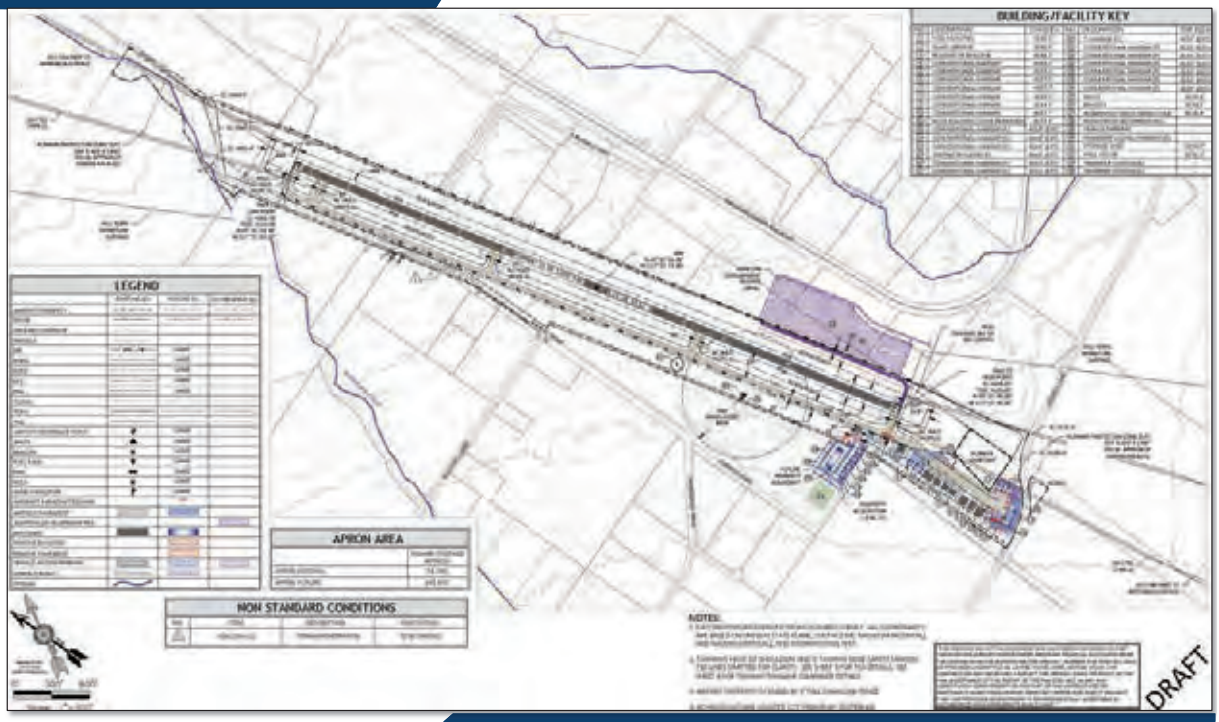
- Presented the refined/preferred development alternative, draft ALP and Terminal Area Plan, and CIP

PAC Meeting 5 (8/25/21)

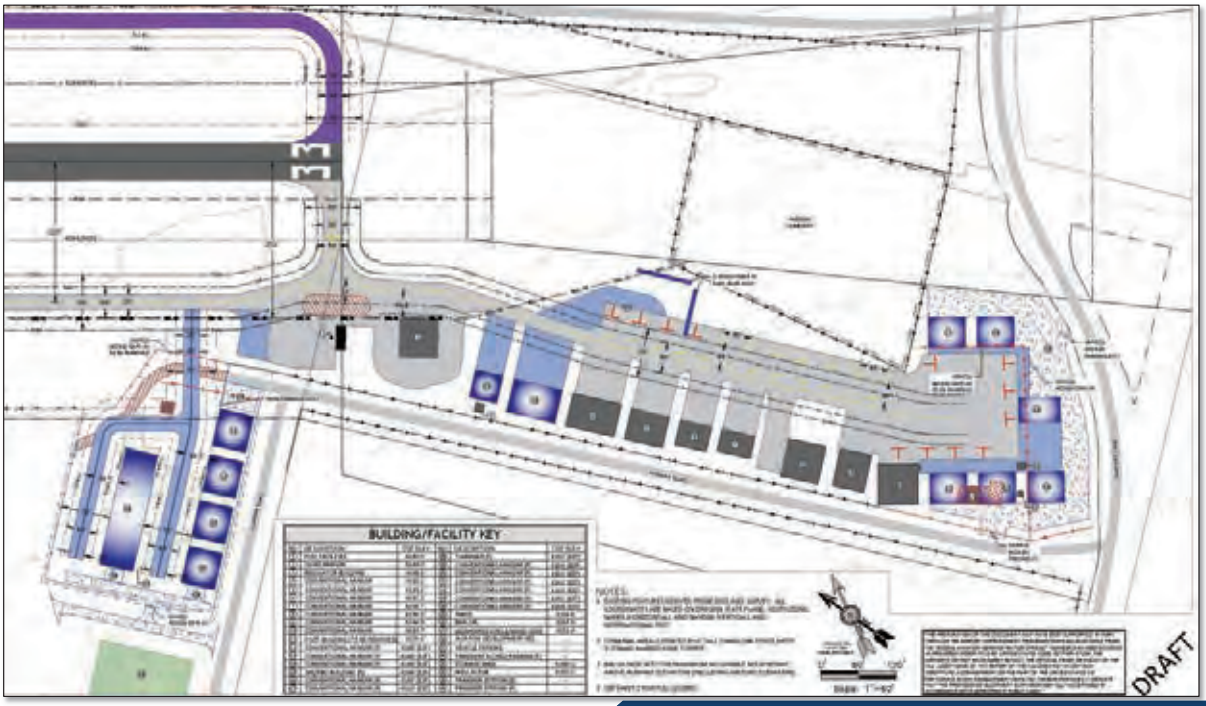
Airport Layout Plan (ALP)

The ALP Sheet is one of the few pieces of the master plan that FAA approves.

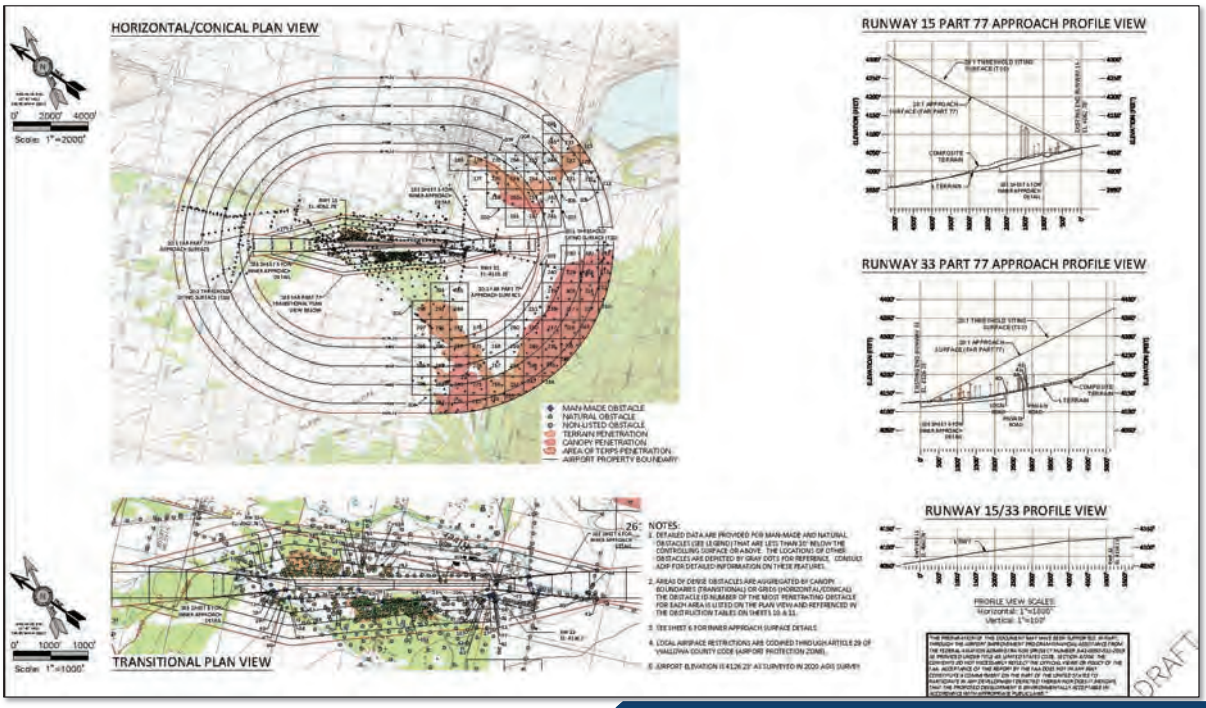
The others being the Aviation Activity Forecasts and Exhibit A Property Map.



Terminal Airport Plan



FAR Part 77 Airspace Plan



Land Use Plan

There are no planned changes to the land use or zoning identified on these drawings.

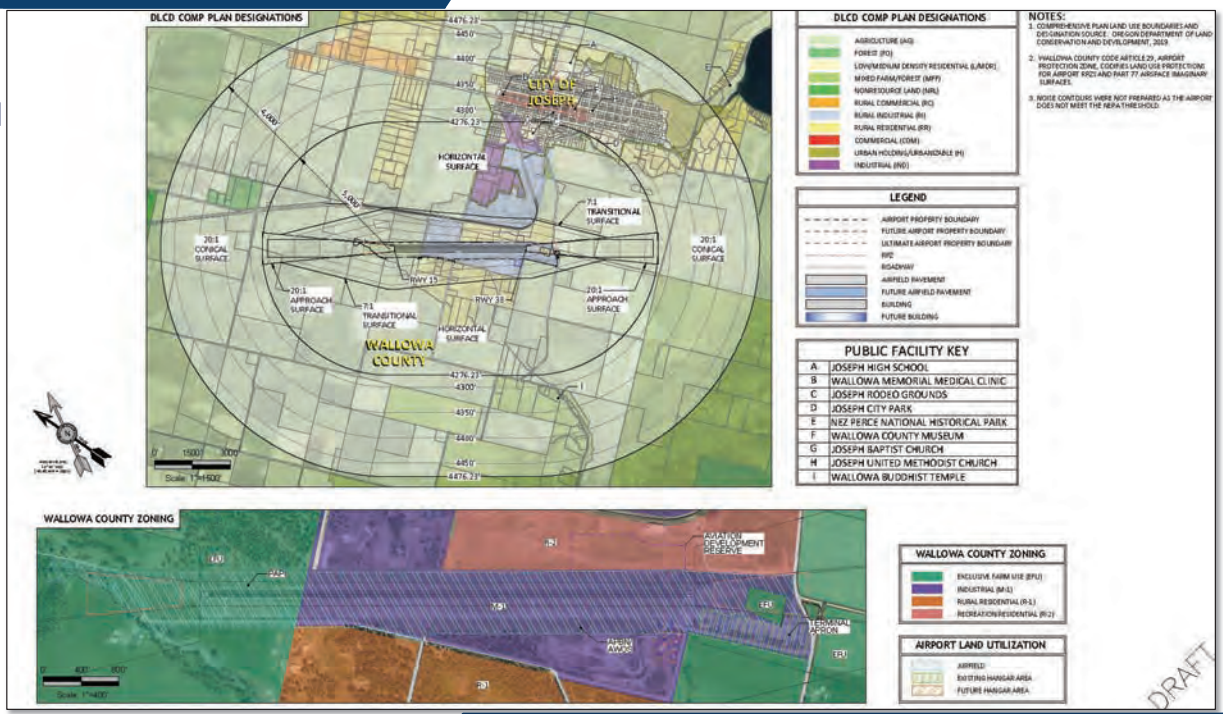
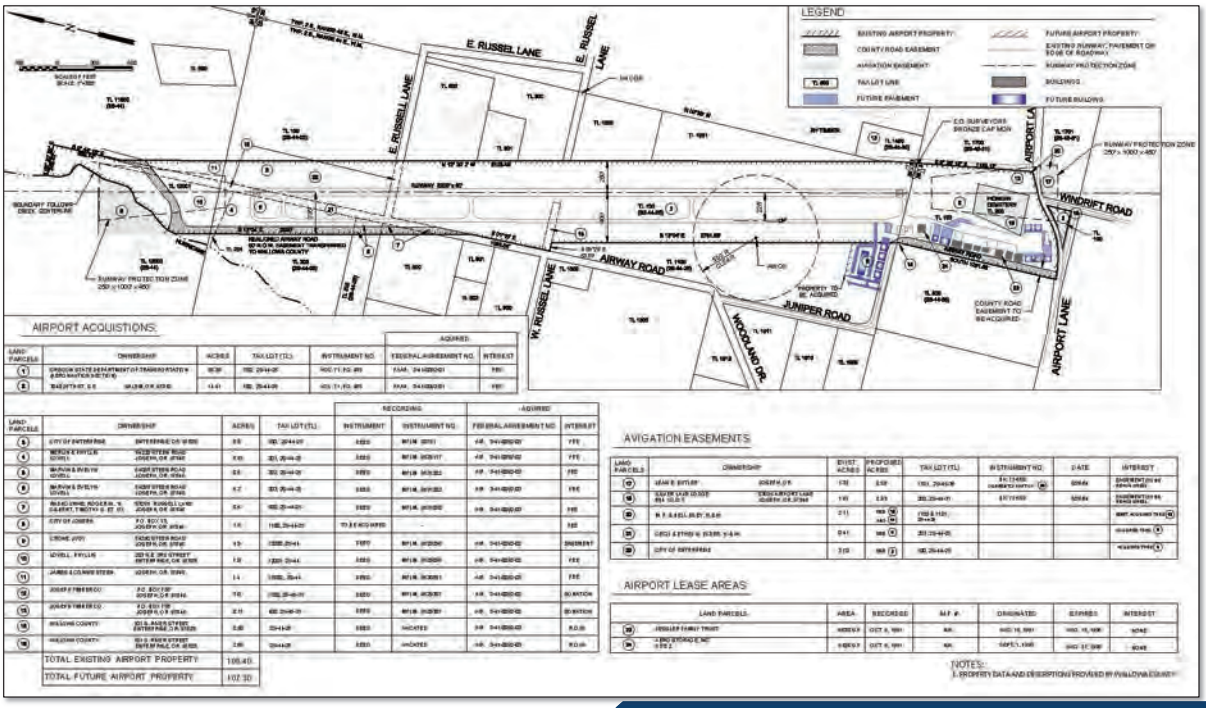


Exhibit A – Property Map



Capital Improvement Program (CIP)

New Airfield Development Projects:

New Airfield Pavement Areas (Aprons, Taxilanes), Hangar Site Development, Fencing, Access, Utility Extensions

Existing Airfield Pavement Maintenance & Rehabilitation Projects:

Maintenance/Rehabilitation (Sealcoats and Overlays) of Existing Airfield Pavements (Runway, Taxiways, Apron, Taxilanes)

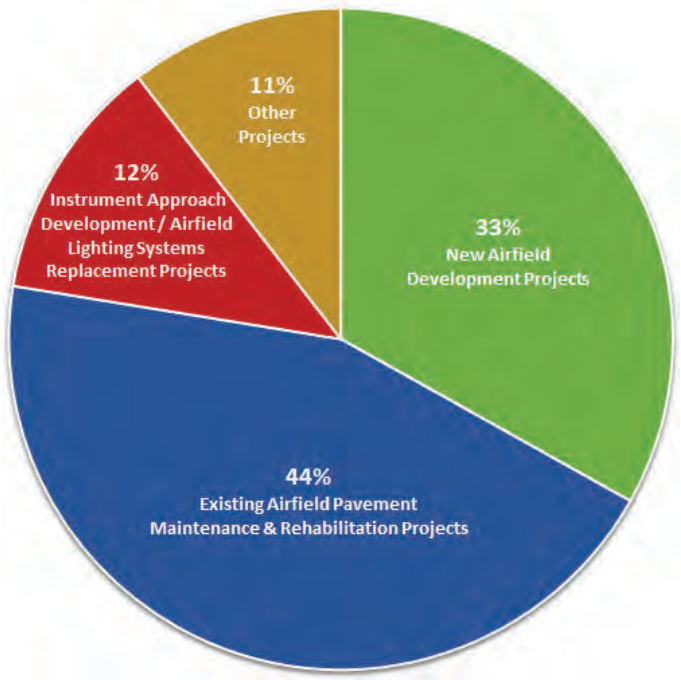
Instrument Approach Development / Airfield Lighting Systems Replacement Projects:

Obstruction Mitigation (Environmental, Design, Construction); Replace Runway Edge Lights, PAPI, REILs, and Airport Beacon

Other Projects:

Property Acquisition (West Hangar Area); Snow Removal Equipment and Building; Pilot Building, Master Plan Update

Phases	Total Phase Costs
Short-Term (0-5 Years)	$4,528,190
Mid-Term (6-10 Years)	$4,323,882
Long-Term (11-20 Years)	$8,796,407
TOTAL	$17,648,479

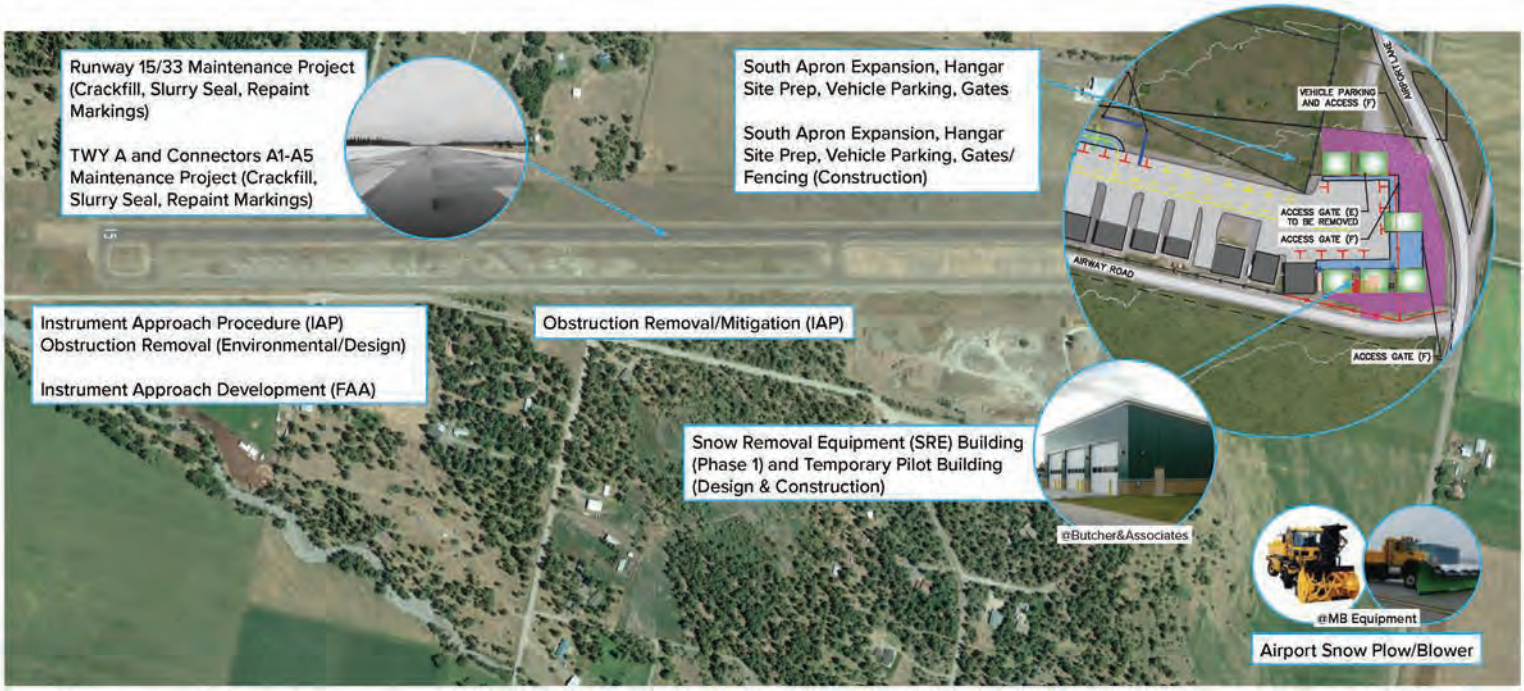


Short-Term Projects (2021-2025)

Year	Short-Term Projects (2021-2025) Description	Total Project Costs
2021-2022	Instrument Approach Development (FAA)	$0
2023	Instrument Approach Procedure (IAP) Obstruction Removal (Environmental/Design)	$526,500
2024	Obstruction Removal/Mitigation (IAP)	$42,900
2024	Runway 15/33 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$687,900
2024	TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates	$607,500
2025	South Apron Expansion, Hangar Site Prep, Vehicle Parking, Gates/Fencing (Construction)	$1,364,790
2025	Snow Removal Equipment (SRE) Building (Phase 1) and Temporary Pilot Building (Design & Construction)	$487,500
2025	Airport Snow Plow/Blower	$350,000
	SHORT-TERM TOTAL (1-5 Years)	**$4,528,190**

Short-Term Projects (2021-2025)

OREGON DEPARTMENT OF AVIATION
JOSEPH STATE AIRPORT (JSY)



Mid-Term Projects (2026-2030)

Year	Mid-Term Projects (2026-2030) Description	Total Project Costs
2026	Mid-Term Airside/Landside Projects (Environmental/Design)	$682,500
2027	South Apron – Transient AC Parking Expansion	$257,833
2028	TWY A and Connectors A2-A3 Rehabilitation (Overlay); Repaint Markings, Replace Edge Reflectors	$1,057,263
2028	TWY A – TOFA Grading, Fence Reinforcement	$331,250
2028	Fuel Apron Reconfiguration/Expansion	$153,586
2028	South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$237,700
2029	Airfield Lighting Replacement/Upgrade: Runway 15/33 MIRL; Rwy 15 PAPI, REIL; Airfield Signs; Airport Beacon; Wind Cone	$1,542,000
2030	Property Acquisition – West Hangar Parcel (Owner – City of Joseph)	$61,750
	MID-TERM TOTAL (6-10 Years)	$4,323,882

Long-Term Projects (2031-2040)

Long Term Projects (2031-2040) Description	Total Project Costs
Pilot Building (Expand SRE – Phase 2)	$297,500
West Hangar Site Development & Taxilanes (Environmental/Design)	$525,000
West Hangar Site Development (Access & Stub Taxilanes Connection to TWY A, Site Preparation, Fencing, Vehicle Parking, New Access Road (Construction)	$2,257,760
TWY A and Connectors A1-A5 Maintenance Project (Crackfill, Slurry Seal, Repaint Markings)	$461,100
Runway 15/33 Maintenance Project (Slurry Seal, Crackfill, Markings)	$687,900
South Apron and Access TWY Maintenance Project (Slurry Seal, Crackfill, Markings)	$235,700
Airport Master Plan Update	$650,000
RWY 15/33 TWY A Connectors A2-A3 Rehabilitation (Overlay)	$2,820,565
South Apron and Access TWY Rehabilitation (Overlay)	$860,882
LONG-TERM TOTAL (11-20 Years)	$8,796,407

Phases	Total Phase Costs
Short-Term (0-5 Years)	$4,528,190
Mid-Term (6-10 Years)	$4,323,882
Long-Term (11-20 Years)	$8,796,407
TOTAL	$17,648,479

Next Steps

- **PROJECT CLOSEOUT**
  - Submit draft ALP plans set to FAA for review (45-90 day process)
  - Prepare the draft AMP report for ODA/FAA review
  - Submit final AMP report & final ALP for FAA signature

- **IMPLEMENTATION**
  - ODA will update the State's CIP (SCIP) with projects identified in the AMP
  - Instrument approach development is underway, separate from the ALP/AMP approval
  - Design and environmental for short-term projects

Public Involvement Feedback

POLL

Please take a moment and provide us any feedback that could help us in presenting future Airport Master Plan projects to the PAC and public.

1. **Were the PAC meetings informative and easy to understand?** Please provide any feedback to improve these in the future.
2. **Did you feel you had sufficient opportunities to provide comments or ask questions on draft work products throughout the planning process?** Either through PAC meetings, emails with ODA/CWE staff, or through the online Open House webpages?
3. **During the course of the master plan, did you visit the virtual open house website or project website? If so, do you have feedback on how these could be improved?**
4. **PAC Meeting Scheduling – What times typically work better for attending planning meetings. Afternoons** (typically 2-5pm) or **Evenings** (typically 6-8pm).

Thank You

Sarah Lucas – Sarah.Lucas@aviation.state.or.us

David Miller - dmiller@centurywest.com

Matt Rogers - wrogers@centurywest.com

Project Website

www.centurywest.com/joseph-state-airport-master-plan/

We invite you to browse the online open house webpage: https://centurywest.com/joseph-open-house-may26/



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