AIRPORT MASTER PLAN UPDATE
Final Report

PROSSER AIRPORT
Prosser, Washington

AIRPORT MASTER PLAN UPDATE

PROSSER AIRPORT (S40)

Final Report

July 2019

Prepared for the:

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Port of Benton, Washington

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CHAPTER 1 - INTRODUCTION

The Port of Benton as owner, operator, and sponsor of the Prosser Airport (Airport) initiates an update of its Airport Master Plan (Plan). The Plan assesses the Airport's existing and future role and provides direction and guidance related to short- and long-term development. More specifically, the Plan was developed in collaboration with the Port of Benton and provides for compliance with current Federal Aviation Administration (FAA) design standards. This project will be managed by a Technical Advisory Committee (TAC) and the Director of Airports and Operations, John Haakenson, and will look at the airside and landside facilities and make recommendations to guide future development.

The Plan is as much about the planning process as it is the resulting document. During development of the Plan update, the project process involves Federal and State agencies, airport users, tenants as well as the general public. Select stakeholders were assembled into a TAC, which met at key points during the planning process. The TAC commented on Plan elements as they were developed and provided feedback to the Airport and the consultant team. In addition to the TAC and the Port of Benton, the FAA and the Washington State Department of Transportation (WSDOT) Aeronautics Division also provided input.

The Prosser Airport is an economic generator for the community, and public outreach is a key part of the planning process.

The remainder of this chapter describes plan purpose, objectives and issues as well as identifies the four-phase planning process created for this planning effort.

1.1 PURPOSE

The purpose of this planning effort is to objectively assess the needs of Prosser Airport from an aviation perspective. The deliverable resulting from the planning process is the Master Plan Update narrative report and ALP adopted by the Port of Benton.

1.2 OBJECTIVES AND ISSUES

Assessing aviation needs, evaluating alternatives, and adopting a Master Plan Update is a complex task. Some basic questions that were evaluated includes:

1. Which aviation services are the most attractive to new business and existing users and why?
2. What costs are required to provide and implement additional aviation infrastructure?
3. What kinds of visitors or companies are likely to be interested in the Airport?
4. What will the basic needs for the Airport be, now and in the future?
5. How might the Airport benefit its community by attracting businesses that provide higher income jobs and quality goods and services?

Answers to the above questions help guide the community to establish a plan that contributes to achieving community goals. It often boils down to economic development efforts, and how a community or region uses its resources, including the Airport, to achieve its community and economic development goals.

1.2.1 OBJECTIVES

The master planning process intends to be an integral part of the community's overall plan. Coordinated planning that enhances the Airport, the Port of Benton, and the City of Prosser is the overall aim. Specifically, the objectives of this study are to:

1. Comply with FAA design standards.
2. Maximize aviation development opportunities.
3. Be environmentally-responsive.
4. Orient the Plan and surrounding properties to be integral to the existing operations and facilities.
5. Focus on future development of the Airport and to contribute to the image and commercial activity of the Airport.
6. Develop the Airport and associated properties in a coordinated and comprehensive manner, taking maximum advantage of the assets of the Port of Benton.
7. Orient the planning and development of the Airport in order to achieve the *highest* and *best* use of the site. Evaluate specific users and uses on a case-by-case basis. Highest and best use should be interpreted in terms of the following factors: use of physical site assets, economic benefit, jobs created and salaries, fiscal impact and contribution to the overall objectives of the Port of Benton and the City of Prosser.
8. Evaluate Airport development relative to both long and short-term costs and benefits, accommodating a range of potential aviation uses.
9. Consider regional economic goals in preparing a development strategy for the Airport.
10. Minimize off-site impacts, particularly those affecting surrounding, neighboring areas.

1.2.2 ISSUES

The previous Master Plan Process was most recently completed at Prosser Airport in July 2006. FAA and WSDOT determined that an update to the plan would be beneficial given current activity and economic conditions. The Port of Benton consulted with FAA, WSDOT and the master plan consultant to identify potential issues and create a work plan to evaluate issues, grant assurance compliance and plan for future growth. Some of those issues are as follows and will be given particular attention throughout the planning process.

Issue Number One:
Protect Airspace/Dispose of Obstructions to Navigable Airspace

The grant assurances noted above relate to maintenance of sufficiently clear airspace for unobstructed aircraft operations at the Prosser Airport. Providing and maintaining clearance of existing airspace is addressed along with the potential future airspace needs. Future Airport improvements may expand the Airport's need for unobstructed airspace and require coordination with various Agencies.

Issue Number Two:
Ensure Runway Length Adequacy

This issue, and the remaining issues, are somewhat related and have the potential to substantially change Prosser Airport in the long-term. In general, and as discussed in the upcoming sections, runway lengths are determined based upon the requirements for the aircraft that use them. Now and possibly in the future, a sufficient quantity of demanding aircraft may use the Airport in a frequency to suggest an increase in runway length is needed.

Issue Number Three:
Identify Airfield Design Standards/Ensure Adequacy

Similar to the runway length adequacy concern of the previous issue, a sufficient number of aircraft may now, or in the future, use the Airport, triggering modifications of the Airport's design standards, including pavement strength, length, widths, separations, and other physical, on-the-ground features.

Issue Number Four:
Identify and Address Landside Needs

This final issue is somewhat of a catch-all for other issues. Landside in this context relates to aircraft parking aprons, tie-down and hangar spaces, aircraft fueling and other services provided to the flying public, automobile access and parking, and other important features which serve to support the airside of the Airport.

1.3 PLANNING PROCESS

The Master Plan Update develops through a planning process which begins with the collection of data and mapping efforts used in the study and develops the associated Airport Layout Plan (ALP) drawings for the Airport.

The documentation of the Master Plan Update planning process and the ALP drawings is prepared in accordance with FAA guidelines, policies and procedures and applicable federal and state laws and standards. Previous reports and associated work are reviewed, as necessary.

The project process is engaged in full coordination with the Port of Benton, federal, state, and local planning agencies, the representatives of which are consulted for input and invited to attend progress meetings, public meetings or other meetings associated with the process. The end result provides a planning document recommending a responsive course of action and a scheduled plan, complete with current cost estimates for facility improvements.

Prior to initiation of this project, the prerequisite project scope of services, budget and schedule were reviewed in detail for appropriateness and economic responsibility prior to being approved by the FAA. The planning process and its project workflow consist of four project phases, described as below and in upcoming pages.

1.3.1 PROJECT PARTICIPANTS

The Port of Benton Commissioners make final decisions about the future of the Prosser Airport through the course of the master planning process. Various airport constituencies, including the general public, and nearby home and business owners are consulted through the public participation process. John Haakenson, Director of Airports and Operations, is the primary information conduit for the master plan consultant.

FAA is responsible for reviewing and approving the aviation activity forecasts and internally circulating the Plan for integration in the National Airspace System (NAS). FAA and WSDOT are advised on project progress and documents at key project points.

The airport master plan consultant prepares project documentation, guides project progress, soliciteds guidance, and works to build consensus from Plan participants at key project points.

1.3.2 PROJECT PHASE ONE

Phase One project activities includes the drafting of Chapter Two: Inventory and Chapter Three: Forecasts of Aviation Demand. Efforts associated with Chapter Two involves information acquisition not limited to; existing facilities and previous improvements, aerial and land based surveys, identifying land uses, airspace and navigational aids, along with gathering socioeconomic, environmental, and financial data. Efforts associated with Chapter Three include evaluation and formulation of socioeconomic and aviation activity projections culminating in aviation activity forecasts specific to three future periods of time: Short, the initial five-year period, Intermediate, the following five-year period, and Long term, the last 10-year period of the 20-year planning horizon.

FAA and WSDOT reviews and comments on these first three chapters, and approves the Aviation Activity Forecasts. Comments are also solicited and addressed from the TAC, Public, and Port Commissioners.

1.3.3 PROJECT PHASE TWO

With FAA approval of the Aviation Activity Forecasts, the planning process then moves to Phase Two.

Chapter Four: Facility Requirements are initially developed using information gathered in previous work with the Airport and the Port of Benton. Efforts associated with Chapter Four involve evaluation of the Airport's service capabilities along with physical airside and landside requirements and an appraisal of grant assurance compliance and airport security requirements.

Chapter Five: Alternatives Analysis considers various airfield and landside improvement alternatives which may meet demand over the three planning periods. These alternatives are presented to the TAC for consideration and comment.

FAA and WSDOT reviews and comments on Chapters Four and Five. Comments are also solicited and addressed from the TAC and Port Commissioners.

The Port of Benton, together with input from the TAC, Planning Consultant, and FAA, ultimately select the preferred alternative(s) as presented in this Plan. This is the most crucial and important step in the creation of this Plan and execution of its process.

1.3.4 PROJECT PHASE THREE

Phase Three work includes creation of Chapter Six.

Chapter Six: Phased Development and Cost Estimates which sequences and provides cost estimates for Airport improvements pursuant to the preferred alternative(s). This phase also includes development of Chapter Seven: Airport Layout Plan and Drawings, which depict existing and future airport features and improvements per FAA's Standard Operating Procedures 2.00 Airport Layout Plan checklist.

FAA and WSDOT review these chapters and provide comments, resulting in the Pre-Draft Plan. The pre-draft narrative describes and illustrates the recommended course of action, over the 20-year planning period. Comments are solicited from the TAC and Director of Airports and Operations and addressed prior to presenting the Pre-Draft Plan to the public with the Port of Benton to discuss the document and its recommendations.

Once comments from FAA, WSDOT, the TAC, and Port of Benton are sufficiently addressed, Phase Three concludes, with the Draft Airport Master Plan.

1.3.5 PROJECT PHASE FOUR

The Plan process then moves to its final phase. with the approval of the Draft Master Plan.

The Draft Master Plan narrative and associated ALP drawings are submitted to FAA for coordination. Coordination or 'airspacing', is an FAA internal, multi-jurisdictional 2 to 3-month process. It consists of an internal review process wherein the Plan and ALP drawings are reviewed for continuity and conformity to FAA standards and specifications, and principal changes are included in the National Airspace System.

1.3.6 PROJECT PHASE FIVE

The fifth and final project milestone involves the Port of Benton Commissioners concurrence with the Final Airport Master Plan.

Upon completion of the Plan narrative report, full-size (24" x 36") copies of the ALP Drawings are signed by the Port of Benton and the FAA, and are kept on file along with the narrative report at the respective offices of the FAA Seattle Airport District Office, the Port of Benton and the master plan consultant.

1.4 CONSULTANT AGREEMENT AND STUDY DOCUMENTATION

The Port of Benton entered into an agreement with J-U-B ENGINEERS, Inc. in August 2015 to conduct the master planning effort and to prepare this document.

1.4.1 REFERENCE DOCUMENTS

This study is prepared in accordance with these documents:

Previous Airport Documents (Various Years)

Various Local and State Resources and Websites

WSDOT Aviation Documents (System Plan, Pavements, Economic, Land Use)

Various Airport Cooperative Research Program (ACRP) Documents

FAA Terminal Area Forecast (TAF) and Other FAA Forecast Approval-Related Guidance

FAA Memoranda, Regional and Interim Guidance

FAA SOP 2.0	*Standard Procedure for FAA Review and Approval of Airport Layout Plan (ALPs)*
FAA SOP 3.0	*Standard Operating Procedure for FAA Review and Approval of Exhibit 'A' Airport Property Inventory Maps*
FAA SOP 6.0	*Standard Operating Procedure for FAA Review and Approval of Airport Improvement Program (AIP) Grant Application*
FAA SOP 8.0	*Standard Operating Procedure for Runway Safety Area Determination*
150/5190-4A	*A Model Zoning Ordinance to Limit Height of Objects around Airports*
150/5070-6B	*Airport Master Plans*
150/5190-7	*Exclusive Rights and Minimum Standards for Commercial Aeronautical Activities*
150/5300-13A	*(1) Airport Design*
150/5340-1L	*Standards for Airport Markings*
150/5340-18F	*Airport Sign System Standards*
150/5300-16A	*General Guidance and Specifications for Aeronautical Surveys*
150/5300-17C	*General Guidance and Specifications for Aeronautical Survey Airport Imagery Acquisition and Submission to NGS*
150/5300-18B	*General Guidance and Specifications for Submission of Aeronautical Surveys to NGS; Field Data and Collection and GIS Standards*
150/5020-1	*Noise Control and Compatibility Planning for Airports*
150/5050-4	*Citizen Participation in Airport Planning*
150/5230-4B	*Aircraft Fuel Storage, Handling and Dispensing on Airports*
150/5325-4B	*Runway Length Requirements for Airport Design*
150/5340-5D	*Segmented Circle Airport Marker System*
150/5390-2C	*Heliport Design*
5190.6B	*Airport Compliance Manual*
5200.8	*Runway Safety Area Program*
5100.38C	*Airport Improvement Program Handbook*
5100.37B	*Land Acquisition and Relocation Assistance for Airport Projects*
5090.3C	*Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*
5050.4B	*NEPA Implementing Instruction for Airport Actions*
1050.1F	*Environmental Impacts; Policies and Procedures*

Various FAA Advisory Circulars for Landing and Visual Aids, Pavements Design and Maintenance

Environmental Desk Reference for Airport Actions

1.4.2 NARRATIVE REPORT CONTENT

This narrative report presents these chapters:

Chapter 1	Introduction
Chapter 2	Existing Conditions
Chapter 3	Forecasts of Aviation Demand
Chapter 4	Facility Requirements
Chapter 5	Alternatives Analysis
Chapter 6	Phased Development and Cost Estimates
Chapter 7	Airport Layout Plan and Drawings

Appendices:

Appendix A	Planning for Compliance
Appendix B	Airport Recycling Plan
Appendix C	RPZ Memorandum
Appendix D	Public Involvement Summary

These ALP Drawings are found in Chapter 7:

	Cover and Index
Exhibit 2	Airport Layout Plan
Exhibit 3	Technical Data
Exhibit 4	Airport Airspace Plan
Exhibit 5	Inner Portion of Runway 8 Approach Surface Drawing
Exhibit 6	Inner Portion of Runway 26 Approach Surface Drawing
Exhibit 7	Terminal Area Plan
Exhibit 8	Land Use Plan
Exhibit 9	Airport Property Inventory Map (Exhibit A)

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2.0 INTRODUCTION

This chapter intends to provide background information and an inventory of the Airport and its environs. Quality, relevant baseline information in this regard is necessary for plan integrity.

Data herein is obtained from investigation and interviews, consulting firm experience with the Airport and its projects along with Port of Benton staff guidance, FAA input, WSDOT consultation, along with various other governmental agencies and websites.

Prosser Airport is owned, operated, and sponsored by the Port of Benton and managed and guided by the Port's Commissioners through John Haakenson, Director of Airports and Operations.

2.1 BRIEF AREA HISTORY

Prosser is located near the eastern end of the Yakima Valley and the Yakima River runs through the City. The Prosser area was home to Native Americas who lived along and fished the Yakima river as a food source prior to the area being settled in 1882 by Colonel William Farrand Prosser. Soon after homesteading began, the Northern Pacific Railroad made a connection to Prosser, making it a part of a transcontinental railroad network. A town plat was filed by Colonel Prosser in 1885 and the City of Prosser was officially incorporated in 1899 with a population of 229 people. In 1905, Benton County was established through taking portions of Yakima and Klickitat counties. The City of Prosser was established as the county seat. The greater Prosser area is now at the heart of Washington's Wine County with nearly 40 wineries in the area.

2.2 BRIEF AIRPORT HISTORY

Prosser Airport was first established in 1935 with development of a turf airstrip. It was originally owned by the City of Prosser. In 1961 it was transferred to the Port of Benton. Since its inception, Prosser Airport has served the regional aviation community as a general aviation airport. The Port provides for multi-modal transportation including two airports (Prosser and Richland), short line rail, barge, and trucking amenities. The Prosser Airport is located in Benton County one mile northwest of the Prosser central business district. It occupies 120 acres of land of which approximately 100 acres are used for aeronautical uses.

Table 2-1 provides a brief overview of project history.

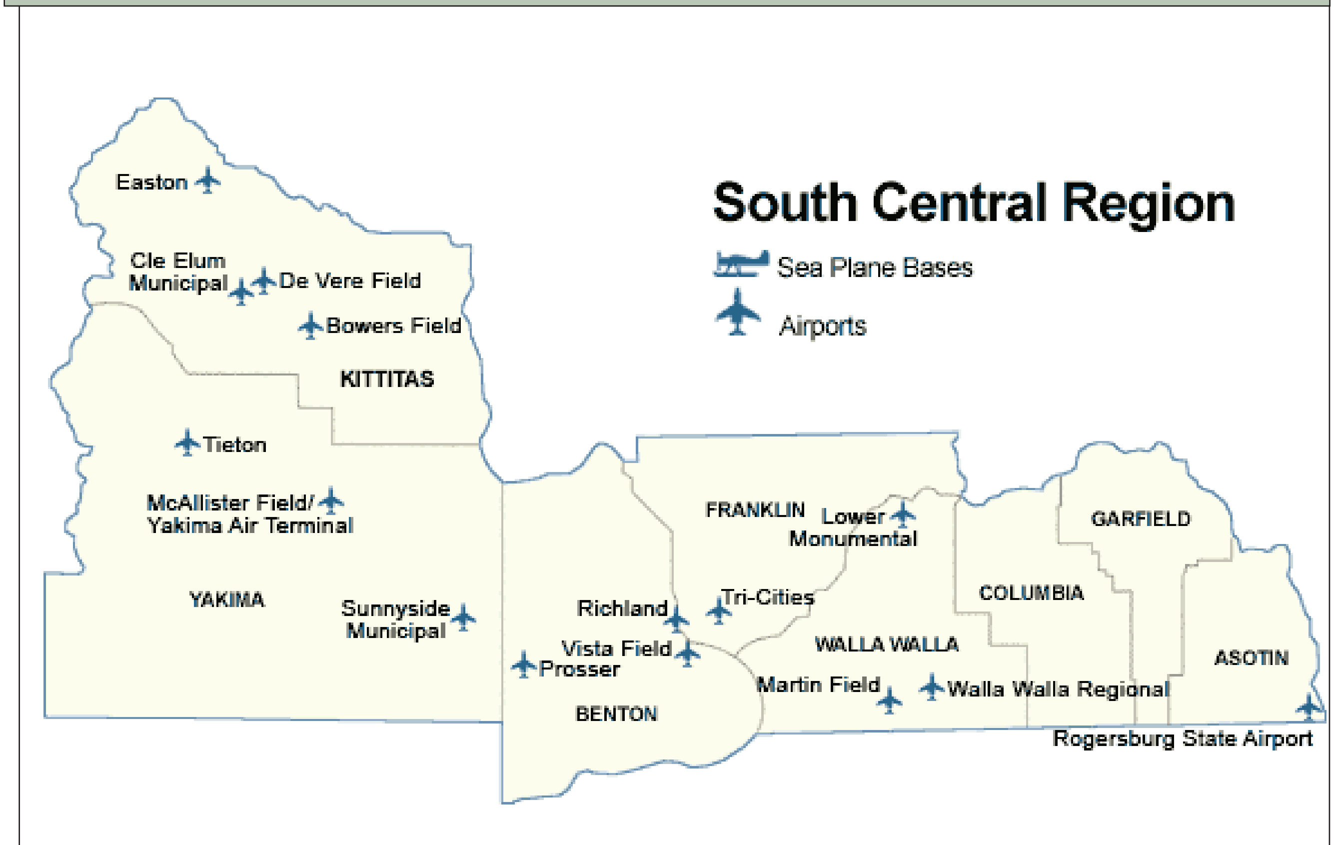
2.3 AIRPORT ROLE

This planning effort is intended to instruct and supplement state and federal airport planning efforts. This Plan is a more detailed look at the Prosser Airport, while national and state planning step back somewhat and generally consider the role the Prosser Airport plays in the overall system of federal and state airports.

As part of Washington State's Aviation System, Prosser Airport is one of 134 public-use airports statewide and is an important resource to the state's overall transportation network. It also functions as part of the National Airspace System that links regional and local airports to the larger integrated transportation system. Figure 2-1 shows the South Central Region of Washington State Public Use Airports.

TABLE 2.1 PROSSER AIRPORT MAJOR MILESTONES	
Year	**Event**
1934	City of Prosser built George Beardsley Airport with a turf landing strip
1948	Landing strip upgraded to gravel and east-west runway established and designated 7-25. A parallel gravel-surface taxiway and apron is also constructed.
	Avigation easements were secured for the adjacent non-airport land to provide the necessary approach and clear zones for the runway.
1961	Ownership transferred from the City of Prosser to the Port of Benton.
	Runway 7-25 received its first 3,200 feet of paved surface.
1977	Extension and re-paving of Runway 7-25 expanded the runway to its current dimensions of 3,451 feet by 60 feet.
1987	Water and sewer extended to the airport.
1988	A 3,750 square foot incubator building built, leased and expanded.
1994	Capital Improvement projects completed including an overlay of the runway and parallel taxiway, expansion of the central apron, paving of the north itinerant apron, and installation of the Precision Approach Path Indicators (PAPIs)
2001	Port of Benton acquires the 13+ acre B&K property and constructs an asphalt /concrete apron.
2006	Airport Master Plan Update.
2006 to 2009	Environmental assessment, design and construction to shift Runway 7-25 1,055 feet west.
2010	Land Acquisition for Approaches, Pavement Rehabilitation (Crack seal), Update Airport Master Plan for East End hangar development.
2012	An Automated Weather Observation System (AWOS – I) installed.
2014	Airfield Pavement Rehabilitation (crack seal and seal coating) and a reconstruction of the Airport Entrance Road/Hangar TL was performed. In addition, Runway 7/25 was re-designated as Runway 8/26 due to shifting magnetic variation. Hold sign panels and Runway and Taxiway pavement markings were updated/replaced to reflect the new designation.
2015-2019	Master Plan and Airport Layout Plan Update.
Source: J-U-B	

FIGURE 2-1
WASHINGTON STATE PUBLIC USE AIRPORTS



Source: WSDOT

2.3.1 FEDERAL PLANNING

Prosser Airport is part of the US National Transportation System and the Federal Aviation Administration's (FAA) National Plan of Integrated Airport Systems (NPIAS). Of the nation's nearly 5,200 public-use airports, the NPIAS comprises 3,331 airports which are considered, by FAA, significant to the capacity and integrity of the national airspace system.

Because of NPIAS participation, the Port of Benton, as sponsor is eligible, and has received federal funding for airport improvements under the Airport Improvement Program (AIP). Funds to pay for NPIAS improvements originate with the AIP program. AIP is a user-fee based program, funded through the Airport and Airways Trust Fund as originated through the Airport and Airway Improvement Act of 1982, as amended. This grant-in-aid program provides the funding to execute most federal, state and local airport planning. This planning effort, along with planning done by WSDOT may be used to consider the quality and quantity of Prosser Airport's participation in the NPIAS.

The current NPIAS identifies the Airport as a public use, local (as opposed to basic service, regional service or an airport of national importance) general aviation airport, with 51 based aircraft and $2,722,200 of anticipated development needs for eligible improvements.

FAA has also fielded two system planning documents for general aviation airports:

- ASSET 1: General Aviation Airports: A National Asset (May 2012)
- ASSET 2: In-Depth Review of the 497 Unclassified Airports (March 2014)

These efforts serve to segregate general aviation airports into service levels based upon type (propeller/ jet) of based aircraft and aircraft operations.

2.3.2 STATE PLANNING

Prosser Airport is eligible to receive funding through WSDOT and other state agencies. State law directs WSDOT to perform periodic system plan updates in response to changes in the aviation industry, community, and system. WSDOT has received funds from FAA to update the Washington Aviation System Plan (WASP)

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and is being overseen by the Washington State Aviation System Plan Advisory Committee. The primary purpose of the WASP update is to study the performance and interaction of Washington's entire aviation system; and, to understand the contributions of individual airports to the system as a whole. Additionally, the study involves examining aviation user requirements, current airport usage levels and based aircraft and capacity to meet current and future demand. At the time of this Master Plan the most recent WASP was completed in 2009, while the 2015 update is currently underway, but not complete. The timeline on the WASP study is to have the plan finalized by January 2017.

The 2009 WASP identifies the Prosser Airport as one of 23 Community Service Airports. The Distribution of Airport is defined as follows:

- **Commercial Service** - Accommodates at least 2,500 scheduled passenger boardings per year for at least three years.
- **Regional Service** - Serves large or multiple communities; all NPIAS relievers; 40 based aircraft and 4,000-foot long runway, with exceptions.
- **Community Service** - Serves a community; fewer than 20 based aircraft; paved runway.
- **Local Service** - Serves a community; fewer then 230 based aircraft; paved runway.
- **Rural Essential** - Other land-based airports, including residential airports.

The Washington State legislature (ESSB 5121) designated four geographic regions in the state for special attention in the Long-Term Air Transportation Study (LATS) (2009). These four regions, known as Special Emphasis Regions (SER) in the study, concentrated key centers of population, employment, and economic activity in Washington. The Washington State Legislature deemed it essential to ensure that airport facilities within these regions support current conditions and future needs. One of the four designated Special Emphasis Regions is the Tri-Cities consisting of Benton and Franklin Counties. The LATS performance objectives for Community Service Airports such as Prosser are focused on providing airports with the capability to accommodate medevac and air taxi operations, including potential operations in very light jets (VLJ).

The WSDOT 2012 Airport Economic Profile estimates regional impacts from visitor spending account for $94,000 of wages and $287,000 of total economic activity were related to the Prosser Airport in 2010. The Airport Economic Profile notes that 46 aircraft based at Prosser in 2012 along with 6,000 general aviation operations that same year consisting of general itinerant and local operations.

WSDOT occasionally performs inventories of airfield pavement conditions at various airports, including Prosser using the pavement condition index (PCI) procedure set forth by the FAA and is the standard used by the aviation industry to visual assess pavement conditions. The results of the PCI evaluation provide an indicator of the structural integrity and functional capability of the pavement. WSDOT's 2012 Pavement Management Program Update identifies the following numerical reference index ranges:

- PCI Score of 0-10: Reconstruction
- PCI Score of 11-25: Reconstruction
- PCI Score of 26-40: Reconstruction
- PCI Score of 41-55: Major Rehabilitation
- PCI Score of 56-70: Preventative Maintenance/ Major Rehabilitation
- PCI Score of 71-85: Preventative Maintenance
- PCI Score of 86-100: Preventative Maintenance

Table 2.2 and Figure 2-2 depict the 2012 Pavement Conditions Indices at the Prosser Airport.

TABLE 2.2
PAVEMENT CONDITION INDEX INVENTORY

SECTION	PCI
Runway 8/26	
East end	82
West end	100
Aprons	
North Apron - West Portion	68
North Apron - East Portion	82
FBO Apron East	77
FBO Apron West	76
Fueling apron/PCC	79
East hangar TL area	86
East hangar TL area	100
East hangar TL area	96
East hangar TL area	91
Main apron	79
West Holding bay apron	100
Taxiways	
Taxiway A3	80
Taxiway A	89
Taxiway A West	100
Portion of Taxiway A4	78
Taxiway A4	100

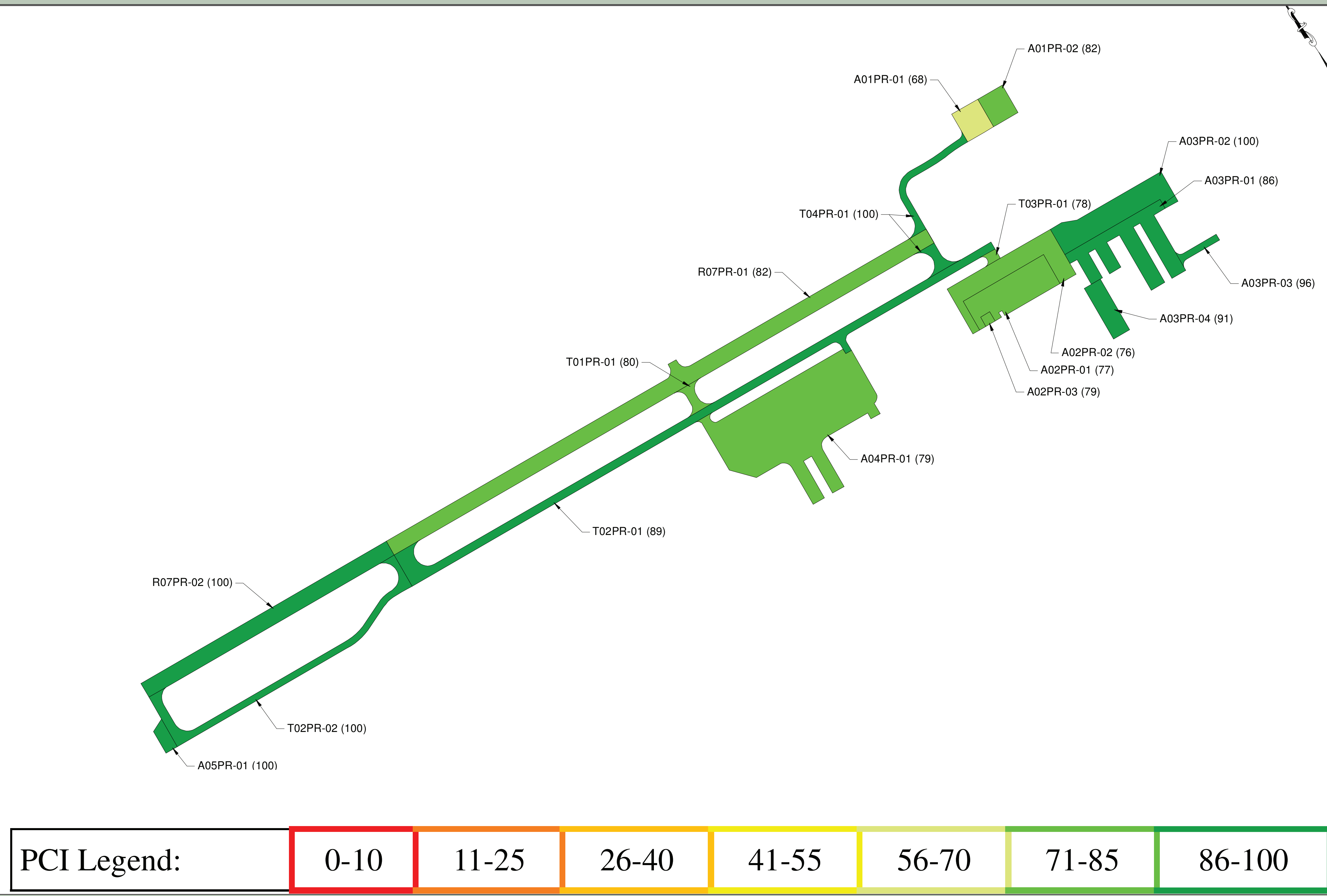
Source: WSDOT

WSDOT occasionally performs an analysis to estimate the economic impacts of Washington airports. The Washington State Department of Transportation 2012 Airport Economic Impact Study provided an economic profile for the Prosser Airport expressed in 2010 dollars. The estimated regional impact to Benton and Yakima counties from airport business was $332,000. Estimated statewide impacts from visitor spending was $287,000, and the estimated taxes paid were estimated at $23,110. The analysis of economic activity was based upon the Prosser Airport. The Port of Benton has over $53 million in assets; 10 sites over 2,103 acres and manages a $9.8 million budget with operations covered by lease income and taxes dedicated to capital projects.

2.3.3 PREVIOUS AIRPORT PLANNING

The most recent airport planning document on file is an Airport Master Plan update dated July 2006. That narrative and its Airport Layout Plan (ALP) drawings provided the matter-of-course planning analyses including identifying a number of non-standards conditions and obstructions to navigable airspace, development alternatives and a recommended course of action per a series of phased improvements. Table 2.3 identifies historical FAA and WSDOT grant funding.

FIGURE 2-2
2012 PAVEMENT CONDITIONS INDICES AT THE PROSSER AIRPORT



Source: Washington Aviation System Plan

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TABLE 2.3
HISTORICAL FAA AND WSDOT GRANT FUNDING

Work site: Prosser Airport, Prosser, Washington Locid: The Prosser Airport			FAA Funding			5% State Match	Port of Benton	Project Total	WSDOT Grant No.
Grant Number	**FY**	**Description**	**Non-Primary Entitlement**	**State Apportionment**	**FAA Total**				
9-45-022-701	1948	Land acquisition; Clearing; Grading & drainage of landing area (300'x3873'), taxiways & building area; Construct runway (100'x3673'), Taxiways, apron, access road & automobile parking area;	$13,756	$-	$13,756		$724	$14,480	
9-45-022-002	1950	Install airport lighting system include Medium Intensity Runway Lighting; Install segmented circle	$6,317	$-	$6,317		$332	$6,649	
PGP A-53-0050-01	1975	Preparation of an Airport Master Plan for George O. Beardsley Field	$7,667	$-	$7,667		$404	$8,070	
5-53-0050-01	1977	Acquire land (Areas B1, B2, & C4); Install lighted wind cone, segmented circle, & rotating beacon; obstruction removal; Reconstruct & mark Runway 7/25 including turnarounds(3,480'x60'); Construct access road (290'x30'); construct & mark stub Taxiway Continued	$150,000	$100,000	$250,000		$13,158	$263,158	
		(275'x30'); Construct aircraft parking & service apron (4,900 sy); Rehabilitate Medium Intensity Runway Lighting	$-	$-			$-	$-	
5-53-0050-02	1981	Construct & mark parallel taxiway	$94,705	$-	$94,705		$4,984	$99,690	
3-53-0050-01	1989	Master plan update;	$40,500	$-	$40,500		$2,132	$42,632	
3-53-0050-02	1991	Acquire land, Parcels C-1A & C-1B, include relocation	$130,681	$-	$130,681		$6,878	$137,559	
3-53-0050-03	1995	Overlay Runway 7/25; Overlay parallel & connector Taxiways; Overlay & expand General Aviation apron; Install perimeter fencing (2,244 l.f.); Install Precision Approach Path Indicator, Runway 7/25; Revise Airport Layout Plan	$150,000	$271,365	$421,365		$22,177	$443,542	
3-53-0050-04	1999	Acquire land for development (Tracts 7&9); Update Exhibit A	$108,507	$-	$108,507		$5,711	$114,218	
3-53-0050-05	2000	Install/reconstruct Runway 7/25 medium intensity runway lightings (MIRL); Construct general aviation aprons, including connecting taxiways; Construct t-hangar taxiways; Construct access road; Install signs;	$150,000	$690,785	$840,785		$44,252	$885,037	
3-53-0050-006	2002	Update airport master plan study	$85,303	$-	$85,303		$4,490	$89,793	
3-53-0050-007	2003	Install perimeter fencing (approx. 7,700 l.f. include gates)	$99,703	$-	$99,703		$5,248	$104,951	
3-53-0050-008	2004	Rehabilitate Runway 7/25 and taxiways (slurry seal); Install pilot radio controls on Runway 7/25 lighting; Install Runway End Identification Lights (REILs) Runway 7/25; Replace beacon including tower	$150,000	$14,744	$164,744		$8,671	$173,415	
3-53-0050-009	2006	Relocate/shift Runway 7/25, including environmental (Phase 1); Conduct ALP update	$150,000	$1,789	$151,789		$7,989	$159,778	
3-53-0050-010	2008	Relocate/shift Runway 7, including land , Parcel 13 (Smith) and Parcel 15 (DeLeon) acquisition (Phase 2)	$88,104	$-	$88,104		$4,637	$92,741	
3-53-0050-011	2009	Relocate/shift Runway 7, including land , Parcel 20 (Sybouts), Parcel 21 (Killian) and parcel 22 (McGrew) acquisition and construction (Phase 3)	$150,000	$2,201,572	$2,351,572	$72,750	$51,017	$2,475,339	PRO-01-09
3-53-0050-012	2009	Extend/shift Runway 7 (Phase 4), including shifting the parallel taxiway	$150,000	$408,402	$558,402		$29,390	$587,792	
3-53-0050-013	2010	Acquire approach land Parcel 14 (Whited), Parcel 15 (DeLeon), Parcel 16 (Martin): Rehabilitate Runway 7/25, taxiways and aprons (crack seal); Update Airport Layout Plan;	$150,000	$496,208	$646,208		$34,011	$680,219	

TABLE 2.3
HISTORICAL FAA AND WSDOT GRANT FUNDING

Work site: Prosser Airport, Prosser, Washington Locid: The Prosser Airport			FAA Funding			5% State Match	Port of Benton	Project Total	WSDOT Grant No.
Grant Number	FY	Description	Non-Primary Entitlement	State Apportionment	FAA Total				
3-53-0050-014	2012	Install Weather Reporting Equipment	$150,000	$14,966	$164,966	$-	$18,330	$183,296	
3-53-0050-015	2014	Rehabilitate Apron, Rehabilitate Runway - 07/25, Magnetic Variation Update Rwy to 8/26	$150,000	$323,538	$473,538	$-	$52,615	$526,153	
3-53-0050-016	2015	Update Airport Master Plan Study	$150,000	$116,537	$266,537	$-	$29,615	$296,152	

Source: FAA

2.4 AIRPORT INVENTORY

Prosser Airport is located within the limits of both the City of Prosser and Benton County and is in the Benton-Franklin-Walla Walla Regional Transportation Planning Organization (RTPO). The closest interstate to the Prosser Airport is I-82, (approximately 1.3 miles to the north) and the closest Federal highway is US 12 (also approximately 1.3 miles to the north). The closest state highway is the Old Inland Empire Highway which runs adjacent to the Prosser Airport along its northern boundary. The Yakima River lies to the south of the airport. The Prosser Airport is bordered on all four sides by public roads. Primary vehicle access to the airport is on the south side via Nunn Road. Figure 2-3 shows the Prosser Airport in relation to Benton County and the City of Prosser while Figures 2-4 and 2-5 show the zoning for each jurisdiction, respectively.

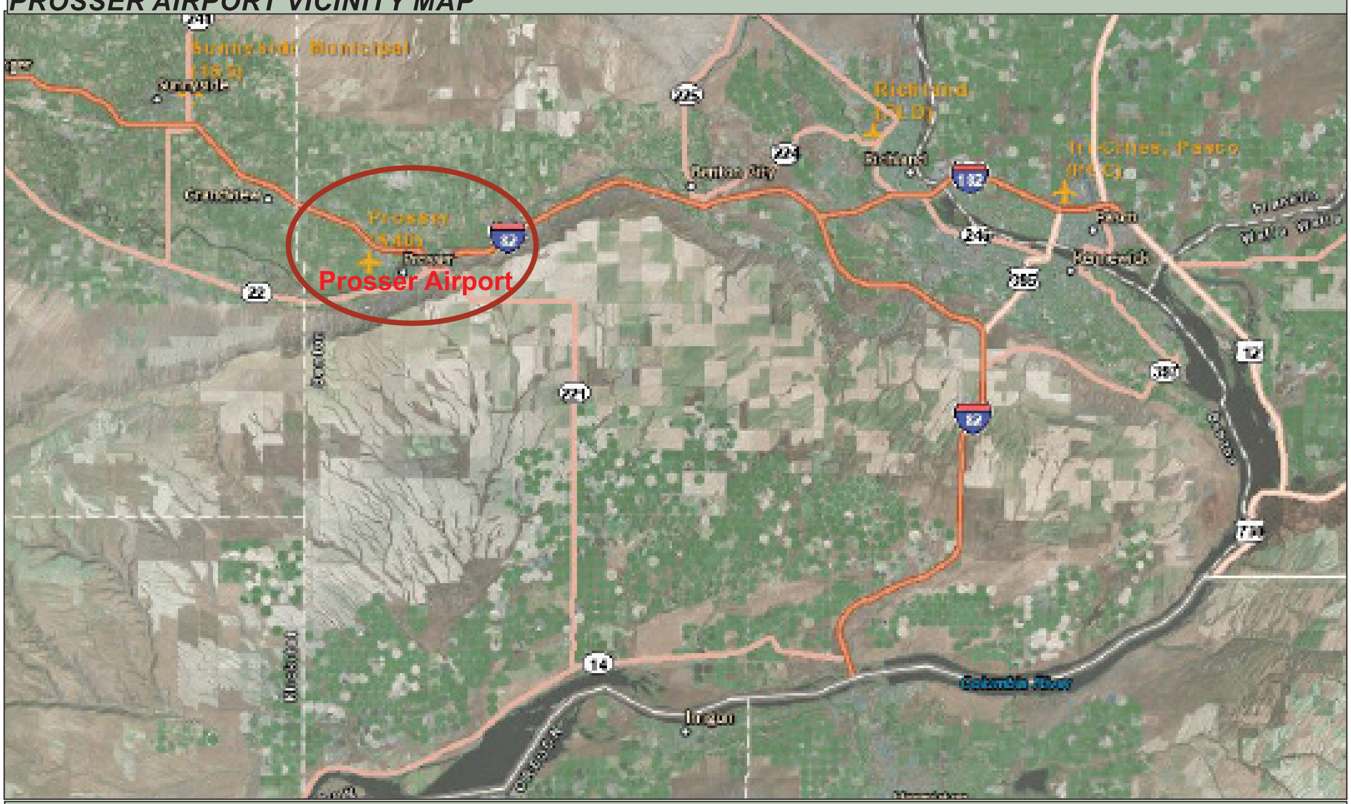
Prosser Airport is located near North 46° 12' 48.1372" and West 119° 47' 44.0264" and at 705 foot elevation. Prosser Airport properties currently approximate 120 total acres with an estimated 100 acres for aeronautical uses.

The Prosser Airport is equipped with a rotating beacon. The rotating beacon alternates green and white, indicating nighttime availability of a public-use, civilian airport. The airport also equipped with an Automated Weather Observing System (AWOS), located on the south side of the runway and west of the west apron. The AWOS provides real-time local weather information for the flying public and can be reached at 121.125 MHz or by dialing 509-786-8889. A Segmented Circle is located on the north side of the runway. The Segmented Circle indicates traffic pattern, and found within the circle is a lighted primary Wind Cone displaying wind vector information. A supplemental Wind Cone is found near the end Runway 8 end on the north side and is not lighted.

2.4.1 RUNWAY 8-26

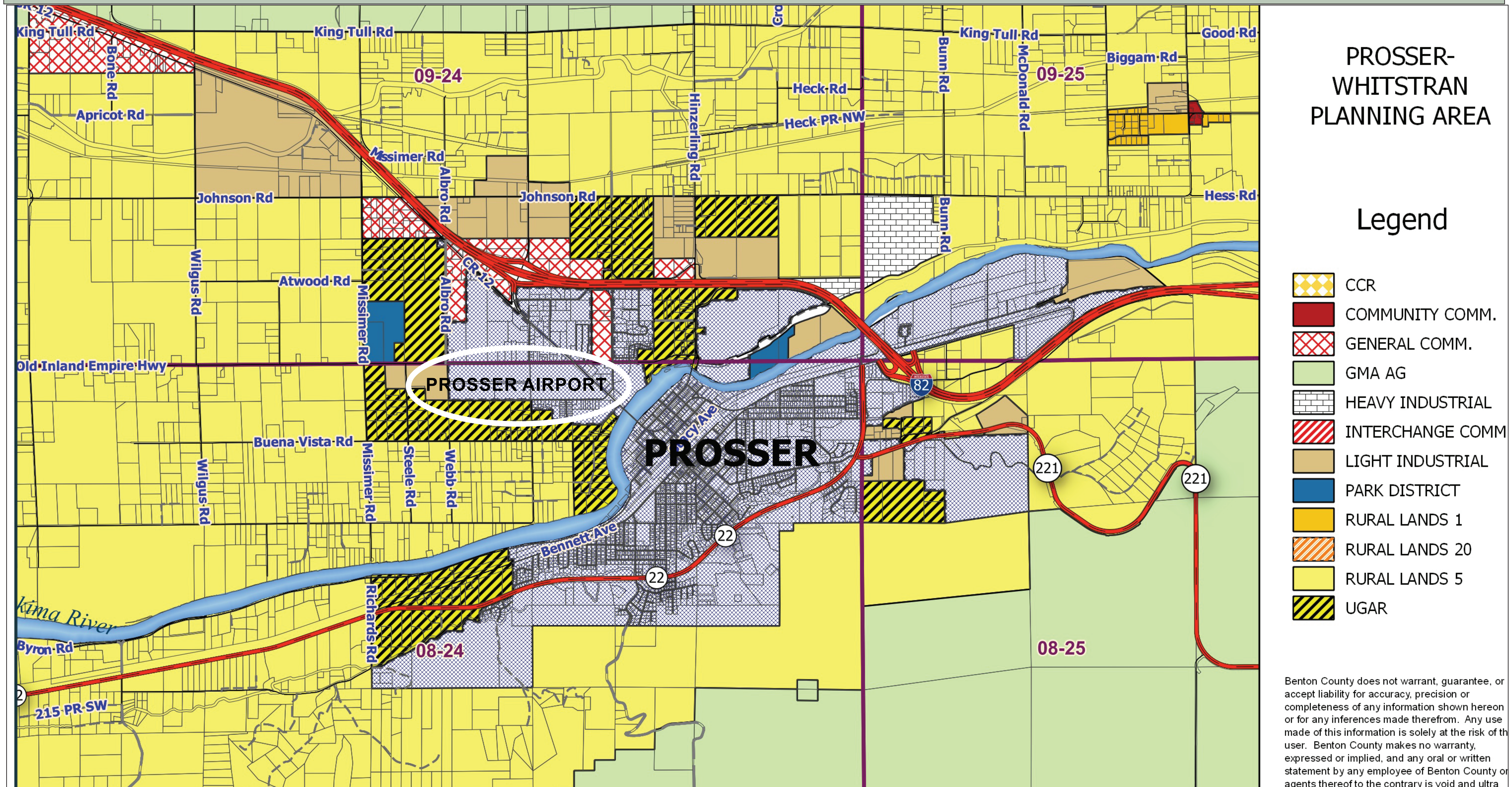
Runway 8-26 is 3,451 feet long and is 60 feet wide. It is constructed of asphalt with a 16,000 single-wheel gear (SWG) pavement strength and is in good condition. The wheel (single, double, dual-double) nomenclature refers to a pavement design methodology which produces a pavement strength referenced to the number of wheels on a given aircraft strut. Design inputs in this regard include soil type and other soil characteristics, sub grade/base soil improvements, loading, frequency and mix of aircraft which are expected to use the pavement,

FIGURE 2-3
PROSSER AIRPORT VICINITY MAP



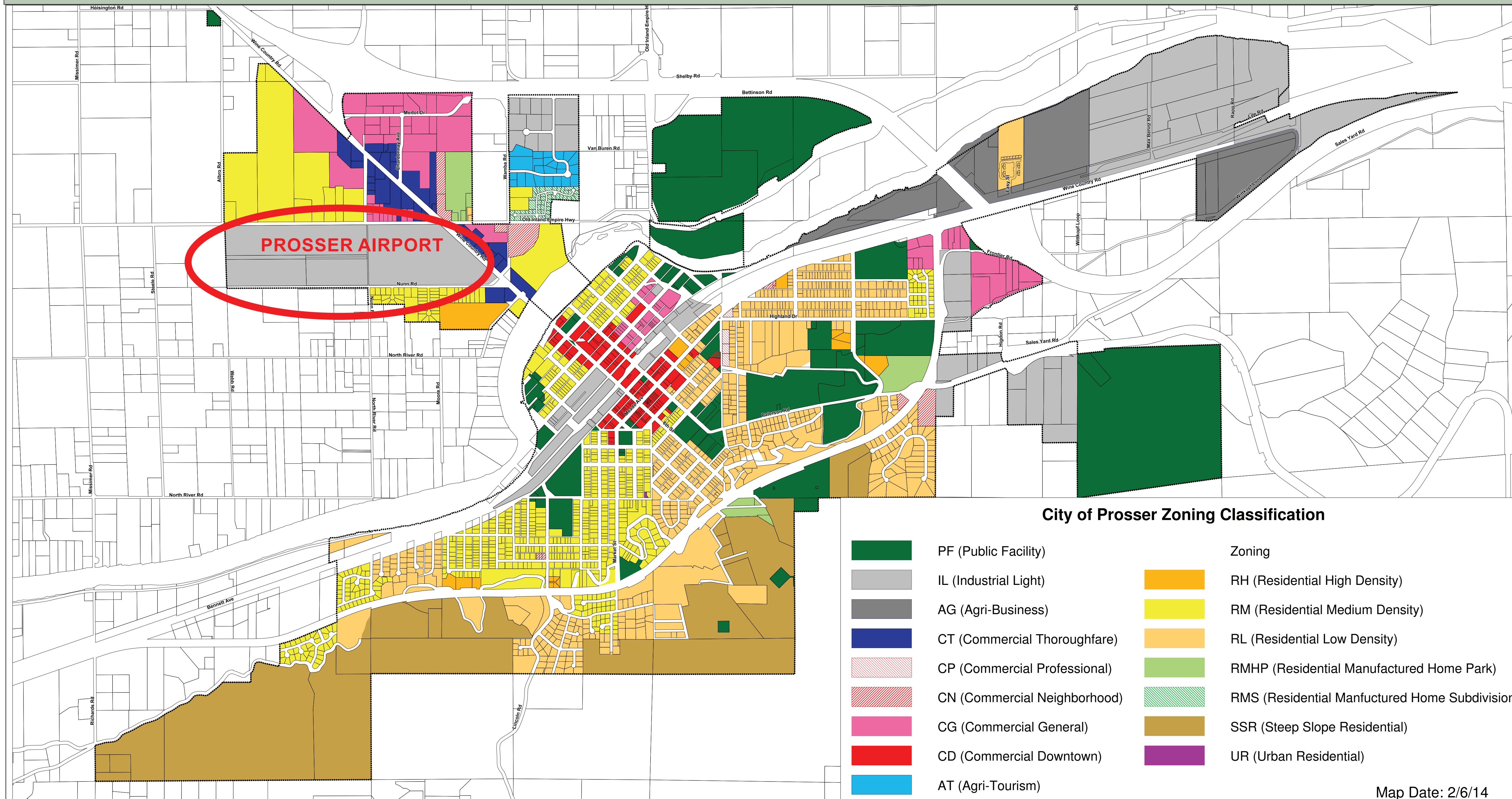
Source: J-U-B

FIGURE 2-4
BENTON COUNTY ZONING MAP



Source: Benton County

FIGURE 2-5
CITY OF PROSSER ZONING MAP



Source: City of Prosser

pavement type and composition, planned pavement life, and other design criteria. In short, pavements are designed to accommodate a designated number of aircraft operations, over time without substantial surface rehabilitation. It is worth noting that the design allows for a limited number of aircraft operations with weights greater than 16,000 pounds.

Runway longitudinal line of sight is met. The effective runway longitudinal gradient is 0.5%. FAA design standards require that the effective and the maximum runway longitudinal gradients not exceed certain limits to ensure a runway is not too steep overall or within a shorter distance. Line of sight provides that any two points five feet above the runway centerline shall be mutually visible along any one-half of runway length.

Right traffic is established for Runway 26 operations and left traffic to Runway 8. Aircraft generally use all or portions of a rectangular flight pattern, of which the runway constitutes a portion of one side. The traffic pattern at Prosser is designated to keep aircraft north of the airport, and away from the more populated area of the City of Prosser.

Medium Intensity Runway Lighting (MIRL) are frangible-mounted (breakable) at the base to avoid substantial damage to the aircraft in the event of an aircraft deviation from the runway. Runway threshold lights are part of the MIRL system and are directionally-lighted to indicate the runway end limits. Runway 8 end threshold lights are frangible-mounted. Runway 26 lights threshold lights are in-pavement.

Precision Approach Path Indicator (PAPI) systems are located near each end of the runway, on the south side. The PAPI system is a type of Visual Glideslope Indicator (VGSI) used to provide lighted, visual information to the pilot as descent toward a runway end is made. The PAPI indicates a red and a white light when the pilot is on the correct glideslope to either runway end, two red lights when below the glideslope and two white lights when above. Both runway ends are equipped with Runway End Identifier Lighting Systems (REILs). REILs are frangible-mounted flashing lights situated near each runway end. This lighting system facilitates day or night runway end identification, in clear or semi-obscured weather conditions.

Both runway ends are marked with elements appropriate for visual aircraft operation with no aiming points. Runway marking elements at the Prosser Airport include designation (the numbers) and centerline. Runway markings are white.

An Instrument Approach Procedure (IAP) is not available for pilots operating at Prosser Airport. An IAP is an FAA-designed and prescribed three-dimensional path in the sky for safe aircraft landing. These paths necessarily avoid terrain, tall towers and other obstructions to allow safe aircraft operation during periods of inclement weather.

2.4.2 TAXIWAYS AND APRONS

Parallel Taxiway A is Runway 8-26's primary taxiway. It is constructed of asphalt at 16,000 SWG. It is 25 feet wide at the west end for the first 1,000 feet east of the Runway 8 end and then 30 feet for the remainder of the taxiway to the end of Runway 26. The taxiway extends the entire length of the runway on the south side providing access to hangars and tie-down facilities. There are two different dimensions for the runway to taxiway centerline separation. On the west end, the separation between Runway 8 and Taxiway A is 235 feet and transitions to a 150-foot separation 1,000 feet east of the Runway 8 end. Connecting Taxiways are constructed of asphalt at 16,000 SWG and vary in width from approximately 85 feet to 25 feet wide at the narrowest width. They are marked with holdlines and equipped with signage 125 feet from Runway 8-26 centerline. There is a 50-foot by 75-foot holding bay apron located at the west end of the Taxiway A. Taxiway markings are yellow and retro-reflective markers are installed for night operations. On the north side of the runway there is a taxiway leading to the North Apron parking area and one hangar.

As shown in Table 2.4 below, there are three (3) asphalt apron areas consisting of 39,340 square yards with 71 tie-downs that are rated for 16,000 SWG.

TABLE 2.4
APRON AREAS AND TIE-DOWN INVENTORY

Location	Area (sy)	No. of Tie-Downs
Main Apron	26,600	46
FBO Apron	9,580	16
North Apron	3,160	9
Total	39,340	71

Source: J-U-B

2.4.3 AIRPORT SERVICES AND ACCESS

The Prosser Airport has one FBO, Fair Weather Flyers, who is an authorized aircraft Spruce Dealer, and provides light sport aircraft flight training, full maintenance services, part sales, installations, full restoration services and supplies/gifts as well as performs annual and 100 hour inspections. Bill Musselman is the FBO contact who is also an aviation mechanic along with Jerry Williams. The FBO provides a Pilot's Lounge with Wi-Fi, a courtesy car to reach local destinations, concierge service for hotel/bed and breakfast stays, and provides catering service for events and gatherings. Fair Weather Flyers' website is www.fairweatherflyersprosser.com.

AVGAS 100 Low Lead (LL) fuel is available 24 hours a day through the use of a credit card machine. The above ground fueling facility holds 2,000 gallons and is located western portion of the FBO Apron, near the rest room.

Prosser Airport is accessible from the regional transportation network using Wine Country Road which can be accessed from I-82. The Prosser Airport can be accessed from four (4) improved and unimproved entrances on Nunn Road. A chain link style fence urrounds the airport perimeter and provides two accesses points to Old Inland Empire Highway from the north side of the airport: a pedestrian gate and a vehicle access gate.

There is an informal/formal circulation system for automobiles at the Prosser Airport that uses a combination of improved (asphalt) and unimproved (gravel) surfaces. Automobile parking available at various locations provides access to hangars and airport based businesses. There is no marked and signed designated automobile parking at the Airport.

The local transit agency, Ben-Franklin Transit, does not provide public transportation services to or from the Prosser Airport. The closest transit center is Stacy Street in the City of Prosser approximately one (1) mile away. The FBO provides a courtesy car that is available for local travel use to reach accommodations or destinations. A private company, Tri-Cities Limo, serves the City of Prosser providing transportation to and from the airport. There are also taxi services based in the Tri-Cities which serve Pasco, Kennewick, Richland, and surrounding areas.

The Prosser Airport hosts the Prosser Fly-In each year which is typically sponsored by the Prosser Wing-Nuts, the local chapter of the Experimental Aircraft Association (EAA), and Port of Benton. This often includes a variety of activities including local winery tours that are at the heart of the Washington Wine Country. Additionally, the Greater Prosser Balloon Rally is held annually which includes a weekend full of activities including hot air balloon launches, night glow, harvest festival, farmers market, and the Caren Mercer-Andreason Street Painting Festival.

Current companies located at Prosser Airport include Carole's Flying Machine, Chukar Cherry Company, Connell Oil, Experimental Aircraft Association (EAA) local chapter and Milne Fruit in addition to the aforementioned FBO, Fair Weather Flyers.

2.5 ENVIRONMENTAL

2.5.1 AIRPORT AREA ZONING AND LAND USE

The Prosser Airport is located on land owned by the Port of Benton, located within the jurisdictional limits of both the Benton County and the City of Prosser. Figures 2-4 and 2-5 (located in section 2.4) depict the land use for both jurisdictions. The City and County worked to avoid incompatible land uses surrounding the Prosser Airport. One goal identified in the City of Prosser Comprehensive Plan (Comp Plan) is to provide Prosser Airport with reasonable protection from airspace obstructions, incompatible land uses, and nuisance complaints that could restrict operations. According to the WSDOT Airports and Compatible Land Use Guidebook (January 2011), land uses or activities under the Runway Protection Zone (RPZ) may be compatible with airport uses depending upon location, size, height, density and intensity of use. The associated Comp Plan policy provides direction to:

> *"keep residential land underlying the air approach to low density and intensity. Residential densities directly east and west of the airport runways will range from one to five dwelling units per acre as appropriate. Intensive commercial uses, that attract significant number of people, should be discouraged."*

Benton County Ordinance Chapter 11.36 provides for the protection of land zoned at Landing Field (L-F) which addresses the property adjacent to the airport. Section 11.36.010 describes the landing field district as the area surrounding existing landing and taxi pavements and precludes any obstructions. Property owners are precluded from erecting any buildings or structures without first applying for re-zoning so that the Planning Commission can determine if any proposed improvements may constitute incompatibility with airport operations.

The Washington State Legislature also provides guidance on the siting of incompatible uses around a general aviation airport that is operated for the benefit of the general public such as the Prosser Airport. The WSDOT has established an Airport Land Use Compatibility Planning Program (Program) based upon 36.70.547 Revised Code of Washington (RCW). The Program focuses on providing assistance to stakeholders needing to work to develop land use policies which prevent incompatible land uses adjacent to the airports. In order to comply with the Washington State Legislature's intent, the Port of Benton has worked to mitigate the risk of any incompatible land uses in the RPZ by purchasing property and working closely with the City of Prosser and Benton County on approval of land uses. Overall, the land use surrounding the Prosser Airport is low in density and intensity.

If there are new or modified land uses within the RPZ, then consultation with the FAA is necessary to work towards avoiding the land use issue within the RPZ all together or work to minimize the impact of the proposed land use. Another option is to mitigate the risk of the land use in the RPZ by placing the proposed new or modified land use in a Compatibility Zone with reduced risk. The ideal approach is to remove all incompatible land uses from the RPZ at an airport, but some land uses may be permitted because it is low in density and intensity.

The land use to the north of Prosser Airport is classified as residential medium density (RM) and commercial according to the city of Prosser Zoning Map. The Prosser Airport itself is zoned light industrial (IL). The Land Use Map, shown on the next page in Figure 2-6, in the 2014 City of Prosser Comp Plan shows commercial (C) and low medium residential (LMR) land uses surrounding the Airport in the future. The land west of the Runway 8 end, starting at Albro Road and extending west beyond Steele Road and part of the Benton County jurisdiction and is zoned Rural Lands.

The FAA has published interim guidance on acceptable land uses in RPZs, intended to enhance safety for individuals and property on the ground. The WSDOT Airport and Compatible Land Use Plan Guidebook (Guidebook) identifies six safety zones to reflect varying degrees of aircraft accident concentrations and also take into account the manner in which aircraft fly as they land and takeoff.

The Prosser School District owns two parcels of property on the northeast corner of Old Inland Empire Highway and Missimer Road that is within BentonCounty boundaries and both parcels (8 acres and 22 acres respectively) are zoned as “Park District.” When the property was originally purchased by the Prosser School District, it was intended that a future K-12 school would be constructed to serve the educational demand from the local communities. A portion of these parcels are within safety zones 2, 3 and 6 as identified in Figure 2-7 (WSDOT Airport and Compatible Land Use Safety Zones) and might be considered an incompatible land use creating a conflict to be resolved.

A K-12 school should not be permitted within Zones 2 and 3 according to the Guidebook. If a K-12 school is built, it is recommended the buildings be located in Zone 6, as far away from Zones 2 and 3 as permissible, to allow for increased safety. Additionally, the Prosser School District may consider selling the parcels or conducting a land swap with the Port of Benton for land that is not in close proximity to an airport.

2.5.2 CLIMATE

Table 2.5 summarizes temperature and precipitation data from the National Oceanic and Atmospheric Administration (NOAA) station located in Prosser (Station Identification: USC00456768). The Western Regional Climate Center (WRCC) characterizes weather in Eastern Washington as:

- Warmer summers and colder winters with less precipitation than in western Washington.
- Annual precipitation ranges from 7-9 inches.
- Prevailing westerly winds influence the majority of air mass and weather system movement.
- Frost depth typically reaches 10 to 20 inches in depth.

2.5.3 WIND

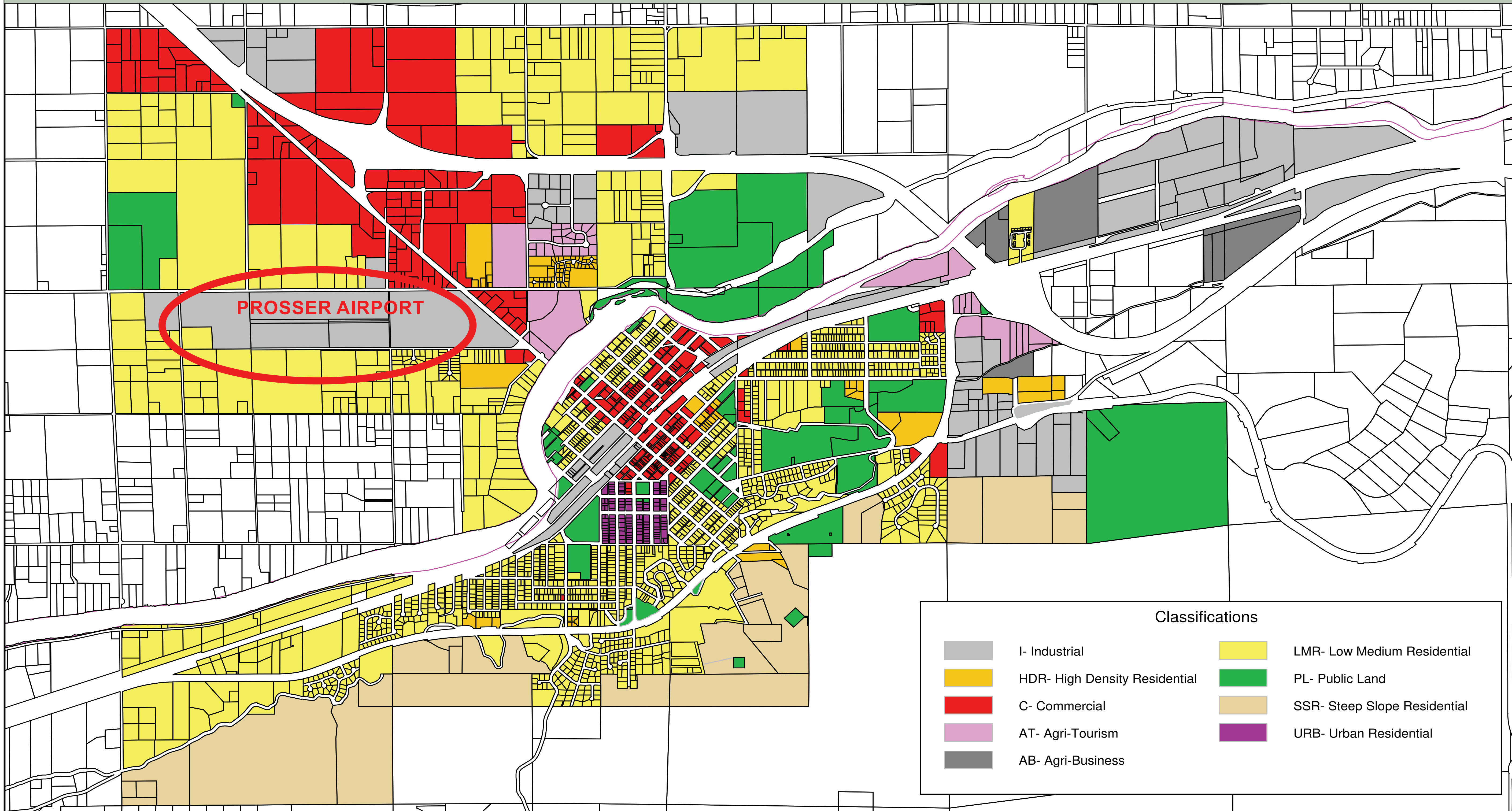
A wind analysis was completed using the FAA Standard Wind Analysis tool that performs the wind analysis specified in AC 150/5300-13, Airport Design. Wind data was collected from the nearest station located at the Tri-Cities Airport Station (PSC) as shown on Table 2.6. Wind Roses can be found in Chapter 7. Wind Roses visualize direction and speed combined with the runway alignment to produce a basis for standards conformance. Results indicate that Runway 8-26 does not meet FAA’s recommended 95 percent coverage of wind in all-weather and VFR at 10.5 knots, but does meet the requirements for IFR.

FAA details the objectives of wind analysis noting that the desirable wind coverage is 95 percent. That is; a runway, or runways, at a given alignment should have a crosswind component less than a given threshold 95 percent of the time. These thresholds are: 10.5 knots for small aircraft, 13 knots for larger general aviation aircraft, 16 knots for larger turbo-prop and some jet aircraft, and 20 knots for the largest turbine commercial and general aviation turbine aircraft. The underlying notion is that larger aircraft are better able to accommodate crosswind, without regard to pilot skill, but simply because of size.

2.5.4 NEPA

FAA Order 1050.1F- Environmental Impacts: Policies and Procedures establishes guidelines for compliance with the 1969 National Environmental Policy Act (NEPA) and the Council on Environmental Quality’s (CEQ) NEPA implementing regulations. NEPA and the CEQ regulations require an environmental review of all federal actions, including projects that utilize federal funds, take place on federally controlled land or necessitate a federal permit. As an Airport under federal jurisdiction, all activities at the Prosser Airport require NEPA compliance.

FIGURE 2-6
CITY OF PROSSER COMPREHENSIVE PLAN LAND USE MAP



Source:

TABLE 2.5 PROSSER CLIMATE DATA				
Month	Mean Daily Maximum Temperature (°F)	Mean Daily Minimum Temperature (°F)	Precipitation (inches)	Snowfall (inches)
January	41.5	28.2	1.13	0.01
February	47.7	30.5	0.83	0.01
March	57.9	36.5	0.78	0
April	65.9	41.0	0.7	0
May	74.4	47.9	0.7	0
June	81.6	54.0	0.73	0
July	90.1	58.4	0.2	0
August	89.2	57.3	0.27	0
September	80.0	49.6	0.47	0
October	65.9	40.9	0.75	0
November	65.9	33.1	1.02	0.03
December	50.3	26.7	1.36	0.25
Average/Total	67.5	42.0	8.94	0.30
Source: WRCC				

TABLE 2.6 WIND INFORMATION					
Runway	Crosswind Components				No. of Observations
	10.5 Knots	13 Knots	16 Knots	20 Knots	
ALL WEATHER					
8/26	92.89%	96.45%	98.96%	99.81%	91,833
IFR					
8/26	98.02%	98.88%	99.50%	99.81%	84,391
VFR					
8/26	92.44%	96.24%	98.91%	99.81%	7,556
PERIOD: 2005-2015					
Source: FAA					

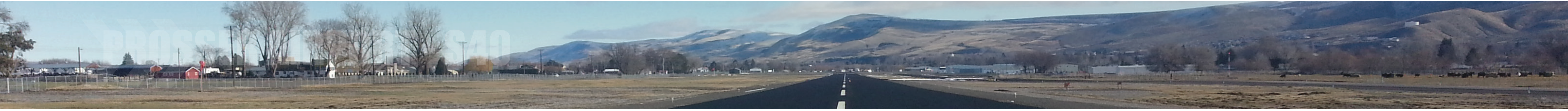
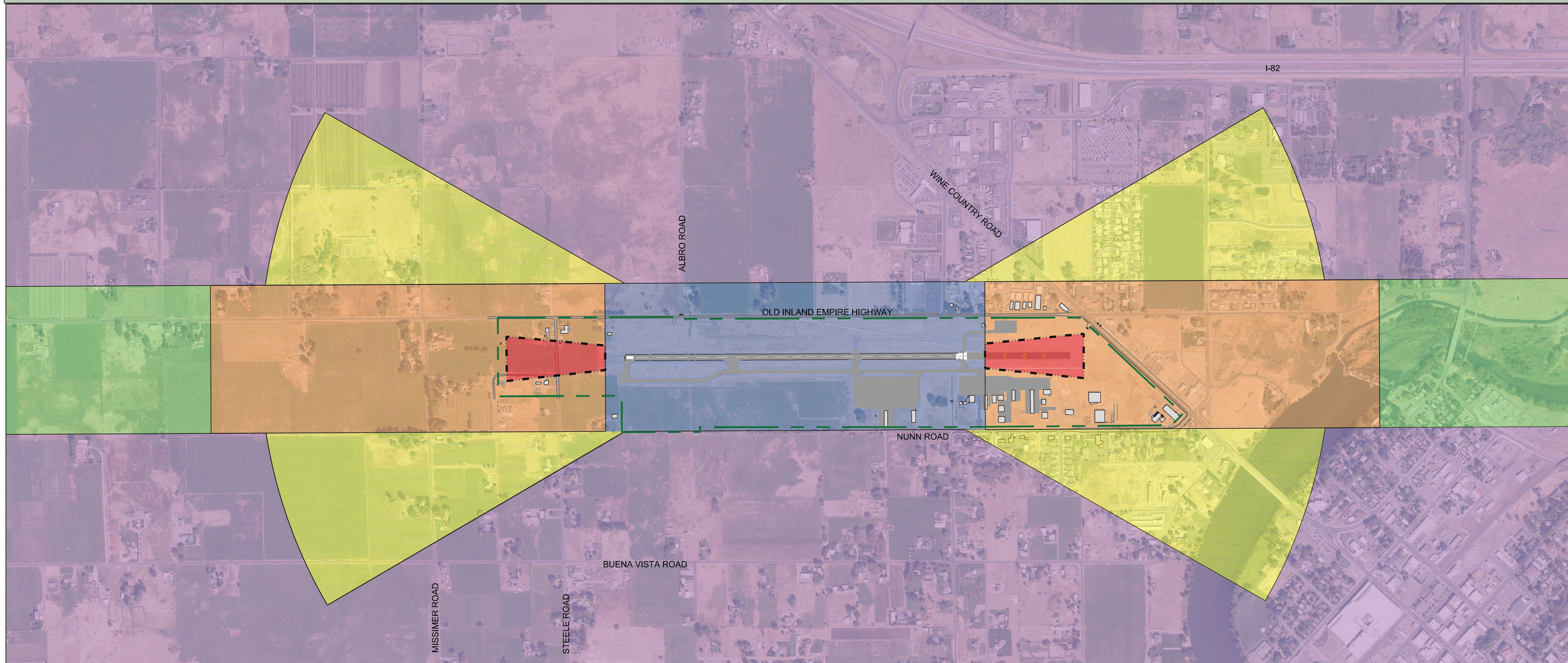
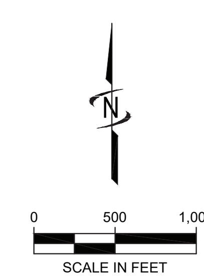


FIGURE 2-7
SAFETY ZONE EXHIBIT



AIRPORT SAFETY COMPATIBILITY ZONES FUTURE 1850 FEET EXTENSION		
ZONE COLOR	ZONE #	ZONE DEFINITION
	ZONE 1	RUNWAY PROTECTION ZONE
	ZONE 2	RUNWAY APPROACHES ZONE
	ZONE 3	TURNING ZONE
	ZONE 4	EXTENDED RUNWAY ZONE
	ZONE 5	RUNWAY SAFETY AREA ZONE
	ZONE 6	TRAFFIC PATTERNS ZONE

LEGEND	
	RPZ
	AIRPORT PROPERTY LINE
	PROPOSED AIRPORT PAVEMENT



Source: J-U-B/WSDOT

This section provides an overview of the environmental conditions at the Airport including an identification of critical resources. Baseline environmental conditions were determined by reviewing existing data from literature searches and databases, interpretation of aerial photography and maps, agency coordination and information obtained during preliminary field surveys. The following subsections present social, environmental and economic considerations at the Airport and provide an overview for subsequent NEPA analysis which may be required prior to Airport development projects. This environmental overview is not intended to satisfy the environmental clearance requirements outlined in FAA Order 1050.1F nor is it intended to fulfill the requirements of the NEPA.

1. **Air Quality**

   The Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for the following criteria pollutants: carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), sulfur dioxide (SO2), particulate matter (PM) and lead (Pb). The Clean Air Act (CAA) requires that air quality conditions within all areas of a state be designated as “attainment”, “nonattainment” or “unclassifiable” with respect to the NAAQS. The EPA and the State of Washington Department of Ecology’s (WDOE’s) Washington Air Quality Advisory regulate air quality in Benton County. Benton County is currently in attainment for all criteria pollutants under the NAAQS.

   According to FAA Order 1050.1F, proposed improvements at an airport having less than 180,000 annual general aviation aircraft operations and less than 1.3 million annual passenger enplanements do not require an air quality analysis. GA operations at the Airport are forecasted to remain under than operations threshold for air quality analysis through the year 2035. Therefore, no air quality analysis would be required for the proposed improvements at the Airport. However, fugitive dust from construction activities may have temporary short-term impacts on the air quality in the project area. Best management practices (BMPs), such as watering and other means to control dust should be implemented to mitigate for construction related, short-term air quality impacts.

2. **Biological Resources**

   Federal agencies are required to evaluate impacts on fish, wildlife, plants and critical habitats. Information obtained from the U.S. Fish and Wildlife Service’s (USFWS) Information, Planning and Conservation System (IPaC) indicates that at the time this Master Plan Update was prepared, there were three species on the Endangered Species Act (ESA) list which have the potential to occur in the general vicinity of the Prosser Airport. These species include the endangered gray wolf (Canis lupus), and two threatened species, the yellow-billed cuckoo (Coccyzus americanus) and the bull trout (Salvelinus confluentus). The Washington Department of Fish and Wildlife Priority Habitats and Species (PHS) database identified the Townsend’s ground squirrel (Urocitellus townsendii) as a Washington State Priority Species that may occur in the general vicinity of the Prosser Airport.

   Prior to implementation of Airport improvement projects, a biological assessment would need to be developed to address ESA listed species, Washington State priority species, and critical wildlife habitat that may be impacted.

3. **Climate**

   The Airport is located at 705 feet above sea level and experiences a typical four-season climate. Data collected from the Western Regional Climate Center indicates that the area has an average low temperature 41.2° F, with an average high of 65.8° F. The area receives approximately 9 inches of precipitation annually, with the highest amounts typically occurring November through January. The area receives an average of 3 inches of snowfall.

   As outlined in FAA Order 1050.1F, the CEQ has indicated that climate and Green House Gas (GHG) emissions, should be considered in NEPA analyses. However there are currently no federal standards or significance thresholds for aviation related GHG emissions. GHGs result primarily from the combustion of fuels. Factors that could potentially increase the combustion of fuel and subsequent GHG emissions should be evaluated prior to project implementation. Such activities include an increase in airport capacity, an increase in the number of operations and alterations of operational characteristics that increase aircraft fuel burn.

4. **Coastal Resources**

   There are no coastal resources on or near the Prosser Airport.

5. **Department of Transportation Act, Section 4(f)**

   Section 4(f) of the Department of Transportation Act, which was recodified and renumbered as Section 303(c) of 49 U.S.C., provides that the

Secretary of Transportation will not approve any program or project that requires use of any publicly owned land from a public park, recreation area or wildlife and waterfowl refuge of national, state or local significance or land from a historic site of national, state or local significance unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use. Significance is determined by the officials with jurisdiction.

There are no public owned parks, recreation areas or wildlife and waterfowl refuges on the Airport property. In 2006, Reiss-Landreau Research conducted a cultural resource survey for the Runway 7 Realignment Project. The survey indicated that there are no known Section 4(f) resources on the Airport property in the Area of Potential Effect (APE) associated with the Runway 7 Realignment Project. Airport actions which take place outside of the previously surveyed APE would likely require a cultural resource survey to determine if the project would impact Section 4(f) resources.

6. **Farmlands**

The Farmland Protection Policy Act (FPPA) was enacted to minimize the extent to which federal actions and programs contribute to the conversion of farmland to nonagricultural uses. The FPPA classifies farmland as prime farmland, unique farmland or farmland that is of statewide or local importance. A federal action which may result in the conversion of farmland to nonagricultural uses requires coordination with the Natural Resources Conservation Service (NRCS).

A review of the NRCS's Web Soil Survey indicates that approximately 66% of the soils located on Airport property are considered "prime farmland if irrigated." However, none of the property on the Airport is currently used for agricultural activities and most of the area is developed and contains Airport infrastructure. Therefore, projects on existing Airport property would not affect farmland resources. Potential farmland impacts should be considered for all actions which take place outside of the existing Airport property, specifically those that would require property acquisition.

7. **Hazardous Materials, Solid Waste, and Pollution Prevention**

Hazardous materials present at the Airport include the following: aviation fuels, motor fuels, pesticides, substances used to operate or maintain aircraft, ground vehicles, equipment, and buildings, and various hazardous materials transported to and from the Airport via ground vehicles and aircraft. The Airport also maintains and operates one above-ground AVGAS 100LL gas storage tank, which feeds a single gas pump available self-serve to pilots 24 hours-a-day. The storage, use, and transport of hazardous materials at the Airport are controlled by a framework of federal, state, and local regulations.

The WDOE's Hazardous Waste and Toxics Reduction Program (HWTR) maintains environmental databases on sites with known contamination and sites that are regulated according to the requirements of state or federal laws. A review of the HWTR's database in February 2016 indicates that there are no known underground storage tanks (USTs) that are still in place at the Airport. The Port of Benton is working with the Voluntary Cleanup Program operated by the Washington State Department of Ecology to monitor a groundwater plume and soil contamination at the Marvin Bonny Hangar at the Prosser Airport (Cleanup Site ID 2188).

Existing and future activities at the Prosser Airport are not anticipated to generate a quantity of hazardous waste materials which would reach impact category thresholds. However, construction activities have the potential to generate hazardous materials. Hazardous materials used and/or generated during construction would be disposed of at the Franklin County Moderate Risk Waste Facility and solid waste would be processed by the City of Richland Landfill. Transfer stations in the area include the BDI Transfer Station and Kennewick Waste Management and drop box facilities are available in Benton City and at the Basin Disposal in Prosser.

8. **Historical, Architectural, Archeological, and Cultural Resources**

The FAA requires that historical, architectural, archaeological and cultural resource impacts be evaluated prior to the implementation of improvements at airports. Cultural resource evaluations are governed by the National Historic Preservation Act (NHPA) and the Archaeological and Historic Preservation Act (AHPA). The NHPA recommends measures to coordinate federal historic preservation activities on federal actions affecting historic properties included in or eligible for inclusion in the National Register of Historic Places (NRHP).

A cultural resource survey was conducted by Reiss-Landreau Research in 2006 on a portion of the Airport property. The survey determined that there were no cultural resources in the surveyed APE. A search of the National Register of Historic Places (NHRP) database in 2016 indicates that there are no listed historical sites on the Airport property. However, future development that takes place at the Airport outside of the area that was surveyed in 2006 would require a cultural resource survey to determine if the proposed action would result in impacts to cultural or historic resources.

9. **Land Use**
Land use planning allows the Airport to achieve compatibility with surrounding communities while maintaining safety for existing users and accommodating operations to meet aviation demand. Land use is discussed in detail in Section 2.5.1 of this Master Plan Update.

10. **Natural Resources and Energy Supply**
This section examines potential changes in demand for energy and natural resources that would have a measurable effect on local supplies due to the implementation of proposed projects. Energy requirements associated with an airport fall into two general categories: demands for stationary facilities and demands for the movement of air and ground vehicles. E.O. 13123 encourages Federal agencies to expand the use of renewable energy and requires each agency to reduce petroleum use, total energy use, associated air emissions and water consumption in its facilities. It is the policy of the FAA, consistent with NEPA and WDOE regulations, to encourage the development of facilities that exemplify the highest standards of design including principles of sustainability related to the use of natural resources.

Existing Airport operations do not place an undue burden on the local energy and natural resources supply. Future development at the Airport would need to be evaluated to determine if the proposed improvements would represent a significant impact.

11. **Noise and Noise-Compatible Land Use**
The FAA has determined that for an aviation noise analysis the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound levels (DNL) as FAA's primary metric. If significant noise impacts are expected, the FAA official must prepare a detailed noise analysis as part of the environmental document. Projects which may have a significant impact on noise include citing a new airport, runway relocation, runway strengthening, or a major runway expansion require a noise analysis including noise contour maps.

FAA Order 1050.1F indicates that any action that would increase noise by DNL 1.5dB or more for a noise sensitive area that is exposed to noise at or above the DL 65 dB noise exposure level or that will be exposed at or above the DNL 65 dB level due to a DNL 1.5 dB or greater increase is considered to be significant. Future development at the Airport is unlikely to present a significant noise impact to surrounding land use based on the current 65 DNL noise contour, providing that compatible land use in the future is maintained by Benton County and the City of Prosser.

12. **Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks**
Airport development can cause induced impacts on surrounding communities. Induced impacts may affect population movement and growth, public service demands, and changes in economic activity. Environmental Justice is defined as the right to a safe, healthy, productive, and sustainable environment for all, and in this context, "environment" is considered to include the ecological, physical, social, political, aesthetic, and economic environments.

To evaluate an environmental constraint or potential impact, a specific improvement would have to be known to determine the significance of the impact. A cursory evaluation would not determine the severity of the impact to environmental justice populations, relocations or children's environmental health and safety risk. Impacts to socioeconomic resources, environmental justice populations and children's health and safety would have to be evaluated before the implementation of Airport improvements.

13. **Visual Effects**
Visual impacts from airport activities are typically related to lighting and visual aesthetics. FAA has not established significance thresholds for impacts from light emissions or to visual resources impacts. However, FAA is required to consider the extent to which any lighting or visual

resource impacts associated with an action at an airport will create an annoyance, interfere with normal activities within the vicinity of the airport or disrupt the visual character of the area. Lighting for aviation security, obstruction identification and navigational aids produce light emissions. Changes to existing structures, the construction of new structures or the removal of existing resources such as waterways and vegetation may impact the visual character of an area. Visual resource impacts would need to be evaluated prior to implementation of Airport projects.

14. Water Resources

The Airport is located on relatively flat terrain. There are no natural drainage features or wetlands on the Airport. The nearest waterway is the Yakima River, which is situated approximately 0.22 miles southeast of the Prosser Airport. A review of the NPS Wild and Scenic River Inventory indicates that there are no Wild and Scenic Rivers nor are there any Study Rivers within the general vicinity of the Airport. A review of the National Wetland Inventory (NWI) database indicated that there are no wetlands on or near Airport property. The nearest known wetland is a small freshwater emergent wetland located approximately 0.35 miles east of the Airport, situated along the northern bank of the Yakima River. Current storm drainage at the Airport is retained on site. Surface drainage from future improvements at the Airport would likely be collected in a designated drainage system and conveyed to detention basins where it would evaporate or percolate in the subsurface. Future Airport improvement projects are not anticipated to create discharges into natural waterways.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) (Community Panel No. 5302370485B) the Airport is located in a Flood Zone C: outside of the 500-year floodplain. Therefore, future improvements at the Airport would likely have no impact on floodplains, flood zones, or floodways.

Environmental Overview Summary

A review of the existing conditions at the Prosser Airport indicates that specific environmental issues which should be considered during the development of Airport improvement projects include, but are not limited to, impacts on ESA listed and State Priority Species, noise impacts, visual impacts (including light emissions), property acquisition, and changes to existing land use. Improvements at the Airport will require environmental documentation including consultation and coordination with regulating agencies prior to implementation of proposed improvements.

2.5.5 SUSTAINABILITY

Although the topic of sustainability, as it applies to general aviation airports like Prosser, does not necessarily fall under the banner of environmental per this chapter's subsection, the historical consequence of sustainability practices is environmentally-related, and it is for this reason the following discussion is found at this location in this narrative.

FAA's website under Airport Sustainability finds the following: *"Sustainable actions reduce environmental impacts help maintain high, stable levels of economic growth, and help achieve "social progress", a broad set of actions that ensures organizational goals are achieved in a way that is consistent with the needs and values of the local community."*

Potential sustainability topics for planning consideration include, but are not limited to:

- LEED certification for future buildings,
- Voluntary-based noise mitigation measures/ policies, with pilot/resident outreach program,
- Establishment of/adherence to best management practices for water retention and irrigation,
- Establishment of airport-wide waste reduction/ recycling goals,
- Guidance of occasional public outreach to articulate sustainability goals and progress,
- Working with area utilities to consider a solar site, or other renewable arrangement, on/near Prosser Airport. (Note: siting of a solar facility will require close coordination with FAA),
- Limiting the use of diesel engines, and
- LED fixtures installation as appropriate.

The Sustainable Aviation Guidance Alliance (SAGA) was formed in 2008 by professional aviation industry groups to assist an airport and their sponsor in creating sustainability predispositions and programs. The SAGA database contains more than 1,000 general practices. This comprehensive database may be used as baseline for sponsor and tenants in the creation of a sustainability plan and execution of its policies and intent.

On a related note, a limited number of airport sustainability master plans have been created in recent years at airports of all sizes and can be used as a reference document going forward with sustainability efforts.

2.6 AREA AIRSPACE, AIRPORTS, AND NAVIGATIONAL AIDS

The operating airspace environment surrounding The Prosser Airport is important given that it is part of the state and national transportation system. A description of the local airspace surrounding the Prosser Airport along with nearby public-use airports and navigational aids follows.

2.6.1 AIRSPACE

The FAA is charged with oversight of the nation's civil navigable airspace and has established various regulatory and non-regulatory airspace classes and areas, endeavoring to create a safe operating environment for all types of aviation users.

US airspace classifications are conceptualized on Figure 2-8. Regional airspace surrounding The Prosser Airport within the Seattle Sectional Chart is shown on Figure 2-9. The Prosser Airport and most other rural general aviation Washington airports underlay Class E airspace. Class E airspace exists from 1,200 feet up to 17,999 above ground level (AGL). Pilots operating within Class E airspace must be certificated or in training.

2.6.2 AREA AIRPORTS AND NAVIGATIONAL AIDS

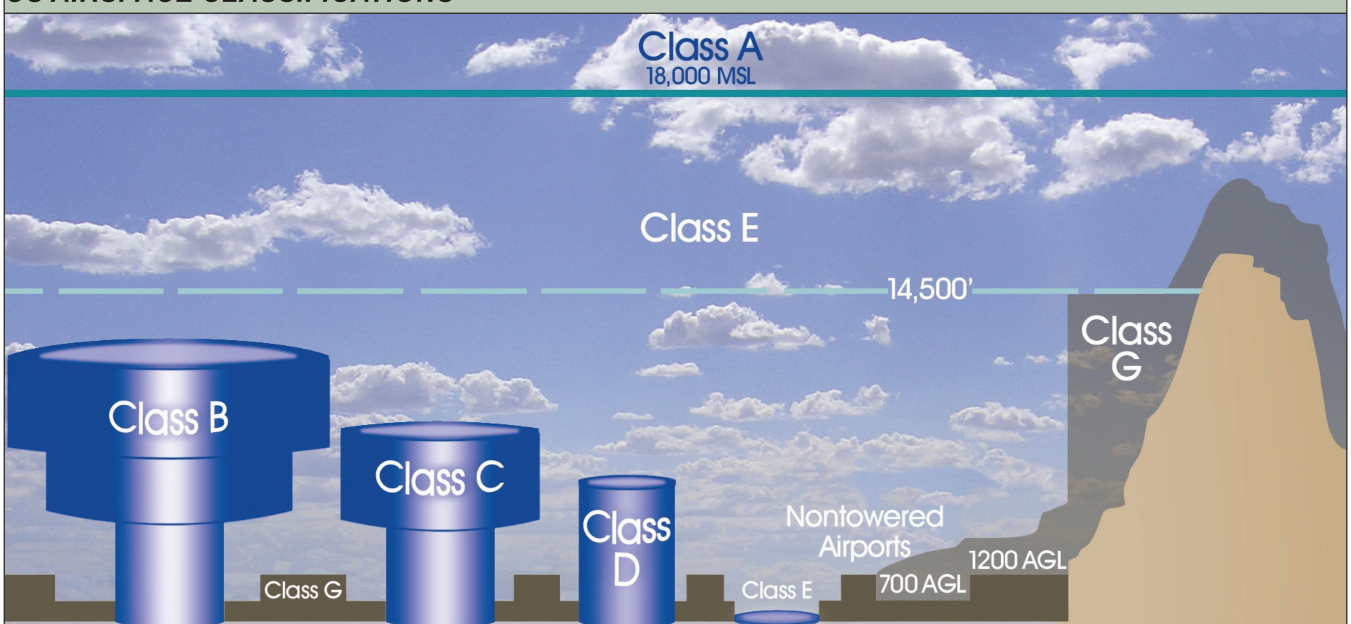
Prosser is near several general aviation and commercial service airports with enroute and local navigational facilities.

Tri-Cities Regional Airport (PSC) is operated by the Port of Pasco and is the largest airport in Southeastern Washington and Northeastern Oregon and is the fourth largest air carrier airport in the State of Washington with connections to eight major hubs. In June of 2016, there were 34,981 enplanements which was up by 10% from June of 2015. PSC is base to over 120 jet, twin-engine business aircraft, helicopter, single-engine and experimental aircraft. PSC is included in the NPIAS.

Richland Airport (RLD) is also part of the Port of Benton operations and has 165 based aircraft on approximately 650 acres along with light and medium industrial uses including Airport Mini-Storage, Civil Air Patrol, Hi-Line Engineering, Keck Services, and Connell Oil. RLD is located two (2) miles northwest of Richland and approximately eight (8) nautical miles from the Tri-Cities Regional Airport. RLD has Instrument Approach Procedures (IAP) and is included in the NPIAS.

Perhaps the most important feature of Prosser's area airspace is the Military Operations Area (MOAs) and Restricted Airspace. An MOA is a volume of special use airspace established by FAA to separate nonhazardous military activity from Instrument Flight Rules (IFR) activity

FIGURE 2-8
US AIRSPACE CLASSIFICATIONS



Source: J-U-B

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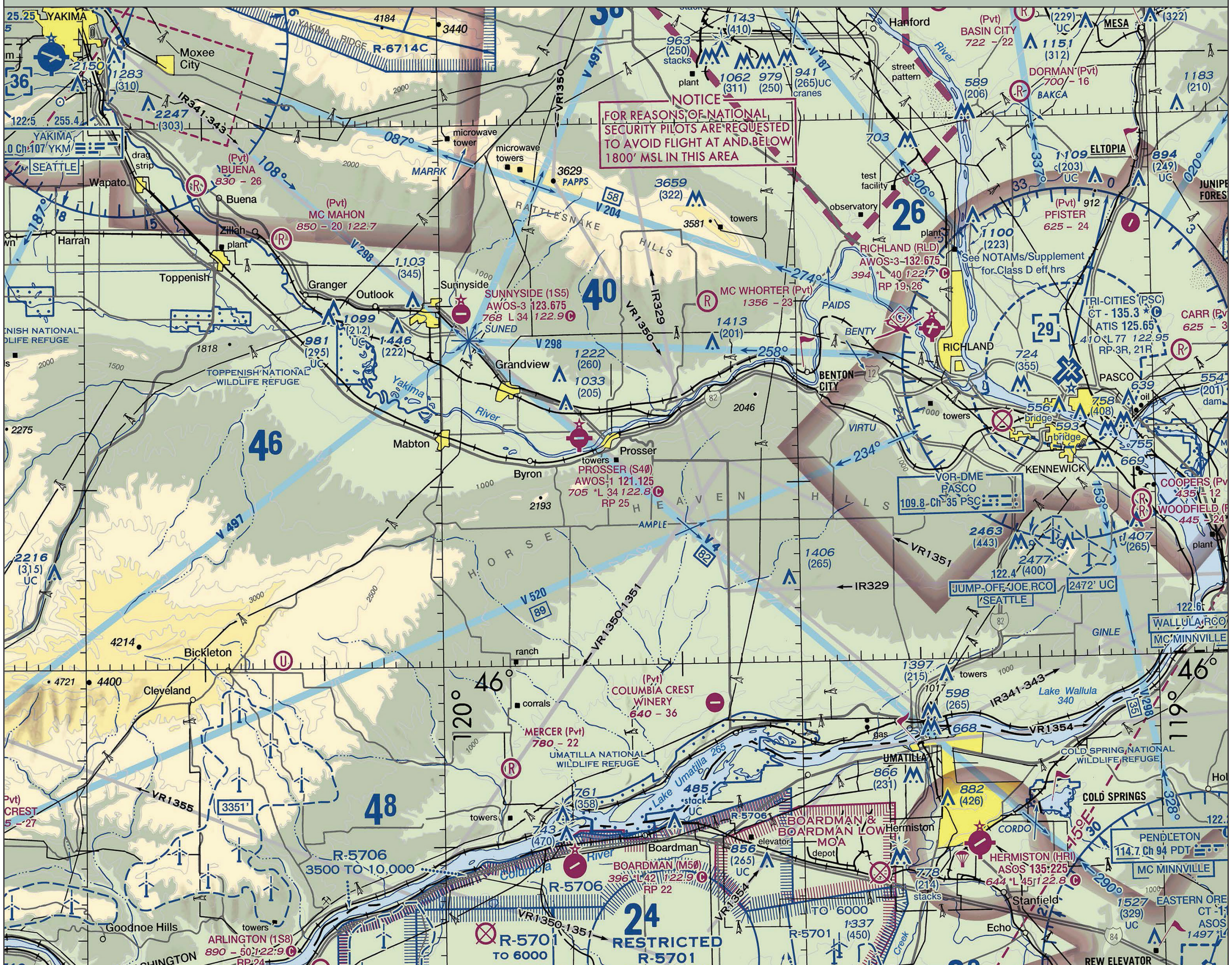
FIGURE 2-9
SEATTLE SECTIONAL AERONAUTICAL CHART



Source: U.S. National Charting Office

and to identify Visual Flight Rules (VFR) activity within. Restricted Airspace is a volume of special use airspace wherein hazards necessitate air traffic control permission to enter when active. The MOA and Restricted Airspace information is depicted on Figure 2-9 as blue (R-5701). Boardman MOA is south of the Prosser Airport, the Columbia River, and Lake Umatilla; I-84 follows along the northern edge of the of the MOA. The airspace is restricted from 7:30 am to 23:59 pm Monday through Friday. The MOA is active from 200 feet above ground level (AGL) up to 20,000 feet median sea level (MSL) with an altitude of 4,000 feet which is the floor of the MOA.

2.7 BASED AIRCRAFT AND OPERATIONS

WSDOT staff inspects the Prosser Airport on a semi-regular basis to assess facilities and activity. The latest Airport Facilities and Services Report on the WSDOT Aviation website indicates that the Prosser Airport accommodates 6,000 total annual aircraft operations, including 3,000 itinerant (50%) and 3,000 local general (50%) aviation operations with no commercial or military operations. The inspection notes 45 based single-engine and one (1) multi-engine based aircraft.

FAA maintains and administers its own internal historical activity record and forecasting effort, the Terminal Area Forecast (TAF). With respect to Prosser, the TAF notes:

- 7,700 annual itinerant general aviation operations, 5,500 local general aviation operations, totaling

13,200 annual operations from 2007 to current, and the same to the TAF's final 2040 forecast year. This is the current, official FAA record for purposes of this planning.

And:

- 45 based aircraft from 1999 through 2006
- 51 based aircraft in 2007
- 53 based aircraft from 2008 through 2011
- 51 based aircraft from 2012 through 2014
- 71 based aircraft in 2015
- 74 based aircraft in the TAF's final 2040 forecast year.

FAA also maintains a database of based aircraft for official record keeping purposes. The database currently indicates 71 based, validated aircraft at Prosser. However, only 51 of those aircraft have been confirmed at the Prosser Airport, according to the FAA based aircraft database.

A general rule-of-thumb for estimating aircraft operations at uncontrolled airports like the Prosser Airport is contained in FAA guidance, recommending: 250 operations per based aircraft for rural general aviation airports, 350 for more urban, busier general aviation airports and 450 for reliever airports in metropolitan areas.

2.8 AIRFIELD DESIGN STANDARDS

FAA specifies a coding scheme for airport design that relates airfield design criteria to the operational and physical characteristics of aircraft using an airport in a meaningful quantity, along with Instrument Approach Procedure (IAP) visibility. This scheme, and standards compliance thereto, relates to individual runways and runway ends at certificated and/or obligated airports. Prosser is an obligated airport, because the Port of Benton has accepted federal grant-in-aid funds from FAA.

2.8.1 DESIGN STANDARDS CRITERION

The first portion of the overall scheme relates to a given runway, and runway end, and has three criteria. Table 2.7 shows the criterion collectively, the Runway Design Code (RDC). The first, represented by a letter, is the Aircraft Approach Category (AAC). It relates to aircraft approach speed, an aircraft operational characteristic (1.3 x Vso/Vref {the speed of an aircraft in the landing configuration}). The second designator, Airplane

TABLE 2.7
DESIGN STANDARDS CRITERIA

Aircraft Approach Category (AAC)	Aircraft Approach Speed (Knots)	
A	Less than 91	
B	91 or greater, but less than 121	
C	121 or greater, but less than 141	
D	141 or greater, but less than 166	
E	166 or greater	
Airplane Design Group (ADG)	**Aircraft Wingspan (Feet)**	**Tail Height (Feet)**
I	<49	<20
II	49-<79	20-<30
III	79-<118	30-<45
IV	118-<171	45-<60
V	171-<214	60-<66
VI	214-<262	66-<80
IAP Capability in Terms of Visibility (Statute Mile)		
RVR 5000	Not lower than 1 mile	
RVR 4000	Lower than 1 mile but not lower than ¾ mile	
RVR 2400	Lower than ¾ mile but not lower than ½ mile	
RVR 1600	Lower than ½ mile but not lower than ¼ mile	
RVR 1200	Lower than ¼ mile	

Source: FAA Advisory Circular 150/5300-13A

Design Group (ADG), is represented by a roman numeral. It relates to aircraft wingspan and aircraft tail height physical characteristics. Figure 2-10 shows representative aircraft grouped only by Airplane Design Group (ADG), for reference.

A given runway end may accommodate an IAP with various FAA-approved visibilities. These visibilities are segregated and expressed in terms of Runway Visual Range (RVR). RVR is a real-time meteorological measurement noted feet and related to ¼ mile visibility increments. RVR measurements are made at the runway end.

These criterion, the AAC speed, ADG wingspan and tail height, along with IAP capability, combine to identify each runway's RDC and classify design standards, primarily related to runway and runway protection. A nRDC is associated with a particular runway end. A field with multiple runways may have multiple RDC's.

Beyond RDC, Taxiway Design Group (TDG) is an additional criterion; it is based upon the dimensions of aircraft undercarriage, specifically the distance between the outer edge of the main gear, termed the Main Gear Width (MGW) with the distance between the Cockpit to Main Gear (CMG). Note that if the nose wheel fronts the cockpit, the CMG distance increases. Various MGW and CMG ranges combine to make TDG's 1 through 7, with 7 accommodating the largest ranges, and aircraft.

The visualization, as Figure 2-11, shows the physical aircraft characteristics associated with ADG and TDG.

In many instances ADG and TDG for individual airplanes will be within the same grouping; for example, ADG-I with TDG-1, ADG-II with TDG-2, and AGD-III with TDG-3. Notable exceptions generally include aircraft with a relatively long fuselage.

Finally, aircraft weight is an additional criterion to be able to determine suitable application of all airport planning and design at The Prosser Airport. Aircraft which weigh less than 12,500 pounds (maximum certificated gross), regardless of wheel configuration, are termed utility or small aircraft. Those which weigh more are termed non-utility or large aircraft. Note that the runway, taxiway and the main apron pavement strengths are currently 16,000 pounds SWG.

The most demanding aircraft or group of aircraft with alike physical and operational characteristics that use the Prosser Airport regularly; generally conducting at least 500 annual takeoffs or landings, is termed the design aircraft. Thus, the current criterion for Runway 8-26 are:

A&B-I; TDG-1a, Small Aircraft

And, the current criterion for Taxiway A, its connectors and aprons is TDG-1a, Small Aircraft. The current design aircraft is the Cessna 414, a B-I, TDG-1a, Small Aircraft.

2.8.2 DESIGN STANDARDS

Design standards encompass various areas, zones, surface gradients and separations standards; select standards are described and tabulated within Table 2.8, based upon and the current design aircraft:

1. A Runway Protection Zone (RPZ) is a trapezoidal area off each runway end, established to enhance protection of people and property by clearing incompatible land uses. Prosser's RPZ's are wholly owned in fee.
2. The Runway Safety Area (RSA) and Taxiway Safety Area (TSA) are established to ensure that the ground surface adjacent to runways and taxiways is suitably prepared to reduce the risk of damage in the event of an aircraft deviation from paved surfaces. Safety area specifications are dimensional, grade-specific and material-specific.
3. The Runway Object Free Area (ROFA) and Taxiway Object Free Area (TOFA) are established to ensure the safety of aircraft operations by having an area free of objects, except those frangible-mounted objects, necessary for air navigation or ground maneuvering purposes.
4. The Obstacle Free Zone (OFZ) is a volume of airspace up to 150 feet above airport elevation, centered on runway centerline, primarily established to preclude taxiing and parked aircraft. The runway hold line is sometimes located to coincide with limits of the OFZ.
5. The purpose of the Approach (also termed the Threshold Siting Surface [TSS]) and Departure Surfaces is to provide obstacle clearance for visual approaches and instrument approach procedures. These surfaces are generally three-dimensional trapezoids with 20:1 or 34:1 surfaces extending upward and outward away from each end of a runway.

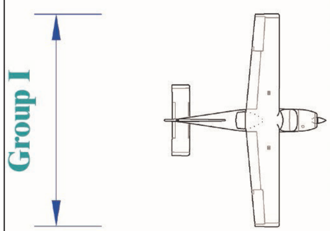
Note that the specification and minimum exceeding the specifications, for an individual project is generally acceptable, but may not be eligible for federal or state funds.

2.8.3 FAR PART 77

Title 14 of the Code of Federal Regulations, Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace specifies various imaginary surfaces considered to protect the airspace around the Prosser Airport from objects of natural growth or man-made features, termed obstructions. These surfaces are the

FIGURE 2-10
REPRESENTATIVE AIRCRAFT BY WINGSPAN

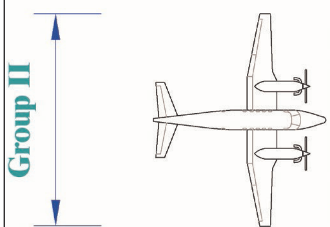
Personal Aircraft



Representative Aircraft

Beechcraft Bonanza 35, 36
Cessna 150, 172, 402, 414
Beechcraft Baron
Beechcraft King Air 90, 200
Cessna 182, 206, 401, 421
Cessna Citation I, CJI
Piper Navajo-34, Cheyenne-42

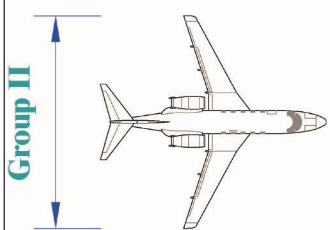
Business Aircraft



Representative Aircraft

DHC Twin Otter
Beechcraft 1900
Cessna Citation II, III, V
Dassault Falcon 50, 200
Embraer 145 RJ; ATR 42, 72
Rockwell Aero Commander 560,
DeHavilland Dash-7, 8

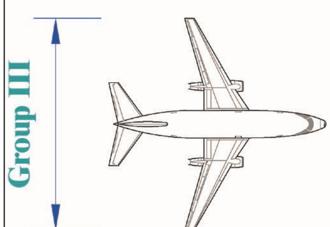
Corporate Aircraft



Representative Aircraft

Gates Lear 24, 25
IAI Westwind 1124
Bombardier 600, 601
Gulfstream III
Starship 1
Cessna Citation X
Gates Lear 35

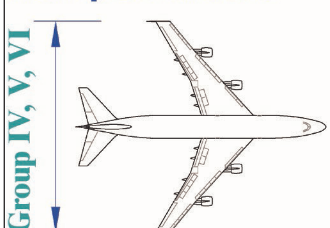
Commercial Aircraft



Representative Aircraft

Airbus 318-321
Boeing 727, 737
McDonnell Douglas DC-9
MD-82; MD-83
Gulfstream II, IV, V

Transport Aircraft

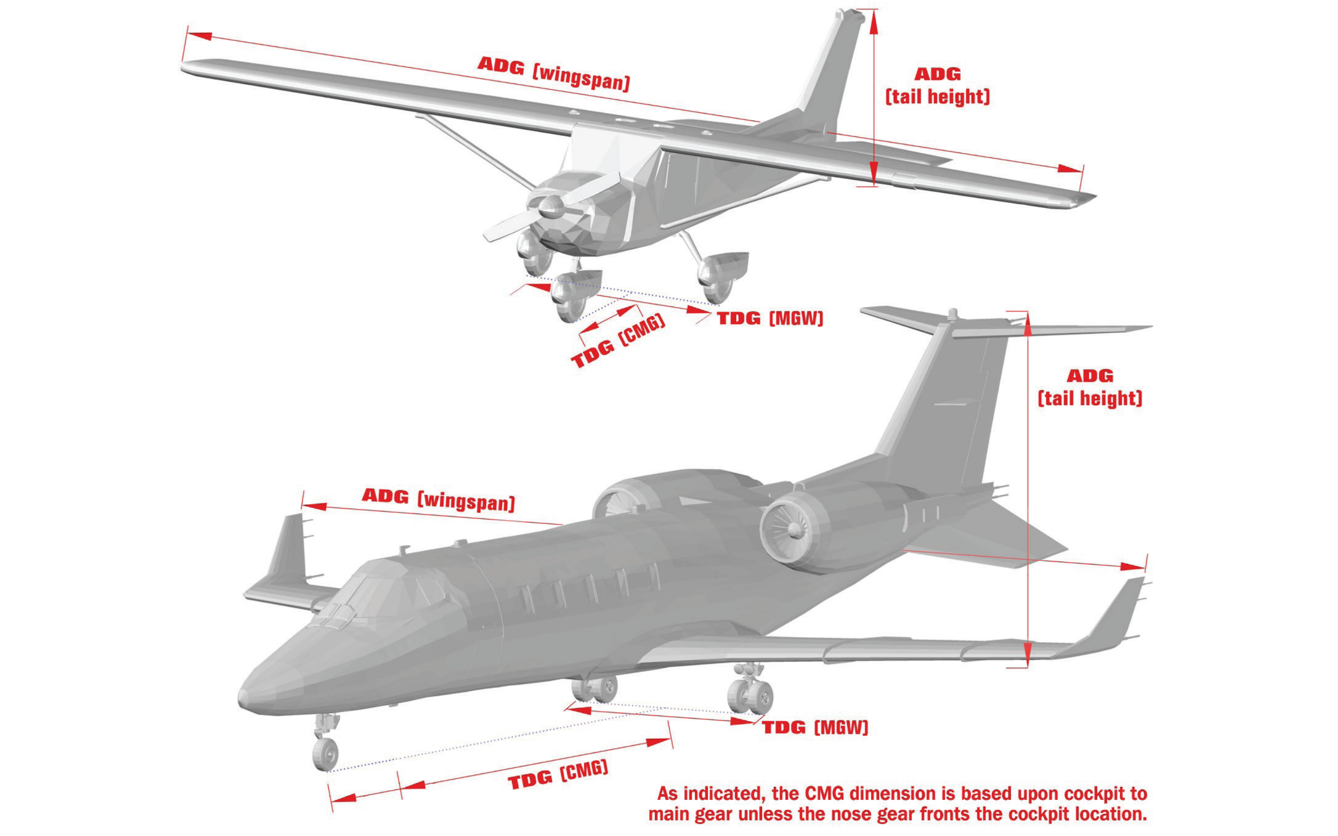


Representative Aircraft

Airbus 300, 310
Boeing 757, 767
Lockheed Hercules C-130
Airbus 330, 340, 380
Boeing 747; Boeing 777
Antonov 124, 225
Lockheed Galaxy C-5

Source: J-U-B

FIGURE 2-11
SELECT AIRPORT DESIGN CRITERION



Source: J-U-B

primary, approach, transitional, horizontal and conical as described in Section 77.25 and as follows:

1. The primary surface is longitudinally centered on the runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on centerline. The width of the primary surface is based on the type of approach available or planned for each runway.
2. The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach available or planned for that runway end.
3. The transitional surfaces extend outward and upward at right angles to the runway centerline and runway centerline extended at a slope of 7:1 (±8.13 degrees) from the sides of the primary surface and from the sides of the approach surfaces.
4. The horizontal surface is a level horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of either 5,000 or 10,000 feet from the center of each end of the primary surface of each runway and connecting the adjacent arcs with lines of tangency.
5. The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 (±2.86 degrees) for a horizontal distance of 4,000 feet.

In addition to these surfaces, Section 77.23 provides for additional obstruction identification guidance; A determination in this regard is made by FAA via proponent filing of FAA Form 7460 Notice of Proposed Construction or Alteration.

2.9 FINANCIAL/ECONOMIC DEVELOPMENT

In calendar year 2014, service-providing industries are a major share of Benton County's economy at 82.1% which represents industries such as the health care

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TABLE 2.8 SELECT PROSSER AIRPORT DESIGN STANDARDS		
Standard/Specification	Standard (B-I Small)	Existing (B-I Small)
Runway Width	60 Feet	60 Feet
Runway Shoulder Width	10 Feet	10 Feet
Effective Runway Longitudinal Grades	Within ±2% Maximum	Within ±2% Maximum
Runway Pavement Strength	Recommended 12,500 SWG	16,000 SWG
Runway Protection Zones (RPZ)	250 feet x 450 feet x 1,000 feet	250 feet x 450 feet x 1,000 feet
Runway Safety Area (RSA) Width/Beyond End	120 feet x 240 feet	120 feet x 240 feet
Runway Object Free Area (ROFA) Width/Beyond End	250 feet x 240 feet	250 feet x 240 feet
Taxiway Width	25 feet	25 / 35 feet
Taxiway Shoulder Width	10 feet	10 feet
Taxiway Safety Area (TSA)	49 feet	49 feet
Taxiway/Taxilane Object Free Area (TOFA)	89 feet / 79 feet	89 feet / 79 feet
Runway Centerline to Parallel Taxiway A Centerline	150 feet	150/235 feet
Runway to Holding Position	125 feet	125 feet
Runway to Aircraft Parking Area	125 feet	125 feet
Taxiway Centerline to Fixed/Movable Object	44.5 feet	44.5 feet
Runway Obstacle Free Zone Width/Beyond End	250 feet/ 200 feet	250 feet / 200 feet
Approach Surface (20:1)	250 feet x 700 feet x 5,000 feet	250 feet x 700 feet x 5,000 feet
Part 77 Primary Surface Width/Beyond End	250 feet x 200 feet	250 feet x 200 feet
Part 77 Approach Surfaces Dimension/Slope	250 feet x 1,250 feet x 5,000 feet; 20:1	250 feet x 1,250 feet x 5,000 feet; 20:1
Source: FAA/J-U-B		

and social assistance; finance, insurance and real estate; wholesale/retail trade; administrative and waste management/remediation; wholesale/retail trade there are 616 employers representing an average number of employees at 10,197 and in health care and social assistance there are 1,780 employers representing an average of 10,232 employees. The professional, scientific, and technical support industry is the largest private industry in Benton County representing 11.7% share of total employment with 459 employers with an average number of 9,391 employees. Agriculture represents 7.3 % of the total employment and is mainly focused on crop production of apples, grapes and other produce. Employment in agriculture is highly seasonal and volatile. Benton County employment is improving after the layoffs in 2011 from the Hanford Nuclear Reservation.

Economic Development Participants

Prosser's Economic Development Association is a non-profit organization that works to recruit new business, retain existing businesses and promote the economic welfare and quality of living in the greater Prosser area. Major public funding partners are the City of Prosser, the Port of Benton, and Benton County. The Economic Development Association's mission statement is:

> *"Prosser is a center of excellence for agriculture and agri-tourism industries, providing a wealth of educational and experiential opportunities as well as a solid foundation for industry research, development, and production. These factors synergistically work together to create supportive environments for public endeavors and private business, which carry the success of the Prosser Brand through generations."*

Other program partners include the Historic Downtown Prosser Association and the Prosser Chamber of

Commerce. The Historic Downtown Prosser Association is a non-profit organization that follows the National Main Street Program structure towards Economic Development through Historic Preservation. The Prosser Chamber of Commerce is a non-profit membership organization created to promote and assist local business and organize community events.

Airport Economic Impact Study

In 2012, WSDOT, with the support of the FAA, released an Economic Impact Study (Study) that studied the role aviation plays in Washington's economy. The Aviation Economic Impact Study looked at all 135 public use airports' contribution to the economy statewide and the community level by:

- Measuring the economic and fiscal impacts of each public-use airport in Washington
- Exploring how the aviation system supports economic development and competitiveness at the local and statewide levels
- Building understanding of how the state's aviation system creates economic value for people and communities across the state.

The approach to the study looked at three different perspectives to create a more comprehensive picture of aviation's economic value and impact in the state of Washington: Airport-level economic impacts, industry-level economic impacts, and user-level economic value. The study found that there are direct economic and fiscal benefits created by the aviation system in the state and that the system is a core element of the state's transportation infrastructure. From the Prosser Airport perspective, the study estimates the total impact that can be attributed to airport-related activity at the 135 public use airports in Washington State: 248,500 jobs, $15.3 billion in wages and, $50.9 billion in total economic activity. The Executive Summary goes on to state that from a fiscal perspective, more than $791 million in tax revenue is generated from aviation activities. Over $548 million goes towards supporting the State of Washington general fund, while cities, special purpose districts, and counties collect approximately $243 million in tax revenue.

The Industry Perspective portion of the study explores the relationship between aviation and specific industries and highlights the ways in which economic activity and aviation are intertwined. According to the WSDOT Economic Study Executive Summary, over 97% of State Gross Business Income (GBI) is generated by businesses within ten (10) miles of an airport and 70% of GBI is generated within five miles of an airport. Overall, airports support industry in a variety of ways and connect communities to commerce and economic opportunities that flow through the larger aviation system.

The User Perspective portion of the study looks at the value derived by individual users of the state's airports and aviation services. Especially for communities with smaller airports, the value goes above and beyond the number of jobs and gross business income.

Overall, the Study provides the state with the ability to look at economic implications for expanding capacity and maximizing the current inventory of aviation facilities. A significant share of aviation system economic contributions are from mobility and connectivity for both people and freight.

General Aviation Appreciation Month

Washington State's Governor Jay Inslee named June as General Aviation Appreciation Month for the fourth year in a row, recognizing the vital contribution all of general aviation, including business aviation, provides to the statewide economy. The proclamation noted that aviation plays a crucial role in the lives of Washingtonians, as well as the operation of businesses, industry, ranches, and farms – and its vital to the state's economy, and transportation system. Additionally, the proclamation highlights how general aviation, aerospace, aircraft manufacturing and other aviation activities contribute to Washington's economic health and vitality.

2.10 CONSTRAINTS TO AND OPPORTUNITIES FOR AVIATION GROWTH

A review and description of some of the existing physical site constraints and known, potential opportunities for growth follows. This is important during this early period of plan development in order to obtain an overall inventory. Note that items listed below are not meant to be a comprehensive list of all opportunities and constraints.

Constraints:

- **Runway Length.** Current users have expressed interest in increasing the total runway length to 4,000 or 4,200 feet.
- **Monitoring Land Use Compatibility.** Prosser Airport is surrounded by residential uses, vacant school property to the northwest, and retail uses that are generally considered incompatible with the local airport uses. Aircraft noise, safety and other impacts need to be considered as the Prosser Airport expands. An Airport Overlay Zone is recommended to provide solid protection of incompatible land uses surrounding The Prosser Airport.
- **Hangars on Both Sides of Runway.** Currently, there are aircraft hangars on the north and south side of the runway. The hangar on the north side

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of the runway accessed by a taxiway is slated for demolition in the near future. It should be noted that having hangars on both sides of a runway can lead to runway incursions such as a pilot crossing a runway or a pilot entering any portion of the airport movement areas (runways/taxiways) without clearance.

- **Lack of Helicopter Landing Area.** There is currently no landing area for helicopters.
- **Hold Bays.** A Hold Bay, also known as a Run-Up Apron area is desired by users at the runway ends. This would allow pilots to complete engine and other checks of their aircraft prior to takeoff. This area is necessary because the air blast from the aircraft checks may interfere with other aircraft in the immediate vicinity or the aircraft may obstruct ground traffic.
- **Buildings in the RPZ.** There are at least four buildings at the west end of the Prosser Airport remaining that have been purchased using FAA funds that may need to be addressed.
- **Instrument Approach Capability.** The Prosser Airport is Visual Approach only. A Non-Precision Instrument Approach plan could be developed for the flying public.

Opportunities:

- Facilitate Wine Industry Tourism
- Develop Prosser Airport to be a hub for the lower Yakima Valley
- Grow the flight school / training center
- Offer multi-modal resources such as a rental car facility
- Increase the usage of Prosser Airport for agricultural uses
- Expand fueling options for aircraft (offer Jet A Fuel) and high octane (91) automobile fuel
- Assess and potentially improve Wi-Fi
- Promote, relocate, and add lighting to tent camping facility
- Add safe crossing of Old Inland Empire Highway to access The Barn Restaurant on Wine County Road
- Provide better access to retail shopping on Wine Country Road east of Prosser Airport
- Improving aviation fueling abilities such as providing fire support at the fuel pit

CHAPTER 3 - AVIATION ACTIVITY FORECASTS

3.1 CHAPTER SUMMARY

This chapter presents aviation activity forecasts for the Prosser Airport (S40 or "the Airport"). The purpose of preparing aviation activity forecasts is to use existing and projected aircraft activity to plan for future improvement projects. Forecasts are intended to provide justification for future decisions, including analysis of alternatives to meet the long-term needs at the Airport while accomplishing other social, environmental, and economic goals. A summary of the main points of the chapter is included below.

- Single-engine aircraft are projected to grow at 1.1 percent annually. The composition of these aircraft is expected to change with light sport and experimental aircraft becoming more common as older piston aircraft are retired. New piston aircraft deliveries are expected to be less than the rate of retirement at S40 and across the County.
- Although none exist today, this forecast recommends planning for one turbo-prop and two helicopters in addition to the single-engine aircraft as these user classes are expected to show high growth over the next 20 years and are capable of operating at S40.
- Aircraft operations are expected to grow at 0.8% per year, in line with how they have grown over the past 20 years. Local operations are expected to grow slightly faster than itinerant operations; however, itinerant operations will continue to make up 60 percent of aircraft operations.
- The existing and future airport reference code, determined by number of operations from FAA Traffic Flow Management System Counts Data, is approach category B, design group I (B-I).
- The critical aircraft is the Cessna 414.
- Based aircraft and aircraft operations forecasts fall within the FAA tolerances for deviation from the TAF, but grow faster than the TAF for the five- and ten-year reporting periods.

3.2 INTRODUCTION

The aviation activity forecast evaluates the future demand at S40. This chapter forecasts the following activities: *based aircraft* and *aircraft operations (local and itinerant)*. The forecasts have a base year of 2015, and use the FAA fiscal year (October to September). The forecast period is 20 years, with five-year reporting intervals. Several forecasting methodologies are applied to each activity, and are compared with the Federal Aviation Administration (FAA) Terminal Area Forecast (TAF). Forecasts are not developed for scheduled commercial passenger and cargo operations, as these are

TERMINOLOGY

Aircraft Operation: A count of a takeoff, landing, or touch-and-go. Each time an aircraft touches the runway to takeoff or land, it counts as an operation.

Airport Reference Code: Used to determine facility size and setback requirements. The Airport reference code is a composite of the approach category and design group of the critical aircraft.

Approach Category: Classification of an aircraft by approach speed, with "A" being the slowest and "E" being the fastest.

Based Aircraft: Aircraft that are stored at The Prosser Airport. These aircraft may be stored full-time, or seasonally.

Critical Aircraft: The most demanding aircraft (in terms of size and/or speed) to use an airport over 500 times a year, or have scheduled operations at an airport.

Design Group: Classification of an aircraft by its size (wingspan and tail height) with "I" being the smallest and "VI" being the largest.

Enplanement: The act of a passenger boarding a scheduled or charter aircraft with more than nine seats, operating under FAR Part 121 or Part 135 regulations.

General Aviation (GA): Aviation activities conducted by recreational, business, and charter users not operating as airlines under FAR Part 121, Part 135, or military regulations.

Itinerant Operation: An operation that originates and terminates at different airports. An example is an aircraft flying from the Prosser Airport to the Tri-Cities.

Local Operation: An operation that originates and terminates at the same airport. An example is an aircraft taking off from the Prosser Airport, remaining near the Airport to practice flight maneuvers, and then landing at the Prosser Airport.

Touch-and-Go: A maneuver where an aircraft lands and takes off without leaving the runway. A touch-and-go counts as two aircraft operations.

not significant current or future markets expected to be served by the Prosser Airport.

Aviation activity forecasts are used to determine facility requirements, an assessment of what facilities the airport has compared to what facilities the airport needs in the future. These forecasts are reviewed and formally approved by the FAA Seattle Airports District Office with respect to their reasonableness and concurrence with FAA forecasting.

The chapter is organized in the following sections:

- **Background** describes how the Airport is used, how the community around it is changing, and any trends observed in available data.
- **Methodology** describes how the forecasts were prepared.
- **Based Aircraft Forecasts** describe the users that hangar and store aircraft at Prosser Airport.
- **Aircraft Operations Forecasts** describe the number of local and itinerant aircraft movements at S40.
- **Critical Aircraft** describes the most demanding aircraft to use S40 on a regular basis, on which future design considerations are based.
- **Chapter Summary** provides an overview of the forecasts for based aircraft and aircraft operations, and compares the Master Plan forecasts to the TAF.

Data sources used in this chapter are described in Table 3.1.

TABLE 3.1
DESCRIPTION OF DATA SOURCES

SOURCE	DESCRIPTION
Fixed Base Operator	The fixed base operator (FBO) sells fuel and provides aircraft and pilot services. FBO staff monitor the radio and are present at the airport throughout their work hours. The FBO manager was interviewed by the project team and shared counts of monthly itinerant operations, which totaled 6,937 for fiscal year 2015. The FBO manager does not count local operations. This data is expected to represent a good sample of aviation activity, but is subject to personal bias and limited to FBO hours of operation (Monday – Friday, 8am-5pm).
Runway End Game Cameras	S40 has game (wildlife) cameras installed at both runway ends which capture aircraft N-numbers on arrival. These numbers can be used to determine aircraft type. Other data include date and time of operation. Game cameras are automated, and may miss aircraft that land far down the runway or approach at a steep angle. Game camera records include a period from the beginning of June to the end of September 2016, outside of which the cameras do not have data. There were 327 arrivals captured during this period. The game cameras are used to supplement the Airport IQ 5010 data and provide additional insight on aircraft types operating at S40.
FAA Terminal Area Forecast (TAF)	The FAA TAF, published in January 2016, provides forecasts for operations and based aircraft at S40. These forecasts serve as a comparison for forecasts prepared as part of this planning effort, and provide historical information on aircraft activity. Due to the absence of a control tower at S40, the TAF does not provide much historical context.
FAA Aerospace Forecast	The Aerospace Forecast is a national-level forecast of aviation activity. The Aerospace Forecast helps guide local forecasts by serving as a point of comparison between local trends and national trends.
FAA Traffic Flow Management System Counts Data (TFMSC)	The TFMSC includes data collected from flight plans. TFMSC data from 2010-2015 includes average of 250 operations per year. These operations are categorized by aircraft type, and used to identify trends in the S40 fleet mix. The advantage of the TFMSC data is that it is detailed, and provides insight into the users of S40. The disadvantage is that it only includes itinerant operations, and represents a relatively small sample size (less than two percent of the total).

**TABLE 3.1:
DESCRIPTION OF DATA SOURCES**

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3.3 BACKGROUND

Background information is organized into three components:

- **Community Profile** describes the makeup of the businesses and residents in Benton County.
- **Aviation Profile** describes the users of the Airport, and summarizes previously completed studies of aviation activity.
- **Catchment Area** describes the geographic boundaries that the Airport draws its users from.

These sections tell the story behind the data, and help frame the discussion for the aviation forecasts included later in the chapter.

3.3.1 COMMUNITY PROFILE

S40 is located in Benton County, Washington, in the City of Prosser. Prosser is on the western side of Benton County, along the border with Yakima County to the west.

As shown in Figure 3-1, the economy of Prosser is largely built on agriculture, manufacturing, and educational and health services – owing to the rural character of the City. The U.S. Census Bureau estimates that Prosser has 5,714 residents in 2015. The Washington Office of Financal Management (OFM) reports that Benton County had a population of 185,000 in 2015. The U.S. Census Bureau indicates that approximately 150,000 Benton County residents live in the communities on the eastern edge of the County border.

The OFM indicates that between 2006 and 2016 Benton County was the second fastest growing county in the State in terms of population, with 18.62 percent growth, an annual average rate of 1.7 percent. Population projections for Benton County come from the OFM. The most recent series of OFM projections were prepared in 2012. OFM prepares *Low, Medium, and High* growth projections to account for future uncertainty. Since the projections were released, Benton County has tracked in line with the *Medium* projectons. OFM provides a breakdown by age group, which is used to estimate the working-age population. This includes teenagers with part-time jobs, and stops at the age where full social security benefits are available. OFM population projections for Benton County are shown in Table 3.2.

OFM projections show that Benton County population is expected to grow faster than the State average of percent. Like the rest of the Country, Benton County will see a large jump in population over the age of 65 between 2015 and 2025 associated with the Baby

FIGURE 3-1
CITY OF PROSSER AND BENTON COUNTY ECONOMY

Type of Employments of Prosser Residents

INDUSTRY FOR THE EMPLOYED CIVILIAN POPULATION 16 YEARS AND OVER	*Washington*	*Benton County*	*Prosser Percent*	*Prosser Number*
Agriculture, forestry, fishing and hunting, and mining:	2.5%	4.1%	14.6%	278
Construction	7.0%	7.3%	6.2%	118
Manufacturing	12.5%	7.5%	16.3%	310
Wholesale trade	4.1%	3.1%	2.7%	52
Retail trade	12.1%	11.6%	9.9%	189
Transportation and warehousing, and utilities:	5.4%	6.2%	4.8%	91
Information	3.4%	2.0%	1.6%	31
Finance, insurance, real estate and rental and leasing:	6.1%	3.8%	3.5%	67
Professional, scientific, management, administrative, and waste management services:	9.8%	19.9%	7.5%	143
Educational, health and social services:	19.4%	18.9%	19.8%	377
Arts, entertainment, recreation, accommodation and food	7.9%	6.6%	5.9%	112
Other services (except public administration)	4.8%	4.4%	2.5%	47
Public administration	5.0%	4.6%	4.5%	85
Total	100.0%	100.0%	100.0%	1,900

Occupation of Prosser Residents

OCCUPATION FOR THE EMPLOYED CIVILIAN POPULATION 16 YEARS AND OVER	*Washington*	*Benton County*	*Prosser Percent*	*Prosser Number*
Management, professional, and related occupations:	36%	38%	28%	532
Service occupations:	15%	14%	12%	236
Sales and office occupations:	26%	24%	22%	423
Farming, fishing, and forestry occupations	2%	2%	9%	173
Construction, extraction, and maintenance occupations:	9%	10%	11%	209
Production, transportation, and material moving occupatior	13%	11%	17%	327

Source: City of Prosser Consolidated Comprehensive Plan, 2011

TABLE 3.2
WASHINGTON OFFICE OF FINANCIAL MANAGEMENT 2012 POPULATION PROJECTIONS

YEAR	POPULATION TOTAL	POPULATION UNDER 15	POPULATION 15-65 (WORKFORCE)	POPULATION OVER 65
2015	184,882	40,275	119,810	24,797
2025	210,803	44,385	130,024	36,394
2035	236,007	49,162	142,995	43,850
CAGR	1.2%	1.0%	0.9%	2.9%

CAGR: Compound Average Growth Rate
Source: Washington State Office of Financial Management

Boomers. The working-age population is the largest population segment. Despite the lower average growth rate, it will remain the largest segment through 2035 with over 60 percent of total population. The growing working age population will need jobs, and a core assumption of the OFM projections is that the economy of Benton County will develop to support these new residents.

The Benton-Franklin Council of Governments (BFCOG) is in the process of updating their long-range transportation plan, called *Transition 2040*. While Transition 2040 will not be complete until 2017; two draft chapters are available. Transition 2040 shows that growth is expected to be strongest in the population centers on the eastern side of the County. Prosser is characterized as a *Small Urban Area* by Tranisiton 2040, which is defined as:

> "[…] *areas with populations over 5,000 that are outside the Metropolitan Planning Area. While surrounded by rural, unincorporated, and natural resource lands, they serve as small hubs for housing, jobs, and health services."*

Transition 2040 estimates show the population of Prosser growing to 8,718 by the year 2040, which is an average annual growth of 1.6 percent. Transition 2040 desribes the physical characteristics of S40, such as its runway length, but does not provide in-depth analysis. Interstate 82, which runs through Prosser to Interstate 90 and Seattle, is identified as a strategic freight corridor by Transition 2040. There are two ramps for Interstate 82 in town. Location along the strategic freight corridor will support economic development in the community as this location makes the community eligilbe to compete for certain economic development grants from WSDOT, as outlined in the Washington State Freight Mobility Plan (WSFMP). Transition 2040 states that WSFMP "aims to support rural economies' farm-to-market, manufacturing, and resource industry sectors."

The BFCOG 2015 Comprehensive Economic Development Strategy Update (2015 CEDS) highlight several recent developments in Prosser. These include the Washington State University Agricultural Experiment Station, which provides scientific research that supports the wine industry. The Port of Benton constructed the 32-acre Vintner's Village as an incubator for new vineyards, and recently received a $1.5 million dollar loan to expand the facility as it had become full. The 2015 CEDS states that one of BFCOG's goal is to continue to "*liaise with the cities of Prosser [and other rural communities in the BFCOG jurisdiction] to promote economic development within theircommunities."*

While Prosser will remain small compared to the communities in the eastern side of the County, overall population growth through 2040 is projected to be strong, and the community's location on Interstate 82 may help it attract new businesses. BFCOG economic development efforts around the wine industry have met with success as shown by the second phase of development for Vintner's Village. Section 3.3 investigates how local economic growth may influence aviation activity.

3.3.2 AVIATION PROFILE - USERS

The Airport accommodates local and itinerant general aviation on its one 3,451 foot long by 60 foot wide runway. Users include agricultural spray operations, business travelers, student pilots, and hobbyists flying for recreational purposes. The Airport offers self-serve 100LL fuel used by piston powered aircraft which is available 24 hours per day. S40 has a fixed base operator (FBO) that provides flight instruction in standard and light sport aircraft, and aircraft maintenance services. There is no control tower at S40, and the Airport is not staffed 24 hours a day. The FBO staff are on site from 8am to 5pm, Monday through Friday. There are 56 aircraft based at S40, and all are single-engine piston. Of the 56 aircraft based at S40, 43 are standard single engine piston, and 13 are experiment / kit planes. There are 55 aircraft with an ARC of A-I and one with an ARC of B-I.

The size of facilities and availability of services determines which types of aircraft can use S40 on a regular basis. The 60 foot runway width meets FAA standards for approach category B, Design Group I aircraft that are categorized as *small* because the maximum takeoff weight is 12,500 pounds or less. Although existing facilities were built for the most common users at the time of their design, S40 is capable of handling larger and heavier aircraft. Pavement strength is rated at 16,000 pounds for single wheel configuration. The Airport does not offer jet fuel, and the runway length and width may deter larger jets. FAA flight plan records show that small jets and turbo props, such as the Cessna Citation II and the Beech King Air 300, use S40.

A survey on airport facilities was conducted from May to July 2016 (2016 User Survey). The survey collected 64 online responses; however, respondents were allowed to skip questions. Respondents that used the Airport were asked why they chose to do so, and were allowed to pick more than one reason. Of the 38 respondents that answered, 89 percent flew for recreation, 13 percent for business, and 32 percent for flight training.

3.3.3 AVIATION PROFILE – TERMINAL AREA FORECAST

The FAA TAF provides a record of aviation activity at S40 from 1990 to 2014, and forecasts from 2015 to 2040. Due to the absence of an airport traffic control tower, records are considered estimates. The TAF and airport management records show that the only based aircraft

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TABLE 3.3
FAA TAF FOR S40 – FORECAST ISSUED JANUARY 2016

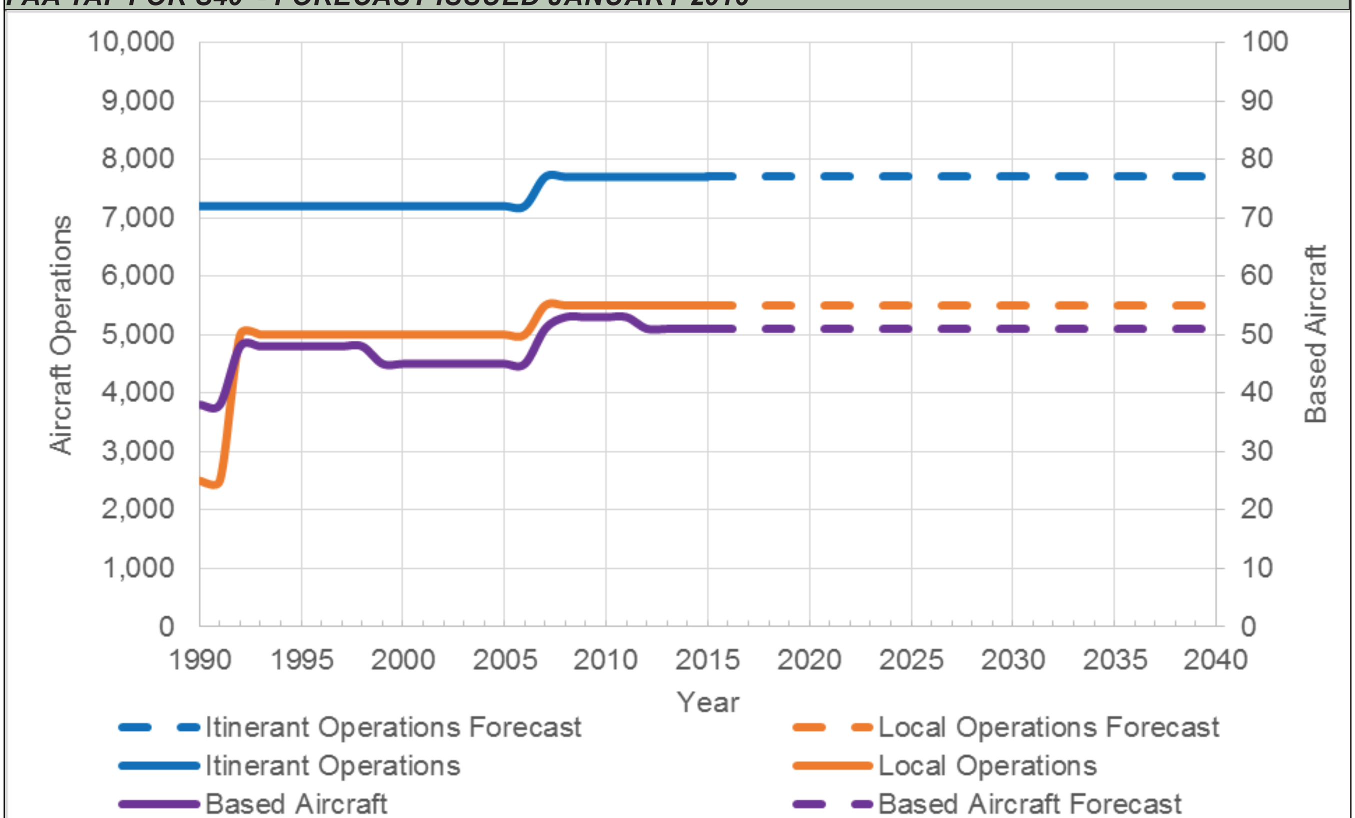
TYPE	FISCAL YEAR	ITINERANT OPERATIONS	LOCAL OPERATIONS	TOTAL OPERATIONS	BASED SINGLE ENGINE[1]
Record	1990	7,202	2,500	9,702	38
	1995	7,200	5,000	12,200	48
	2000	7,200	5,000	12,200	45
	2005	7,200	5,000	12,200	45
	2010	7,700	5,500	13,200	53
Forecast	2015	7,700	5,500	13,200	51[2]
	2020	7,700	5,500	13,200	51
	2025	7,700	5,500	13,200	51
	2030	7,700	5,500	13,200	51
	2035	7,700	5,500	13,200	51
	2040	7,700	5,500	13,200	51

Source: FAA Terminal Area Forecast

[1] *Management records show that all based aircraft are single engine. Mix is shown in footnote #2.*

[2] *Airport Management counts show 56 based aircraft in 2015. Of these, 43 are standard, and 13 are experimental/kit planes.*

FIGURE 3-2
FAA TAF FOR S40 - FORECAST ISSUED JANUARY 2016



Source: FAA Terminal Area Forecast

are single engine piston. No other types are included in TAF records or forecasts. A summary of the FAA TAF issued on January 2016 is included in Table 3.3 and Figure 3-2.

The TAF shows no variance from 2015 onwards, and records offer few clues into historical aircraft operations. Based aircraft totals were updated more frequently. As discussed in the next section, the TAF shows variation around the time the 2006 Master Plan was completed, and has not exhibited much change since then. This is not uncommon for TAFs at non-towered airports in rural areas; however, it does present a challenge when using the TAF to forecast change.

Given the absence of variance in the TAF data, the Master Plan uses additional data sources in an attempt to add detail to the TAF numbers. Aircraft management counts show 56 based single engine piston aircraft instead of 51 in 2015. FBO staff provided itinerant operations counts for fiscal year 2015, shown in Table 3.4.

The FBO does not keep count of local touch-and-go operations, and does not have counts for night operations and weekend operations as the office is closed. In light of the periods where no counts were collected, FBO records account for 90 percent of total itinerant operations as reported by the TAF. Given that the TAF has shown no variability in operations counts since 2007, the proximity of the 2015 counts and the TAF estimate could be a coincidence. Regardless of whether it is or not it is a coincidence, the proximity of the two figures lends support to using the 2015 TAF counts as a baseline for itinerant operations. This does not address the lack of annual operations variation in years past.

TABLE 3.4
2015 ITINERANT OPERATIONS COUNTS

MONTH	OPERATIONS
October	604
November	322
December	246
January	166
February	453
March	607
April	750
May	960
June	731
July	793
August	422
September	883
Total	**6,937**

Source: S40 FBO Staff

The lack of variance in aircraft operations and based aircraft in future TAF years presents a challenge in forecasting demand for two reasons. First – flat historical activity levels make it difficult to use linear regression analysis to project future activity. A work-around is discussed in Section 3.3. The second challenge is that FAA guidelines suggest forecasts should be within ten percent of the TAF over a five year period, and within 15 percent of the TAF over a ten year period, or else additional justification may be needed. Preferred forecasts are compared to the TAF in Section 3.6.

Effort has been made to consider other sources of data for S40, including previously completed planning studies and other FAA databases.

3.3.4 AVIATION PROFILE – OTHER PLANNING STUDIES

Other planning studies for S40 include a 2006 Airport Master Plan, and the 2009 Washington Aviation System Plan (WASP), which was done as part of the Washington State Long Term Air Transportation Study. The 2006 Master Plan forecasts did not deviate much from the TAF, but may explain the jump from 12,200 annual operations to 13,200, and the change from 45 based aircraft to 51 between 2006 and 2007. Since the 2006 Master Plan, the TAF has regressed to flat operations. Based aircraft totals appear to have been updated every five years.

Chapter 7 of the 2009 WASP did not forecast activity for individual general aviation airports. General aviation airports were grouped at the Regional Transportation Planning Organization (RTPO) level, and given a single growth rate. S40 was part of the BFCOG RTPO, which also included the Walla Walla sub-RTPO.

The CAGR for based aircraft at general aviation airports in BFCOG RTPO was 1.7 percent from 2005 to 2015, and the CAGR for aircraft operations was 1.6 percent. The 2009 WASP is being updated as of 2015; however, demand forecasts have not been published. A comparison between historical growth rates and the growth rates in the 2009 WASP is presented in Table 3.5. Based aircraft grew more quickly, and aircraft operations grew more slowly than the 2009 WASP.

TABLE 3.5 GROWTH RATE COMPARISON 2005-2015		
CATEGORY	TAF[1]	2009 WASP
Based Aircraft	2.2%	1.7%
Aircraft Operations	0.8%	1.6%

[1] Based aircraft includes 2015 airport management counts.

SOURCES: FAA TAF, Airport Mgmt, WSDOT

3.3.5 AVIATION PROFILE – TRAFFIC FLOW MANAGEMENT SYSTEM COUNTS

Another source of data is the FAA Traffic Flow Management System Counts (TFMSC), which are records of flight plans filed and completed. The TFMSC for S40 includes 3,378 operations for a period including fiscal years 2005 to 2015. The TFMSC data includes counts of operations by aircraft type, making it possible to lookup the aircraft reference code. The aircraft reference code is vital to facility planning because it guides size and setbacks for improvement projects.

The limitations of TFMSC data is that it does not include local operations, and does not include itinerant operations that did not file a flight plan. Traffic flying under visual flight rules are not required to file flight plans; therefore, some pilots chose not to do so. This can skew TFMSC records by showing a higher percentage of larger aircraft (e.g. business jets and turbo props that typically file flight plans) than smaller aircraft (e.g. single engine piston aircraft). TFMSC data for S40 varies between larger and smaller design groups, and does not show evidence of being skewed towards larger aircraft. TFMSC data by aircraft reference code is shown in Table 3.6 and Figure 3-3.

Aircraft classified as "unknown" are operations recorded in TFMSC without data to identify the attribute type. Aircraft classified as "other" include rare one-off operations by military transport aircraft, and military and civilian helicopters. There were 28 operations over the ten year period by "other" aircraft – 20 of which were helicopters and the other eight were military aircraft. It is expected that most "unknown" aircraft fall into one of the more common aircraft reference codes. The logic behind this is supported by physical constraints of the airfield, such as runway length, width, and pavement strength, making the airfield undesirable or unaccommodating to larger aircraft on a regular basis, and TFMSC operations data showing the majority of operations are performed by Approach Category A/B and Design Group I/II aircraft.

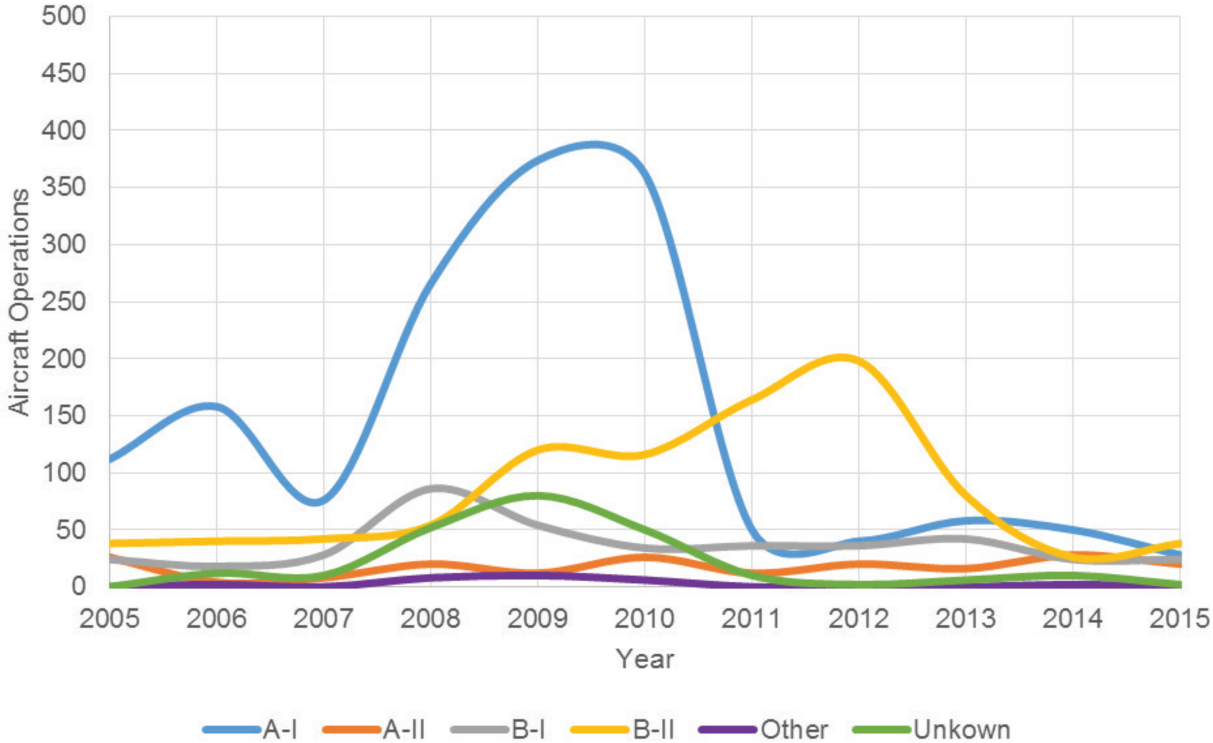
The most common operation type in the TFMSC records switches from A-I to B-II starting in 2011 (outside of a swing back to A-I in 2014). This timing corresponds with the end of the global financial crisis. Although the underlying cause of this switch cannot be identified with complete accuracy, national trends reported by the FAA Aerospace Forecast show the GA market moving away from recreational flying as personal finance became strained by the economy. Business GA picked up in response to the reduction of service by passenger

TABLE 3.6
FAA TFMSC RECORDS – OPERATIONS BY AIRCRAFT REFERENCE CODE

FISCAL YEAR	A-I	A-II	B-I	B-II	UNKNOWN	OTHER	TOTAL OPS[1]	TAF ITN. OPS[2]
2005	112	26	24	38	0	0	200	7,200
2006	158	4	18	40	12	2	236	7,700
2007	76	8	28	42	10	0	164	7,700
2008	266	20	86	54	52	8	494	7,700
2009	374	12	54	120	80	10	660	7,700
2010	362	26	34	116	50	6	600	7,700
2011	50	12	36	164	10	0	272	7,700
2012	40	20	36	198	2	0	296	7,700
2013	58	16	42	80	6	0	202	7,700
2014	50	28	24	26	10	2	142	7,700
2015	28	20	24	38	2	0	112	7,700

SOURCES: FAA TFMSC, FAA TAF
[1] Operations captured in TFMSC data
[2]. Total annual operations reported by FAA TAF

FIGURE 3-3
FAA TFMSC RECORDS - OPERATIONS BY AIRCRAFT REFERENCE COCE



SOURCE:

airlines in the wake of the global financial crisis. TFMSC records have declined across the board since 2009.

Extrapolation of the TFMSC records across the TAF requires application of the statistical tests of significance to determine what degree of confidence can be obtained for each ARC estimate based onthe sample size. Results are shown in Table 3.7 and explained below.

Mean is the average of the sample.

Standard error describes how the individual observations are dispersed around the sample mean. The coefficient of variation explains how the individual observations are dispersed around the sample mean. A larger percentage equals greater dispersion.

Kurtosis helps identify outliers in the dispersion. A positive kurtosis indicates that there are more observations in the tail ends of the distribution than would be expected under normal distribution, and a negative kurtosis indicates that there are fewer. The closer to 0 the kurtosis is, the closer to a textbook “normal” distribution the sample is.

Skewness indicates what side of the mean the majority of observations fall. Positive skewness means that there are more observations above the mean, and a negative skewness is the opposite.

Count is the number of observations included in each sample.

The key statistic of interest is the confidence interval. The way to read this statistic is that there is 95 percent confidence that the confidence level contains the population mean. For ARC A-I aircraft, this means that there is 95 percent confidence that the interval between 55 and 231 contains the population mean. This information can be used to extrapolate the TFMSC data and provide a range of total itinerant operations by ARC for the forecast years.

The advantage of the descriptive statistics analysis is that it is independent of the population, which is the total number of itinerant operations. The statistics hold true regardless of whether or not the TAF total operations counts are accurate. A disadvantage is that it the statistics do not take into account any external forces that would increase or reduce flying by a certain ARC in a particular year.

The other item that statistics does not shed light on is the likelihood of a particular ARC to file a flight plan. Given that S40 is in uncontrolled airspace, and given that the Airport does not have instrument procedures, it is

TABLE 3.7 TFMSC DESCRIPTIVE STATISTICS				
ATTRIBUTE	A-I	A-II	B-I	B-II
Mean	143	17	37	83
Standard Error	39	2	6	18
Standard Deviation	131	8	19	58
Coefficient of Variation (%)	91	45	52	70
Kurtosis	(0.46)	(0.92)	4.13	(0.26)
Skewness	1.07	(0.29)	1.90	0.97
Count	11	11	11	11
Confidence Level (95.0%)	88	5	13	39
Lower Bound (95.0%)	55	12	24	44
Upper Bound (95.0%)	231	23	50	122
Source: TFMSC Records from 2005-2015				

expected that recreational pilots and students are much less likely to file than experience flight crews in larger aircraft. For this reason, more weight is put on the A-II and B-II TFMSC records being near actual operations, and the A-I and B-I operations being samples. Operations by ARC are discussed in Section 3.6.

3.3.6 CATCHMENT AREA

The catchment area for S40, which defines where its users comer from, is driven by the presence of other Airports and the facilities and services that they offer. The 2012 WSDOT Airport Economic Profile indicates that the catchment area for S40 includes Yakima and Benton counties. Nearby airports include Sunnyside Airport (1S5) in Yakima County, which is located 14 miles to the northwest of S40, and Richland Airport (RLD) in Benton County, which is located 31 miles to the east. 1S5 is a rural airport, similar to S40, and RLD is located in Benton County's primary population centers of Richland and Kennewick. A comparison of nearby airports is presented in Table 3.8.

1. RLD does not have a control tower, but is located within controlled airspace associated with the Tri-Cities Airport(PSC).
2. 1S5 has 13 single engine, and 1 multi-engine aircraft.
3. RLD has 140 single engine, 3 jet, 9 multi-engine, 6 helicopter, and 20 other aircraft.

The presence of 1S5 and RLD, and the comparable facilities offered at each, limits the extent of the S40 catchment area; however, the Airport captures users from around the area. The 2016 user survey asked respondents where they lived. Of the 42 responses to that question, 31 percent lived in Prosser, 43 percent lived in the Tri-Cities area (Richland, Kennewick, and Pasco), five percent lived in Yakima County, and 21 percent were from areas outside of Yakima and Benton counties and the Tri-Cities.

The 2012 WSDOT Airport Economic Profile lists the catchment area for 1S5 as Yakima County only, whereas the catchment area for S40 includes both Benton and Yakima counties. S40 offers more aircraft services to pilots, such as flight training and maintenance than 1S5. Runway weight bearing capacity is higher, which means that S40 can accommodate heavier aircraft on a more regular basis.

RLD offers the same types of pilot services as S40, but is located near larger population and employment center, features Jet A fuel for turbine aircraft, and has instrument approaches for all-weather reliability.

Methodology

The forecasts use linear regression models for based aircraft and operations forecasts. The market share methodology is used for based aircraft forecasts because there is some variation in historical data. Market share is not used for aircraft operations because there is little variation in the historical data. Other forecast methods, such as Monte Carlo simulation would be ineffective without more detailed historical data. The linear regression method begins with a correlation analysis, which investigates how aviation activities at S40 have performed when compared to select aviation and non-aviation activity indicators. Future activities are projected based on growth of highly correlated variables using an algebraic regression equation. The market share methodology looks at how based aircraft at S40 have changed in relation to a larger market, and projects

TABLE 3.8 NEARBY AIRPORTS			
ATTRIBUTE	**PROSSER (S40)**	**SUNNYSIDE (1S5)**	**RICHLAND (RLD)**
Runway(s)	3,451' x 60'	3,423' x 60'	(1/19) 4,009' x 75' (8/26) 4,001' x 100'
Distance from S40 (Driving)	0 Miles	14 Miles Northwest	30 Miles East
Runway Weight Capacity	16,000 lbs. (Single)	12,500 lbs. (Single)	30,000 lbs. (Single)
100LL Fuel	Yes	Yes	Yes
Jet A Fuel	No	No	Yes
Flight Training	Yes	No	Yes
Aircraft Maintenance	Yes	No	Yes
Instrument Approach	No	No	Yes
Control Tower	No	No	No[1]
Based Aircraft (2015)	56	14[2]	178[3]
Sources: Aircraft Owners and Pilots Association (AOPA) Airport Guide, FAA Terminal Area Forecast (Jan 2016)			

future growth based on maintaining a share of the larger market.

The correlation analysis, which is part of the linear regression model, compares based aircraft, local operations, and itinerant operations to external activity indicators. These activity indicators are selected because they represent national levels of similar activity to what occurs at S40, and because they are indices of socioeconomic activity in Benton County. Correlation analysis ignores units and orders of magnitude, and instead measure how closely the variables change in proportion to one another using percentages. Correlation can be negative, indicating that as one index grows, the other declines. Correlation is measured by the correlation coefficient, which ranges from -1 to +1. A score close to +/-1 suggest stronger positive/negative correlation, and a score closer to zero suggests that the two variables are not correlated.

Correlation shows potential interrelatedness between two variables; however, it cannot be the sole factor to determine that growth of one variable is caused by the other. Often times there are unrelated factors and additional variables that impact the growth in both variables. An example is a ten percent growth in the sale of luxury goods correlating to the ten percent growth in travel by private aircraft in a community. Purchasing luxury goods does not directly cause people to fly by private aircraft, nor vice versa – but the strong correlation suggests that a third factor may be causing both variables to grow (such as local growth in an industry with high paying jobs). Correlation is augmented by professional judgement which helps explain the correlation. Factors evaluated in the correlation analysis and analysis results are shown in Table 3.9 and Table 3.10.

Correlation analysis does not fully explain why variables behave the way they do, but does help suggest a connection, or lack thereof, between variables. The correlation analysis shows that total employment has the strongest correlation with the three measures of aviation activity at S40, followed by GRP and Total Earnings. The variables are positively correlated with the aviation activity measures, meaning that when once increases, the other does the same. Observing the trends of the variables, it is evident that aviation activity measures show strongest correlation with variables that are growing, and those that do not show much volatility. For example, the S&P 500 average close has experienced periods of growth and contraction in the ten years considered. When compared to the relatively stable activity indicators at S40, the S&P 500 is highly volatile and weakly correlated.

Weak correlation and negative with national variables is cause for further discussion. As stated in Section 3.1, the TAF operations data lacks historical variation, therefore it remains constant while national GA operations fluctuate. However, S40 based aircraft, which exhibit more historical variation than S40 operations, also exhibit a negative correlation with the national single engine piston fleet. This suggests that while the single engine piston fleet has been shrinking nationwide, growth at S40 is going counter to national trends.

Correlation analysis does not "prove" that a particular variable is better than another to use for regression forecasts; however, it does demonstrate that the variables have historically changed proportionally and may be

TABLE 3.9 CORRELATION ANALYSIS VARIABLES AND SOURCES		
FACTOR	**TYPE (SCALE)**	**SOURCE**
Based Aircraft	Aviation (Local)	Airport Management / TAF
Itinerant GA Operations		FBO/TAF/TFMSC
Local GA Operations		TAF
Itinerant GA Operations	Aviation (National)	FAA Aerospace Forecast
Local GA Operations		
Single-Engine Fleet		
Population	Socioeconomic (Benton County)	U.S. Census Bureau Washington OFM BFCOG Woods & Poole, Inc.
Labor Force		
Employment		
Total Earnings		
Gross Regional Product (GRP)		
S&P 500 Average Close	Socioeconomic (National)	Yahoo Finance
Cushing, OK Spot Price (Oil)		U.S. Department of Energy
U.S. Gross Domestic Product		World Bank, OCED
Source:		

subject to the same market forces, such as the number of jobs in a community. For this reason, variables that have exhibited a high level of correlation are carried forward into regression analysis. The results of these analyses will be checked against the TAF and national forecasts to assess whether or not the forecasts they produce are reasonable.

3.4 BASED AIRCRAFT FORECASTS

The FAA TAF has five classifications for based aircraft: single- and multi-engine piston, jet (turbine), helicopter, and other. Airport and FAA TAF records from 2005 to 2015 show that only single-engine piston aircraft are based at S40. The breakdown amongst the single engine aircraft is 43 standard, and 13 kit/experimental aircraft. 2015 counts come directly from the airport manager. The Airport is used by other aircraft classifications, as discussed in Section 3.4; however, these aircraft are based elsewhere. Based aircraft forecasts are used to plan for aircraft parking and storage, and help identify the critical design aircraft for facility planning. Historical based aircraft totals are presented in Table 3.11.

Based aircraft counts show a net gain of 11 aircraft between 2005 and 2015; however, there have been periods of growth, stability, and decline throughout. The FAA sees single-engine piston aircraft as a declining market due to the age of the fleet, and the growing costs of maintaining airworthiness. As shown in Table 3.9, the national single engine GA fleet has been reduced from 148,101 aircraft in 2005 to 122,435 in 2015 due to these pressures.

Despite the overall reduction of the GA fleet, there are some segments of the GA market that are experiencing growth. While traditional single-engine piston aircraft are retiring, a new subset of this market is expanding: light sport and experimental aircraft. There are 13 experimental aircraft based at S40. Although there are no light sport aircraft based at the Airport, the FBO is certified to provide flight instruction to owners of these aircraft. These aircraft are smaller and more maneuverable than older single-engine piston aircraft, cheaper to own and operate, and can be piloted with a light sport license, which has fewer training and medical requirements than a private pilot's license, and the FBO at S40 offers light sport flight instruction. Light sport aircraft are popular among recreational pilots (those who fly for fun and personal travel); however their size and speed make them less popular for business GA. The FAA Aerospace Forecast indicates that experimental aircraft registrations have grown by two percent between 2014 and 2015, and the FAA expects a sustained annual average growth of 1.4 percent through 2035 for this category. It is expected that as some of the older single-engine piston aircraft retire, they may be replaced by experimental and light sport aircraft if the owner does not wish to purchase a heavier single-engine piston aircraft.

Based aircraft forecasts are performed for single-engine piston aircraft only due to the absence of data on other aircraft types. For the purposes of contingency planning,

TABLE 3.10
NATIONAL BASED AIRCRAFT DATA

Year	Based	Itinerant	Local	Itinerant GA[1]	Local GA[1]	Single Engine[1]	Population	Workforce	Employment	Earnings[2]	GRP[2]	Retail Sales[2]	GDP[3,5]	S&P 500[4,5]	Oil[4,5]
Units	**Aircraft**	**Operations**	**Operations**	**Thousands of Ops.**	**Thousands of Ops.**	**Aircraft**	**Thousands**	**Thousands**	**Thousands**	**Millions of Dollars**	**Millions of Dollars**	**Millions of Dollars**	**Billions of Dollars**	**Average Close**	**Dollars per barrel**
2005	45	7,200	5,000	19,303	14,844	148,101	157.726	98.196	86.537	4,509.545	7,083.925	2,323.95	13.10	1,207.77	56.49
2006	45	7,200	5,000	18,707	14,365	145,036	159.564	98.725	86.144	4,412.965	6,865.070	2,373.16	13.90	1,318.31	66.02
2007	51	7,700	5,500	18,575	14,557	147,569	161.669	99.118	90.741	4,677.887	7,422.776	2,391.05	14.50	1,478.10	72.32
2008	53	7,700	5,500	17,493	14,081	145,497	166.573	101.433	92.731	4,807.627	7,583.665	2,346.46	14.70	1,215.22	99.57
2009	53	7,700	5,500	15,571	12,448	140,649	171.122	103.394	94.921	5,163.441	8,293.603	2,214.46	14.40	946.27	61.65
2010	53	7,700	5,500	14,864	11,716	139,519	176.472	106.217	98.626	5,489.495	8,893.862	2,350.41	15.00	1,130.68	79.40
2011	53	7,700	5,500	14,528	11,437	136,895	180.678	108.542	100.174	5,601.096	9,004.691	2,506.35	15.50	1,280.76	94.87
2012	53	7,700	5,500	14,522	11,608	128,847	184.008	109.494	102.154	5,760.176	9,271.277	2,576.24	16.20	1,386.51	94.11
2013	51	7,700	5,500	14,177	11,748	124,398	187.408	110.593	104.169	5,936.291	9,545.743	2,647.92	16.80	1,652.29	97.91
2014	51	7,700	5,500	13,978	11,674	123,440	190.874	111.593	106.212	6,117.229	9,828.319	2,721.46	17.40	1,944.41	93.26
2015	56	7,700	5,500	13,932	11,807	122,435	194.387	112.571	108.289	6,303.086	10,119.245	2,796.87	-	-	-
Growth Rate:															
Five Year	1.1%	0.0%	0.0%	-1.3%	0.2%	-2.6%	2.0%	1.2%	1.9%	2.8%	2.6%	3.5%	3.8%	14.5%	4.1%
Ten Year	2.2%	0.7%	1.0%	-3.2%	-2.3%	-1.9%	2.1%	1.4%	2.3%	3.4%	3.6%	1.9%	3.2%	5.4%	5.7%
Correlation:															
Based Aircraft	1.00	0.91	0.91	(0.73)	(0.67)	(0.51)	0.67	0.66	0.73	0.69	0.70	0.37	0.52	(0.06)	0.61
Itinerant Ops.	0.91	1.00	1.00	(0.71)	(0.66)	(0.49)	0.64	0.63	0.71	0.65	0.67	0.34	0.65	0.17	0.65
Local Ops.	0.91	1.00	1.00	(0.71)	(0.66)	(0.49)	0.64	0.63	0.71	0.65	0.67	0.34	0.65	0.17	0.65

Notes:

1: National Total per FAA.
2: Dollar values in 2009 dollars (multiply by 1.11 to convert to 2015 dollars).
3: Dollar values in 2015 dollars.
4: Dollar values current for year they are reported in.
5: 2015 data not yet available for GDP, S&P 500 Average Close, and Oil.

Correlation Scale				
Strong Negative	Weak Negative	None	Weak Positive	Strong Positive

Correlation Strength Rank	Based Aircraft	Itinerant Operations	Local Operations
1	Employment		
2	Gross Regional Product (GRP)		
3	Earnings	Tie: Earnings / Gross Domestic Product (GDP) / Oil	

TABLE 3.11 HISTORICAL BASED AIRCRAFT COUNTS		
YEAR	**BASED AIRCRAFT (SINGLE-ENGINE)**	**PERCENT CHANGE (YEAR TO YEAR)**
2005	45	
2006	45	0.0%
2007	51	13.3%
2008	53	3.9%
2009	53	0.0%
2010	53	0.0%
2011	53	0.0%
2012	53	0.0%
2013	51	-3.8%
2014	51	0.0%
2015	56	9.8%
Growth Rate (2005-2015)		2.2%
Growth Rate (2010-2015)		1.1%
Sources: (2015) Airport Records, (2005-2014) FAA Terminal Area Forecast		

TABLE 3.12 NATIONAL GENERAL AVIATION AND AIR TAXI FLEET 2015-2035			
AIRCRAFT TYPE CLASSIFICATION	**% OF FLEET (2015, 2035)**		**GROWTH RATE (2015-2035)**
Single-Engine Piston	62%	51%	-0.6%
Multi-Engine Piston	7%	6%	-0.4%
Turbo-Prop	5%	6%	1.5%
Jet	6%	10%	2.8%
Rotorcraft (Helicopters)	5%	8%	2.5%
Experimental	13%	15%	1.4%
Light Sport	1%	3%	4.3%
Other	2%	2%	-0.2%
National Fleet	197,780	214,260	0.4%
Source: FAA Aerospace Forecast 2015-2035 *Numbers may not add to 100% due to rounding*			

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a summary of market trends for other aircraft types is included in Table 3.12.

Aircraft types showing high growth potential include turbo-prop, jet, rotorcraft, experimental aircraft, and light sport aircraft. Experimental and light-sport aircraft growth are included in the single engine forecasts. There were 13 experimental aircraft at S40 in 2015 and although there were no light sport aircraft, the FBO offers light sport flight instruction. Turbo-prop, and rotorcraft forecasts are presented as contingency in case these high-growth markets appear at S40. While small jets can and do operate at S40, they are unlikely to base at the Airport due to the runway length restricting payload and range.

TFMSC data shows that turbo-prop, rotorcraft, and small jets use S40 on an itinerant basis, indicating that the airfield is capable of supporting these users. The lack of Jet A fuel may be a deterred to jet and turbo prop aircraft at this time. The TAF indicates that jet/turbo prop aircraft are already in the area, with three based at RLD. There are six helicopters at RLD. The intent of contingency planning is not to promote a “built it and they will come” approach, but instead to carry consideration for how the Airport could accommodate different aircraft types in the future as improvement alternatives are developed. This includes planning for the possibility of larger hangars, and investigating the feasibility and market potential for providing Jet A fuel.

Based aircraft forecasts are prepared using historical growth rates, growth rates from the FAA Aerospace Forecast, and socioeconomic factors that showed high correlation to historical based aircraft levels (Employment, Earnings, and GRP). Forecasts are compared to the FAA TAF and variations are explained in the following sections. Based aircraft forecasts are presented in Figure 3-4.

3.4.1 BASED AIRCRAFT FORECAST METHODOLOGIES

The following section describe the methodologies used to prepare the based aircraft forecasts.

Growth Rate Forecasts

Growth rate forecasts use historical growth rates over the past five and ten year periods to project future growth. This methodology works only when there is variation in the historical dataset. Based aircraft at S40 grew by an annual average of 2.2 percent from 2005 to 2015 (45 to 56), and by an annual average of 1.1 percent from 2010 to 2015 (53 to 56). These growth rates are used to project future based aircraft totals, resulting in 70 based aircraft using the five year growth rate and 87 based aircraft using the ten-year growth rate.

FAA Aerospace Forecast

Due to the FAA outlook on the single engine piston market, the FAA Aerospace forecast shows a decline in based aircraft by an annual average of 0.6 percent per year. In this forecast, based aircraft decline from 56 to 50, meaning that the arrival of new single-engine piston aircraft occurs at a slower rate than retirements and relocation of aircraft to other airports. Nationally, these trends are similar to what has occurred to the single-engine fleet over the past 10 years; however, the correlation analysis in Table 3.5 shows that based aircraft totals at S40 have a negative correlation to the national single-engine piston fleet, meaning that as the national fleet becomes smaller, based aircraft at S40 have been growing. Much of this is likely due to the influx of experimental and light sport aircraft at S40, which have offset retirements and relocations.

Socioeconomic Forecasts

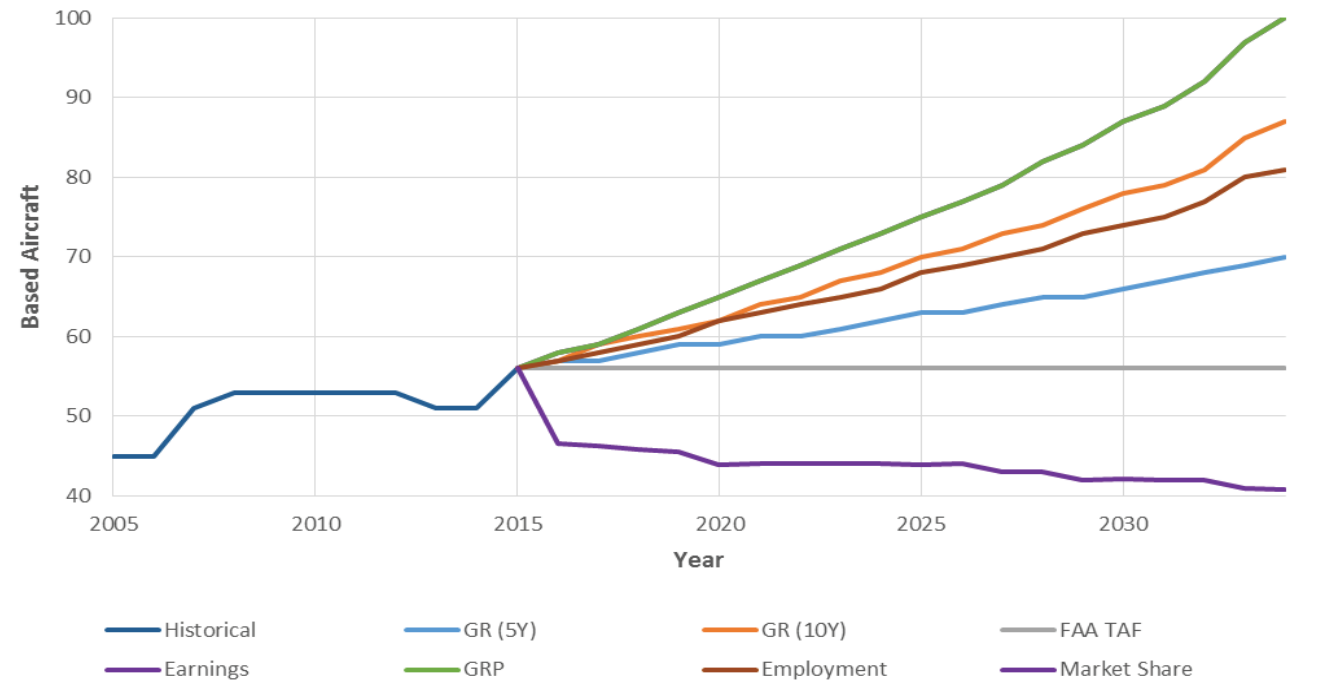
Socioeconomic indicators that have shown strong correlation to based aircraft totals at S40 include total employment, total earnings, and gross regional product. These indicators measure at the County level. All three indicators can be thought of as different measures for the economic health of the region. Forecasts for these indicators come from U.S. Census gap-year data provider Woods & Poole, which provides un-incentivized projections of local socioeconomic indicators. Earnings and GRP forecasts have the same 2.9 percent annual growth rate, and project based aircraft growth from 56 to 100 by 2035. The employment forecast has a 1.9 percent annual growth rate and projects based aircraft growth from 56 to 81 by 2035.

Forecasts presented provide a range of alternatives for evaluation. High growth rates shown in the socioeconomic indicators reflect growth Benton County has seen over the past decade. These growth rates are projected to continue into the future; however, growth in earnings and GRP have historically occurred at a faster rate than growth in based aircraft at S40 (3.4 percent for earnings and 3.6 percent for GRP compared to 2.2 percent for based aircraft). Due to the mismatch between historical growth rates, it is not recommended that earnings and GRP are used as the basis for based aircraft forecasts.

The market share methodology is a low/no growth forecast, and compares based aircraft at S40 with the national single-engine piston fleet. This methodology forecasts a decline to 41 total based aircraft in 2035 due to the expected retirement of single engine aircraft in the future. Given that this methodology is counter to historical trends of based aircraft growth at S40, it is not recommended that the market share methodology be used as the preferred forecast.

The methodologies that fall in the mid-growth category

FIGURE 3-4:
PROSSER AIRPORT BASED AIRCRAFT OPERATIONS FORECASTS



Forecast	2005	2010	2015	2020	2025	2030	2035	2015-2035
Historical	45	53	56					**Growth Rate**
Market Share				44	44	42	41	-1.6%
FAA TAF				56	56	56	56	0.0%
GR (5Y)				59	63	66	70	1.1%
Employment				62	68	74	81	1.9%
GR (10Y)				62	70	78	87	2.2%
Earnings				65	75	87	100	2.9%
GRP				65	75	87	100	2.9%
Source:								

include the five-year growth rate, the employment-based forecast, and the ten-year growth rate. These forecasts project based aircraft growth between 1.1 percent and 2.2 percent through the forecast period. The five- and ten-year growth rate forecasts assume that based aircraft will continue to grow at S40 in line with how they have grown over the past ten years. Factors that support choosing the five-year growth rate over the ten-year growth rate include the emergence of light sport aircraft, and that the last five years of growth include the recession in 2008. Light sport pilot license has lower flight training costs, and allow older pilots to keep flying with less stringent medical requirements than a private pilot license. The five years of socioeconomic data reflect how the general aviation market (particularly the business and recreational segments) have responded since the recession.

Conversely, the ten-year forecast provides a longer data window, and has a bigger growth rate that falls more closely in-line with the socioeconomic growth experienced by the County over the past ten years. The core question of the ten-year forecast growth rate revolves around the sustainability of this rate into the future. Given that the single-engine piston market is in decline, and economic realities associated with retirees (aging pilots) taking losses on their retirement assets during the recession, it is not recommended that the ten-year forecast be used as the basis for the based aircraft forecasts.

The employment-based forecast falls between the two growth rate forecasts and projects 81 based aircraft in the 20-year forecast window at a growth rate of 1.9 percent. This forecast and associated growth rate is more in line with the Ten Year Forecast than the Five Year Forecast, and similar concerns about long-term sustainability of the growth rate exists. Employment growth is an indicator of economic development which supports based aircraft growth; however, past growth trends and the expected decline in single engine piston aircraft (except for light sport and experimental) support choosing a forecast with a smaller growth rate.

Given the options evaluated, it is recommended that the five-year growth rate methodology be used as the preferred based aircraft forecast. This forecast is supported by historic growth, is seen as reasonable based on realities of the GA market such as the changing composition of the single-engine category to include more experimental and light sport aircraft.

Consideration is given to the fast growing market segments that are not currently based at S40, but may do so in the future. Growth by these user classes is supported by newer industries in the area related to wine production. As shown in Table 3.11 previously, turbo-prop and helicopter aircraft are growing in the national fleet, and S40 has facilities in place to accommodate these users should they wish to locate at the Airport. Linear regression forecasting does not work with start values of zero. The model needs a non-zero number to show growth over time. To compensate for this, forecasting assumes that there is one user of each class at the Airport in 2015 and then forecasts growth using the FAA Aerospace Forecast growth rates. The result is one turbo-prop and two helicopters over the 20-year forecast window.

3.5 AIRCRAFT OPERATIONS FORECASTS

The FAA TAF has two classifications for aircraft operations: local and itinerant. Operations records from 2005 to 2015 show little variation outside of a 500 operation jump per category from 2006 to 2007. Aircraft operations totals and ten-year growth rates are shown in Table 3.13. Because the dataset does not change from 2007 to 2015, the five-year growth rate is zero. The TAF carries this zero percent growth rate forward and TAF operations totals in 2035 are the same as in 2015. The FAA Aerospace Forecast and the Terminal Area Forecast for the U.S. show that aviation is a dynamic industry and has been subject to strong growth and decline over the past 20 years on a national level. It is unlikely that operations at S40 remained stagnant during these years. FAA forecasters likely defaulted to the last set of known values due to the remoteness of S40 and the absence of an ATCT with which better data could have been acquired.

This type of data consistency and absence of variation is not uncommon at airports like S40, which have no control tower to count operations and instead rely on estimates

TABLE 3.13
HISTORICAL AIRCRAFT OPERATIONS COUNTS

YEAR	OPERATIONS (ITINERANT)	OPERATIONS (LOCAL)	OPERATIONS (TOTAL)
2005-2006 (per year)	7,200	5,000	12,200
2007-2015 (per year)	7,700	5,500	13,200
Growth Rate	0.7%	1.0%	0.8%

Source: FAA Terminal Area Forecast

from tenants and management. Lack of variation within the dataset presents challenges to forecasting using regression and correlation analyses because external datasets have new values yearly while the operations counts at S40 do not. Therefore, the formulas are limited. With this in mind, forecasting for aircraft operations uses historical data as a starting point, and then looks to external forecasts to provide growth rates.

According to the FAA Aerospace Forecast, GA operations made up 52 percent of all aircraft operations in the U.S. in 2015; however due to faster growth in the scheduled air carrier market, GA operations are expected to make up 47 percent of all aircraft operations in 2035. Further segmentation suggests that the business GA market is the primary driver of growth while the recreational GA market and flight training markets are in decline. As explored in Section 3.3, the growing light sport class has slowed the decline of the recreational GA market; however it is expected that this market will produce a net decline until it stabilizes in the next five to ten years.

GA is not subject to the same reporting standards as commercial flight, therefore it is more difficult to tell whether a GA operation was performed for the purposes of business, flight training, or recreation. The 2016 User Survey found that 89 percent of S40 users flew for recreation, 32 percent flew for flight training, and 13 percent flew for business. The survey also showed that pilots often tended to fly for multiple purposes – and some indicated that their reason for flying depended on the day and what they needed to do.

Flight instruction at S40 is offered by FBO, but it is not an institutional flight school. Local operations are expected to consist of a mix of students, pilots maintaining proficiency, and recreational users.

Another factor that is expected to influence GA operations in the future is the number of active pilots. As stated in Section 3.3, the light sport market is growing; however, it makes up a relatively small percentage of GA pilots (one percent in 2015 and three percent in 2020). The most common GA pilot license held is the private license; however, this license is closely aligned with recreational GA and is expected to decline from 40 percent of GA pilots in 2015 to 36 percent in 2035. The commercial licensed pilot population is expected to grow at 0.4 percent annually, from 24 percent of the pilot population in 2015 to 25 percent in 2035. Another area of growth is pilots licensed on rotorcraft only, which is expected to grow at 2.2 percent annually. Licenses held by type are shown in Table 3.14.

Aircraft operations forecasts blend regression analysis and application of external growth rates. Similar to based aircraft forecasts, operations forecasts look to external sources including the FAA Aerospace Forecast and socioeconomic factors that, despite the lack of data variation, showed high correlation to historical operations levels. Forecasts are compared to the FAA TAF and

TABLE 3.14
NATIONAL GA OPERATIONS AND PILOTS BY TYPE 2015-2035

OPERATIONS CLASSIFICATION	% OF OPS. (2015, 2035)		GROWTH RATE (2015-2035)
Itinerant	28%	25%	0.4%
Local	24%	21%	0.5%
National GA Operations	52%	47%	0.4%
National Total Operations (Millions)	49.8	59.9	0.9%
LICENSE TYPE	**% OF LICENSES (2015, 2035)**		**GROWTH RATE (2015-2035)**
Student	27%	25%	-0.3%
Sport Pilot	1%	3%	5.2%
Private	40%	36%	-0.3%
Commercial	24%	25%	0.4%
Rotorcraft Only	3%	5%	2.2%
Total Pilots (Except ATP)	438,690	448,400	0.1%

Source: FAA Aerospace Forecast 2015-2035
Air Transport Pilots (ATP) excluded because S40 does not have commercial service
Numbers will not add to 100% due to omitted categories

variations are explained in the following sections. Based aircraft forecasts are presented in Figure 3-4.

Operations Forecast Methodologies

The following sections describe the forecast methodologies used to prepare the operations forecasts.

Growth Rate Forecast

A growth rate forecast projects historical trends continuing into the future. For this methodology to work, there must be an observable rate of change or the forecast will remain flat. Aircraft operations records provide sufficient rate of change for a ten-year growth rate forecast, but the five-year growth rate is zero. The five-year growth rate methodology is not carried forward because it does not forecast any change and the ten-year growth rate forecast is used to develop the growth rate operations forecast. The ten-year growth rate projects 0.8 percent annual average growth over the ten year period, which is equal to the weighted average of the historical ten-year growth rates of itinerant operations (0.7 percent growth and 58 percent of operations) and local operations (1.0 percent growth and 42 percent of operations).

FAA Aerospace Forecast

The FAA Aerospace Forecast uses a 0.5 percent growth rate for local operations and a 0.4 percent growth rate for itinerant operations over the next 20 years. The weighted average of the two is 0.4 percent. Although GA traffic shows modest growth in the FAA Aerospace Forecast, it is expected that the composition of hours flown by GA aircraft will change. As shown in Table 3.15, GA operations and aircraft utilization are expected to grow fastest in the light sport, jet, and rotorcraft categories. Piston powered aircraft, the most common aircraft type by number of aircraft and hours flown are projected to decline over time. As with based aircraft, it is expected that growth in operations by itinerant jet aircraft, and local and itinerant light sport and experimental aircraft will offset the decline in piston aircraft operations.

Socioeconomic Forecasts

Local socioeconomic indicators that show strong correlation to aircraft operations at S40 include employment, GRP, and earnings. Local operations are typically most sensitive to local conditions and itinerant operations are more responsive to the greater regional and national economy. Forecasts are prepared using the remaining indicators: employment, GRP, earnings, and GDP. Of these, employment (1.9 percent), earnings (2.9 percent) and GRP (three percent) use the same growth rates as used in the based aircraft forecasts (+/- 0.1% due to rounding). The U.S. GDP forecast comes from the Organization for Economic Cooperation and Development (OECD), and projects an average annual growth rate of 1.9% for the U.S. GDP.

Preferred Operations Forecast

Much like the based aircraft forecasts, aircraft operations forecasts provide a range of high- mid-, and low/no-growth alternatives for evaluation. High growth rates shown in the socioeconomic indicators reflect growth Benton County has seen over the past decade. These growth rates are projected to continue into the future; however, growth in earnings and GRP have historically occurred at a faster rate than growth in based aircraft at S40 (3.4 percent for earnings and 3.6 percent for GRP compared to 0.8 percent for aircraft operations). Although both are trending towards growth (hence the correlation), the earnings and GRP growth rates are much higher than the operations growth rate. Due to the mismatch between historical growth rates, it is not recommended that earnings and GRP are used as the basis for aircraft operations forecasts. Operations at S40 will grow, but it is not expected that they will do so at the same rate as Benton County earnings and GRP.

TABLE 3.15
NATIONAL GA HOURS FLOWN BY CLASS 2015-2035

OPERATIONS CLASS	% OF HOURS FLOWN (2015, 2035)		GROWTH RATE (2015-2035)
Single Engine Piston	46%	31%	-0.5%
Multi-Engine Piston	7%	5%	-0.2%
Turbo-Prop	11%	12%	1.7%
Jet	16%	25%	3.6%
Rotorcraft (Helicopters)	14%	19%	3.0%
Experimental	5%	6%	2.4%
Light Sport	1%	2%	5.1%
Other	1%	0%	-0.1%
Total GA Hours Flown	23,566	30,626	1.4%

Source: FAA Aerospace Forecast 2015-2035

The mid-growth forecasts include the employment and GDP-based methodologies. Similar to the high- growth forecasts, the mid-growth forecast project operations growth far in excess of what has occurred historically. This is likely due to inaccuracies in historical data; however, information collected from Airport tenants supports the accuracy of 2015 operations totals. In the absence of more reliable historical data, it is not recommended that employment and GDP are used as the basis for aircraft operations. It is not expected that operations will grow as quickly as the local and national economies overall.

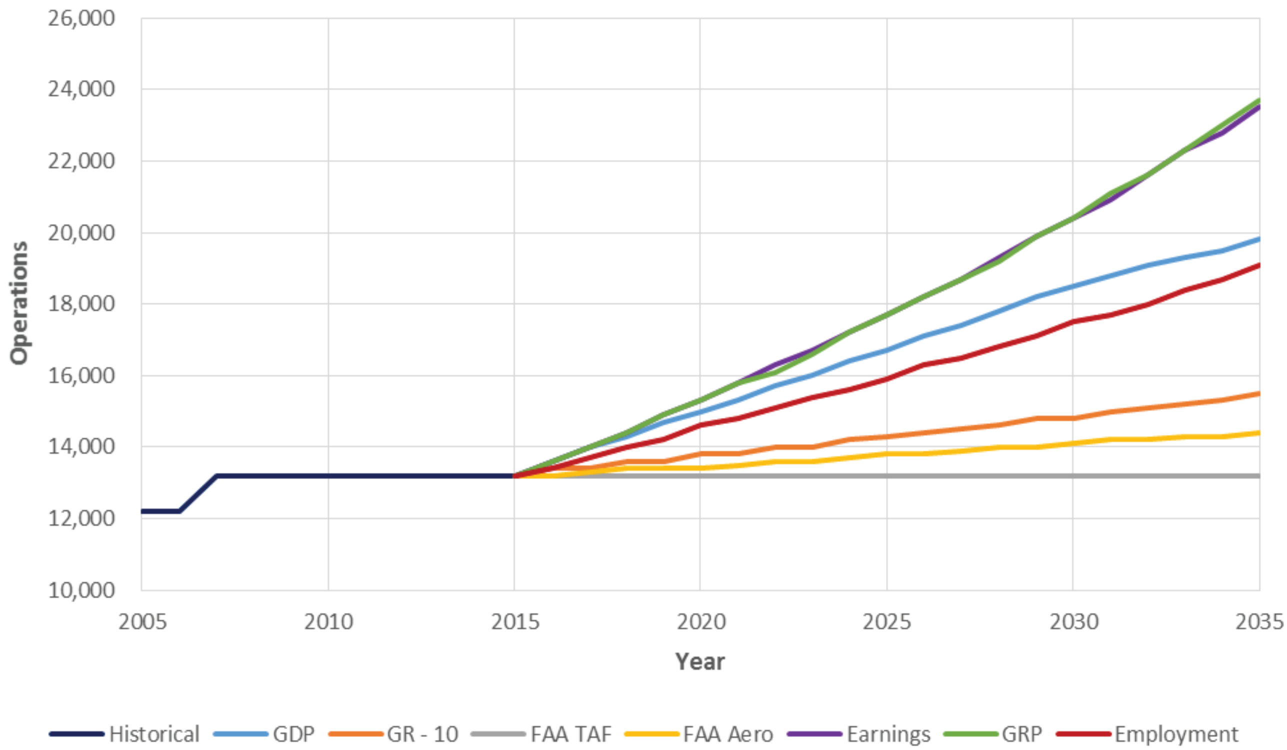
The low/no-growth forecasts include the Ten-year Growth Rate, the FAA Aerospace Forecast, and the TAF. The TAF projects no growth which is counter to historical trends and evidence of economic development in Benton County. The FAA Aerospace Forecast and the Ten- year Growth Rate both show modest growth at less than one percent annually. **Given the growth patterns of the County economy, it is recommended that the higher of the two, the Ten-year Growth Rate Forecast, be used as the preferred aircraft operations forecast.** This forecast is supported by growth in the County and national economies, and by growth in operations by aircraft classes (light sport, experimental, and jet) that are already based and itinerant users of the Airport. The preferred operations forecast is shown in Table 3.16.

FAA Standard Operating Procedure 2.0 requires operations forecasts to distinguish between operations performed under instrument flight rules (IFR) and visual flight rules (VFR). TFMSC data reports aircraft that filed flight plans, but does not distinguish whether these were IFR or VFR flight plans. Given than S40 has no instrument approach or departure procedures, it is assumed that 100 percent of operations are performed under VFR. If S40 gets an instrument procedure, then the mix of IFR and VFR will need to be revisited.

TABLE 3.16
PREFERRED AIRCRAFT OPERATIONS FORECAST

YEAR	OPERATIONS (ITINERANT)	OPERATIONS (LOCAL)	OPERATIONS (TOTAL)
2015	7,700	5,500	13,200
2020	8,000	5,800	13,800
2025	8,200	6,100	14,300
2030	8,500	6,300	14,800
2035	8,800	6,700	15,500
Growth Rate	0.7%	1.0%	0.8%

FIGURE 3-5
S40 AIRCRAFT OPERATIONS FORECASTS



Forecast	2010	2015	2020	2025	2030	2035	2015-2035
Historical	13,200	13,200					Growth Rate
GR - 5			13,200	13,200	13,200	13,200	0.0%
FAA TAF			13,200	13,200	13,200	13,200	0.0%
FAA Aero			13,400	13,800	14,100	14,400	0.4%
GR - 10			13,800	14,300	14,800	15,500	0.8%
Employment			14,600	15,900	17,500	19,100	1.9%
GDP			15,000	16,700	18,500	19,800	2.0%
Earnings			15,300	17,700	20,400	23,500	2.9%
GRP			15,300	17,700	20,400	23,700	3.0%

Source:

Chapter 1
Introduction
Chapter 2
Existing Conditions
Chapter 3
Aviation Activity Forecasts
Chapter 4
Facility Requirements
Chapter 5
Alternatives Analysis
Chapter 6
Phased Development and Cost Estimates
Chapter 7
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3.6 CRITICAL AIRCRAFT

The critical aircraft defines the design standards of the airport, and is based on the most demanding aircraft to exceed the FAA "substantial use threshold" of over 500 operations per year. Data comes from TAF operations totals adjusted using TFMSC records. As stated in Section 3.1, TFMSC records are likely to be counts for A-II and B-II aircraft, and samples for A-I and B-I aircraft. Operations counts are extrapolated using the following methodology, and based on the total annual count of 7,700, which is backed up by FBO counts described in Table 3.4. Design group II is presented first because it is expected that these larger aircraft are more likely to file a flight plan than the smaller design group I aircraft.

3.6.1 DESIGN GROUP II

- **A-II**: The mean number of annual A-II aircraft in the same was 17 a year, and the standard error was 2. Conventional statistics suggests that 99 percent of samples are found within three standard errors of the mean, which suggests indicates 26 annual B-II operations. TFMSC records show a high of 28 A-II operations, which means that the projection of 136 is reasonable.
- **B-II**: The mean number of annual B-II aircraft was 83 per year, and the standard error was 18. Conventional statistics suggests that 99 percent of samples are found within three standard errors of the mean, which suggests indicates 136 annual B-II operations. TFMSC records show a high of 198 B-II operations in 2012, which means that the projection of 26 operations is reasonable.
- **Design Group I:** The remaining operations are split between A-I and B-I aircraft, based on the upper bounds of the 95 percent confidence interval. The ratio between the two shows 4.64 operations by A-I aircraft for each operation of a B-I aircraft. This ratio is used to calculate the itinerant operations for each type.
- **A-I**: The ratio analysis shows 6,200 itinerant operations by A-I aircraft. Statistical analysis of the upper bound at the 95 percent confidence level, when extrapolated to match itinerant operations totals, shows the upper bound of 6,331 operations. This suggests that 6,200 is reasonable.
- **B-I**: The ratio analysis shows 1,338 itinerant operations by B-I aircraft. Statistical analysis of the upper bound at the 95 percent confidence level, when extrapolated to match itinerant operations totals, shows the upper bound of 1,366 operations. This suggests that 1,338 is reasonable.

Operations data by aircraft reference code are presented in Table 3.17.

TFMSC data is captures itinerant traffic - aircraft that file flight plans – and not local traffic. Local traffic is primarily GA operators performing touch as goes for flight training and recreational purposes. It is not cost effective to fly touch and goes in a business jet because of crew cost, fuel cost, and wear and tear on the airframe. Flight crews of larger aircraft typically use simulators to practice. Interviews with airport management and tenants further suggest that local operations at S40 are primarily performed by smaller aircraft in Design Group I, and occasionally by aircraft in Design Group II. As stated in Section 3.1, 55 of the based aircraft have an ARC of A-I, and one has an ARC of B-I.

A breakout of local operations by aircraft reference code is included in Table 3.18.

2015 operations estimates in Table 3.17 and Table 3.18 show that the existing airport reference code is B-I with an estimated 1,750 annual operations. Example B-I aircraft that have used S40 during the past ten years include the Cessna 414, Cessna 210, and Cessna 206. Using 2035 operations forecasts and the same percentages, the future critical aircraft remains B-I throughout the forecast period. Forecast operations estimates by aircraft reference code are presented in Table 3.19.

TABLE 3.17
2015 ITINERANT OPERATIONS BY AIRCRAFT REFERENCE CODE

DESIGN GROUP	APPROACH CATEGORY				TOTAL	
	A		B			
I	6,200	81%	1,338	17%	7,538	98%
II	26	0%	136	2%	162	2%
TOTAL (%)	6,226	81%	1,474	19%	7,700	100%

Design Group and Approach Category defined on Page 3-1

Counts exclude 378 operations recorded in TFMSC data for aircraft classified as "unknown" or "other." Total operations count based on FAA TAF.

TABLE 3.18 2015 LOCAL OPERATIONS BY AIRCRAFT REFERENCE CODE						
DESIGN GROUP	APPROACH CATEGORY				TOTAL	
	A		B			
I	4,950	90%	412	7%	5,362	97%
II	28	1%	110	2%	138	3%
TOTAL (%)	4,978	91%	522	9%	5,500	100%
Source: Consultant Team *Design Group and Approach Category defined on Page 3.1* *Total operations count based on FAA TAF.*						

TABLE 3.19 2035 OPERATIONS COUNTS BY AIRCRAFT REFERENCE CODE			
DESIGN GROUP	APPROACH CATEGORY		TOTAL
	A	B	
I	13,100	2,002	15,102
II	64	334	398
TOTAL	13,164	2,336	15,500
Source: Consultant Team *Design Group and Approach Category defined on Page 3.1*			

3.7 CHAPTER SUMMARY

The ability to forecast for future activity at S40 is somewhat limited by the availability of historical data. What is known is that the economy of Benton County is growing and new industries (for example, vineyards and wine production) are adding diversity to the area surrounding the Airport. As shown in Table 3.5, the local GRP has been growing at a similar rate to the national economy over the past ten years and it is expected that continued growth will support growth in aviation activity. A summary of the forecasts is presented below in Table 3.20.

The current and future design/critical aircraft is typified by the Cessna 206 Skywagon, 414 Chancellor and 210 Centurion, all Group I aircraft with activity counts identified in Tables 3.9.

The based aircraft forecast is within five percent of the TAF in 2020 and 13 percent of the TAF in 2030. The operations forecast is within five percent of the TAF in 2020 and eight percent of the TAF in 2025. TAF comparison worksheets are shown in Figure 3-6 and Figure 3-7.

TABLE 3.20 AVIATION ACTIVITY FORECAST SUMMARY							
Year	Based Aircraft				Operations		
	Single Engine	Turbo Prop	Helicopter	Total	Itinerant	Local	Total
2015	56	0	0	56	7,700	5,500	13,200
2020	59	1	2	62	8,000	5,800	13,800
2025	63	1	2	66	8,200	6,100	14,300
2030	66	1	2	69	8,500	6,300	14,800
2035	70	1	2	73	8,800	6,700	15,500
Growth Rate	1.1%	N/A	N/A	1.3%	0.7%	1.0%	0.8%

FIGURE 3-6
COMPARISON OF AIRPORT PLANNING AND TAF FORECASTS

	YEAR	AIRPORT FORECAST	FAF	AF/TAF (% DIFFERENCE)
Passenger Enplanements				
Base Year	2015	0	0	N/A
Base Year +5 yrs	2020	0	0	N/A
Base Year + 10 yrs	2025	0	0	N/A
Base Year + 15 yrs	2030	0	0	N/A
Commercial Operations				
Base Year	2015	0	0	N/A
Base Year +5 yrs	2020	0	0	N/A
Base Year + 10 yrs	2025	0	0	N/A
Base Year + 15 yrs	2030	0	0	N/A
Total Operations				
Base Year	2015	13,200	13,200	0.0%
Base Year +5 yrs	2020	13,800	13,200	4.5%
Base Year + 10 yrs	2025	14,300	13,200	8.3%
Base Year + 15 yrs	2030	14,800	13,200	12.1%

NOTES: TAF data is on a U.S. Government fiscal year basis (October through September).
AF/TAF (% difference) column has embedded formulas.

Source:

FIGURE 3-7
COMPARISON OF AIRPORT PLANNING AND TAF FORECASTS

Summarizing and Documenting Airport Planning Forecasts

A. Forecast Levels and Growth Rates

AIRPORT NAME: Prosser Airport **Specify base year:** 2015

	Base Yr. Level	Base Yr. + 1yr.	Base Yr. + 5yrs.	Base Yr. + 10yrs.	Base Yr. + 15yrs.	Average Annual Compound Growth Rates Base yr. to +1	Base yr. to +5	Base yr. to +10	Base yr. to +15
Passenger Enplanements									
Air Carrier	0	0	0	0	0	N/A	N/A	N/A	N/A
Commuter	0	0	0	0	0	N/A	N/A	N/A	N/A
TOTAL	0	0	0	0	0	N/A	N/A	N/A	N/A
Operations									
Itinerant									
Air carrier	0	0	0	0	0	N/A	N/A	N/A	N/A
Commuter/air taxi	0	0	0	0	0	N/A	N/A	N/A	N/A
Total Commercial Operations	0	0	0	0	0	N/A	N/A	N/A	N/A
General aviation	7,700	7,800	8,000	8,200	8,500	1.3%	0.8%	0.6%	0.7%
Military	0	0	0	0	0	N/A	N/A	N/A	N/A
Local									
General aviation	5,500	5,600	5,800	6,100	6,300	1.8%	1.1%	1.0%	0.9%
Military	0	0	0	0	0	N/A	N/A	N/A	N/A
TOTAL OPERATIONS	13,200	13,400	13,800	14,300	14,800	1.5%	0.9%	0.8%	0.8%
Instrument Operations			Airport has no instrument procedures. All are VFR.			N/A	N/A	N/A	N/A
Peak Hour Operations			This level of data does not exist.			N/A	N/A	N/A	N/A
Cargo/mail (enplaned+deplaned tons)	0	0	0	0	0	N/A	N/A	N/A	N/A
Based Aircraft									
Single Engine (Nonjet)	56	57	59	63	66	1.8%	1.0%	1.2%	1.1%
Multi Engine (Nonjet)	0	0	0	0	0	N/A	N/A	N/A	N/A
Jet Engine	0	0	1	1	1	N/A	N/A	N/A	N/A
Helicopter	0	0	1	1	2	N/A	N/A	N/A	N/A
Other	0	0	0	0	0	N/A	N/A	N/A	N/A
TOTAL	56	57	61	65	69	1.8%	1.7%	1.5%	1.4%

B. Operational Factors

	Base Yr. Level	Base Yr. + 1yr.	Base Yr. + 5yrs.	Base Yr. + 10yrs.	Base Yr. + 15yrs.
Average aircraft size (seats)					
Air carrier	0.0	0.0	0.0	0.0	0.0
Commuter	0.0	0.0	0.0	0.0	0.0
Average enplaning load factor					
Air carrier	0.0%	0.0%	0.0%	0.0%	0.0%
Commuter	0.0%	0.0%	0.0%	0.0%	0.0%
GA operations per based aircraft	236	235	226	220	214

**Note: Show base plus one year if forecast was done.
If planning effort did not include all forecast years shown interpolate years as needed, using average annual compound growth rates.**

NOTE: Right hand side of worksheet has embedded formulas for average annual compound growth rate calculations.

Source:

Chapter 1 Introduction
Chapter 2 Existing Conditions
Chapter 3 Aviation Activity Forecasts
Chapter 4 Facility Requirements
Chapter 5 Alternatives Analysis
Chapter 6 Phased Development and Cost Estimates
Chapter 7 Airport Layout Plan and Drawings

4.0 INTRODUCTION

Given that future aviation activity levels are determined, the ability of existing facilities to satisfy this demand is evaluated herein. Deficiencies determine airport needs throughout the 20-year planning period. This chapter examines impacts to the airport due to the forecasts of aviation demand, focusing on four distinct elements:

- Airport Role and Service Level
- Airside Requirements
- Landside Requirements

Any inadequacies in the ability to serve existing and future demand are highlighted, and recommendations are made regarding physical improvements or administrative modifications that might need to be corrected.

4.1 AIRPORT ROLE AND SERVICE LEVEL

The Prosser Airport is currently classified in the FAA's National Plan of Integrated Airport Systems (NPIAS) and functions as a general aviation facility within the nation's system of airports. The Prosser Airport is currently classified in the State of Washington's State Long-Term Air Transportation Study (LATS) as a community service airport within the state system of airports. No change in role over the 20-year planning period is expected or planned by either.

For purposes of this narrative, a community service general aviation airport accommodates mostly small and large aircraft with approach speeds limited to 121 knots or A and B category speeds. As described in the previous chapter, the Prosser Airport is not currently accommodating, nor is expected to accommodate the threshold number of aircraft operations (500) which exceed these speed thresholds.

4.1.1 DESIGN STANDARDS

FAA guidance notes that the most demanding aircraft or group of aircraft with similar characteristics that use the airport on a regular basis, conducting at least 500 annual takeoffs and landings, is termed the critical/design aircraft. This aircraft/group determines design standards such as runway width, pavement strength and runway to taxiway separation criteria. Previous chapters of this narrative established that the airport should be designed to comply with B-I (Small) standards at minimum.

The critical/design aircraft within the short (0-5 years hence), intermediate (5-10 years hence), and long-term (10-20 years hence) development periods are characterized by the various aircraft which have:

- Approach speeds not exceeding 121 knots, or up to Category B aircraft;
- Wingspans not exceeding 49 feet, or up to Group I;
- Maximum certificated weights not exceeding 16,000 pounds (large aircraft); and,
- Undercarriage design within TDG-1a limits.

The types of aircraft in this classification, and those that visit the Prosser Airport include single-engine personal, business, and recreational aircraft such as Beechcraft, Cessna, and Cirrus Models, along with most helicopters and ultralight and light-sport aircraft.

Note that not all parts of the field require design based upon this aircraft grouping. For example, T-hangar design and construction for smaller general aviation aircraft could be made for smaller (or larger) aircraft wingspans, given that many T-hangar doors are narrower (or wider) than 49 feet.

In summary, the following design standards are anticipated for these portions of the field within the 20-years planning horizon:

- Runway 8-26: B-I, Up to 16,000 pounds pavement strength;
- Taxiway A/Connectors: B-I, TDG-1a, Up to 16,000 pounds pavement strength;
- Portions of Main Apron: B-I, TDG-2, Up to 16,000 pounds pavement strength; and
- Other Portions of Apron, Taxiways, and Taxilanes: maintain B-II separation where pavement is already constructed at this separation, TDG-2, Up to 30,000-pound pavement strength.

4.1.2 ULTIMATE DESIGN STANDARDS

The previous chapter makes clear the current and forecast fleet mix support B-I (small) airport design standards as opposed to the more demanding B-II design standards.

- Nevertheless, some long term reasons exist to protect the field for some B-II standards in
- Approach speeds not exceeding 121 knots, or up to Category B aircraft;
- Wingspans not exceeding 79 feet, or up to Group II;
- Maximum certificated weights not exceeding 16,000 pounds (large aircraft); and,
- Undercarriage design within TDG2 limits.

The types of aircraft in this classification include twin and single-engine personal, business, and recreational aircraft such as Beechcraft and Cessna models turbo-prop and jet types.

Upcoming portions of this chapter and tabulations within B-II standards are Ultimate. It must be clear that airfield improvements for these more demanding standards are not justified by the current fleet mix identified in the Forecast of Aviation Demand and are not strictly eligible for federal grant-in-aid, with the possible exception of the runway-to-taxiway centerline separation standard. This subject will be explored in more detail in the next chapter.

4.2 AIRSIDE RECOMMENDATIONS

A review of the airfield requirements generated from the previous chapter here includes an analysis of wind data, instrument approach capability, navigable airspace, runway, taxiway and apron dimensions, pavement strengths and airfield design standards. Landing and navigational aids are also discussed. Further analysis of alternatives to address these airfield requirements will be addressed in the next chapter in the context of alternatives.

4.2.1 WIND ANALYSIS

FAA details the objectives of a wind analysis noting that the desirable wind coverage is 95 percent. That is, a runway, or runways, at a given alignment(s) should have a crosswind component less than a given threshold 95 percent of the time to meet FAA standards.

The inventory portion of this narrative has a wind record created from the closest location with a 10-year wind record (Tri-Cities Airport).

Three wind roses were created as applicable to the runway at the Prosser Airport:

- All-Weather (all cloud ceiling heights and all visibilities),
- VFR (occurrence of cloud ceiling heights greater than 1,000 feet above ground level and visibilities greater than three statute miles visibility), and
- IFR (occurrence of cloud ceiling heights less than 1,000 feet but greater than 200 feet above ground level and visibilities less than three statute miles but greater than one-half mile).

As previously noted, it is suspected that the current wind data is incomplete and more information is needed to evaluate the current runway alignment. Ten years of wind data pulled from the Tri-Cities Airport (PSC) yields:

- All-Weather: 10.5 knots (92.89 percent)

Using wind data from Tri-Cities Airport is not sufficient for determining wind coverage at Prosser due to the huge ridgelines separating the two airports.

Although 10 years' worth of wind record was not available on-field, a 36-month inventory was analyzed from the Prosser non-FAA funded AWOS with analysis to determine any inadequate crosswind component for the three sky conditions. The below wind condition is noted:

- All-Weather: 10.5 knots (94.05 percent)

Without more data, it is recommended to continue to gather more wind data (minimum 10 years) using the AWOS on site and undertake a wind study in the future.

4.2.2 INSTRUMENT APPROACH CAPABILITY

Instrument approach capability is defined based upon the ability of the airport's navigational equipment and/or GPS technology to safely accommodate aircraft operations during periods of inclement weather. FAA categorizes three types of instrument approach capability: precision, non-precision and visual. A runway end with precision instrument approach capability is equipped with either ground-based navigational equipment or satellite-based technology that provides vertical and horizontal guidance to a runway end. A runway end with non-precision instrument approach capability is equipped with either ground-based navigational equipment or satellite-based technology that provides only horizontal guidance to a runway end. Horizontal guidance allows the aircraft to be piloted in poorer weather conditions, and horizontal and vertical guidance allows the aircraft to be piloted in poorer conditions still. A runway end with visual instrument approach capability is equipped with no navigation technology and requires relatively clear weather for aircraft operation.

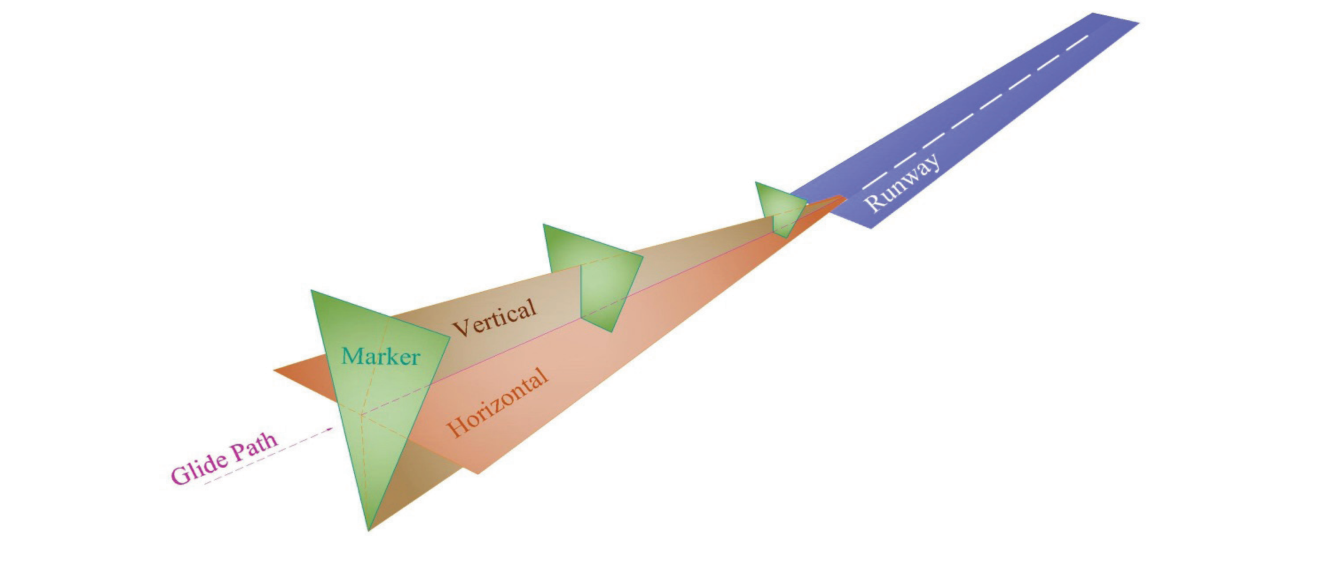
The Prosser Airport currently has no instrument approach capability.

ILS-Based Navigation

The traditional equipment that provides precision instrument approach capability is an Instrument Landing System (ILS). This system generally consists of a glideslope, a localizer, along with an approach lighting system. The glideslope emits a radio signal which allows an aircraft to follow a pre-specified vertical path to a runway end, and a localizer emits a radio signal that allows an aircraft to follow a specific horizontal path to a runway end, as visualized in Figure 4-1. An approach lighting system allows close-in visual guidance for day and night. An ILS can provide the precision instrument approach capability necessary for safe aircraft operation during periods of inclement weather.

Weather, in this regard, comes in two measures, (1) local visibility in statute miles and (2) substantial height

FIGURE 4-1
TRADITIONAL ILS APPROACH VISUALIZATION



Source: FAA/J-U-B

of a cloud ceiling above airport elevation.

These two measures are termed 'minimums'. An ILS, for purposes herein, allows a properly equipped aircraft, a properly certified pilot and properly equipped airfield to safely navigate to a runway end, avoiding obstacles. The path along which the aircraft follows, and instructions thereto is termed an instrument approach procedure (IAP). An IAP can be based upon or written for ILS equipment or GPS technology. While traditional navigation systems may remain in place for most airports depending on the each airport's need, FAA has transitioned to a GPS-based National Airspace System. The Prosser Airport should expect that any instrument approach airspace will be made via GPS Technology.

GPS-Based Navigation
FAA has participated in establishing the Wide Area Augmentation System (WAAS) program for aviation, using regionally-corrected satellite signals from the Global Navigation Satellite System (GNSS; more commonly known as GPS). Precision instrument approach procedures with ILS-type minima are employed at select airports across the country and do not necessitate ground-based navigational equipment.

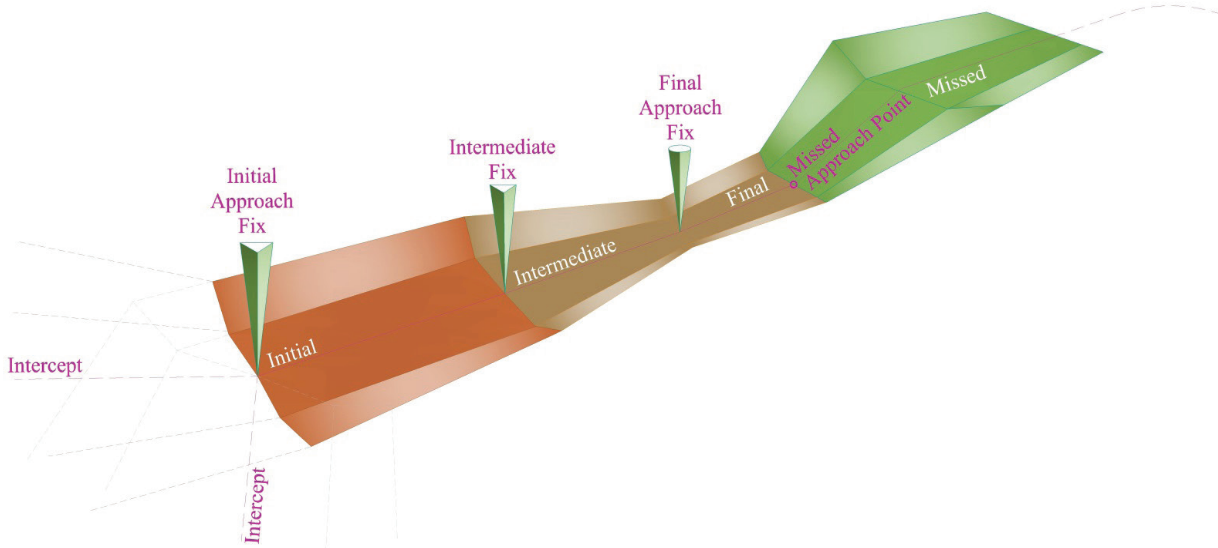
GPS-based IAPs are now formally termed RNAV (aRea NAVigation) Approaches. These approaches are built based upon newer aviation terminology: waypoints, segments, fixes and points. These combine to create a path in the space above and surrounding the airport which the pilot must follow to ensure a safe landing.

A series of geometric shapes serve to protect the aircraft operating via the procedure. Figure 4-2 depicts these typical surfaces and their dimensions as prescribed in FAA Order 8260.3B *US Terminal Instrument Approach Procedures* (*TERPS*), and related orders. The elevation of these surfaces and the course upon which they are based is produced by the controlling obstacle height. The controlling obstacle is the tallest object which penetrates any of the surfaces. Generally, the higher the controlling obstacle, the higher the cloud ceiling minima.

In order to maximize the utility of the airport for the flying public, the Port could seek an improved instrument approach procedure to either runway end. This procedure will be based upon the controlling obstacle and FAA will assign minima for the IAP. IAP's currently exists with 'circling' minima; for practical purposes, the IAPs function as a visual approach.

RNAV Approach Procedure Design Criteria
FAA has requirements prerequisite to IAP creation for IAPs based upon GPS technology, including application of the appropriate airport design standards, airfield survey and identification and potential mitigation of area obstructions to navigable airspace. Once appropriate design standards have been implemented, survey completed and select obstructions mitigated, FAA could proceed to IAP creation. FAA has established airport and airspace design guidelines for new RNAV IAPs. Publication of all RNAV procedures is subject to compliance with various design criteria associated with the desired minima and approach capability. FAA guidance identifies the best-case minima requirements for new Non-Precision RNAV IAPs, with visibilities greater than 1 statute mile, as found within Table 4.1.

FIGURE 4-2
GPS APPROACH VISUALIZATION



Source: FAA/J-U-B

TABLE 4.1
RNAV INSTRUMENT APPROACH PROCEDURE FOR ≥1 STATUTE MILE NON-PRECISION, STRAIGHT-IN

Standard/Specification	Current	Requirements
Height Above Touchdown (HAT)	≥250 Feet	≥250 Feet
TERPS GQS/Visual Surfaces	Clear/Night Lighted	Clear/Night Lighted
Airport Layout PlanIn-Process	Approved	
Minimum Runway Length	3,451 Feet	3,200 Feet
Runway Markings	Visual	Non-Precision
Holdlines/Signage from Runway Centerline	150’	200’
Runway Edge Lighting	Medium Intensity	Medium Intensity
Parallel Taxiway	Full-Parallel	Recommended
Approach Lighting	None	Recommended
Airfield Design Standards	≥3/4 Mile	≥3/4 Mile
Threshold Siting Criteria (Table 3-2 in Airport Design AC 150/5300)	20:1 Clear, Row 1-2	20:1 Clear, Rows 1-4
Approach Survey	In-Process	Completed

Source: FAA/J-U-B

Description of each of the items found in the table follows:

- Height Above Touchdown (HAT) is a calculation that is generally made to consider the desired cloud ceiling minima. HAT is the height of the Minimum Descent Altitude (MDA) above the highest elevation within the runway end environment. Minimum Descent Altitude is an altitude prescribed by an approach procedure below which a pilot should not descend unless able to visualize the airfield environment during inclement weather on a given glide path. Generally, a glide path angle greater than three percent will increase the HAT and the cloud ceiling minimum established for a given approach.
- Although a complete analysis of *TERPS* surfaces for future or ultimate airfield configurations is beyond the scope of this planning, FAA has identified specific guidance for inclusion into FAA AC 150/5300-13A, *Airport Design*. Guidance therein relates to glideslope and visual 20:1 surfaces. These surfaces emanate from the end of each runway and protect its final approach.
- The Airport Layout Plan should show design standards compliance for the desired instrument approach procedures and be approved.
- Runways ends should be marked non-precision with aiming points. Non-precision runway pavement markings include the runway designation, centerline, threshold marking and aiming point.
- Connector taxiways should have holdlines and airfield signage located a minimum of 200 feet from runway centerline. Medium-intensity runway lighting is recommended to accompany the runway, along with a full-parallel taxiway.
- Compliance with ≥¾-mile design standards should be maintained (select standards are identified in the upcoming Table 4.2).
- FAA guidance prescribes vertical and/or non-vertical survey instructions for airfield and obstacle location based upon *TERPS* airspace surfaces and potential obstructions for a proposed approach procedure.

An IAP with improved minima is desirable and will be explored in a larger alternatives context in the upcoming chapter. An improved IAP to either or both runway ends more clearly indicates to aviation businesses and the flying public that the Prosser Airport is ready to accommodate business and the aviation user in a more all-weather environment, thereby making the Prosser Airport more reliable and open for business during periods of inclement weather.

4.2.3 RUNWAY LENGTH

Runway length requirements can be determined based on guidance in FAA Advisory Circular 150/5325-4B; and, for projects receiving federal funding, use of the advisory circular is mandatory. Per the advisory circular, the recommended runway length is a function of airport elevation (noted in feet above mean sea level), mean maximum temperature of the hottest month, (degrees Fahrenheit), aircraft weight (in pounds, maximum certificated takeoff weight), number of passenger seats, aircraft engine performance, wet/dry condition of the runway and the maximum difference in runway elevation on centerline. The required runway length for Runway 8-26, calculated using FAA's guidance was determined through the steps identified below.

The existing and future critical aircraft, typified by the Cessna 206 and Cessna 414 were approved by the FAA in the Forecasts of Aviation Demand. Following Advisory Circular 150/5325-4B, the recommended runway length using the critical design airplane/airplane family is as follows:

Step #1: Records of instrument aircraft operations by type from September 2014 to September 2015 reveal several types that frequent the airport:

- Beechcraft KingAir 90A/200
- Cessna Citation Encore
- Pilatus PC-12
- Cessna 414, 340
- Cessna 206, 201
- Cirrus SR-20

Note these aircraft are all small (less than or equal to 12,500 maximum gross certificated weight).

Step #2: Of those above, the aircraft that requires the longest take-off run is the Beechcraft King Air 90A with a maximum gross certificated take-off weight of 10,100 pounds with less than 10 passenger seats.

Step #3: Based upon this information, FAA guidance specifies use of the performance chart found as Figure 2-1 within Advisory Circular 150-5324-4B for Small Aircraft with Fewer than 10 Passenger Seats, recreated as Figure 4-3 below.

Step #4: The final step to determine the required runway length is to follow the green line to arrive at a runway length as identified on the right hand side of Figure 4-3. The mean maximum temperature of the hottest month in Prosser, WA, as reported by the Western Regional Climate Center (WRCC), is 88.5° Fahrenheit. This is the beginning point on the bottom of the chart within

Chapter 1 Introduction
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Figure 4-3 on the left side. From there the line rises to meet the airport elevation (705 feet) curve, then to the right to arrive at the runway length. The green line is the visualization.

The recommended runway length based on the existing and future critical aircraft at the Prosser Airport is approximately 3,250 feet at the 95 percent of the small fleet value. The Airport's current runway length is 3,451 feet.

Ideally, sponsors would be able to accommodate all of the recommended runway length for the design airplane that meets the regular use definition. Yet, runway length also is dependent on the availability of land, funds and environmental concerns which will be looked at in the alternatives chapter.

Anecdotally, a 4,000-foot runway length may be a minimum threshold for some business aircraft operators due to insurance requirements. While this requirement has not been verified, the Prosser Airport Management has received inquiries and operations have been turned away as a consequence of inadequate runway length for that specific aircraft. It is up to the pilot's discretion whether he/she chooses to land on a runway.

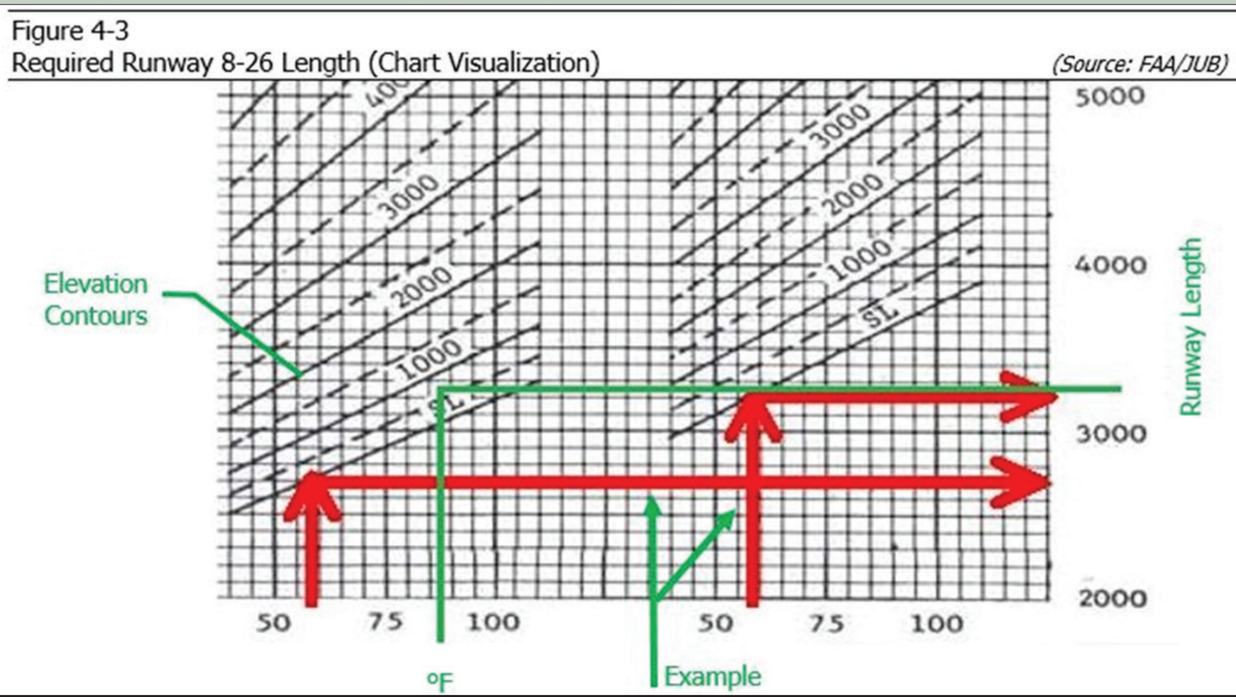
4.2.4 RUNWAY DESIGN STANDARDS

Select airfield design standards (Not lower than 1 mile for the Airport) are noted in Table 4.2. The Forecasts of Aviation Demand indicate solid B-I (small) aircraft operational activity at the Prosser Airport now and throughout the forecasted planning periods (since B-I activity exceeds FAA guidelines of 500 annual itinerant and local operations). The "Existing" column describes the conditions that exist at the airport today. It is worth noting that these standards are generally intended as minimum; that is, it is permissible to exceed a given standard width or dimension; however, not all may be eligible for grant-in-aid funding.

The pavements aligned with the eastern runway end, currently marked as blast pad may remain, but should be marked in current compliance and are ineligible for grant-in-aid funding. These former runway pavements were abandoned as usable landing area in 2010 when the Runway 26 RPZ was brought within the airport property envelope for standards and obstruction disposition purposes.

In order to aid day and night visual and potential non-precision operation a Visual Glideslope Indicating System (VGSI), two-light Precision Approach Path Indicator (PAPIs) should be maintained for the future. A 2-unit PAPI is installed to guide pilots on an westerly

FIGURE 4-3
REQUIRED RUNWAY 8-26 LENGTH (CHART VISUALIZATION)



Source: FAA/J-U-B

TABLE 4.2 ***SELECT AIRPORT DESIGN STANDARDS***			
Standard	**Existing**	**Future (B–I Small)**	**Ultimate (B-II)**
Runway Width	60’	60’	75’
Effective Runway Longitudinal Grade	±2% Max.	±2% Max.	±2% Max.
Runway Pavement Strength (Pounds)	16,000 SWG	16,000 SWG	16,000 SWG
Runway Protection Zones	250’x450’x1,000’	250’x450’x1,000’	500’x750’x1,000’
Runway Safety Area Width/Beyond End	120’/240’	120’/240’	150’/500’
Runway Object Free Area Width/ Beyond End	120’/240’	120’/240’	300’/500’
Taxiway Width	30’ and 25’	25’	35’
Taxiway Safety Area Width	49’	49’	79’
Taxiway/Taxilane Object Free Area Width	89’/79’	89’/79’	115’/131’
Runway to Parallel Taxiway A	235’ and 150’	150’	240’
Runway to Holdline on Taxiway A	125’	125’	200’
Runway to Aircraft Parking	235’	125’	250’
Runway OFZ Width/Beyond End	250’/200’	250’/200’	400’/200’
Approach Surfaces	Rows 1-2	Rows 1-2	Rows 1-4
Part 77 Primary Surface Width/ Beyond End	250’/200’	250’/200’	500’/200’
Part 77 Approach Dimension	250’x1,250’x5,000’	250’x1,250’,5,000	’500’x3,500’,10,000’
Source: FAA/J-U-B			

approach, but not an easterly approach. These units require demonstration of a clear 33:1 siting surface to either runway end. Runway End Identifier Indicator Lighting (REILs) units will need replacement within the 20-years term of this planning. The PAPI and REIL units are adequate for the planning period, and should be relocated with any runway extension. Similarly, the Medium Intensity Runway Edge Lighting System (MIRL) should be extended. The medium-intensity of the system is adequate for the planning period and may need refurbishment in the longer-term.

Although the current published runway strength is adequate for the planning period, occasional rehabilitation will be necessary. Rehabilitation in this context relates to a rejuvenating seal coat and crack seal. This should occur at regular intervals to maximize pavement life cycle. No major near-term rehabilitation is planned as pavements are identified for on-going maintenance by WSDOT Aeronautics condition indexing.

The Runway 8 Protection Zone has the following incompatibilities: (1) Steele Road access and other dedicated public rights-of-way through obligated airport property should be cleared, (2) overhead utility lines should be lowered for RPZ and threshold siting purposes, and trees should be lowered, (3) several structures have been purchased and are in the process of being removed or relocated. This RPZ is owned in fee.

Care should be taken to keep both the 500 and 1,000-foot critical area for the Automated Weather Observing System (AWOS) clear of trees or other objects which could interfere, per FAA siting guidance, with accurate reporting for the wind sensor.

4.2.5 TAXIWAYS AND APRONS

Full-parallel Taxiway A and its connectors serve as the primary taxiway system for the Prosser Airport. Taxiway A is 30 feet wide with a 150-foot separation from Runway 8-26 on the eastern and midfield portion and 235-feet on the western portion with a 35-foot width. A full-length parallel taxiway to serve the primary runway is a fundamental item of development for airfield safety and efficiency. In the event of a runway extension the full-parallel configuration should be retained, particularly if an IAP is desired.

FAA guidance provides general design precepts for planned taxiway improvements not limited to:

- Taxiways should be designed for *cockpit-over-centerline* taxiing, as opposed to the previously permitted *judgemental oversteer*.
- Taxiway intersection design should be made so that no steering angle exceeds 50 degrees.
- Taxiway intersection design should be such that no more than three turn options exist.
- Taxiway intersection angles should be at regular intervals.
- Taxiway design should be made to discourage runway incursions, increase pilot situational awareness, remove hot spots, limit runway crossings, increase pilot visibility and permit indirect access only to an apron or runway.

B-I airfield design standards compliance indicates that any future parallel or connecting taxiways should be 25 feet wide, with a minimum 16,000 pound single-wheel gear pavement strength. Any parallel taxiway centerline should be sited with a minimum separation from runway centerline of 150 feet in order to protect for future B-I (small) runway centerline to parallel taxiway centerline separation. Holdlines and signage now 125 feet or less perpendicular from runway centerline should remain. Table 4.2 notes the ultimate runway to parallel taxiway separation as 240 feet. Consideration will be given to this standard in the context of the upcoming alternatives analysis. All taxiways should be equipped with either edge reflectors or medium-intensity taxiway lighting.

Taxiway A strength is adequate for the planning period, Periodic rehabilitation of the taxiway should be planned. Rehabilitation in this context relates to a rejuvenating seal coat and crack seal. This should occur at regular intervals to maximize pavement life cycle. No major near-term rehabilitation is planned as pavements are identified for on-going maintenance by WSDOT Aeronautics. Should Taxiway A require reconstruction in the future, but prior to justification for B-II operations, it is recommended that Taxiway A be relocated to B-II separation standards if practical.

FAA-established thresholds of operational demand with respect to holding bays (30 operations per hour) are, per the Forecasts of Aviation Demand, not reached in the long-term of this planning. Hold bays are situated near the end of runways.

Others taxiways are important to the current airfield configuration. FAA specifies that the taxiway to taxiway centerline distance should be no less than 70 feet. A reconfiguration of the midfield apron permits the opportunity to evaluate larger aircraft (and helicopter) parking area. The next chapter will consider this design in an alternatives context.

The northside access taxiway will require a rejuvenating seal coat and crack seal. This should occur at regular intervals to maximize pavement life cycle.

4.2.6 NAVIGABLE AIRSPACE

Navigable airspace for purposes herein relates to 14 CFR Part 77 surfaces. Select surfaces are described in the Inventory and within Table 4.2.

While FAA does not have the statutory authority to regulate local landuse, airport sponsors like the Port must adhere to grant assurances, which include #20 Hazard Removal and Mitigation and #21 Compatible Land Use. Airport sponsors that have accepted Federal funds are obligated under Federal grant assurances to 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. WSDOT has promulgated advisory guidance to effect grant assurance compliance in this regard and Port, City and County code and comprehensive planning should continue to include language to that end.

An obstruction to navigable airspace is any object which penetrates a surface meaningful to aircraft operations. Not all obstructions are consequential to maintenance of compatible land use. For example, an obstruction that is properly lit and marked in compliance with FAA guidance is not necessarily considered incompatible.

A controlling obstacle and other obstructions to navigable airspace with proposed dispositions and other objects in the vicinity of the airport, for both the existing and future airfield are identified on the various drawings in upcoming chapters and appendices.

Given that the community has grown, and will likely continue to grow around the Airport, compatible land use is, and will always be a concern. The Port currently specifies that permitting is required for development proponents on or near the airport. Future applications for changes in land use or other sensitive development activities around the airport should continue to be received by the Port, potential incompatibilities should be sited/moved to avoid airspace conflicts, and multi-jurisdictional coordination should occur per the WSDOT guidance.

Washington State Code (RCW) specifies that a sponsor's effort to protect compatible land use is appropriate, and should be considered within an overall comprehensive plan with assistance from WSDOT Aeronautics in the form of technical and general assistance and best practices handbook. WSDOT Aeronautics guidance focuses on height restriction, safety and noise mitigation to establish and maintain compatible land use in the airport vicinity.

4.2.7 AIRSPACE CAPACITY

Airspace capacity for purposes herein relates to the ability of the airfield to accommodate the existing and forecast number of aviation operations.

FAA guidance specifies three measures in this regard, Annual Service Volume (ASV), hourly Visual Flight Rule (VFR) and Instrument Flight Rule (IFR) capacities. The first, ASV, is the overall ability of the Airport to accommodate a modeled number of aviation operations. This value is 230,000 for the Prosser Airport in its current configuration. The VFR and IFR modeled values are 98 and 59 hourly aviation operations, respectively. FAA guidance as it applies to forecast the Prosser Airport operational activity suggests no improvements as a consequence of these capacity guidelines.

Given the local role the Prosser Airport currently plays in the Washington and regional Tri-Cities system of airports, an air traffic control tower is not an improvement that FAA would likely recommend based upon its requisite cost-benefit analysis. Demonstration of a benefit as it relates to cost is a prerequisite for siting of a tower at the Prosser Airport. Thus, the Prosser Airport will remain an uncontrolled field. As a consequence, the current airspace classification, per previous chapters, is unlikely to change.

4.3 LANDSIDE RECOMMENDATIONS

Landside area requirements are generated based upon the Forecasts of Aviation Demand. These relate to apron/ramp aircraft parking and circulation area, terminal/FBO building and aircraft hangar area, aircraft fueling and fueling area, automobile access and parking area. Landside facilities are those portions of the airfield which are not directly related to the landing and take-off of aircraft, but support it.

4.3.1 BASED AIRCRAFT APRON AREA

Based aircraft apron area is and will continue to be beneficial. Based aircraft parking area is foremost for aircraft rental, transient aircraft and charter activity. Also, a given aircraft owner may likely choose to hangar their aircraft due to personal choice and weather.

The Prosser Airport's apron and aircraft parking area (including but not limited to based aircraft parking) approximates 34,155 square yards. This area currently accommodates 64 single-engine aircraft tie-downs. No multi-engine aircraft tie-downs are marked. No based jet or helicopter aircraft are to be accommodated given that they will likely be hangared, except one spot in reserve for the duration of the planning period.

Table 4.3 shows recommendations for based aircraft apron using an FAA guideline of 960 square yards per each single-engine, and 1,385 for each multi-engine aircraft.

Additional based aircraft apron area is not required for the 20-year term of the planning.

4.3.2 ITINERANT AIRCRAFT APRON AREA

Area recommendations for itinerant aircraft activity are estimated differently, as described below and as shown in Table 4.4. Predicated upon the long-term Forecasts of Aviation Demand, approximately 28 percent of aircraft are expected to be in larger aircraft category, corresponding to the 1,385 area standard, while 72 percent of aircraft are expected to be in small aircraft category, corresponding to the 960 square yard area standard. Note that the larger aircraft category includes multi-engine, jet and helicopter aircraft.

A basis for itinerant apron area required can then be calculated: 72 percent (for smaller aircraft) times 960 square yards per smaller aircraft plus the quantity of 28 percent (for larger aircraft) times 1,385 square yards per larger aircraft is equal to 1,079 square yards per aircraft {(960 x 72%)+(1,385 x 28%)=1,079}.

FAA guidance for estimating peaking activity originates via Airport Design. Peak day is defined as the average number of operations per day during the most active month. At the Prosser Airport, the most active month normally accounts for approximately 10 percent of total annual operations. The following is assumed for the calculations in Table 4.4 per FAA estimating guidelines: (1) Peak day itinerant activity constitutes 43 per cent of peak day operations, (2) half of these aircraft will require apron parking at some point during the peak day, and (3) approximately 75 percent of peak day transient aircraft are to be simultaneously accommodated.

For example, the year 2015 calculation is as follows: 44 peak day operations times 43 percent (peak day itinerant operations) equals 19, divided by 2 (for those that require parking area) is equal to 9. The product of 9 and 75 percent (aircraft that are expected to be simultaneously accommodated) is equal to 7, and 7 times 1,079 square yards per aircraft is equal to 7,656 square yards. Note that only the final number in this calculation sequence is not rounded. Note that this calculated value does not include taxiway/taxilane clearance areas. The main apron approximates 23,000 square yards.

Itinerant helicopter parking area is considered. The Forecasts of Aviation Demand identify a couple of based helicopters in the future and anticipate continuing itinerant operations. Helicopter or other rotorcraft are currently parked on small tideown multiple spaces.

TABLE 4.3 BASED AIRCRAFT APRON RECOMMENDATIONS					
	2015	2020	2025	2035	Current
Forecast Single-Engine Based Aircraft	56	59	63	70	
Single-Engine Based Aircraft not Hangared	3	3	3	3	
Based Aircraft Apron (Single-Engine) (Sq. Yards)	2,688	2,832	3,024	3,360	
Forecast Multi-Engine and Helicopter Aircraft	0	3	3	3	
Multi-Engine Based Aircraft and Helicopter not Hangared	0	1	1	1	
Based Aircraft Apron (Multi-Engine/Helo) (Sq. Yards)	0	1,385	1,385	1,385	
Total Based Aircraft Apron recommendations (Sq. Yards)	2,688	4,217	4,409	4,745	±5,000
Source: FAA/J-U-B					

TABLE 4.4 ITINERATE AIRCRAFT PARKING AREA RECOMMENDATIONS					
	2015	2020	2025	2035	Current
Peak Day Operations	44	46	48	50	
Peak Day Itinerant Operations	19	20	20	22	
Itinerant Aircraft Positions Required	9	10	10	11	
Simultaneous Itinerant Aircraft Positions Required	7	7	7	8	
Total Itinerant Parking Area Required (Square Yards)	7,656	8,003	8,239	8,699	±16,500
Source: FAA/J-U-B					

4.3.3 TERMINAL/FBO BUILDING AREA

A basic general aviation terminal/FBO building should ideally provide office space, a waiting room for pilots and passengers, an area for food and beverage vending, a public telephone and restrooms. Building area recommendations are shown in Table 4.5. FAA does not have current advisory guidance for general aviation area recommendations by use or in total, yet generalized recommendations remains valuable if considered in the context of FBO perspective and overall airport lease area needs.

Terminal/FBO area recommendations are a function of the anticipated number of peak hour operations and airport users. Peak hour operations are estimated at 15 percent of peak day operations from Table 4.4. Peak hour users are computed as 1.5 passengers per each local aircraft arrival and 2.5 passengers per itinerant arrival. The previous chapter identified a 42/58 percent mix of local/itinerant activity. Typical floor space requirements, expressed in square feet per user are as follows for general aviation terminal facilities: Waiting Lounge; 15, Office Space; 3, Public Conveniences; 1.5, Concession/Vending; 5, Storage, Circulation, HVAC; 24.5.

The Prosser Airport does have a formal, dedicated terminal building and space in this regard is collocated with FBO leased area. FAA very rarely provides funding for terminal-related improvements at local general aviation airports like Prosser. While the Prosser Airport's 3,850 square foot FBO/terminal area may be adequate for purposes herein, refurbishment could be considered in the intermediate-term as the current facility is at or very near the end of its useful life. Complicating this matter is the fact that the current terminal building faces an apron, which because of standards is now only usable for taxi. More specifically, aircraft tail height clearance of the 7:1 transitional surface requires closure of the entire apron for aircraft parking purposes. A closer look at this circumstance follows in the next chapter.

TABLE 4.5 *TERMINAL/FBO BUILDING RECOMMENDATIONS*					
	2015	2020	2025	2035	Current
Peak Hour Operations	7	7	7	8	
Peak Hour Users	26	28	29	30	
Waiting Lounge	396	414	432	450	
Office Space	79	83	86	90	
Public Conveniences	40	4	43	45	
Vending/Concession	132	138	144	150	
Storage, Circulation, HVAC	647	676	706	735	
Total Terminal Building Area (Square Feet)	1,294	1,352	1,411	1,470	±3,850
Source: FAA/J-U-B					

4.3.4 AIRCRAFT HANGAR AREA

The Prosser Airport currently accommodates 6 leased and 9 privately-owned hangars, totaling approximately 50,000 square feet. It is presumed that 95 percent of future based aircraft desire hangar space given current owner preferences.

Hangar area recommendations found within Table 4.6 are based upon: 1,200 square feet for single-engine piston aircraft, 2,200 square feet for multi-engine piston and twin-turbo prop aircraft, 4,000 square feet for smaller jet aircraft, 12,000 square feet for larger jet aircraft, and 1,500 square feet for helicopters. The small/large jet aircraft category is created by estimating 80/20 segregation from the Forecasts of Aviation Demand for the Jet category. Aircraft accounted for within Table 4.3 are not included for analysis within Table 4.6.

Note that aircraft may be located in T-hangar units, in more conventional small box hangars, or collocated with other aircraft in a larger hangar. A single aircraft, perhaps only requiring 1,200 square feet, may be located in a 6,400 square foot hangar. Summarily, it is not meaningful to infer from the table that a given quantity of future hangars units is recommended, only a minimum hangar area.

Additional hangar area will be required, for each of the 5- year period over the 20-year term, per the Forecasts of Aviation Demand and as demand materializes.

4.3.5 AIRCRAFT FUELING

The current tank capacity of 10,000 gallons of piston (100LL) fuel with no turbine fuels capacity roughly equates to a deliver every couple of months. Future

TABLE 4.6 *HANGAR AREA RECOMMENDATIONS*					
	2015	2020	2025	2035	Current
Single-Engine Based Aircraft (Not On Ramp)	*53*	*56*	*60*	*67*	
-Single-Engine Hangar Area	63,300	67,200	72,000	80,400	
Multi-Engine/Twin Based Aircraft (Not On Ramp)	*0*	*1*	*1*	*1*	
-Multi-Engine/Twin-Turbo Prop Hangar Area	0	2,200	2,200	2,200	
Jet (Small) Based Aircraft	*0*	*0*	*0*	*0*	
-Jet (Small) Hangar Area	0	0	0	0	
Jet (Large) Based Aircraft	*0*	*0*	*0*	*0*	
-Jet (Large) Hangar Area	0	0	0	0	
Helicopter/Other Based Aircraft	*0*	*2*	*2*	*2*	
-Helicopter/Other Hangar Area	0	3,000	3,000	3,000	
Total Hangar Area Recommended (Square Feet)	63,300	72,400	77,200	85,600	±50,000
Source: FAA/J-U-B					

operations as a consequence of the Forecasts of Aviation Demand, may suggest more frequent deliveries, this as opposed to additional capacity.

Turbine fuels are often dispensed from a fuel truck and additional capacity may be needed to better meet future customer expectations. This may require additional storage capacity.

4.3.6 SUPPORT FACILITIES AND INFRASTRUCTURE

As the airport is developed and improvements take place, extensions to existing utility systems should be considered. Future airport users, including individual aircraft owners and corporate interests, should to the extent reasonable be required to participate in the cost of extending utilities to their building, or could be charged a connection fee to any system. The fee may be levied directly or through user fees and leases. Utility extensions should be maintained underground to the maximum extent feasible.

Importantly, water and wastewater is not available west of North River Road. As apron, hangar and FBO operations expand to the west, this will require greater consideration.

4.3.7 AUTOMOBILE PARKING AND ACCESS

Approximately 10 unpaved automobile parking spaces and 6 paved spaces surround the terminal building. Although an expansive formal parking lot is not necessary, adequate space should be planned and protected, in accordance with Table 4.7. These recommendations are from older FAA guidance, Circular 150/5360-13(1) yet remains valuable if considered in the context of FBO perspective and overall airport auto parking needs. The Nunn Road intersection with the east apron is a sub-optimal access point as auto access leads to unobstructed taxiway access. Planning to separate these is left to the next chapter. Formal automobile parking is not established for the main apron and planning thereto is left to the next chapter and an important public process for comments and discussion.

The recommended number of automobile parking spaces required is a function of peak hour users and tenant/employee demand. The peak hour user count was previously derived for the terminal building analysis. The number of tenants and employees at an airport like Prosser is estimated to be one person per five based aircraft. A standard 35 square yards per automobile is used to complete Table 4.7. Note that this includes parking area only and not the access. More paved parking could be customer-service friendly.

4.3.8 SNOW REMOVAL AND AIRFIELD MAINTENANCE EQUIPMENT

Snow removal equipment (SRE) and airfield maintenance equipment are occasionally federally-funded at local general aviation airports. Prosser Airport's SRE and maintenance equipment has historically been funded by the Port. An opportunity exists via WSDOT Aeronautics funding or perhaps WSDOT surplus equipment program to acquire equipment dedicated to the Prosser Airport. Such equipment might include: two plows, a dedicated mower and one or two multi-use vehicles (perhaps including sweeper, snowblower, front loader and backhoe attachments).

SRE buildings/facilities are eligible for federal funding and are operationally needed to protect and extend the useful life of equipment. These facilities may be co-located with administration, FBO facilities, or perhaps space could be made to service in an existing sponsor-owned hangar.

4.4 SECURITY

General aviation security requirements do not currently specify access procedures. Aviation industry groups have endorsed various airport watch security programs to protect the airport and its aircraft from terrorist incidents. These programs focus on informal surveillance procedures and airport user monitoring of activities, not necessarily security-related capital improvements.

Occasional, formal airfield inspections are recommended. Such inspection procedures should be formalized and

TABLE 4.7
AUTOMOBILE PARKING AREA RECOMMENDATIONS

	2015	2020	2025	2035	*Current*
Peak Hour Users	26	28	29	30	
Tenants/Employees	56	62	66	73	
Automobile Parking Positions Required	82	90	195	103	
Total Automobile Parking Area (Square Yards)	2,870	3,150	3,325	3,605	±560

Source: FAA/J-U-B

airport emergency and security plans should be drafted as necessary.

The Transportation Security Administration (TSA) is charged with security at commercial service and general aviation airports. TSA has no requirements of the Port, but has created recommendations based upon threat and the local and regional aviation environment.

Per TSA's 2004 Security Guidelines for General Aviation Airports, WSDOT recommends a medium security level and that the following actions be considered:

- Install strategically located security-related signage
- Formalize and document security procedures;
- Provide for positive passenger baggage and cargo identification
- Established procedures to ensure all aircraft are secured
- Formalize community watch program
- Create security-related contact list
- Formalize law enforcement support
- Formalize a security committee
- Formalize transient pilot sign-in/out procedures
- Install access control infrastructure and formalize procedures
- Install lighting system, perhaps building interior and exterior and apron floodlighting
- Formalize personnel identification system
- Establish vehicle identification protocol for airfield access
- Establish and reinforce challenge procedures

Many of these steps have already been taken, some remain to be considered, while others are in process.

TSA and WSDOT stop short of recommending security-related fencing. TSA has worked extensively to ensure that a meaningful security apparatus is provided for the general aviation community while being responsive to its constituents. It would be appropriate to occasionally, perhaps every year, coordinate with TSA representatives. In the event of a threat or perhaps resulting from a commercial or general aviation incident, TSA may elect to regulate rather than recommend various security infrastructure or procedures. Fencing along Nunn Road should be 6-foot chain-link. A security plan addressing these and other issues is recommended.

4.5 SUMMARY

A summary of recommended improvements and actions are located in Table 4.8 on the next page.

Through the course of master planning consultations and public involvement, the Port of Benton has received feedback from users that the airport should be planned to maximize community economic development opportunities and be a safe and inviting facility.

Both Port staff and users agree that this airport planning should protect for those larger, faster and more expensive aircraft that sometimes use the airport, even if the critical mass of 500 annual aircraft operations may not be reached for eligibility purposes.

Previous planning and the prevailing view in this regard has aimed to somewhat protect for B-II with a non-precision, straight-in instrument approach procedure to both runway ends. The larger, faster and more expensive aircraft often fit more nicely in the B-II grouping, as opposed to the B-I grouping and the lack of instrument approach to either runway end may be artificially restricting access to the Prosser Airport.

The type of aircraft activity, current and future, found in the Forecasts of Demand does not make B-II design standards eligible for grant-in-aid funding from FAA. Regardless, Port of Benton staff wish an effort within this planning to estimate the need. Description, visuals, and cost estimates to meet B-II with a non-precision, straight-in instrument approach procedure to both runway ends is left to the next chapter where it can be considered in the larger alternatives context, as an 'ultimate' plan.

TABLE 4.8
SUMMARY OF RECOMMENDATIONS

Airport Role	Existing	Future	Ultimate
Design Standards	B-I/TDG1a, Small, ≥3/4 Mile	B-I/TDG1a, Small, ≥3/4 Mile	B-II/TDG2, Large, ≥3/4 Mile
Airside	**Existing**	**Future**	**Ultimate**
Instrument Approach Capability (Perhaps GPS Instrument Approach Procedure{s})			See Next Chapter
Runway Length	3,451’	3,250’	See Next Chapter
Runway Width	60’	60’	75’
Taxiway Width	25/30’	25’	35’
Runway Protection Zones	250’x450’x1,000’	250’x450’x1,000’	500’x700’x1,000’
Runway Safety Area	120’ wide/240’ ends	120’ wide/240’ ends	150’ wide/300’ ends
Runway Object Free Area	250’ wide/240’ ends	250’ wide/240’ ends	500’ wide/300’ ends
Runway Obstacle Free Zone	200’ wide/240’ ends	200’ wide/240’ ends	400’ wide/240’ ends
Taxiway Safety Area Width	49’	49’	79’
Taxiway/Taxilane OFA Width	79’/89’	79’/89’	115’/131’
Runway to Taxiway A	235’&150’	150’	240’
Runway to Holdline	125’	125’	200’
Runway Aircraft Parking	235’	125’	250’
Runway and Taxiway Pavements		Occasional Rehabilitation	
Runway Lighting (MIRL, New PAPI-Runway 26, REIL)		PAPIs, Occasional Rehabilitation	
Navigable Airspace		Clear/Mitigate Obstructions	

Landside	Existing	2015	2020	2025	2035
Based Aircraft Apron Area (SY)	±5,000	2,688	4,217	4,409	4,745
Recommended Additional Area (SY)		0	0	0	0
Itinerant Aircraft Apron Area (SY)	[1]±16,500	7,656	8,003	8,239	8,609
Recommended Additional Area (SY)		0	0	0	0
Terminal Building Area (SF)	±3,850	1,294	1,352	1,411	1,470
Recommended Additional Area (SF)		0	0	0	0
On-Airport Hangar Area (SF)	±50,000	63,300	72,400	77,200	85,600
Recommended Additional Area (SF)		13,300	12,400	17,200	35,600
Automobile Parking Area (SY)	±560	2,870	3,150	3,325	3,605
Recommended Additional Paved Area (SY)		2,310	2,590	2,765	3,045
Automobile Access			See Next Chapter		
Helicopter/Rotocraft Parking			See Next Chapter		
Airfield Snow Removal and Maintenance Equipment			Occasional Purchase		
Fencing			Nunn Road, Perimeter		

TABLE 4.8 SUMMARY OF RECOMMENDATIONS	
Security, Compliance and Sustainability	
Security	Monitor
Compliance; Through-the-Fence	None, Monitor
Compliance; Update Overlay District Zoning/Comprehensive Plan	Coordinate with Others
Compliance; Airport Rules and Regulations	Recently Updated
Compliance; Minimum Standards	Recently Updated
Compliance; Development Standards	Recently Updated
TABLE SUMMARY: ITEMS/STANDARD BELOW NEED TO MET	
1. Runway to Taxiway Separation Should be 150' Minimum	
2. Additional Based Aircraft Apron, Hangar Area and Automobile Parking	
3. Regular Pavements Maintenance, Equipment and Lighting Rehabilitation	
4. Clear and Ensure Future Clear Airspace	
5. Consider Runway Length, Instrument Approach Capability	
Source: FAA/J-U-B	

5.0 INTRODUCTION

This chapter describes development alternatives and configurations that could be considered to meet the facility requirements and accommodate demand in the short and long-term. Several issues are at hand and are carried forward from Table 4-9.

1. Accommodate FAA Design Standards and Clear/ Mitigate Obstructions
2. Perhaps Improve GPS Approach Capability
3. Consider Additional Runway Length
4. Locate Hangars, Apron and Taxiways and Consider Other Miscellaneous Facilities

These roughly correspond to the issues to be addressed as described in the Introduction to this planning. Although apparently separate and distinct, the above are related and one impacts another in obvious and in more subtle ways.

5.1 ALTERNATIVES INTRODUCTION

It is important for grant assurance compliance that this overall planning effort pursues FAA design standards. There is an ever-increasing distance between aviation infrastructure needs and federal and state funding at a local, regional and national level, particularly for general aviation airports. A result of this, at least for the Prosser Airport, is that an improvement or series of improvements necessary for FAA design standards compliance may not be funded in the short-term or perhaps even in the longer-term if the improvements are substantial. In short, improvements for this alternative are likely to occur over a 20-year period.

A series of alternatives follows providing meaning to a relatively complex situation.

Alternative No. 1A: Existing and Future Design Standards Compliance. This alternative specifies no future improvements other than accommodation of select FAA design standards and clearance or mitigation of obstructions. This alternative is described within Section 5.2.

Alternative No. 1B: Existing and Future Design Standards Compliance with GPS Approaches to Both Runway Ends. This alternative specifies accommodation of select FAA design standards and clearance or mitigation of obstructions along with an improved ability to accommodate all weather operations. This alternative anticipates a 1-mile visibility GPS approach procedures using GPS technology. This alternative is described within Section 5.3.

Alternative No. 1C: Existing and Future Design Standards Compliance with GPS Approaches to Both Runway Ends and a Westerly Runway Extension for 4,000 Feet. This alternative specifies accommodation of select FAA design standards and clearance or mitigation of obstructions, an improved ability to accommodate all weather operations, along with a 549-foot westerly runway extension. This alternative anticipates a 1-mile visibility GPS approach procedures using GPS technology. This alternative is described within Section 5.4.

The next series of alternatives describes a similar series of potential improvements as potential enhancements. This set of alternatives considers compliance for the more demanding (B-II) design standards. It is important to note, up front, that FAA grant-in-aid is not eligible for these more robust standards and their associated improvements. These alternatives are made primarily to envision and describe that which is to perhaps be protected, as opposed to funded and built within the 20-year period of this planning.

Alternative No. 2A: Ultimate (B-II) Design Standards Compliance. This alternative specifies no future improvements other than accommodation of select ultimate FAA design standards and clearance or mitigation of obstructions. This alternative is described within Section 5.5.

Alternative No. 2B: Ultimate (B-II) Design Standards Compliance with GPS Approaches to Both Runway Ends. This alternative specifies accommodation of select ultimate FAA design standards and clearance or mitigation of obstructions, along with an improved ability to accommodate all weather operations. This alternative anticipates a 1-mile visibility GPS approach procedures using GPS technology. This alternative is described within Section 5.6.

Alternative No. 2C: Ultimate (B-II) Design Standards Compliance with GPS Approaches to Both Runway Ends and a Westerly Runway Extension for 4,000 Feet. This alternative specifies accommodation of select ultimate FAA design standards and clearance or mitigation of obstructions, an improved ability to accommodate all weather operations, along with a 549-foot westerly runway extension. This alternative anticipates a 1-mile visibility GPS approach procedures using GPS technology. This alternative is described within Section 5.7.

Finally, four landside development configurations consider potential apron, hangars, taxiways, and aviation business locations and uses. The previous chapter demonstrates the need for additional landside aviation facilities and the following configurations show demand accommodation. All configurations show non-aviation industrial.

Landside Configuration No. 1A: Setback for Visual Operations. This configuration primarily shows fill-in box hangars via ground-leasing. This alternative is described within Section 5.8.1.

Landside Configuration No. 1B: Setback for GPS Operations. This configuration primarily shows fill-in box hangars via ground- leasing, and clearance area for GPS operations. This alternative is described within Section 5.8.2.

Landside Configuration No. 2A: Setback for Visual Operations. This configuration shows fill-in box hangars via ground-leasing near the eastern apron, with T-hangar development around the main apron. This alternative is described within Section 5.8.3.

Landside Configuration No. 2B: Setback for GPS Operations. This configuration shows fill-in box hangars via ground-leasing near the eastern apron, with T-hangar development around the main apron. Additional clearance area for GPS operations is planned. This alternative is described within Section 5.8.4.

5.2 ALTERNATIVE NO. 1A: EXISTING AND FUTURE FAA DESIGN STANDARDS

This alternative shows improvements for design standards compliance.

1. South Steele Road crosses the Runway 8 RPZ. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
    a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public,
    b. Close the access, or
    c. Relocate the Runway 8 End.
2. The distance required between the Runway 8-26 centerline to the parallel Taxiway A centerline is 150 feet. FAA is permitting analysis at the next level of design standards (B-II) for this runway-to-taxiway centerline standard only. This entails moving the entirety of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.
4. Several obstructions to navigable airspace are found west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared.

5.3 ALTERNATIVE NO. 1B: EXISTING AND FUTURE FAA DESIGN STANDARDS WITH GPS APPROACHES TO BOTH RUNWAY ENDS

Alternative No. 1B includes those items found on the previous alternative, plus improvements associated with a GPS Approach Procedure to either runway end. A GPS approach procedure is a three-dimensional, FAA-created and approved path in the sky for aircraft operation, allowing the Prosser Airport to function as a more all-weather capable airport. A more capable all-weather airport informs the flying public and aviation businesses that the field is open for business in a meaningful way as it relates to operations in inclement weather.

The primary consequence of this alternative and the main difference between the previous alternative is wider airspace surfaces, including the primary and approach surfaces.

1. South Steele Road crosses the Runway 8 Runway Protection Zone. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
    a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public,
    b. Close the access, or
    c. Relocate the Runway 8 End.
2. The distance required between the runway centerline to the parallel Taxiway A centerline is 150 feet. FAA is permitting analysis at the next level of design standards (B-II) for this runway-to-taxiway centerline standard only. This entails moving the remainder of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.

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4. Several obstructions to navigable airspace are found within and west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared. In addition, the wider and more demanding surfaces create obstructions along Old Inland Empire Highway and along South Steele Road and necessitate the closure of a large portion of the east apron.

5.4 ALTERNATIVE NO. 1C: EXISTING AND FUTURE FAA DESIGN STANDARDS WITH GPS APPROACHES TO BOTH RUNWAY ENDS AND A WESTERLY RUNWAY EXTENSION TO 4,000 FEET

Alternative No. 1C includes those items found on the previous two alternatives, plus a 549-foot westerly extension of the runway and taxiway.

The previous chapter notes that an application of FAA runway length standards, as they apply to the Prosser Airport, suggests that a runway extension to 4,000 feet: (1) should be considered in this context, (2) airspace should be protected if additional length is desired, and (3) is not currently eligible for federal grant-in-aid.

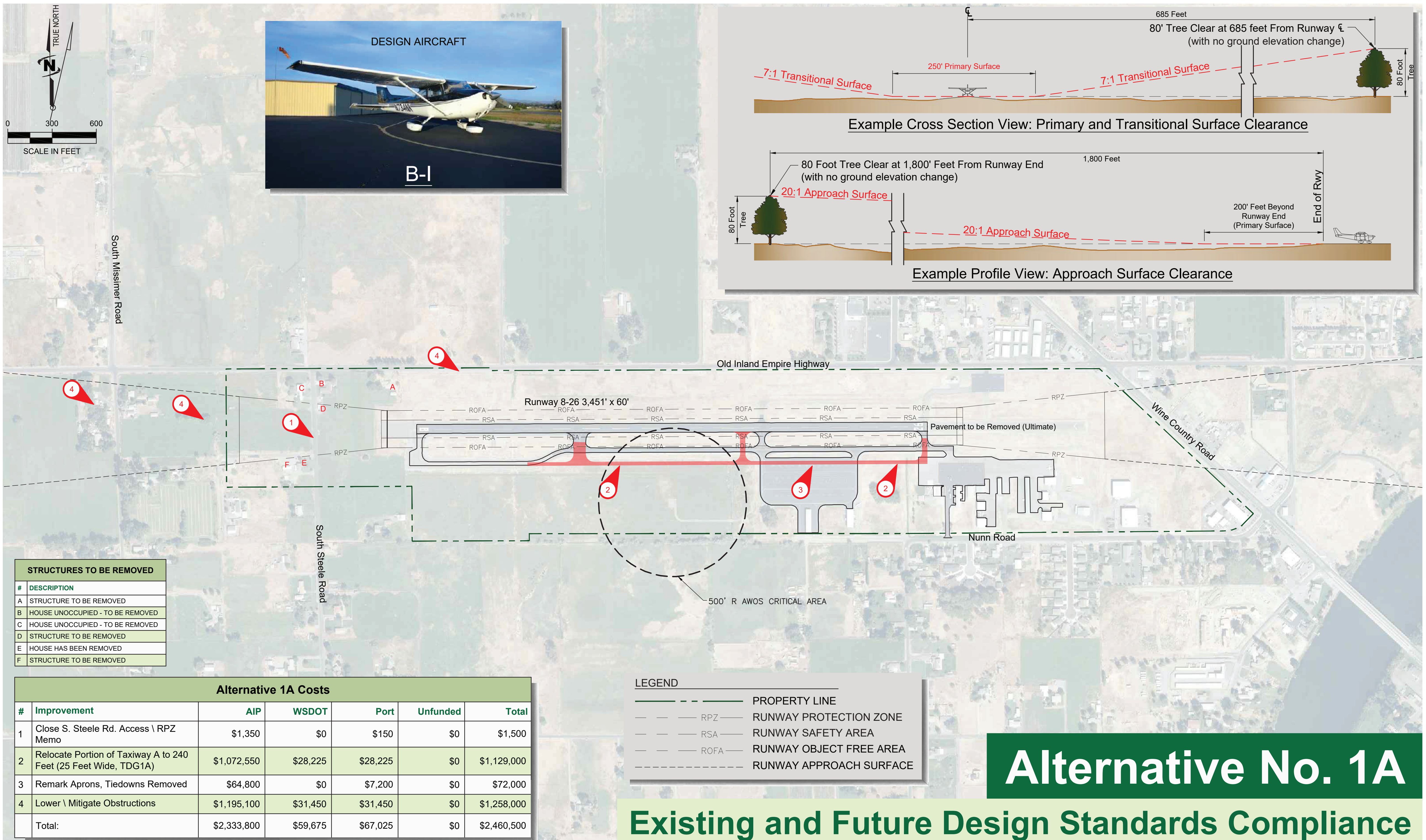
A few items are of note for this alternative:

1. WSDOT Aeronautics, via its state system planning recommends no additional runway length.
2. Any meaningful length; that is, beyond a hundred feet or so, will require land acquisition for approach protection and RPZ design standards compliance.
3. A 4,000-foot runway is the most economically responsive length from an aviation demand-accommodation perspective. Airport users and the flying public see 4,000 feet as a good length for the future of the Prosser Airport.
4. Regional FAA guidance suggests participation with federal funding for any extension requires documentation of penalized operations to make funds eligible. A penalized operation is one in which the pilot is not able to operate as desired at a given runway length. Hot weather or payloads that are more robust serve to restrict, or penalize, some aircraft operations.

The primary consequence of this alternative and the main difference between the previous alternatives is the actual extension, along with land acquisition and obstruction removal for the extension to allow a clear path for aircraft operation.

1. South Steele Road crosses the Runway 8 RPZ. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
   a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public,
   b. Close the access, or
   c. Relocate the Runway 8 End.
2. The distance required between the runway centerline to the parallel Taxiway A centerline is 150 feet. FAA is permitting analysis at the next level of design standards (B-II) for this runway-to-taxiway centerline standard only. This entails moving the remainder of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.
4. Several obstructions to navigable airspace are found within and west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared. In addition, the wider and more demanding surfaces create obstructions along Old Inland Empire Highway and along South Steele Road and necessitate the closure of a large portion of the east apron.
5. Partial land acquisitions, either fee or to-the-ground easements are recommended to protect the RPZ and approach surfaces. The area proposed appears to be mostly clear of above ground improvements which would necessitate relocation activities.

FIGURE 5.1
ALTERNATIVE NO. 1A



STRUCTURES TO BE REMOVED

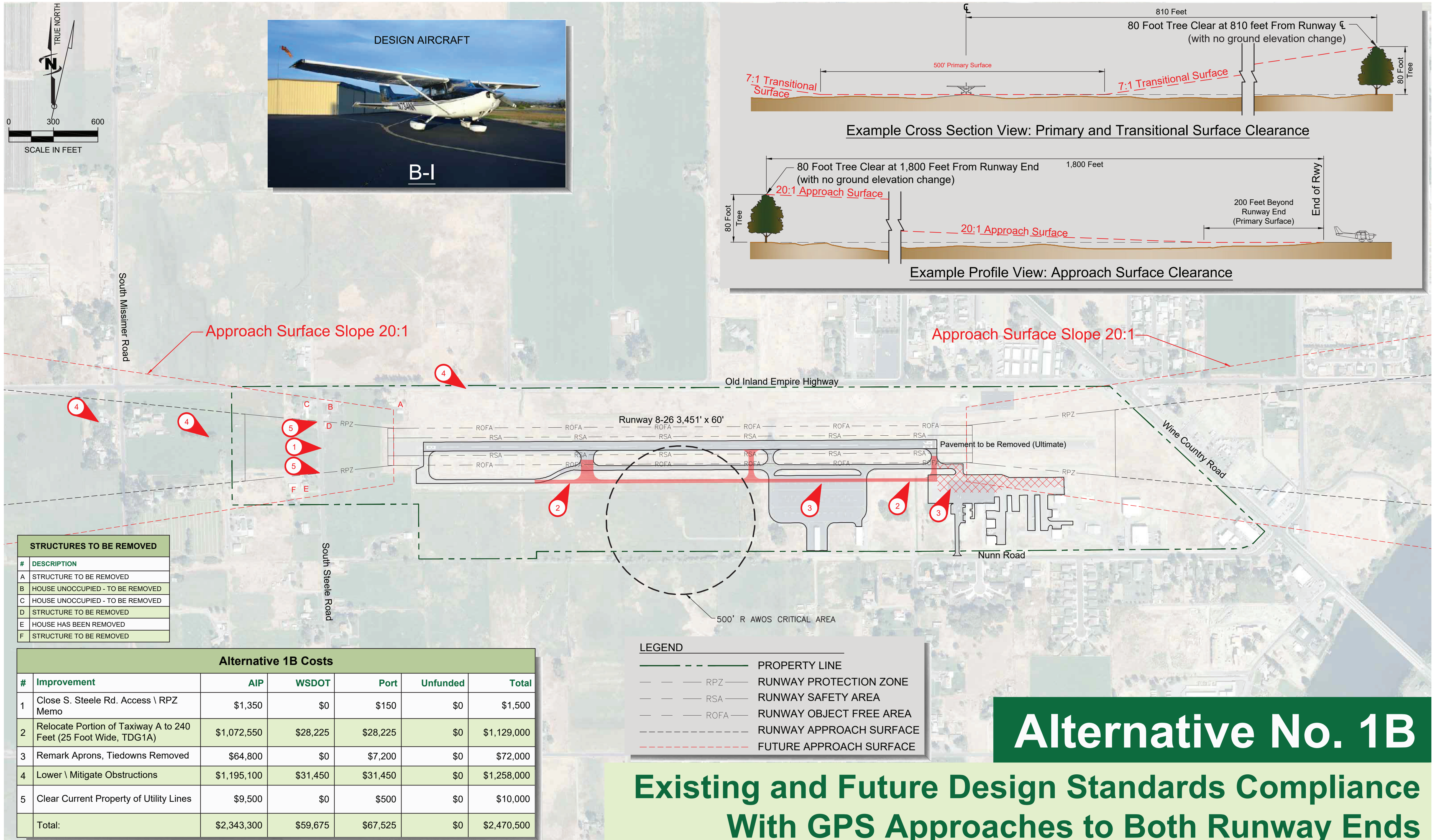
#	DESCRIPTION
A	STRUCTURE TO BE REMOVED
B	HOUSE UNOCCUPIED - TO BE REMOVED
C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 1A Costs

#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (25 Feet Wide, TDG1A)	$1,072,550	$28,225	$28,225	$0	$1,129,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
	Total:	$2,333,800	$59,675	$67,025	$0	$2,460,500

Source: J-U-B

FIGURE 5.2
ALTERNATIVE NO. 1B



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C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 1B Costs

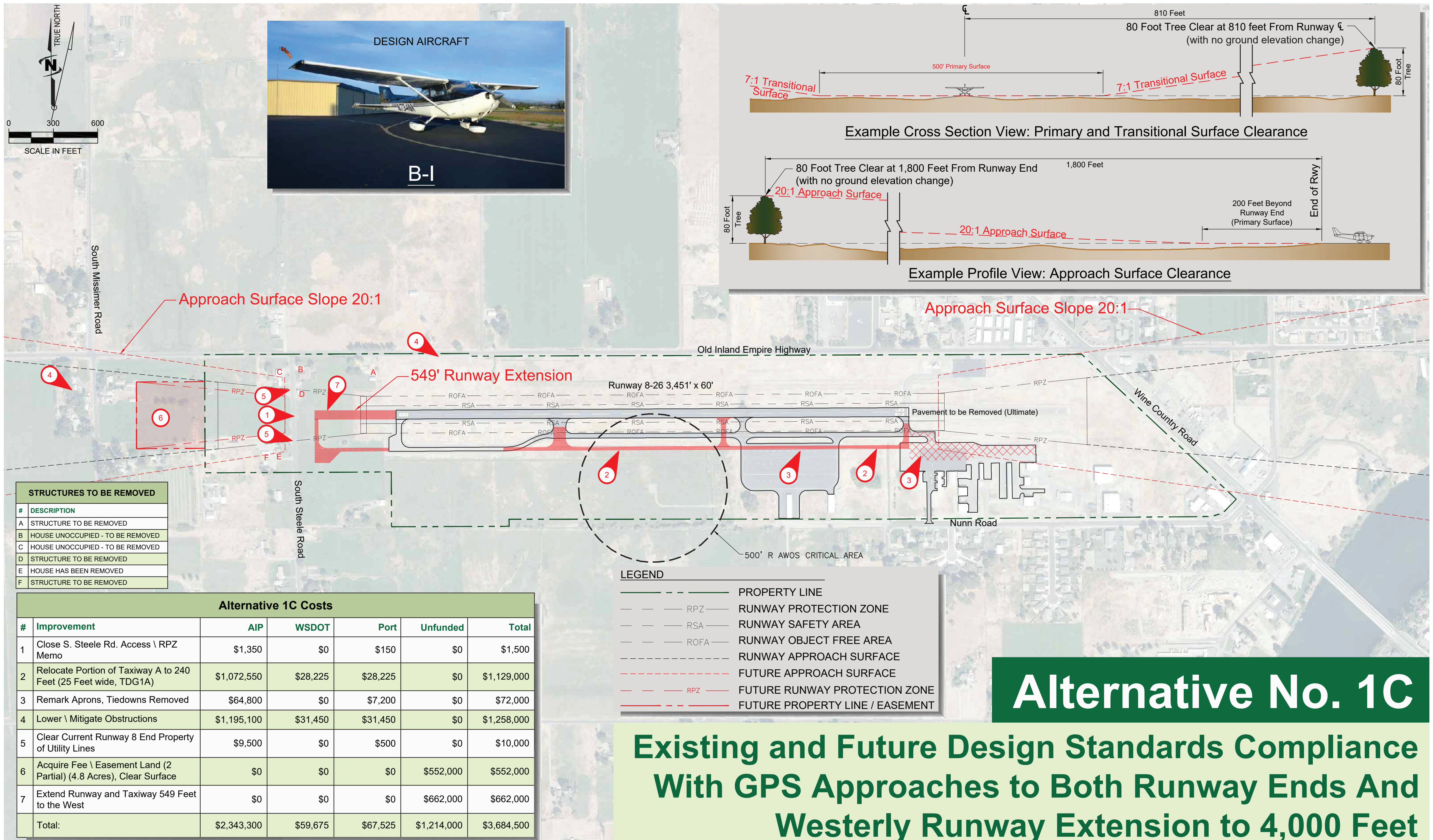
#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (25 Foot Wide, TDG1A)	$1,072,550	$28,225	$28,225	$0	$1,129,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
5	Clear Current Property of Utility Lines	$9,500	$0	$500	$0	$10,000
	Total:	$2,343,300	$59,675	$67,525	$0	$2,470,500

Alternative No. 1B

Existing and Future Design Standards Compliance With GPS Approaches to Both Runway Ends

Source: J-U-B

FIGURE 5.3
ALTERNATIVE NO. 1C



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C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 1C Costs

#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (25 Feet wide, TDG1A)	$1,072,550	$28,225	$28,225	$0	$1,129,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
5	Clear Current Runway 8 End Property of Utility Lines	$9,500	$0	$500	$0	$10,000
6	Acquire Fee \ Easement Land (2 Partial) (4.8 Acres), Clear Surface	$0	$0	$0	$552,000	$552,000
7	Extend Runway and Taxiway 549 Feet to the West	$0	$0	$0	$662,000	$662,000
	Total:	$2,343,300	$59,675	$67,525	$1,214,000	$3,684,500

Source: J-U-B

5.5 ALTERNATIVE NO. 2A: ULTIMATE FAA DESIGN STANDARDS

This alternatives analysis now transitions from existing and future design standards to ultimate design standards. While Alternatives 1A, 1B and 1C might be funded, Alternatives 2A, 2B and 2C might be protected, as ultimate have a greatly reduced chance for grant-in–aid funding.. For example, the expanded Runway and Taxiway Safety Areas, runway widening to 75 feet, and taxiway widening to 35 feet are relatively large dollar improvements. This alternative shows improvements for ultimate design standards compliance.

1. South Steele Road crosses the Runway 8 Runway Protection Zone. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
   a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public,
   b. Close the access, or
   c. Relocate the Runway 8 End.
2. The distance required between the Runway 8-26 centerline to parallel Taxiway A centerline is 240 feet. This entails moving the entirety of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A, additional taxiway width and associated taxiway design standards, impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.
4. Several obstructions to navigable airspace are found west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared. In addition, the wider and more shallow, demanding surfaces create obstructions along Old Inland Empire Highway and along South Steele Road and necessitate the closure of a large portion of the east apron.
5. Both the Runway and Taxiway Safety Areas widen and shallow to allow for the larger, B-II ultimate aircraft design standard.
6. Runway 8-26 is widened from 60 feet to 75 feet. This widening also requires a proportional relocation of the Medium Intensity Runway-edge Lighting (MIRL) system.

5.6 ALTERNATIVE NO. 2B: ULTIMATE FAA DESIGN STANDARDS WITH GPS APPROACHES TO BOTH RUNWAY ENDS

Alternative No. 2B includes those items found on the Alternative 2A, plus improvements associated with a GPS Approach Procedure (IAP) to either runway end. The primary consequence of this alternative and the main difference between the previous alternative is wider airspace surfaces, including the primary and approach surfaces.

1. South Steele Road crosses the Runway 8 Runway Protection Zone. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
   a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public,
   b. Close the access, or
   c. Relocate the Runway 8 End.
2. The distance required between the Runway 8-26 centerline to parallel Taxiway A centerline is 240 feet. This entails moving the entirety of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.
4. Several obstructions to navigable airspace are found west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared. In addition, the wider and more shallow, demanding surfaces create obstructions along Old Inland Empire Highway and along South Steele Road and necessitate the closure of a large portion of the east apron.
5. Runway 8-26 is widened from 60 feet to 75 feet. This widening also requires a proportional relocation of the Medium Intensity Runway-edge Lighting (MIRL) system.
6. Both the Runway and Taxiway Safety Areas widen and shallow to allow for the larger, ultimate B-II aircraft design standard.

5.7 ALTERNATIVE NO. 2C: ULTIMATE FAA DESIGN STANDARDS WITH GPS APPROACHES TO BOTH RUNWAY ENDS AND A WESTERLY RUNWAY EXTENSION TO 4,000 FEET

Alternative No. 2C includes those items found on the previous two alternatives, 2A and 2B, plus a 549-foot westerly extension of the runway and taxiway.

The previous chapter notes that an application of FAA runway length standards, as they apply to the Prosser Airport, suggests that a runway extension to 4,000 feet: (1) should be considered in this context, (2) airspace should be protected if additional length is desired, and (3) and extension is not currently eligible for federal grant-in-aid at this time.

A few items are of note for this alternative:

1. WSDOT Aeronautics, via its state system planning recommends no additional runway length.
    a. Any meaningful length; that is, beyond a hundred feet or so, will require land acquisition for approach protection and RPZ design standards compliance.
2. A 4,000-foot runway is the most economically responsive length from an aviation demand-accommodation perspective. Airport users and the flying public see 4,000 feet as a good length for the future of the Prosser Airport.
3. Regional FAA guidance suggests participation with federal funding for any extension requires documentation of penalized operations to make funds eligible. A penalized operation is one in which the pilot is not able to operate as desired at a given runway length. Hot weather or payloads that are more robust serve to restrict, or penalize, some aircraft operations.

The primary consequence of this alternative and the main difference between the previous alternatives is the actual extension, along with land acquisition and obstruction removal for the extension to allow a clear path for aircraft operation.

1. South Steele Road crosses the Runway 8 RPZ. Of the three actions which could be taken to mitigate this non-standard condition per the below, closure of the access of planned because it is not yet known if FAA will allow approve access:
    a. Receive administrative clearance from FAA, via an approval of an 'RPZ Memo' to keep the access open to the general public;
    b. Close the access; or
    c. Relocate the Runway 8 End.
2. The distance required between the Runway 8-26 centerline to parallel Taxiway A centerline is 240 feet. This entails moving the entirety of the parallel taxiway from 150 feet to 240 feet.
3. This relocation of Parallel Taxiway A impacts both aprons. The main apron would lose its first row of tiedowns. The east apron would need to accommodate the new taxiway at its northwest corner with a redesign.
4. Several obstructions to navigable airspace are found west beyond airport property along extended Runway 8 centerline. These will need to be lowered or otherwise cleared. In addition, the wider and more shallow, demanding surfaces create obstructions along Old Inland Empire Highway and along South Steele Road and necessitate the closure of a large portion of the east apron.
5. Partial land acquisitions, either fee or to-the-ground easements are recommended to protect the RPZ and approach surfaces. The area proposed appears to be mostly clear of above ground improvements which would necessitate relocation activities. As the runway end environment moves farther to the west, additional obstruction removal is also required beyond that within the area proposed for acquisition.
6. Runway 8-26 is widened from 60 feet to 75 feet. This widening also requires a proportional relocation of the Medium Intensity Runway-edge Lighting (MIRL) system.
7. Both the Runway and Taxiway Safety Areas widen and shallow to allow for the larger, ultimate B-II aircraft design standard.

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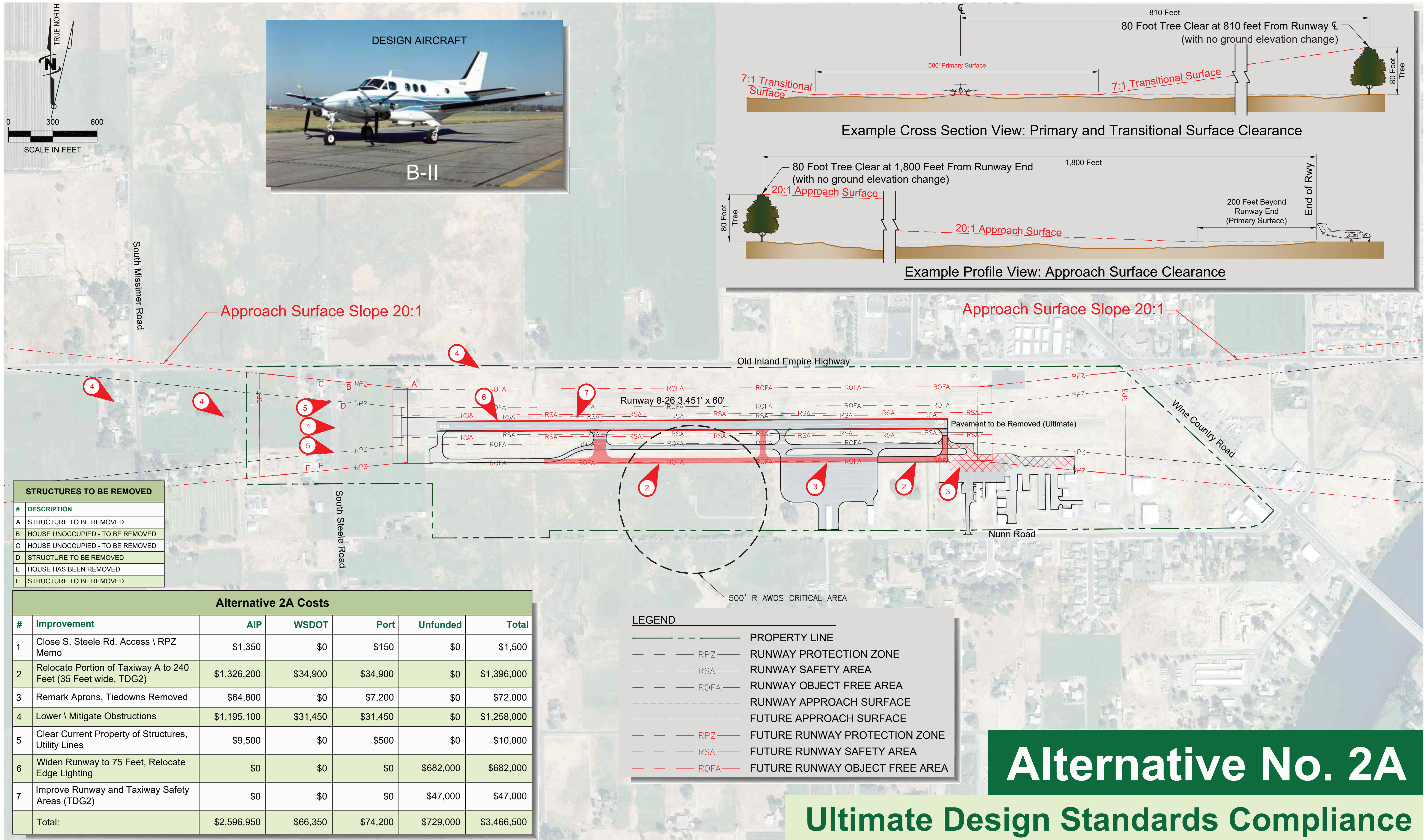
FIGURE 5.4
ALTERNATIVE NO. 2A



STRUCTURES TO BE REMOVED

#	DESCRIPTION
A	STRUCTURE TO BE REMOVED
B	HOUSE UNOCCUPIED - TO BE REMOVED
C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 2A Costs

#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (35 Feet wide, TDG2)	$1,326,200	$34,900	$34,900	$0	$1,396,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
5	Clear Current Property of Structures, Utility Lines	$9,500	$0	$500	$0	$10,000
6	Widen Runway to 75 Feet, Relocate Edge Lighting	$0	$0	$0	$682,000	$682,000
7	Improve Runway and Taxiway Safety Areas (TDG2)	$0	$0	$0	$47,000	$47,000
	Total:	$2,596,950	$66,350	$74,200	$729,000	$3,466,500

LEGEND

- PROPERTY LINE
- RPZ — RUNWAY PROTECTION ZONE
- RSA — RUNWAY SAFETY AREA
- ROFA — RUNWAY OBJECT FREE AREA
- RUNWAY APPROACH SURFACE
- FUTURE APPROACH SURFACE
- RPZ — FUTURE RUNWAY PROTECTION ZONE
- RSA — FUTURE RUNWAY SAFETY AREA
- ROFA — FUTURE RUNWAY OBJECT FREE AREA

Source: J-U-B

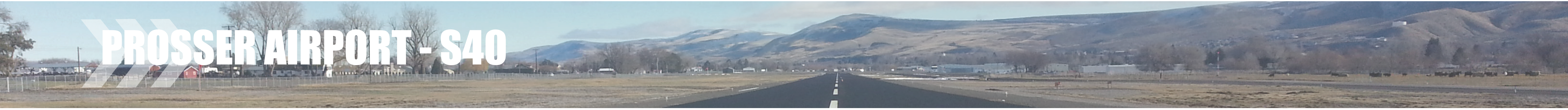
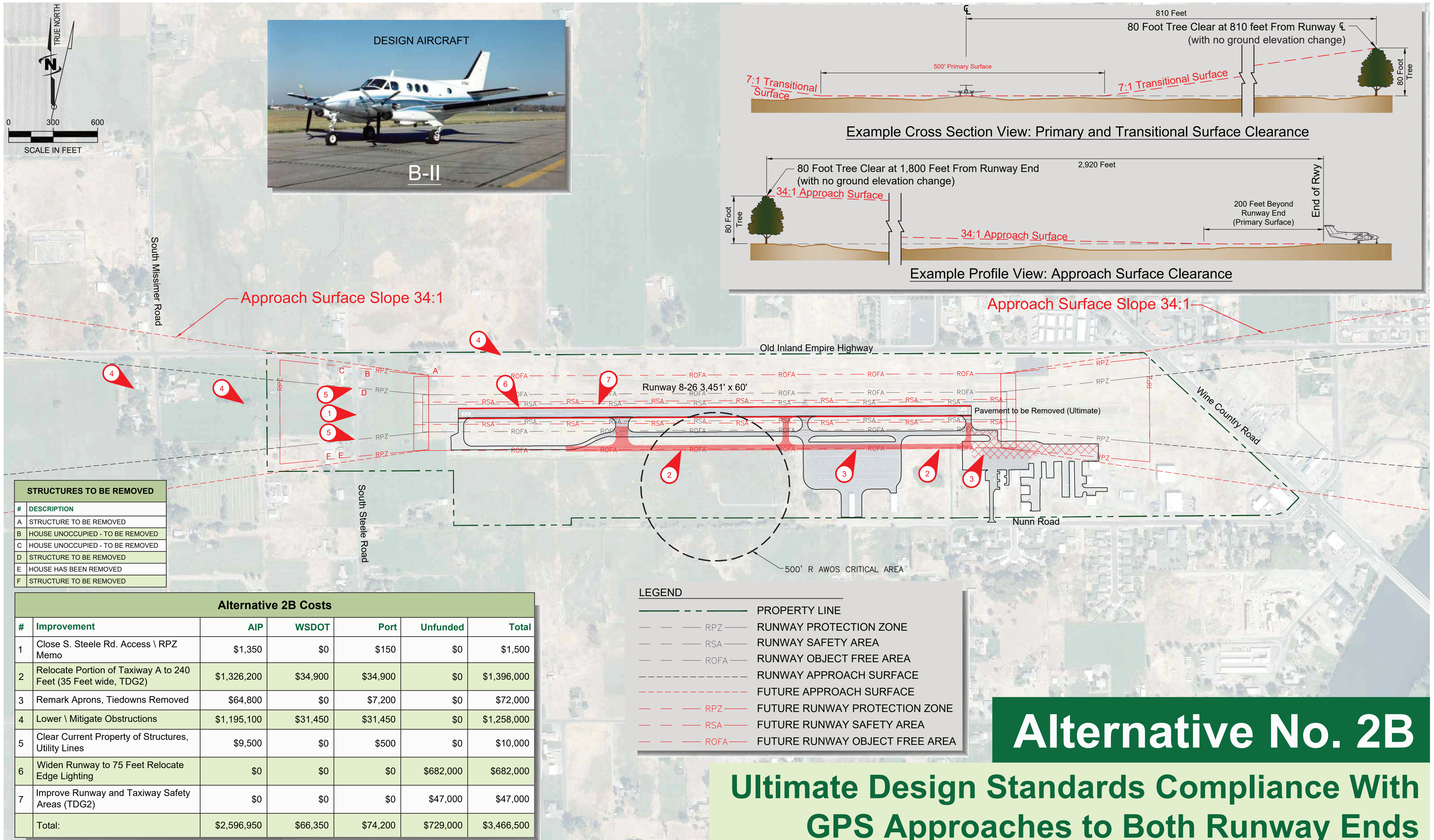


FIGURE 5.5
ALTERNATIVE NO. 2B



STRUCTURES TO BE REMOVED

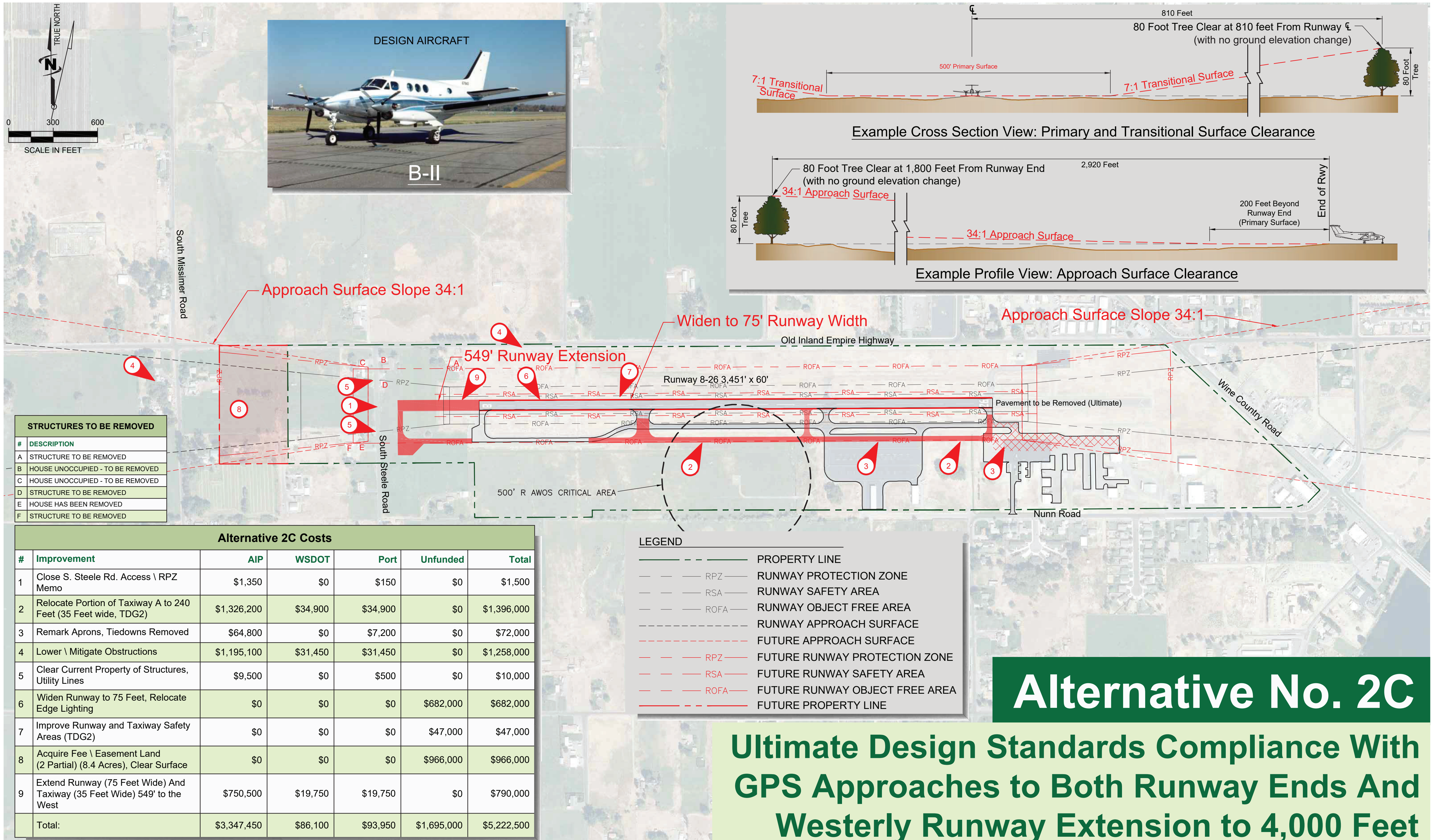
#	DESCRIPTION
A	STRUCTURE TO BE REMOVED
B	HOUSE UNOCCUPIED - TO BE REMOVED
C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 2B Costs

#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (35 Feet wide, TDG2)	$1,326,200	$34,900	$34,900	$0	$1,396,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
5	Clear Current Property of Structures, Utility Lines	$9,500	$0	$500	$0	$10,000
6	Widen Runway to 75 Feet Relocate Edge Lighting	$0	$0	$0	$682,000	$682,000
7	Improve Runway and Taxiway Safety Areas (TDG2)	$0	$0	$0	$47,000	$47,000
	Total:	$2,596,950	$66,350	$74,200	$729,000	$3,466,500

Source: J-U-B

FIGURE 5.6
ALTERNATIVE NO. 2C



STRUCTURES TO BE REMOVED

#	DESCRIPTION
A	STRUCTURE TO BE REMOVED
B	HOUSE UNOCCUPIED - TO BE REMOVED
C	HOUSE UNOCCUPIED - TO BE REMOVED
D	STRUCTURE TO BE REMOVED
E	HOUSE HAS BEEN REMOVED
F	STRUCTURE TO BE REMOVED

Alternative 2C Costs

#	Improvement	AIP	WSDOT	Port	Unfunded	Total
1	Close S. Steele Rd. Access \ RPZ Memo	$1,350	$0	$150	$0	$1,500
2	Relocate Portion of Taxiway A to 240 Feet (35 Feet wide, TDG2)	$1,326,200	$34,900	$34,900	$0	$1,396,000
3	Remark Aprons, Tiedowns Removed	$64,800	$0	$7,200	$0	$72,000
4	Lower \ Mitigate Obstructions	$1,195,100	$31,450	$31,450	$0	$1,258,000
5	Clear Current Property of Structures, Utility Lines	$9,500	$0	$500	$0	$10,000
6	Widen Runway to 75 Feet, Relocate Edge Lighting	$0	$0	$0	$682,000	$682,000
7	Improve Runway and Taxiway Safety Areas (TDG2)	$0	$0	$0	$47,000	$47,000
8	Acquire Fee \ Easement Land (2 Partial) (8.4 Acres), Clear Surface	$0	$0	$0	$966,000	$966,000
9	Extend Runway (75 Feet Wide) And Taxiway (35 Feet Wide) 549' to the West	$750,500	$19,750	$19,750	$0	$790,000
	Total:	$3,347,450	$86,100	$93,950	$1,695,000	$5,222,500

Alternative No. 2C

Ultimate Design Standards Compliance With GPS Approaches to Both Runway Ends And Westerly Runway Extension to 4,000 Feet

Source: J-U-B

5.8 ALTERNATIVE NO. 5 SERIES: LANDSIDE DEVELOPMENT

The alternatives analysis now shifts to accommodation of future hangars, apron, aviation businesses while also considering auto access and generalized landside configurations.

Development areas for aviation and non-aviation purposes are planned for each alternative.

Examples of compatible on–airport and off-airport aviation-related land uses include:

1. General Aviation Terminal/Ramp
2. Corporate Aviation Terminal/Ramp
3. Air Cargo
4. Aircraft Maintenance and Support
5. Aircraft Rescue and Structural Firefighting
6. On-Field Agricultural/Agricultural Lease
7. Aviation-Related Light Industrial
    a. Parts Manufacturing and Assembly
    b. Flight Simulator
    c. Defense Contractor
    d. Aerial Photography/Photogrammetry
    e. Aerial Spray
8. Fixed Base Operation (FBO)
    a. Aircraft Charter, Storage, Sales
    b. Aircraft Repair and Wash
    c. Pilot Supplies
    d. Pilot Lounge, Flight Planning
    e. Flight Training
    f. Food Services/Catering
    g. Office/Overnight Accommodations
    h. Restrooms
9. Aircraft Storage
    a. T-hangar
    b. Executive Hangar
    c. Mixed-Use Hangar
    d. T-Shade
10. US Government
    a. Military
    b. Air Traffic Control
    c. Navigational Aids
    d. Homeland Security
    e. Public Safety and Emergency Facilities
    f. Weather Collection and Dissemination
    g. Satellite Communications

Examples of non-aviation related land uses which are generally compatible off-airport, and at a distance from the airport vicinity include:

1. Postal Annex
2. Telecommunications Facilities
3. Greenhouses
4. Auto Mall/Large-Scale Retail
5. Rental Car Ready Return/Storage
6. Auto/Boat Storage and Mini-Storage
7. Light and Heavy Manufacturing
8. Warehousing/Storage
9. Data Storage
10. Recreational; Fields and Golf Course
11. Hotel/Motel
12. Support/Regional Businesses including Bank, Convenience, Restaurant, Coffee/Snack

Two development areas are considered. These are around the main apron and around the east apron. Planned development around the east apron has been considered in the past and is, for the most part, set with an in-fill of hangars to maximize the area of development.

Although the 20-year period of this planning is the primary focus with respect limits of time for planned development, FAA permits project documents and generalized planning and discussion to cover up to 50 year's worth development. In short, landside facilities to accommodate more demand than anticipated in the forecasting portion of this planning will be shown. Specific aims for landside configuration planning include:

1. Plan land uses and propose facilities which will meet anticipated demand, and which will also allow for continued demand accommodation in case regional economic activity is more robust than anticipated.
2. Plan land uses and propose facility locations which will allow the Airport to continue its financial self-sufficiency.

There are two configurations. With respect to the main apron are, the first configuration is geared towards more ground-leased box hangars and the second is more towards ground-leased T-hangars. Two refinements of these configurations, the 'B' depictions show airspace

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clearance and setback for GPS approach procedures. This setback is here considered to visualize the on-the-ground impacts from protecting for the ultimate design standards with the GPS instrument approach as shown in Alternatives 2B and 2C.

The Runway 26 RPZ and FAR Part 77 Approach Surfaces are shown. The 'A' Configuration shown standards and setback for continued visual operation while the 'B' Configurations show standard and setback for the ultimate design standards with the GPS instrument approach.

The Automated Weather Observing System (AWOS) wind sensor is should remain clear of building or other objects which could interfere with weather recording. A curved 500-foot line demarks east of the main apron shows an approximation of a no build zone. Moving this unit is not currently FAA-eligible and would be at a 100 percent cost to the Port.

The Non-Aviation Industrial Area to the east of the development areas is Port of Benton property not associated with the Prosser Airport.

The numerals "1" and "2" are found on various taxilanes, these indicate the design group for which the taxiway is able to accommodate, given building proxmities.

Brief descriptions of the each of the configuration and refinements follows.

5.8.1 LANDSIDE CONFIGURATION NO. 1A: SETBACK FOR VISUAL OPERATIONS

Landside Configuration No. 1A shows the first landside configuration with the following in the Terminal Area:

1. In-fill box hangar development area around the east apron development area
2. Two larger hangar for business operations, potentially an FBO or two
3. Helicopter operations and parking areas adjacent to the main apron
4. Access to the planned box hangar development area adjacent to the Non-Aviation Industrial Area is limited
5. New access roads from Nunn Road for T-hangar development

5.8.2 LANDSIDE CONFIGURATION NO. 1B: SETBACK FOR GPS APPROACH

Landside Configuration No. 1B shows the second landside configuration and includes the following development within the Terminal Area:

1. In-fill box hangar development area around the east apron development area. Hangar access for those adjacent to the Non-Aviation Industrial Area must be not be north to connect to apron. Aircraft must access the airfield between the two existing hangars with a Group I separation. This is because of the GPS Approach surface and RPZ proximity which is enlarged from the visual setback. As a consequence, hangar development should be planned with hangar doors less than 49 feet wide.
2. Similarly, the east apron must either be closed, or marked as non-movement area due to the proximity of the setback.
3. Chapter 3 of this document, the forecasting efforts anticipates more based helicopter and helicopter operations. The southern-most main apron is tie-down becomes helicopter parking.
4. New access roads from Nunn Road for hangar development near the Non-Aviation Industrial area and the Main Apron.
5. This configuration, like the prior does not show T-hangars for aircraft storage facilities. Box hangars are a good choice if space is not constrained and user preference is for larger, individual storage spaces. Box hangars are a less efficient use of ground, as compared to T-hangars, and return less money in the long-term.

5.8.3 LANDSIDE CONFIGURATION NO. 2A: SETBACK FOR VISUAL OPERATIONS

Landside Configuration No. 2A shows the third landside configuration with the following in the Terminal Area:

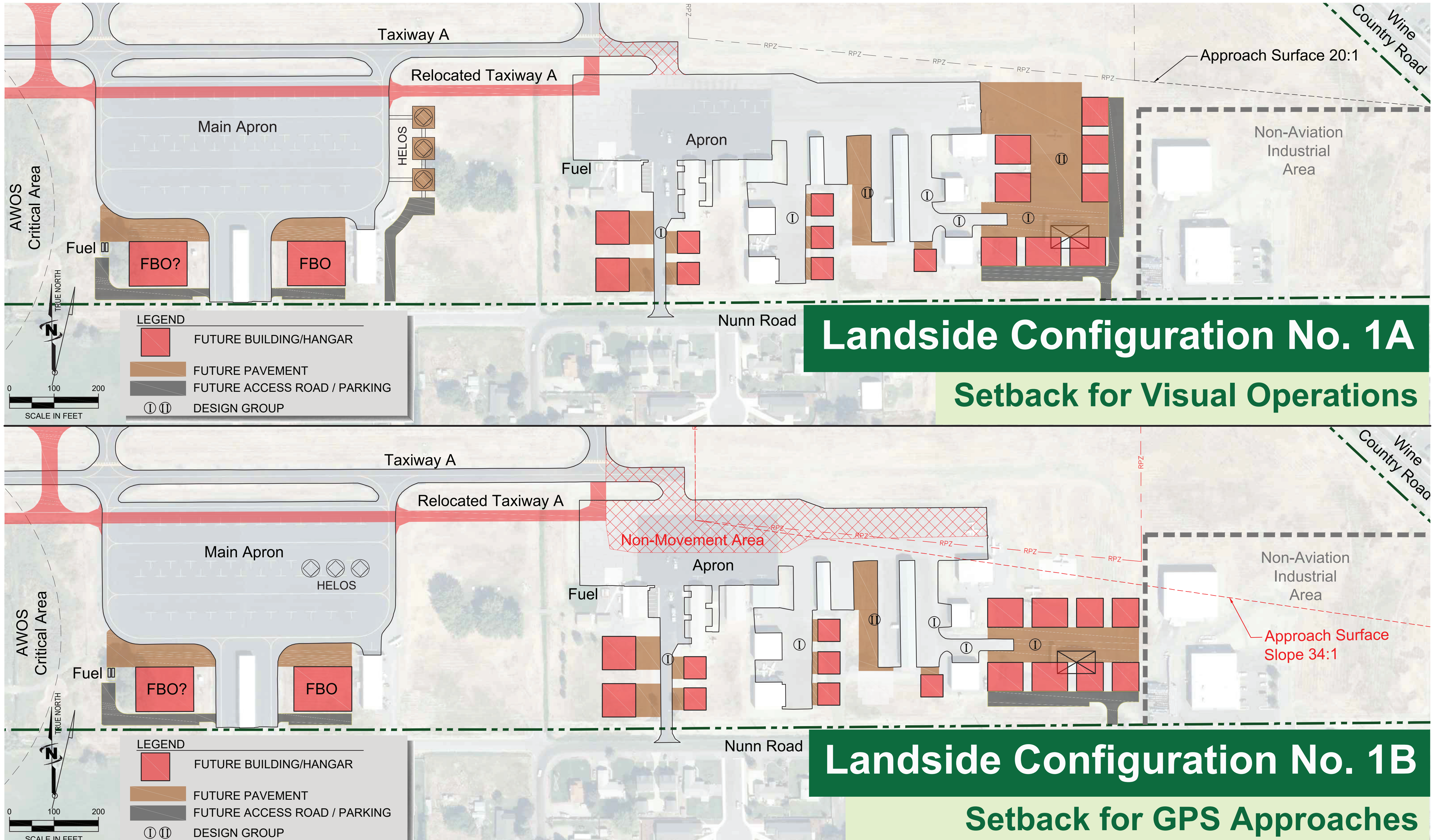
1. In-fill box hangar development area around the east apron development area
2. Large-scale T-hangar development south and adjacent to the main apron
3. Helicopter operations and parking areas adjacent to the main apron
4. Access to the planned box hangar development area adjacent to the Non-Aviation Industrial Area is limited
5. New access roads from Nunn Road for T-hangar development
6. It is important to note that development for the last all alternatives could perhaps occur in phased manner over a 20-year period

5.8.4 LANDSIDE CONFIGURATION NO. 2B: SETBACK FOR GPS APPROACH

Landside Configuration No. 2B shows the final landside configuration and includes the following development within the Terminal Area:

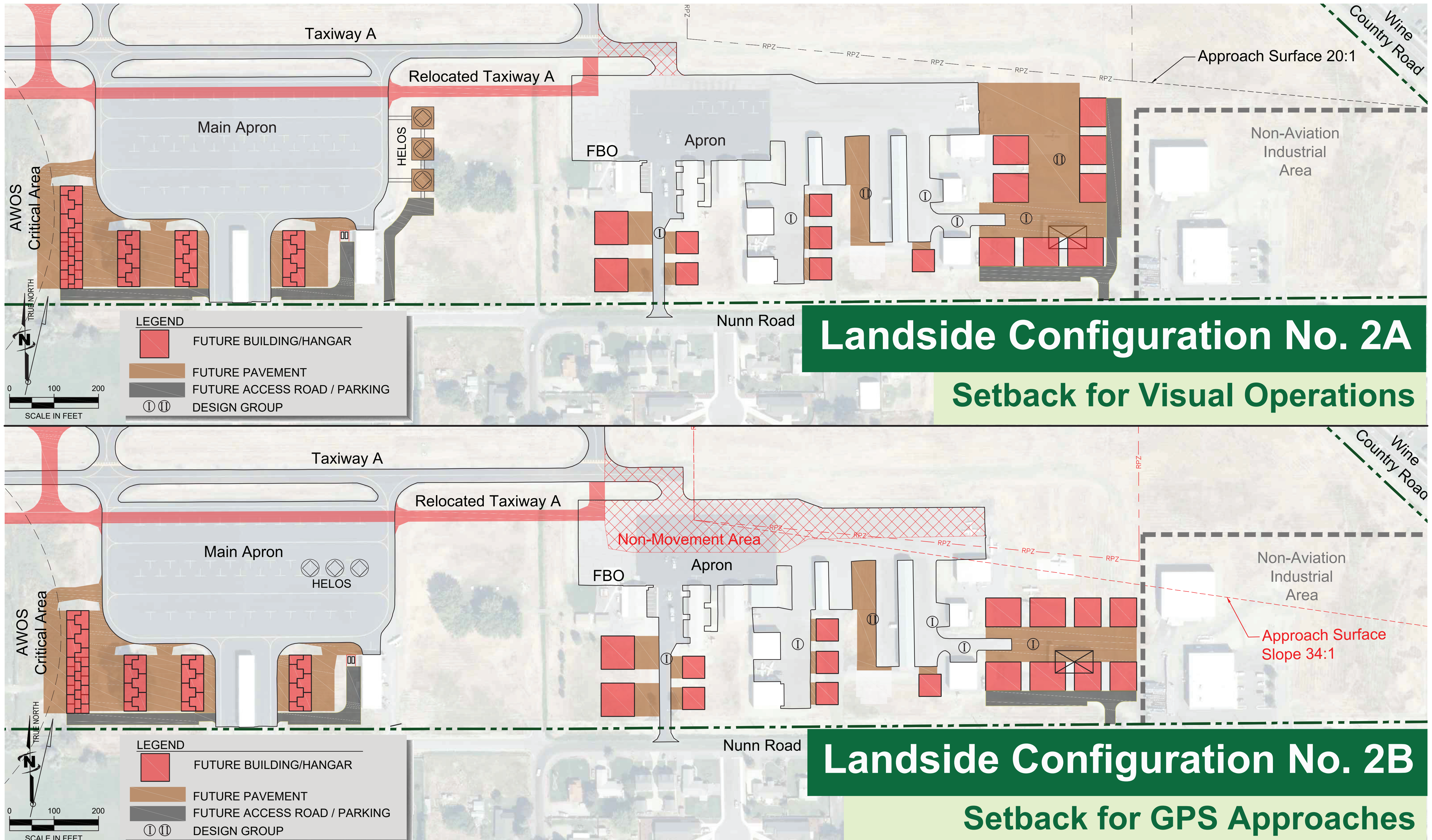
1. In-fill box hangar development area around the east apron development area. Hangar access for those adjacent to the Non-Aviation Industrial Area must be not be north to connect to apron. Aircraft must access the airfield between the two existing hangars with a Group I separation. This is because of the GPS Approach setback. As a consequence, hangar development should be planned with hangar doors less than 49 feet wide.
2. Similarly, the east apron must either be closed, or marked as non-movement area due to the proximity of the setback.
3. The southern-most main apron is tie-down becomes helicopter parking.
4. New access roads from Nunn Road for T-hangar development.
5. This configuration, like the prior shows T-hangars and the primary aircraft storage facilities on the main apron. T-hangars are a good choice if space is constrained and user preference is for smaller, individual storage spaces, as opposed to multiple aircraft in the same space. T-hangar are a more efficient use of ground, are generally more expensive to build with larger upfront costs and generally return more revenue to owner in the longer-term.

FIGURE 5.7
ALTERNATIVE NO. 3A



Source: J-U-B

FIGURE 5.8
ALTERNATIVE NO. 4A



Source: J-U-B

5.9 SUMMARY

Overall, a selected course of action for the future represents the formulation of a development policy as much as the process of concept selection. Pursuant to the objectives identified in the introductory portion of this planning, scenarios will be evaluated based upon the following criteria:

1. Safety
2. 'Upfront' Costs
3. Ongoing Costs
4. Airspace Design
5. Off-Site Impacts
6. Environmental
7. Flexibility and Expandability
8. Revenue Generation
9. Opportunities for Private Investment
10. Industrial/Business Park Development

Port selection of an alternative, a configuration, or a combination thereof could be the basis for an updated Airport Layout Plan within the overall master planning context.

Important to note at this point is that selection of an alternative or configuration does not necessarily mean it will happen just as envisioned. The intent is to visualize and create a 20-year 'road' map.

The map then becomes a plan, and plans may change. The functional result of this type of airport planning, in many instances, is an expectation of change. Or more to the point, a plan which has remained unchanged over a given 10-year period has perhaps not been responsive to 10 years' worth of community or economic growth.

Also important to note is that the Port may update the Airport Layout Plan at any time, but FAA currently funds a more comprehensive Airport Master Plan Update every 10 years or so.

Federal and state funding decisions for improvement for the Prosser Airport are not made exclusively based upon analyses herein or a Port decision as part of this planning.

Funding decisions are made during the annual Capital Improvement Plan (CIP) process, with WSDOT Aeronautics with FAA as a close, active participant. Generally, for federal-funding participation, a given improvement or series of, must (this list is not exhaustive):

1. Be found on the approved Airport Layout Plan; that is, officially identified by the Port,
2. Be eligible, justified, reasonable and a priority for federal funds, per FAA advisory circular or supplemental guidance,
3. Have an environmental determination pursuant to NEPA, and
4. Be funded, in an increasingly competitive general aviation funding environment.

More about these prerequisites is covered in the next chapter.

Prior to evaluation a bit of clarification for, and description of each evaluation criteria, is perhaps helpful.

1. Safety in this context refers to design standards compliance and the ability to effectively provide obstruction disposition.
2. 'Upfront' Cost is referencing estimated costs to construct. These are found on each alternative.
3. On-going Costs are those recurring costs, such as preventive pavements maintenance designed to lengthen lifespan.
4. Airspace design relates to the ability of the Prosser Airport to operate without limitation and constraint from an airspace perspective.
5. Off-Site Impacts estimates the impacts of land acquisitions, overflights of adjacent or nearby areas and obstruction lowering.
6. Environmental estimates to the extent of the Prosser Airport's impact of the local environment with respect to NEPA impact categories.
7. Flexibility and expandability relates to the ability of an alternative or configuration to accommodate various types of aviation activity seamlessly as the 20-year planning period progresses. Also, the ability of the Prosser Airport to operate without limitation and constraint is considered.
8. Revenue generation is the ability of the Prosser Airport to maximize its value for the Port and be financially self-sufficient.
9. Opportunities for private investment is the extent to which users or aviation businesses find opportunities to conduct business via ground leasing or via on-airport accommodations.
10. Industrial/Business Park Development refers to the ability of an alternative or configuration to accommodate existing and planned on-airport and off-airport aviation and non-aviation development.

Importantly, as can perhaps be seen this evaluation is (1) subjective and (2) not weighted. Port staff and leadership prerogative along with TAC perspectives and desires will ultimately instruct future development.

The next few subsections discuss each evaluation criteria for the alternatives/configurations.

Safety
Each alternative is crafted to be design standards compliant with relative ease of obstruction disposition. All alternatives and configurations are weighted equally as a consequence. This is the most important criteria for evaluation.

'Upfront' Costs
Alternatives are considered more responsive with lower costs. Upfront planning-level cost estimates are shown on each alternative's exhibit. As can be seen, the 1B and 1C, and the 2B and 2C alternatives are more costly than the 1A and 2A Alternatives. Thus, they are less responsive for this criterion.

On-Going Costs
Alternatives are considered more responsive with lower longer-term costs. The results here are similar to the 'upfront' costs criterion because future costs will be relatively larger as future facilities are constructed. In short, more pavements equals more pavements maintenance.

Airspace Design and Considerations
Each alternative is crafted to be airspace standards-compliant with planned obstruction disposition. It is important to note that obstructions exist now, and will be created with all of the runway extension-related alternatives. Obstructions will be disposed of via lowering or lighting per FAA guidance. All alternatives are considered equal as a consequence, except the alternatives with GPS Approaches. These alternatives more meaningfully allow aircraft operation during periods of inclement weather and as a result make the airport more available to the flying public, especially to the business and charter flyer.

Off-Site Impacts
The alternatives which specify land acquisition associated with a runway extension and GPS instrument approaches are considered less responsive as they impact off-site.

Environmental
Upon Port staff review of Working Paper No. 2, environmental coordination will be completed. Coordination involves sending this chapter to select jurisdictional governmental agencies which may wish comment, not limited to state and federal agencies and Benton County. Known issues for consideration include proximity of homes and business near the runway ends and known environmental issues on aviation-related property planned for hangar development near the east apron. This area, known at the 'Bonney Building', or the 'Milne Fruit Products Hagarty' formally, is an older building on obligated airport property which is begin monitored. This building formerly housed an aerial applicator aviation business. Wells were sunk to monitor pollutant levels, and monitoring continues in pursuit of FAA grant assurance compliance and hazardous waste and water quality impact categories. This facility is reporting every two years to the Environmental Protection Agency (EPA), via the Biennial Reporting (BR), used to inform the Resource Conservation and Recovery Act (RCRA) Hazardous Waste Report.

Flexibility and Expandability
This section and the next are somewhat related. Development depicted for configurations can, and is planned to be phased over time. Configurations are considered equal except the 'B' configurations, which show a constrained landside environment due to the necessary GPS Approach airspace clearances necessary for design standards compliance. Regardless, all configurations are made to accommodate forecast demand and to be as flexible as the airspace constraint will allow.

Configurations 2A and 2B show T-hangar development which is a more efficient use of space with more aircraft storage in a given area. These configurations are more responsive if the desire is to accommodate a larger number of based or itinerant aircraft than forecast/anticipated.

Revenue Generation
Financial self-sufficiency is a matter for grant assurance compliance and is foundational to this planning effort. It is for this reason that demand accommodation is considered in various forms for the short and long-term.

Hangar ground lease revenue is sometimes a large component of revenue for a given general aviation airport. Future hangar construction can either be funded by the Port or by ground leasing. Configurations 2A and 2B shows T-hangar development potentially funded by the Port, and other configurations show ground-leased box hangar development by others. Upfront costs for ground leasing are relatively small while the long-term return is less, while the reverse is generally true for Box or T-hangars build by the Port.

With respect to airside improvements, revenue will increase with a larger, more business aircraft capable airfield as envisioned with Alternative No. 2A, 2B and 2C.

Opportunities for Private Investment
On-Airport ground leasing is a common practice at the Prosser Airport and may be an important part of its future. Additional land acquisition for hangar development is not necessary as the current land envelope is sufficient to accommodate forecast demand. The primary difference between the alternatives is a more constrained landside for GPS Approach clearances or a the ability

to accommodate more based aircraft with T-hangar construction.

Industrial/Business Park Development
The current Non-Aviation Industrial Area is maintained for all configurations. Configurations are deemed equally responsive in this regard.

Beyond this, no aviation or non-aviation industrial park is planned. The development envelope, found between the AWOS critical area and the Non-Aviation Industrial Area is entirely visualized on exhibits for each configuration. Aviation-related development, specifically, hangars, aprons, and taxilanes fill the envelope.

5.10 TAC AND PORT PREROGATIVE

Information in this chapter will be coordinated with the TAC and open house will be held for user consideration. Following these consultations, a second meeting with the Port was held to solicit direction and selection for the future of the airport. This meeting will include constituent feedback from the open house and staff recommendation.

Discussion thus far in the planning process has focused on selecting Alternative No. 1A, and perhaps 1C after an exploration of the impacts. Discussion has also focused on protecting for Alternatives No. 2C as perhaps an ultimate development, recognizing that federal grant-in-aid funding is not currently available for most of the items in this alternative. This financial constraint is defining given the amount of development dollars.

Protecting the airfield for ultimate development as visualized for Alternatives 2A, 2B and 2C clearly have direct impacts to properties near runway ends and the landside. The trade-off between protecting for the larger, faster and heavier business aircraft and their potential economic impact for the community and the on-the-ground consequences of that protection will be discussed in the sponsor consultations, Port staff briefings and before the Port Commission.

6.0 INTRODUCTION

Capital improvements and preventive maintenance at the Prosser Airport are scheduled for three successive time periods: Phase I: 2019–2023; Phase II: 2024–2028; and Phase III: 2029–2038. The following sections describe and depict the various improvements, by phase, along with an estimated cost for each item. Development items are shown on three exhibits within the text. The recommended phasing is not set in stone and changes in aviation demand, the Port's perspective, grant funding or area economics may alter proposed improvement timing or composition.

Estimates were developed using historical year (2017) costs. Each figure represents an estimate of total project cost. Estimates include construction, engineering, administration, testing, surveying, and legal expenses. It should be noted that these estimates are order of magnitude accurate for planning purposes, based upon area bid tabulations. A 25% contingency amount is added to anticipate unforeseen circumstances. This approach reduces the chance of budget surprises when a more detailed investigation and design is initiated. Cost estimates should be reviewed and updated as necessary to account for technological improvements, changes in the economy, future construction innovations, and/or changes in local conditions.

These costs constitute an unconstrained, yet reasonable, estimate of future airport needs.

The exhibit tables identify FAA, State, Port and other funding participation.

The Airport Improvement Program, Non-Primary Entitlement (AIP NPE) columns approximate the current FAA entitlement funding for the Prosser Airport of up to $150,000 annually. The Port of Benton, as sponsor of the Prosser Airport is assigned this entitlement funding given the activity levels at the Airport and its participation in FAA's National Plan of Integrated Airport Systems (NPIAS). These dollars are 90% grant funding.

The FAA Unfunded columns on the Intermediate and Long-Term Exhibits shows the desired level of capital improvement and necessary funding for the unconstrained demand identified by the planning process thus far. The planning process has revealed the sponsor's desire for capital improvements beyond that which can be accommodated by current FAA entitlement funding for the Prosser Airport. The purpose of this column is to identify unconstrained capital improvements and funding while highlighting that these improvements exceed the permitted $150,000 annual entitlement.

Other FAA grant funds are available, primarily from two sources within AIP funding formulae: FAA State Apportionment (SA) and FAA Discretionary. FAA SA grant funds are those funds assigned to the state for general aviation airports according to a priority ranking. The National Priority Ranking (NPR) methodology assigns value to airports based upon activity and type of capital improvement. Projects are assigned to this column if they exceed the $150,000 annual entitlement, and/or they are not (perhaps yet) eligible for FAA funds based upon FAA guidance activity threshold guidance (as an example).

The Washington State Department of Transportation (WSDOT), offers a partial grant program, often used to supplement and match FAA funding, generally 2.5 to 5 percent. WSDOT grant funding has a similar priority ranking mechanism for project evaluation. WSDOT requires the airport sponsor to match the remaining 5 percent for a total project funding; thus, FAA may provide 90 percent, WSDOT provides 5 percent and the final 5 percent of typical capital improvement project funding comes from Port of Benton funds.

The Port participation column may be revenues that originate from the operation of the Airport or from general funds. This column identifies the above 5 percent matching funds or public funds for larger, generally revenue producing capital improvements that do not meaningfully compete for FAA or WSDOT grant dollars.

Finally, the Other column identifies capital improvement projects, generally aircraft storage facilities, that are constructed with private funds and are often for a private or business use. This includes general aviation or corporate hangar development, along with aviation business, aviation companies or individuals that wish to make an investment in the airport. These types of developments are generally not eligible for FAA or WSDOT funding.

6.1 SHORT-TERM IMPROVEMENTS

During this phase, several minor development and improvement items are planned to provide for safe and efficient airport operations and to allow for planned development. The Short-Term Improvements will be roughly in line with the current Airport Capital Improvement Plan (ACIP). The following descriptions accompany the exhibit on upcoming pages.

1. **2019; East End Hangar Taxilane (Design/ Bidding)**

   Up front facilities for demand accommodation is the first project envisioned for the master plan. Immediate tenancy and ground leasing is expected for four (4) new hangars along the east end taxiway. Two (2) of these hangar need to

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access the airfield with TDG1a standards with hangar door width not greater than 49’.

2. **2020 NPE Funds Carry**

3. **2020; Remove Lower Trees Underlying 20:1 Runway 8 Approach; Off-Airport**

   Port staff has been working with adjacent property owners for several years to bring this portion of land adjacent to the airport into design standards compliance. This tree lowering activity is a continuation of that work.

4. **2020; Lower Powerlines Along Old Inland Empire Highway**

   Overhead utility lines are found adjacent to obligated airport property on the north side of the field, within the Old Inland Empire (OIE) Highway Right-of-Way. These poles represent a minimal penetration of the FAR Part 77 Transition Surface. Lowering in place is preferable, but at a minimum installation of red solar-lit obstruction lighting for each pole as the planned obstruction disposition. The Port of Benton has been working with the City of Prosser for future lowering of these power lines. The City of Prosser recently requested a utility easement as a first step. The Port will continue to work with the City.

5. **2020; Improve Pilot Lounge in Existing FBO Hangar on East Apron**

   The current pilot lounge has aged past its useful life and facilities are not adequate for the level of customer service required by the Port. This project considers expanding the existing pilot lounge reception area for the traveling public while the terminal relocation for the primary facility is being planned.

6. **2021; East End Hangar Taxilane (Construction Only)**

   Up front facilities for demand accommodation is the first project envisioned for the master plan and the sixth for actual construction.

7. **2022; Lower/Replace Trees Between Aprons**

   Trees along the flight line between the aprons have become an obstruction to FAR Part 77 7:1 airspace for both the current visual operating environment and the proposed helipads. These trees should be lowered or removed and replacement trees should be planted farther away from the runway. Tree species should be selected that have limited overall growth heights, so as to not become an obstruction in the future. This would also prepare the area for the next planned capital improvement project.

8. **2022; Construct Helipads (2), Access Road and Airfield Pavement Rehab, Crack Seal/Fog Seal (Design Only)**

   Desire has been expressed by planning project stakeholders to make a formal area for helicopter operations. The forecasting conducted for this planning anticipates more robust helicopter activity, for both permanently based and itinerant helicopters. Collocation of fixed-wing and rotary aircraft has proven problematic at other airports and these types of craft are best segregated. Given the relatively large costs to relocate the terminal function and the uncertainty of the actual timing of the move, helipads are planned for the area between the two aprons. This permits ease of access regardless of terminal function location. Gated pedestrian and auto access to the helipads is adjacent to but does not interfere with fixed-wing activity on the main apron. Auto/user access to this area from Nunn Road outside any apron Object Free Areas to Nunn Road is planned.

   A recent review of the airport’s existing pavement conditions reveals the slurry seal and seal coating work performed in 2015 is holding up well. Based on a typical lifespan of 7-10 years for a slurry seal, the field is due for pavement maintenance at this time. This project will involve crack sealing all pavements, with a slurry seal of Runway 8/26, seal coating of all taxiways, taxilanes, and aprons, and new pavement markings.

9. **2023; Construct Helipads (2), Access Road and Airfield Pavement Rehab, Crack Seal/Fog Seal (Bidding and Construction)**

   The previous year’s project goes from design to bidding and construction in this year.

10. **2023; Airport Business Plan**

    WSDOT recently (2017) promulgated its updated Airport System Plan Update. One of the new requirements is for creation of a formal airport business plan.

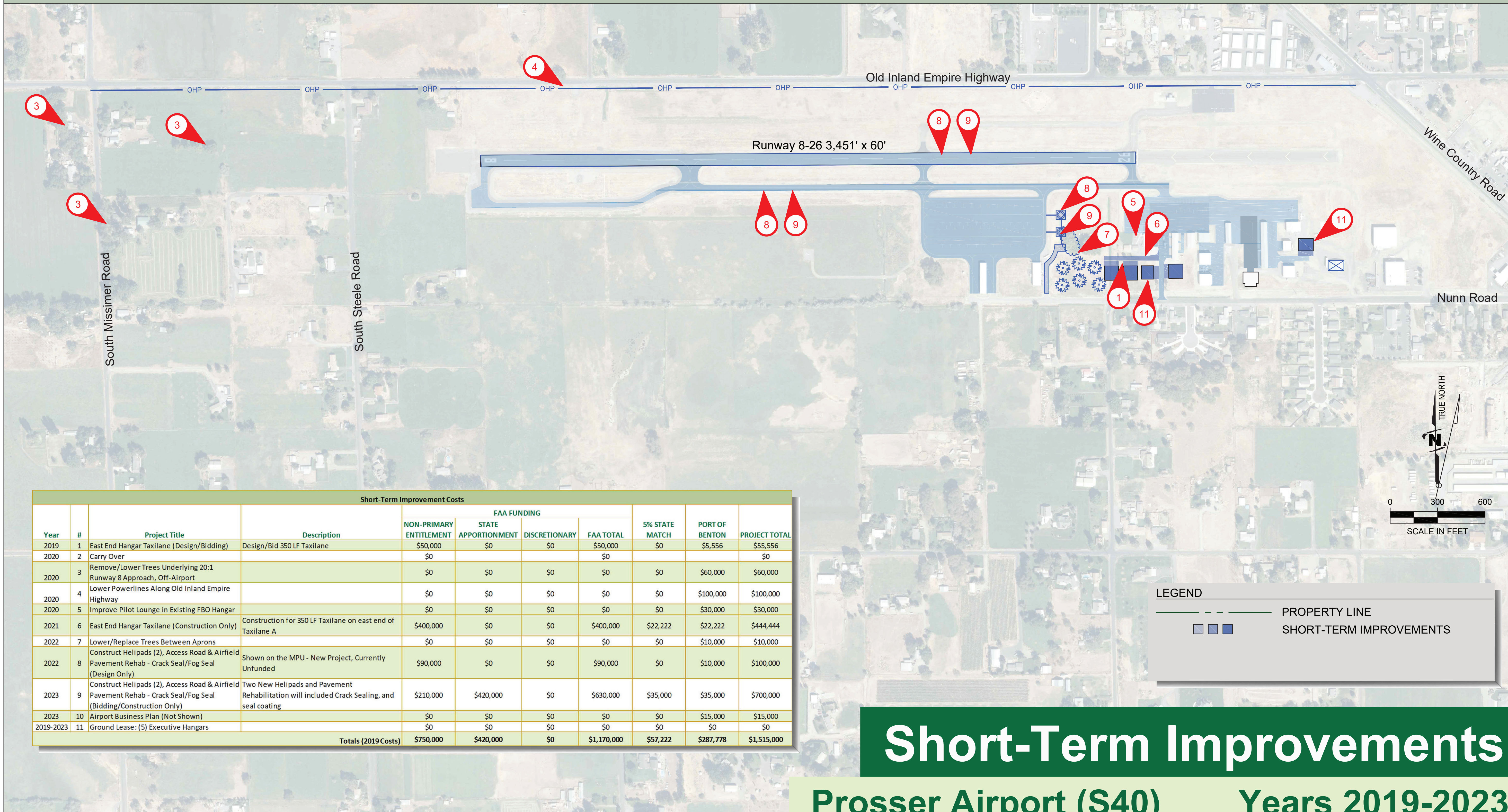
11. **2018-2023; Ground Lease: (5) Executive Hangars**

    Desire has also been expressed by planning project stakeholders to make areas available for executive (box) hangar ground leasing. A few different sites around the east apron hangar area are available and identified for leasing should demand materialize. It is unknown when a specific lessor will materialize, so the 5-year range is specified, with the ability to accommodate during any given year. Note that the eastern-most location is outside the Bonnie Hangar area of environmental concern.

Figure 6-1; Short-Term Improvements (2019-2023) depicts items numerically tabulated and referenced in plan view, totaling:

FAA NPE:	$750,000
FAA Unfunded:	$420,800
WSDOT:	$57,222
Port:	$287,778
Totals	**$1,515,000**

FIGURE 6-1
SHORT-TERM IMPROVEMENTS



Short-Term Improvement Costs

Year	#	Project Title	Description	FAA FUNDING: NON-PRIMARY ENTITLEMENT	FAA FUNDING: STATE APPORTIONMENT	FAA FUNDING: DISCRETIONARY	FAA FUNDING: FAA TOTAL	5% STATE MATCH	PORT OF BENTON	PROJECT TOTAL
2019	1	East End Hangar Taxilane (Design/Bidding)	Design/Bid 350 LF Taxilane	$50,000	$0	$0	$50,000	$0	$5,556	$55,556
2020	2	Carry Over		$0			$0			$0
2020	3	Remove/Lower Trees Underlying 20:1 Runway 8 Approach, Off-Airport		$0	$0	$0	$0	$0	$60,000	$60,000
2020	4	Lower Powerlines Along Old Inland Empire Highway		$0	$0	$0	$0	$0	$100,000	$100,000
2020	5	Improve Pilot Lounge in Existing FBO Hangar		$0	$0	$0	$0	$0	$30,000	$30,000
2021	6	East End Hangar Taxilane (Construction Only)	Construction for 350 LF Taxilane on east end of Taxilane A	$400,000	$0	$0	$400,000	$22,222	$22,222	$444,444
2022	7	Lower/Replace Trees Between Aprons		$0	$0	$0	$0	$0	$10,000	$10,000
2022	8	Construct Helipads (2), Access Road & Airfield Pavement Rehab - Crack Seal/Fog Seal (Design Only)	Shown on the MPU - New Project, Currently Unfunded	$90,000	$0	$0	$90,000	$0	$10,000	$100,000
2023	9	Construct Helipads (2), Access Road & Airfield Pavement Rehab - Crack Seal/Fog Seal (Bidding/Construction Only)	Two New Helipads and Pavement Rehabilitation will included Crack Sealing, and seal coating	$210,000	$420,000	$0	$630,000	$35,000	$35,000	$700,000
2023	10	Airport Business Plan (Not Shown)		$0	$0	$0	$0	$0	$15,000	$15,000
2019-2023	11	Ground Lease: (5) Executive Hangars		$0	$0	$0	$0	$0	$0	$0
			Totals (2019 Costs)	**$750,000**	**$420,000**	**$0**	**$1,170,000**	**$57,222**	**$287,778**	**$1,515,000**

Source: J-U-B

6.2 INTERMEDIATE-TERM IMPROVEMENTS

During this intermediate, phase the focus shifts to more substantial capital improvements for airfield improvements to accommodate FAA standards for a planned instrument approach procedure, including with apron/hangar changes and possible terminal relocation.

The following descriptions accompany the tables and the exhibits on upcoming pages.

1. **2024-2028; Ground Lease: Lots for Executive Hangars**

   Desire has been expressed by planning project stakeholders to make an area available for executive (box) hangar ground leasing. A few different sites around the east apron hangar area are available, and identified for leasing should demand materialize. It is unknown when a specific lessor will materialize, so the 5-year range of years is specified, with the ability to accommodate during any given year. A final fourth ground lease spot for a much larger (up to 120 feet by 150 feet) would also available on the main apron. Environmental concerns associated with this project are likely to be minimal as the proposed actions would take place in areas on the Airport property that are adjacent to existing Airport development. Some of this work will need to be done in conjunction with Project #12.

2. **2024; Environmental Assessment of Intermediate Projects for Instrument Approach**

   Each capital improvement on the airfield, regardless of FAA/WSDOT financial participation, requires an environmental evaluation and clearance. This project considers clearance for all the projects necessary for design standards compliance for a straight-in instrument approach to any runway end. Given that the majority of the project improvements that will be evaluated in this EA would occur on Airport property in previously developed or disturbed areas, potential environmental impacts are likely to be minimal. Resources of concern that will be evaluated during the environmental assessment include hazardous materials, noise, sensitive species and visual impacts, among others. The environmental documentation process will be coordinated with and overseen by FAA to meet the requirements of the FAA AIP eligibility and grant funding.

3. **2024; T- Hangar (6-Units) East Side and Adjacent Pavements (Design/Construction)**

   Desire has been expressed by planning project stakeholders to make an area available for T-Hangar ground leasing. This is one of two sites for T- Hangar development. Some of this work will need to be done in conjunction with Project #12.

4. **2025; Borrow Ahead From EA in 2024**

5. **2024; Improve Nunn Road, Curb/Gutter Beyond Main Apron, Extend Utilities to GA Terminal Area**

   This landside project is a next step in a sequence of projects to ready the airport for the IAP and the relocated terminal area. This portion of Nunn Road has steep sides down to the ditches, is narrower than the remainder of road, and is a different service level. Given that utilities would then be in place, improved auto access to the main apron follows, then building an access construction.

   While the planned IAP will permit the Prosser Airport to more meaningfully participate in the national and regional airspace and airport systems, and will allow the flying public access to the Airport during some periods of inclement weather, there are some notable on the ground consequences of this action. With the IAP, the FAR Part 77 Primary Surface would widen from 250 feet to 500 feet in total width. The FAR Part 77 7:1 Transitional Surface would emanate from the widened edges of the Primary Surface. On the ground design to clear obstructions (including parked aircraft) for this new IAP airspace should be completed. In order to clear parked aircraft tail heights on the eastern apron with the planned IAP airspace, the entirety of the eastern apron would become unusable to parked aircraft. Thus, (1) design and planning must accommodate parked aircraft on the main apron and (2) consequently, the terminal function should be relocated to the main apron given the lack of future activity.

   The first step to relocation is readying the new terminal apron location. Two sites naturally accommodate a future terminal area and front the main apron. However, neither site currently has access to utilities. Extension of sub-surface utilities is the first of a few actions required to move the terminal function to a more operationally-effective location.

6. **2024; Construct GA Terminal Access/Parking/ Fencing, Apron Expansion**

   The planning process reveals that the business community continues to see an influx of visitors related to the ever-increasing wine and fruit market. Tasting rooms and well-appointed facilities await these consumers throughout the immediate Prosser area. Feedback from the planning project stakeholders has revealed that the airport could fill an important role, given that it is the front door to the area for the flying public. Current reception facilities for the airport visitors were deemed inadequate for this purpose. This capital improvement will build the access road and auto parking, finish perimeter/security fencing to improve the GA terminal facility. Environmental resource concerns for this project are likely to be minimal given the existing built environment of the project area and the adjacent Airport development.

7. **2024; Construct GA/FBO Terminal on Main Apron, Relocate Fuel**

Planned terminal facilities include well-appointed, non-wildlife attractant landscaping (per FAA guidance), with meeting rooms, pilot facilities and lease area within. It is possible that these can coexist with a traditional 80 foot by 100 foot hangar as is depicted on the exhibit. But, this is not prerequisite. This decision, which will be made at the time, is primarily centered around the fact that a well-heeled visitor will likely wish to park her multi-million dollar aircraft in a close-by hangar. Future airspace constraints required a redesign of aircraft parking. In order to maintain the appropriate number of parking spots the Apron needs to be expanded toward the West. Relocated self-fueling facilities, dispensing both piston and turbine fuels are planned near the terminal area with a fueling island on the apron. The relocation of the fueling system will require an environmental evaluation of hazardous materials concerns including potential soil contamination and cleanup associated with the existing system and containment/spill prevention requirements associated with the relocated system.

8. **2024; Install New Beacon, Vault/Regulator/ Generator**

Many airfield electronic components have a useful service life of approximately 20 years. The current electrical vault is near the east apron and will be relocated with the terminal facilities. At this time, this equipment will have aged long past its useful service life and replacement should be considered, regardless. The airport currently does not have an emergency backup generator, and one should be acquired. Environmental considerations for this project will include an evaluation of the consumption of natural resources and new energy requirements associated with the proposed project.

9. **2024; Modification to Former GA Terminal Facilities/ Hangar Leases in Place.**

Given that the east apron will become unusable when the IAP and terminal facilities are relocated, there is little reason to keep the current terminal facilities, and this spot could be used for ground leasing. Executive (box) hangars could be sited in this area to generate both lease and fuel revenues. These facilities could front the apron, but might be better site in alignment with the other two planned hangars along the adjacent taxilane. Optionally the buildings could be reconfigured to access from the South and East side. A terminal or FBO could then operate out of this area. Noting that it would be with limited apron space.

10. **2025; Relocate Taxiway A for 240-Feet with MITL, New A4 Connector, Hold Bay, Mark East Apron**

The westerly portion of the airfield features a runway-to-taxiway separation of 240 feet. This separation is in compliance with a B-II Non-Precision design standard. Forecasting for this planning revealed that this more demanding design standard is not currently FAA AIP eligible, but is desired by the airport sponsor. This capital improvement project, currently AIP unfunded, aims to continue the phased relocation to 240 feet. This first phase relocates Taxiway A from a 150-foot separation to a 240-foot separation from the western edge of the main apron to the 240-foot offset pavements. The current aligned connector taxiway access from the main apron across Taxiway A to the runway is disposed of with a new taxiway connector location. These relocated pavements are planned to be equipped with blue Medium Intensity Taxiway Lighting (MITL).

The second and final phase relocates Taxiway A from a 150-foot separation to a 240-foot separation from the western edge of the main apron to the 240-foot offset pavements. The current beyond end connector taxiway access from the main apron across Taxiway A to the runway is disposed of with a new taxiway connector location at the runway end. These relocated taxiway pavements are planned to be equipped with blue Medium Intensity Taxiway Lighting (MITL).

Improved surface grades are steep from the runway down to the apron and the current terminal building, and engineering design for this improvement may modify that shown in this planning. It is important to keep taxiway access from the east apron hangars to the Runway 26 end no more than 2 percent. Finally, the main apron tie-down row nearest to the runway will be lost due to airspace proximity. The need to accommodate aircraft larger than Group I (up to 49-foot wingspans) suggests that a wholesale apron redesign for marking should be made. Environmental considerations associated with the relocation of Taxiway A would include an evaluation of visual impacts, ground disturbance impacts and associated construction impacts. There are currently no known sensitive resources in the area.

11. **2025; Publish Straight-In RNAV GPS Approach Procedures to Runway 8 and 26 ends**

    A large amount of prerequisite capital improvements have been completed at this time in the planning to allow the appropriate on-the-ground design standards compliance and close-in obstruction disposition. The IAP then permits a more flexible and responsive operating environment for the flying public, while maintaining the prerequisite safe environment for aircraft operating in some inclement weather.

12. **2026; Construct Taxilane for East Side T-Hangar/Hangar Area**

    FAA makes AIP funding available for common-use taxilanes. In order to access additional lease area in the long-term, a 25-wide taxilane for Group I aircraft access is planned. Construction of the taxilane is likely to result in minimal environmental impacts as there are no known sensitive resources in the general project area.

13. **2027; Relocate North-Side Hangar to East Apron Area**

    To minimize runway crossing in an uncontrolled (air traffic control tower) FAA discourages design which provides access from both sides of a runway for many general aviation airports. The current north side of the airport is minimally used, and is planned for closure. One hangar remains on this side of the field and should be relocated to main hangar area. This would happen at lease renewal or when instructed by FAA. Environmental considerations for this project are anticipated to be minimal given that there are no known sensitive resources in or adjacent to the area and the project is consistent with the adjacent built environment.

14. **2028; Pavement Maintenance: Main Apron/ Taxilane on East Apron, Runway, Parallel/ Connectors**

    This project is a recurring pavement preventive maintenance item needed to extend the useful airfield pavement life. Airfield pavements are the most expensive to fix given their size. Crack sealing will help prevent subsurface water infiltration and surface sealing will help offset life-shortening oxidation of the surface. Environmental impacts are typically minimal for maintenance projects.

Figure 6-2; Intermediate-Term Improvements (2024-2028) depicts these items numerically-tabulated and referenced in plan view, totaling:

FAA NPE:	$1,050,000
FAA Unfunded:	$4,101,900
WSDOT:	$276,217
Port:	$1,843,217
Totals	**$7,271,334**

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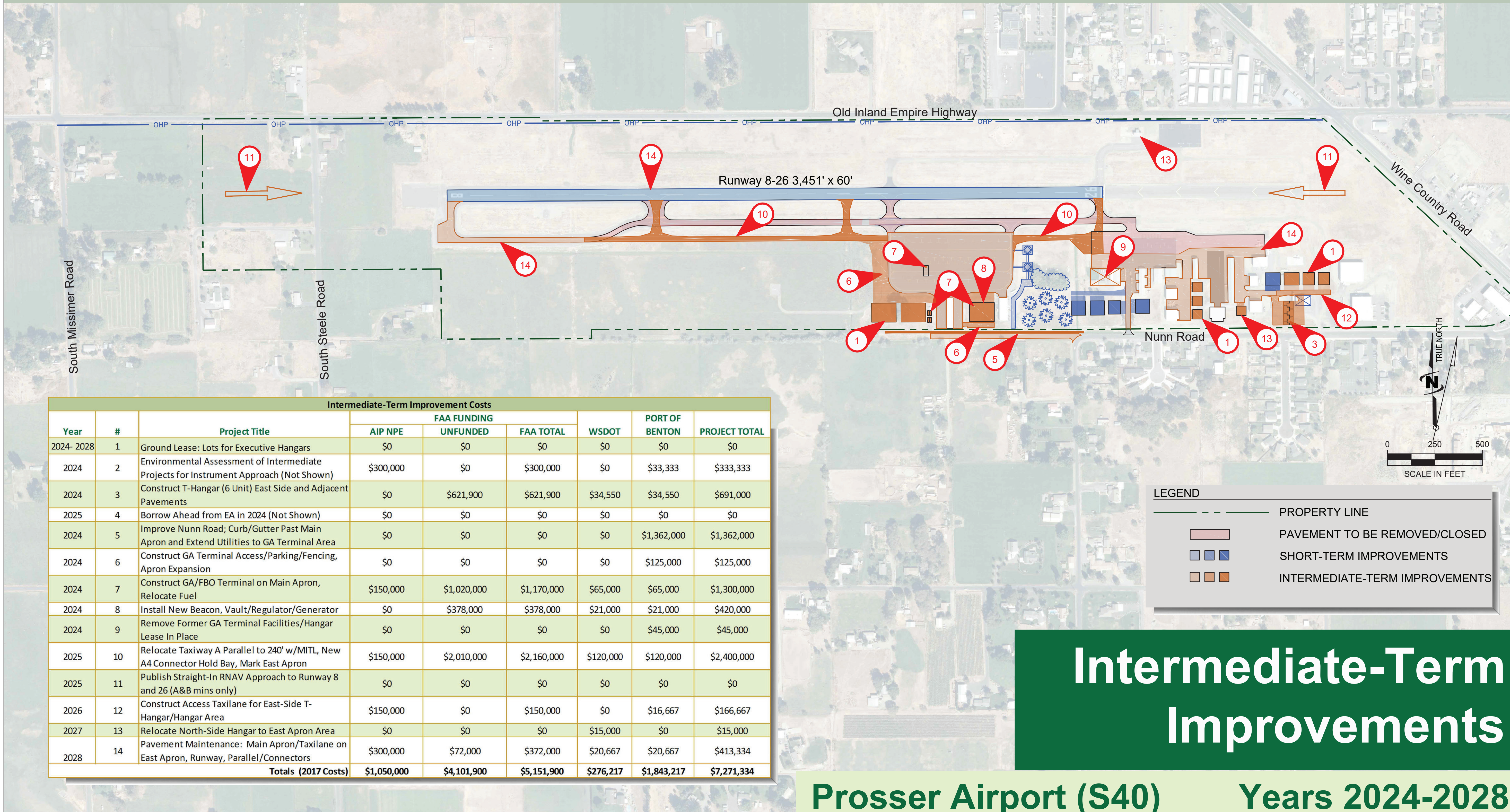
Chapter 6 Phased Development and Cost Estimates
Chapter 7 Airport Layout Plan and Drawings

FIGURE 6-2
INTERMEDIATE-TERM IMPROVEMENTS



Intermediate-Term Improvement Costs

Year	#	Project Title	FAA FUNDING AIP NPE	FAA FUNDING UNFUNDED	FAA FUNDING FAA TOTAL	WSDOT	PORT OF BENTON	PROJECT TOTAL
2024- 2028	1	Ground Lease: Lots for Executive Hangars	$0	$0	$0	$0	$0	$0
2024	2	Environmental Assessment of Intermediate Projects for Instrument Approach (Not Shown)	$300,000	$0	$300,000	$0	$33,333	$333,333
2024	3	Construct T-Hangar (6 Unit) East Side and Adjacent Pavements	$0	$621,900	$621,900	$34,550	$34,550	$691,000
2025	4	Borrow Ahead from EA in 2024 (Not Shown)	$0	$0	$0	$0	$0	$0
2024	5	Improve Nunn Road; Curb/Gutter Past Main Apron and Extend Utilities to GA Terminal Area	$0	$0	$0	$0	$1,362,000	$1,362,000
2024	6	Construct GA Terminal Access/Parking/Fencing, Apron Expansion	$0	$0	$0	$0	$125,000	$125,000
2024	7	Construct GA/FBO Terminal on Main Apron, Relocate Fuel	$150,000	$1,020,000	$1,170,000	$65,000	$65,000	$1,300,000
2024	8	Install New Beacon, Vault/Regulator/Generator	$0	$378,000	$378,000	$21,000	$21,000	$420,000
2024	9	Remove Former GA Terminal Facilities/Hangar Lease In Place	$0	$0	$0	$0	$45,000	$45,000
2025	10	Relocate Taxiway A Parallel to 240' w/MITL, New A4 Connector Hold Bay, Mark East Apron	$150,000	$2,010,000	$2,160,000	$120,000	$120,000	$2,400,000
2025	11	Publish Straight-In RNAV Approach to Runway 8 and 26 (A&B mins only)	$0	$0	$0	$0	$0	$0
2026	12	Construct Access Taxilane for East-Side T-Hangar/Hangar Area	$150,000	$0	$150,000	$0	$16,667	$166,667
2027	13	Relocate North-Side Hangar to East Apron Area	$0	$0	$0	$15,000	$0	$15,000
2028	14	Pavement Maintenance: Main Apron/Taxilane on East Apron, Runway, Parallel/Connectors	$300,000	$72,000	$372,000	$20,667	$20,667	$413,334
		Totals (2017 Costs)	**$1,050,000**	**$4,101,900**	**$5,151,900**	**$276,217**	**$1,843,217**	**$7,271,334**

Source: J-U-B

6.3 LONG-TERM IMPROVEMENTS

During this long-term phase the focus is initially on a B-II standards compliance along with a westerly runway extension provided B-II is justified. Preventive maintenance is also woven through the final 10 years of the plan.

The following descriptions accompany the tables and the exhibits on upcoming pages.

1. **2029-2038; Ground Lease: Lots for Executive Hangars**

   Desire has also been expressed by planning project stakeholders to make an area available for executive (box) hangar ground leasing. A few final spots around the east apron hangar area are available, and identified for leasing should demand materialize in this final term. All lots are on property currently occupied by the Bonnie building. Since the proposed project is consistent with adjacent development and the project area has been previously disturbed there would likely be minimal environmental impacts.

2. **2029; Update Airport Master Plan**

   This master plan should be updated every so often. FAA makes AIP funds available every 10 years or so to update.

3. **2030; Environmental Assessment; RDC B-II/ TDG 1B with Westerly Runway Extension**

   An Environmental Assessment would be completed to address a runway extension and upgrade of the existing facility to Runway Design Code (RDC) B-II. The Master Plan Update would demonstrate the need through existing and forecasted operations for the change in RDC. While the forecasting for this planning did not demonstrate that a threshold number (500 annual) of demanding aircraft operations are occurring to warrant FAA AIP eligibility for Runway Design Code (RDC) B-II Non-Precision standards, the airport sponsor has made it clear that planning to that end should be done regardless. Port staff has been instructed to document aircraft operators in upcoming years to evaluate if they arrive at the 500 mark, as activity is expected to increase. There are several steps and a series of capital improvement necessary for airport-wide design standards compliance and for a westerly runway extension. The Environmental Assessment would address resource impacts from the complete series of improvements that would be associated with the change to RDC B-II.

4. **2031; RDC B-II/TDG 1B with Westerly Runway Extension; Phase I; Design, Land, Fence, Obstructions**

   This first phase of the overall project is in some ways the preparatory work, prior to the runway and taxiway construction that will define the extension and design standards upgrade.

   4a) Overall design should be done for all related improvements to consider upfront impacts.

   4b) Fee land (or a to-the-ground easement, at a minimum) for Future Runway 8 Protection Zone (RPZ) properties should be acquired via the Uniform Act. This area approximates 8.4 acres and includes the entire future RPZ.

   4c) New perimeter fence should surround the acquired properties and the remainder of properties not an already equipped with an 8' tall chainlike fence.

   4d) Lower trees in runway ends area for the close-in FAR Part 77 34:1 Instrument Approach Surface. This surface is shallower and wider than the existing surface.

   Environmental concerns associated with this project will be addressed in the 2030 EA.

5. **2032; RDC B-II/TDG 1B with Westerly Runway Extension; Phase II; Paving, Marking, Lights, Landing Aids**

   This second and final phase of the overall project is where the final plan takes shape with paving and finishing touches.

   5a) Runway 8-26 pavements may have reached the end of their useful life and reconstruction may be necessary. It would be valuable to address this pavement's condition at this point, within this overall project to minimize the number of closures and for best bid dollars. Similarly, the Runway's Medium Intensity Runway Lighting (MIRL) System will be reaching is useful life end. This project could be completed concurrently with the next project.

   5b) A 549-foot runway and parallel taxiway extension is planned to accommodate some aircraft during periods of hot weather and high density altitude, and/or with larger aircraft and robust payloads. Non-Eligibility (FAA AIP $) for the runway extension is much like that of that of the B-II design standards. Neither is currently eligible, but the Port will be monitoring and documenting activity as the time moves and demand grows.

   5c) With the new runway and taxiway configurations, some airfield wide changes will be necessary. The Runway 8 end PAPI and REIL systems will require relocation/ replacement, hold line signage panel replacement will be necessary, and a supplemental Runway 8 wind cone should be provided.

5d) The IAP will need to be updated, landing aids flight checked, and Airport Geographic Information System (AGIS) survey completed to update FAA's databases.

Environmental concerns associated with this project will be addressed in the 2030 EA.

6. **2034; Reconstruct Portion of Main Apron for Strength, Rehabilitate Remainder**

A sufficient number of peak period aircraft operation cycles on the apron pavements is anticipated in the long-term to bring a premature end to the pavement life. A portion of this apron should be reconstructed with hardstands to minimize damage and the remainder of the apron should have a crack seal and seal coat with a re-marking. This rehabilitation project is likely to have minimal impacts to the environmental resources.

7. **2035; Preventive Maintenance; Main Apron, East Apron Taxiway, Runway and Parallel Connectors**

This project is a recurring pavement preventive maintenance item needed to extend the useful airfield pavement life. Airfield pavements are the most expensive to fix given their size. Crack sealing with help prevent subsurface water infiltration and surface sealing with help life-shortening oxidation of the surface. Maintenance projects such as this one typically have limited environmental concerns.

8. **2036; Construct Helipads (4) and Access Road**

The forecasting done for this planning anticipates more robust helicopter activity, for both permanently based, and for helicopters that come and go. Four additional helipads are planned for the area between the two aprons. This permits ease of access regardless of terminal function location. The environmental evaluation for this project will include an assessment of noise impacts. Environmental concerns are likely to be limited given the location of the proposed project.

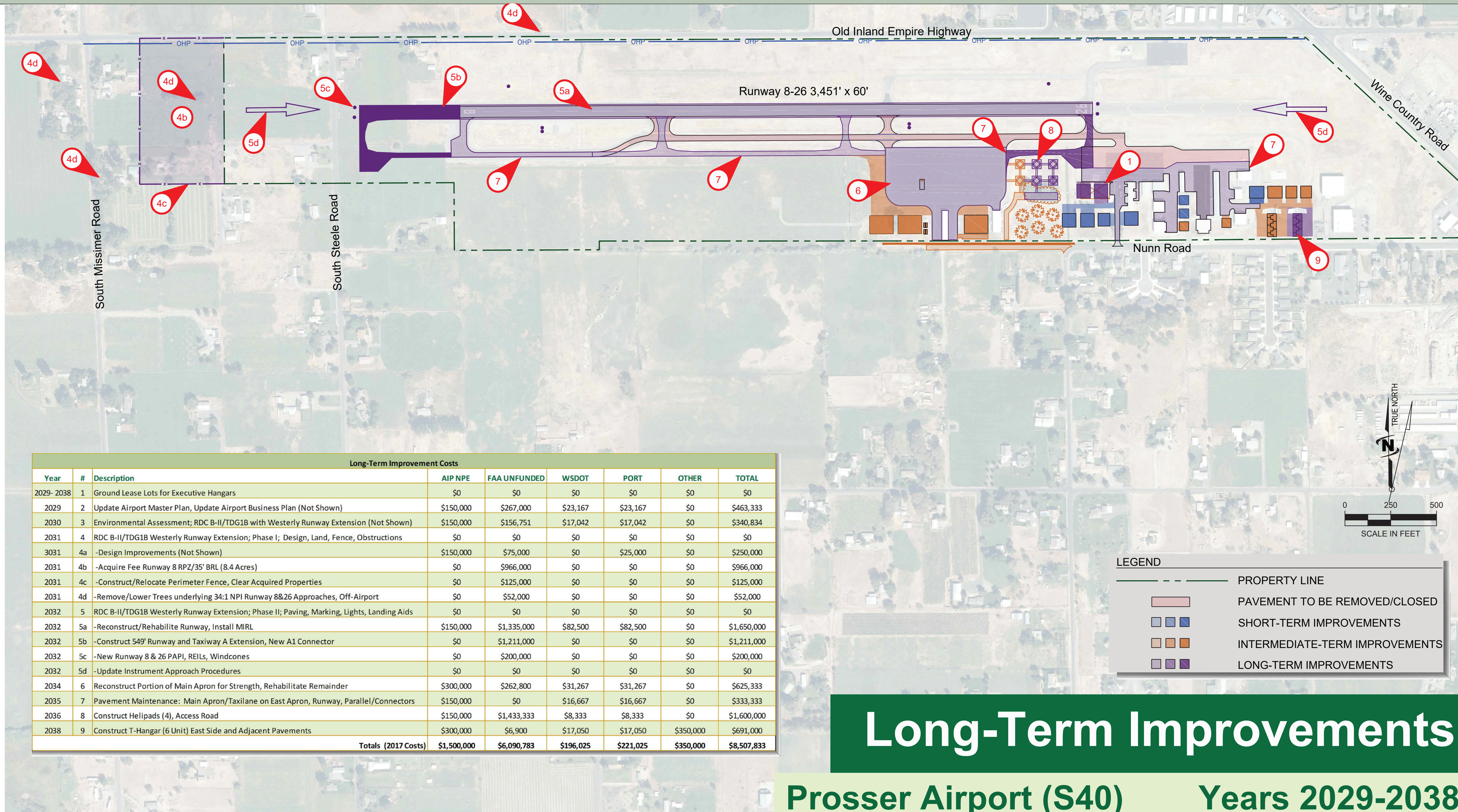
9. **2038; Construct T-Hangar (6-Unit) East Side and Adjacent Pavements**

Desire has been expressed by planning project stakeholders to make an area available for T-Hangar ground leasing. With the Bonney Building environmental mitigation complete, this second and final spot for a T-Hangar area is available to Group I (Up to 49-foot wingspans only) access. Environmental concerns in this area should be limited due to the environmental mitigation that is currently required for the area.

Figure 6-3; Long-Term Improvements (2029-2038) depicts these items numerically-tabulated and referenced in plan view, totaling:

FAA NPE:	$1,500,000
FAA Unfunded:	$6,090,783
WSDOT:	$196,025
Port:	$221,025
Others:	$350,000
Totals	**$8,507,833**

FIGURE 6-3
LONG-TERM IMPROVEMENTS



Long-Term Improvement Costs

Year	#	Description	AIP NPE	FAA UNFUNDED	WSDOT	PORT	OTHER	TOTAL
2029- 2038	1	Ground Lease Lots for Executive Hangars	$0	$0	$0	$0	$0	$0
2029	2	Update Airport Master Plan, Update Airport Business Plan (Not Shown)	$150,000	$267,000	$23,167	$23,167	$0	$463,333
2030	3	Environmental Assessment; RDC B-II/TDG1B with Westerly Runway Extension (Not Shown)	$150,000	$156,751	$17,042	$17,042	$0	$340,834
2031	4	RDC B-II/TDG1B Westerly Runway Extension; Phase I; Design, Land, Fence, Obstructions	$0	$0	$0	$0	$0	$0
3031	4a	-Design Improvements (Not Shown)	$150,000	$75,000	$0	$25,000	$0	$250,000
2031	4b	-Acquire Fee Runway 8 RPZ/35' BRL (8.4 Acres)	$0	$966,000	$0	$0	$0	$966,000
2031	4c	-Construct/Relocate Perimeter Fence, Clear Acquired Properties	$0	$125,000	$0	$0	$0	$125,000
2031	4d	-Remove/Lower Trees underlying 34:1 NPI Runway 8&26 Approaches, Off-Airport	$0	$52,000	$0	$0	$0	$52,000
2032	5	RDC B-II/TDG1B Westerly Runway Extension; Phase II; Paving, Marking, Lights, Landing Aids	$0	$0	$0	$0	$0	$0
2032	5a	-Reconstruct/Rehabilite Runway, Install MIRL	$150,000	$1,335,000	$82,500	$82,500	$0	$1,650,000
2032	5b	-Construct 549' Runway and Taxiway A Extension, New A1 Connector	$0	$1,211,000	$0	$0	$0	$1,211,000
2032	5c	-New Runway 8 & 26 PAPI, REILs, Windcones	$0	$200,000	$0	$0	$0	$200,000
2032	5d	-Update Instrument Approach Procedures	$0	$0	$0	$0	$0	$0
2034	6	Reconstruct Portion of Main Apron for Strength, Rehabilitate Remainder	$300,000	$262,800	$31,267	$31,267	$0	$625,333
2035	7	Pavement Maintenance: Main Apron/Taxilane on East Apron, Runway, Parallel/Connectors	$150,000	$0	$16,667	$16,667	$0	$333,333
2036	8	Construct Helipads (4), Access Road	$150,000	$1,433,333	$8,333	$8,333	$0	$1,600,000
2038	9	Construct T-Hangar (6 Unit) East Side and Adjacent Pavements	$300,000	$6,900	$17,050	$17,050	$350,000	$691,000
		Totals (2017 Costs)	**$1,500,000**	**$6,090,783**	**$196,025**	**$221,025**	**$350,000**	**$8,507,833**

Source: J-U-B

6.4 ENVIRONMENTAL SUMMARY

The proposed project improvements at the Airport are described in detail in Sections 6.1 (Short Term), 6.2 (Intermediate Term), and 6.3 (Long Term) Projects and constitute the work anticipated as a result of the master planning and public involvement process. The short term improvements primarily include preventive maintenance projects while intermediate and long term improvements are geared more toward standards compliance and satisfying future demand.

Short Term Improvements - The short term projects, also referred to as the Preferred Alternative, are anticipated to occur from 2019 to 2025 and include:

- **Extend the East End Hangar Taxilane –** This project would consist of an approximately 350-foot taxilane extension for future hangars. Two locations are identified on the ALP for the possible taxilane extension. These locations include the far east end adjacent to the Bonney Building which is a Voluntary Cleanup Site for soil contamination and east end area adjacent to the entrance to the Airport behind the existing FBO buildings. Both of these areas are within the airfield area and have been previously disturbed by prior construction and ongoing Airport activities. The preference is to start with the area adjacent to the airport entrance, to allow time for the Bonney Building cleanup to be resolved.
- **Construct Two Helipads and a Helipad Access Road –** This project would consist of the installation of two paved and concreted helipads for helicopter activity away from the other aircraft and buildings. The proposed location for the helipads is presently undeveloped and adjacent to the larger west apron area. A new access road would be constructed from Nunn Road to the helipads. The new access road would be approximately 350 – feet long. Several trees will be relocated and replanted.
- **Airfield Pavement Rehabilitation -** A recent review of the Airport's existing pavement conditions reveal the slurry seal and seal coating work performed in 2015 is holding up well. Based on a typical lifespan of 7-10 years for a slurry seal, the Airport is due for pavement maintenance in 2023. This project would likely involve crack sealing all pavements, with a slurry seal of Runway 8/26, seal coating of all taxiways, taxilanes, and aprons, and new pavement markings.
- **Ground Lease Hangar Development –** As depicted on the ALP, several hangars would be developed in the near term as demand requires. The proposed hangar locations would be within the airfield and within previously disturbed areas.

Based on the scope, breadth and location of the proposed project improvements, the following environmental resource studies are anticipated to be required prior to the implementation of the Preferred Alternative:

- **Biological Evaluation -** A preliminary biological evaluation and site visit indicates that there is no habitat on the Airport for ESA-listed species. The Washington Department of Fish and Wildlife's PHS database identified the Townsend ground squirrel as potentially occurring in the general vicinity. A biological evaluation is recommended prior to the implementation to verify that there is no habitat for sensitive species at the Airport and that there are no changes to ESA species list.
- **Cultural resource survey –** A cultural resource survey for the Runway 7 Realignment Project was conducted in 2006. Since the project areas for the Preferred Alternative extend beyond the area evaluated in the 2006 survey, a cultural resource survey is recommended for the remainder of the Airport property.
- **Hazardous Materials –** There are no known hazardous materials in the proposed project area adjacent to the airport entrance. A review of the Washington State Department of Ecology Facility Site Atlas should be conducted prior to proceeding. In the case of the Bonney Building, the site has been cleaned and monitoring wells established. Once the Department of Ecology clears the site, development can occur.
- **Land Acquisition –** All of the property proposed for development is within the Airport property boundary. There is no additional land acquisition required
- **Visual Resources –** The Preferred Alternative includes the extension of an existing taxilane, and the construction of helipad and access road. The new development, associated lighting and signage should be evaluated for visual resource impacts.
- **Water Resource Assessment –** Although there are no natural waterways, wetlands or other water features on the Airport property, a water resource assessment is recommended to evaluate impacts to the existing stormwater facilities and surface drainage from the Preferred Alternative.

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Chapter 7 Airport Layout Plan and Drawings

- **Construction impact analysis –** Construction activities have the potential to result in temporary impacts to air, noise and water quality. Therefore, construction impacts and mitigation measures, such as Best Management Practices, should be considered prior to the implementation of the Preferred Alternative.

The following resource surveys are not anticipated to be required for the completion of the NEPA requirements associated with the Preferred Alternative:

- **Air Quality Analysis –** Benton County is currently in attainment for all criteria pollutants and GA operations at the Airport are forecasted to remain under the operation threshold for air quality analysis through the year 2035. The proposed improvements are not anticipated to have a long-term impact to air quality. An air quality analysis may be required, however, if Benton County's air quality designation changes.
- **Farmland Analysis –** There are no agricultural activities on the Airport property and the Preferred Alternative would not convert any agricultural land to non-agricultural activities.
- **Land Use Analysis –** A land use analysis for the preferred alternative is accounted for in an upcoming chapter of this Master Plan Update.
- **Environmental Justice Analysis –** Since the Preferred Alternative would take place on existing Airport property, property acquisitions or relocations are within, and are not anticipated to impact health and safety conditions off the Airport an environmental justice analysis would likely not be required.
- **Wetland Delineation –** There are no wetlands or jurisdictional waterways on the Airport.
- **Floodplain Analysis –** The Airport is located outside of the 500-year floodplain and no impacts to floodplain outside of the Airport property is anticipated.
- **Noise Analysis –** The proposed improvements under the Preferred Alternative are not likely to present an impact to surrounding land uses based on the current 65 DNL contour, and therefore a noise analysis would likely not be required.

A preliminary evaluation of the Preferred Alternative for the Short Term improvements indicates that the NEPA requirements for the proposed project actions could likely be addressed under a documented categorical exclusion. However, the required environmental document would be determined by the FAA.

Intermediate Term Improvements: The Intermediate Projects, those improvements that are planned to occur from 2024 to 2028, would not be pursued until completion of the appropriate environmental analysis as dictated by the FAA. In general, the Intermediate Term Projects are associated with the Airport's goal to provide a straight-in instrument GPS approach procedure. In order to accomplish the instrument approach, the Runway Safety Areas would need to be widened to 500 feet. This action would render some of the existing apron paving and facilities unusable in their current location. Given the scope of work and potential resource impacts associated with the intermediate term improvements an Environmental Assessment would likely be necessary prior to the implementation of the Intermediate Term improvements.

Long Term Improvements: The Long Term Improvements, those scheduled to occur in 2029 and beyond, would include the extension of Runway 8-26. The runway extension would likely require the completion of an Environmental Assessment. NEPA requirements for the Long Term Projects would be assessed at a later date

6.5 FINANCIAL

Upon completion of the historical analysis of the Prosser Airport, a financial forecast is prepared. This forecast is developed on a yearly basis for 2019 through 2023. Financial forecasting is the estimation of future revenue and expenses. While historical data and development plans are the best indicators of what these monies might be, future financial performance is affected by many events and outside influences. Some of these include the effects of inflation and major impacts on the region's economy such as changes in the fruit industry or changes in agricultural water rights. As the forecasting horizon moves further out, these outside influences and events compound and often have a more profound effect on the entity's financial performance. Because of these outside influences, forecasts beyond a five-year horizon should be viewed more as an indication than as an estimate.

In preparing the financial forecast for Prosser Airport, potential revenue and expense items were examined for reasonableness. Given the near-term outlook for continued low inflation, projected revenues and expenses were escalated at a modest 2.0% rate. A select financial history for the Port of Benton as it relates to the Prosser Airport is found within Table 6.1 and the 2019-2023 financial forecasts for Prosser Airport are presented in Table 6.2. It assumes that no new key sources of operating revenues will be implemented during this five-year forecast. This is admittedly conservative. Possible

TABLE 6.1 HISTORICAL FINANCIAL DATA; SELECT					
Revenues					
	2013 ($)	**2014 ($)**	**2015 ($)**	**2016 ($)**	**2017 ($)**
Fuel Flowage Fees	$404	$1,462	$720	$623	$667
Port-Owned Hangar Leases	$3,324	$3,324	$3,324	$6,358	$6,358
Ground Leases for private hangars	$9,623	$9,623	$13,016	$18,616	$18,638
Non-Aviation Leases	$170,605	$184,377	$184,377	$193,341	$256,757
Total Revenues	$183,956	$198,786	$201,437	$218,938	$282,420
Expenses					
FBO	$27,500	$30,000	$30,000	$26,700	$30,580
Utilities	$26,761	$29,537	$25,053	$25,242	$34,669
NAVAID inspection/maintenance (AWOS)	$8,885	$4,800	$10,870	$4,344	$6,516
Outside Services (Consulting and Engineering)	$66,131	$47,074	$63,452	$104,957	$65,360
Property Tax	$57	$57	$57	$57	$59
In House Expenses (Salary and Taxes)	$27,317	$28,637	$28,756	$29,750	$30,843
Total Expenses	$156,651	$140,105	$158,188	$191,050	$168,027

Note: Excluding Grants and Projects funded through grants.
Source: Port of Benton

TABLE 6.2 FORECAST FINANCIAL DATA; SELECT					
Revenues					
	2019 ($)	**2020 ($)**	**2021 ($)**	**2022 ($)**	**2023 ($)**
Revenues net Expenses (with 2% Growth)	$116,681	$119,014	$121,395	$123,823	$126,299

sources of additional or new revenues could come from landing fees, revisions to the fuel flowage fees, an increase in fuel sales, or the addition of a new business or hangars. However, the Airport must judge the potential profitability of such changes, given corresponding costs for collection and administration.

It is projected that the actual revenue from aviation activities for Prosser Airport will increase and average $6,000 per year over the next 5 years in terms of actual cash flow for projects. The airport by itself, operates in the black without the transfer of funds from a Port General Fund. This revenue stream does not account for the typical 5% match needed for the annual non-primary entitlement funding of $150,000 from the FAA. Each year, depending upon the funding streams obtained for projects, additional funds are may be needed for projects, typically coming from the transfer from the Port's General Fund.

These itemized projects may be funded, in part, through grants with 90% participation by FAA. Grant funds depend upon authorization of the FAA's AIP program by Congress each year and the funding is not 100% guaranteed. This financial forecast shows that Prosser Airport will continue to operate in the black over the next five years without outside funding support from the Port's general fund for grant matches and other operating expenses. Re-evaluation and increase of rates to fair market value when leases come due for renewal could help offset the Airport's reliance on the Port's general fund.

Finally, any forecast has unforeseen elements; unexpected expenditures may arise. The uncertainty associated with a new AIP program should also be expected. Should federal grant monies diminish, certain capital improvements may have to be funded from other sources.

6.6 SUMMARY

Project Costs planned for the 20-year term total: $19,201,945 as shown in the tables below.

A good portion of funds for improvements are currently identified as Unfunded. The reason for this identification is that financial plans must, per FAA, remain financially constrained until such time as funding is programmed via the annual ACIP process.

SHORT TERM 2019-2023	
FAA NPE:	$750,000
FAA Unfunded:	$420,800
WSDOT:	$57,222
Port:	$287,778
Totals	**$1,515,000**

INTERMEDIATE 2024-2028	
FAA NPE:	$1,050,000
FAA Unfunded:	$4,101,900
WSDOT:	$276,217
Port:	$1,843,217
Totals	**$7,271,334**

LONG TERM 2029-2038	
FAA NPE:	$1,500,000
FAA Unfunded:	$6,090,783
WSDOT:	$196,025
Port:	$221,025
Others:	$350,000
Totals	**$8,507,833**

FUNDING SOURCE TOTALS	
FAA NPE:	$3,300,000
FAA SA:	$420,900
FAA UNFUNDED:	$10,192,683
WSDOT:	$2,352,020
Port:	$2,586,342
Others:	$350,000
Totals	**$19,201,945**

Chapter 1 Introduction
Chapter 2 Existing Conditions
Chapter 3 Aviation Activity Forecasts
Chapter 4 Facility Requirements
Chapter 5 Alternatives Analysis
Chapter 6 Phased Development and Cost Estimates
Chapter 7 Airport Layout Plan and Drawings

7.0 INTRODUCTION

This chapter describes and depicts the necessary improvements and Port prerogatives derived from previous chapters. This includes but is not limited to the following features: existing airfield and landside configurations, future developments, airport airspace, land uses and property ownership.

While the single-sheet Airport Layout Plan (ALP) drawing shows most of the airport-related features, other depictions, such as airspace limits and close-in land uses are shown on separate drawings.

These drawings constitute the ALP drawing set:

AF-1	Cover and Index
AF-2	Airport Data Sheet
AF-3	Airport Layout Plan
AF-4	Airport Airspace Plan
AF-5	Runway 8 Inner Approach
AF-5A	Runway 8 Inner Approach Tables
AF-6	Runway 26 Inner Approach
AF-6A	Runway 26 Inner Approach Tables
AF-7	Runway Centerline Plan and Profile
AF-8	Land Use Plan
AF-9	Runway Centerline Plan and Profile
AF-10	Airport Property Inventory Map

The ALP is a legal document that represents an agreement between the Port of Benton and the Federal Aviation Administration.

The agreement relates to design standards compliance, future development locations and obstruction disposition. On-airport development must be depicted on the ALP and it should be kept reasonably current. A reduced-size ALP along with and other drawings are found at the end of this chapter.

7.1 COVER

The Cover Sheet provides information regarding responsible parties along with project location, vicinity maps and content information.

7.2 AIRPORT LAYOUT PLAN AND DATA SHEET

The ALP is a scaled graphic representation of existing and proposed airport development including pertinent clearance and dimensional information required to show conformance with design standards.

The ALP depicts the recommended location of facilities proposed to accommodate the 20-year demand (and beyond in some cases) as discussed in the facility requirements chapter and refined through the alternatives and financial process.

Short-term improvements primarily include preventive maintenance projects while intermediate and longer-term improvements are geared more toward standards compliance and satisfying future demand.

Other notable improvements shown on the ALP include a short runway extension, parallel taxiway relocation, expanded apron, hangars, and pavement maintenance projects.

A defining series of projectS relates to the relocation of the airport's center of business to the main apron. When the straight-in instrument approach procedures are approved to the runway ends, the entirety of the East Apron becomes unusable for aircraft parking. A series of improvements, starting in the short-term and finishing up in the middle of the 20-year planning period provides new and reconfigured facilities for design standards compliance and effective demand accommodation.

The Airport Data Table provides basic information concerning airport elevation, airport reference point location, design aircraft and airport reference code, etc. The Runway Data tables provide information such as runway design and reference code, approach surface information and runway end coordinates/elevations. A scale, legend, and north arrow orient the reader on the ALP and a wind rose is included on the Airport Data heat.

7.3 AIRPORT AIRSPACE PLAN (PART 77)

FAR Part 77 specifies various imaginary surfaces designed to protect the airspace around the Prosser Airport from objects of natural growth or man-made features called obstructions. These surfaces are the primary, approach, transitional, horizontal and conical as shown on the Airport Airspace Plan in their ultimate configuration.

The primary surface is longitudinally centered on the runways. 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 based on the type of approach available or planned for each runway. The planned primary surface is 500 feet wide and extends 200 feet beyond each runway end.

The approach surface is a surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based on the type of approach available or planned for that runway end.

The transitional surfaces extend outward and upward at right angles to the runway centerline and runway centerline extended at a slope of 7:1 (±8.13 degrees) from the sides of the primary surface and from the sides of the approach surfaces.

The horizontal surface is a level horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of 5,000 feet from the center of each end of the primary surface of each runway and connecting the adjacent arcs with lines of tangency.

The conical surface extends outward and upward from the periphery of the horizontal surface at a slope of 20:1 (±2.86 degrees) for a horizontal distance of 4,000 feet.

Parts of Section 77.23 specify additional surfaces. A surface at a height of 500 feet exists along with another surface a 200-foot height above the ground surface within 3 nautical miles of the airport. These surfaces are not shown.

7.4 RUNWAY PLAN AND PROFILES

The Approach Surface, Inner-Approach Surface Plan and Profile drawings show the existing, future and ultimate approach surface configurations and their interaction with the airport and off-airport environs. The extended runway centerline ground profile and the critical point profiles are shown for terrain clearance purposes. Notable objects in this regard are shown in each plan and profile and tabulated with heights and disposition, as appropriate. These drawings are supplemental to the Airport Airspace Plan. Obstruction of concerns are mostly trees and are planned for lowering over the 20-year term of this planning.

The Runway Centerline Profile drawing depicts surface longitudinal grades on centerline, edge of runway pavement, and edge of Runway Safety Area. The Line of Sight standard is also depicted.

7.5 TERMINAL AREA PLAN

A number of changes are depicted on the Terminal Area Plan for the Prosser Airport. This drawing represents a closer-in view of the proposed landside improvements shown on the ALP. Potential private hangar developments are planned for the short, intermediate and long-term as both executive and T-hangars.

Hangars and apron design for larger, more corporate-type aircraft are found on the main apron. More robust helicopter use is expected at the Prosser Airport as time goes by and several parking positions are planned. As noted earlier, the Airport's center of business is planned to be relocated to the main apron. This includes a full-service FBO, fueling, and other larger aircraft services. Phased facility construction, utility extension, landscaping, auto access and auto parking area are planned.

These improvements should be constructed as funding and demand allows and are planned to accommodate the expected activity. The proposed size and location in this regard are for planning purposes only and specific plans should be evaluated on a case-by-case basis for general conformance to the ALP.

7.6 LAND USE PLAN

The Land Use Plan identifies areas within and adjacent to airport property by zone and/or land use from City and County resources. Review for any residential development near the Airport should consider the Airport's proximity and noise sensitivity. The WSDOT Land Use compatibility zones as they apply to the Prosser Airport are depicted for inclusion into area comprehensive planning. Land uses within these zones should to be protected by Port, County and City ordinance or code to ensure compatible land use. Areas off each of the ends of the runway are generally the most noise sensitive

7.7 AIRPORT PROPERTY INVENTORY MAP

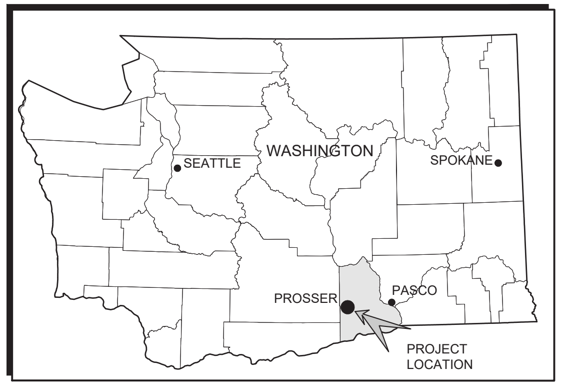
The Airport Property Map shows the locations of existing airport sponsor ownership and areas proposed for ownership or release. The map also shows known easements, buildings, apron, fences, roads and other relevant features. Tracts are shown for depiction purposes only and this map is not to be used for survey or land acquisition. Property information includes ownership, location, purpose, book and page/reception and Federal involvement.

AIRPORT LAYOUT PLAN

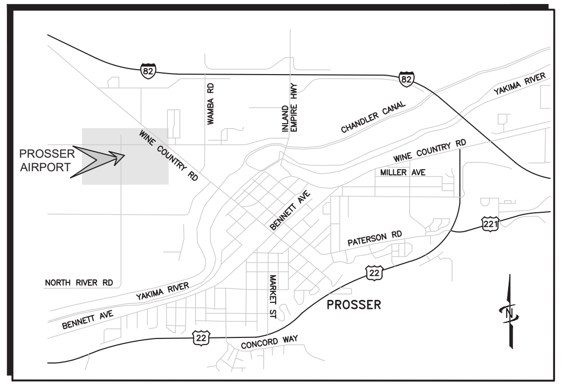
PORT OF BENTON
PROSSER AIRPORT

PROSSER, WASHINGTON

2019



AREA MAP



VICINITY MAP

PORT OF BENTON

AIP NO. 3-53-0050-13

J·U·B ENGINEERS, INC.
2810 W. Clearwater Ave.
Suite 201
Kennewick, WA 99336
Phone: 509.783.2144
www.jub.com

OTHER J-U-B COMPANIES THE LANGDON GROUP GATEWAY MAPPING INC.

INDEX OF SHEETS

SHEET NUMBER	SHEET TITLE	REVISION DATE
AF-1	TITLE SHEET	
AF-2	AIRPORT DATA SHEET	
AF-3	AIRPORT LAYOUT PLAN	
AF-4	AIPORT AIRSPACE PLAN	
AF-4A	OBSTRUCTION TABLE	
AF-5	RUNWAY 8 INNER APPROACH SURFACE	
AF-5A	RUNWAY 8 INNER APPROACH SURFACE OBSTRUCTION TABLES	
AF-6	RUNWAY 26 INNER APPORACH SURFACE	
AF-6A	RUNWAY 26 INNER APPROACH SURFACE OBSTRUCTION TABLES	
AF-7	RUNWAY CENTERLINE PLAN AND PROFILE	
AF-8	TERMINAL AREA PLAN	
AF-9	LAND USE	
AF-10	AIRPORT PROPERTY INVENTORY - EXHIBIT A	

OWNER
PORT OF BENTON

ROBERT D. LARSON, COMMISSION PRESIDENT
JANE F. HAGARTY, COMMISSION VICE PRESIDENT
ROY D. KECK, COMMISSION SECRETARY
DIAHANN HOWARD, INTERIM EXECUTIVE DIRECTOR
KEVIN HOWARD, DIRECTOR OF AIRPORTS

SPONSOR APPROVAL

PORT OF BENTON DATE

FAA APPROVAL

FEDERAL AVIATION ADMINISTRATION
NORTHWEST MOUNTAIN REGION
SEATTLE AIRPORTS DISTRICT OFFICE DATE

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

LAST UPDATED: July 9, 2019

SHEET NUMBER:
AF-1

AIRPORT DATA TABLE			
ITEM	EXISTING	FUTURE	ULTIMATE
AIRPORT REFERENCE CODE (ARC)	B-I (SMALL)	B-I (SMALL)	B-II
MEAN MAXIMUM TEMPERATURE	JULY 90.5°F	JULY 90.5°F	JULY 90.5°F
AIRPORT ELEVATION (ABOVE MSL)	705.3'	705.3'	709.0'
AIRPORT NAVIGATIONAL AIDS	BEACON	BEACON, GPS	BEACON, GPS
AIRPORT REFERENCE POINT	N46°12'48.14", W119°47'44.03"	N46°12'48.14", W119°47'44.03"	N46°12'48.16", W119°47'51.84"
MISCELLANEOUS FACILITIES	MIRL/MITL, SEG CIRCLE & AWOS	MIRL/MITL, SEG CIRCLE & AWOS	MIRL/MITL, SEG CIRCLE & AWOS
AIRPORT REFERENCE CODE (ARC) AND CRITICAL AIRCRAFT	B-I, CESSNA 414	B-I, CESSNA 414	B-II, KING AIR 350/CITATION III
MAGNETIC DECLINATION, RATE OF CHANGE	14°49'E, 0° 08' W / 2018 (NOAA)	14°49'E, 0° 08' W / 2018 (NOAA)	14°49'E, 0° 08' W / 2018 (NOAA)
NPIAS SERVICE LEVEL	GENERAL AVIATION (GA) LOCAL	GENERAL AVIATION (GA) LOCAL	GENERAL AVIATION (GA) LOCAL
STATE EQUIVALENT SERVICE LEVEL	COMMUNITY SERVICE (WA)	COMMUNITY SERVICE (WA)	COMMUNITY SERVICE (WA)

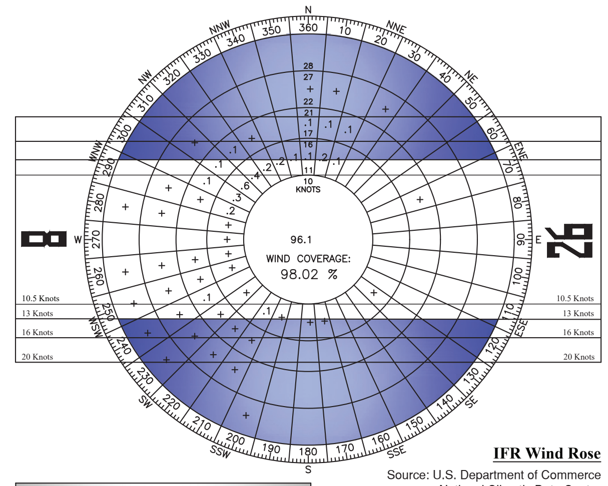
DECLINATION BASED ON WORLD MAGNETIC MODEL 2015

RUNWAY DATA TABLE						
ITEM	EXISTING		FUTURE		ULTIMATE	
	RUNWAY 8	RUNWAY 26	RUNWAY 8	RUNWAY 26	RUNWAY 8	RUNWAY 26
RUNWAY IDENTIFICATION	UTILITY (SMALL)		UTILITY (SMALL)		NON-UTILITY (LARGE)	
RUNWAY DESIGN CODE (RDC)	B-I(SMALL)-VIS	B-I(SMALL)-VIS	B-I(SMALL)-5000	B-I(SMALL)-5000	B-II(LARGE)-5000	B-II(LARGE)-5000
RUNWAY REFERENCE CODE (RRC)	B-I(SMALL)-VIS	B-I(SMALL)-VIS	B-I(SMALL)-5000	B-I(SMALL)-5000	B-II(LARGE)-5000	B-II(LARGE)-5000
RUNWAY SURFACE TYPE	ASPHALT		ASPHALT		ASPHALT	
PAVEMENT STRENGTH (SINGLE WHEEL GEAR-S)	16,000 S		16,000 S		16,000 S	
PAVEMENT CONDITION NUMBER (PCN)	50,000 S*	26,000 S	50,000 S*	26,000 S	50,000 S*	26,000 S
SURFACE TREATMENT	20/F/D/Y/T*	10/F/D/Y/T	20/F/D/Y/T*	10/F/D/Y/T	20/F/D/Y/T*	10/F/D/Y/T
EFFECTIVE / MAX. LONG. GRADIENT	0.63% / 1.00% (LOS MET)		0.63% / 1.00% (LOS MET)		0.64% / 1.00% (LOS MET)	
PERCENT WIND COVERAGE (8-26)	92.9% (10.5 KTS)		92.9% (10.5 KTS)		96.5% (13 KTS)	
RUNWAY DIMENSIONS (FAA RECOMMENDED)[1]	3,250' X 60' (95% FLEET,ADG I)		3,250' X 60' (95% FLEET,ADG I)		3,250' X 75' (95% FLEET,ADG I)	
RUNWAY DIMENSIONS (ACTUAL)	3,451' X 60'		3,451' X 60'		4,000' X 75'	
DISPLACED THRESHOLD	NO	NO	NO	NO	NO	NO
RUNWAY SAFETY AREA (RSA) WIDTH	120'	120'	120'	120'	150'	150'
BEYOND DEPARTURE END	240'	240'	240'	240'	300'	300'
RUNWAY END COORDINATES	LAT: N46°12'48.20" LONG: W119°48'08.56" EL. 705.3	LAT: N46°12'48.07" LONG: W119°47'19.49" EL.683.4	LAT: N46°12'48.20" LONG: W119°48'08.56" EL. 705.3	LAT: N46°12'48.07" LONG: W119°47'19.49" EL.683.4	LAT: N46°12'48.23" LONG: W119°48'16.38" EL. 709.0	LAT: N46°12'48.07" LONG: W119°47'19.49" EL.683.4
RUNWAY LIGHTING TYPE	MIRL		MIRL		MIRL	
RUNWAY PROTECTION ZONE (RPZ)	250'x450'x1000'	250'x450'x1000'	250'x450'x1000'	250'x450'x1000'	500'x700'x1000'	500'x700'x1000'
RUNWAY MARKINGS	VISUAL	VISUAL	NON-PRECISION	NON-PRECISION	NON-PRECISION	NON-PRECISION
FAR PART 77 APPROACH CATEGORY	20:1	20:1	20:1	20:1	34:1	34:1
FAR PART 77 APPROACH TYPE	VISUAL	VISUAL	NON-PRECISION	NON-PRECISION	NON-PRECISION	NON-PRECISION
VISIBILITY MINIMUMS	N/A	N/A	1 MILE	1 MILE	1 MILE	1 MILE
SURVEY REQ'D FOR APPROACH	NOT VERT. GUIDED	NOT VERT. GUIDED	NOT VERT. GUIDED	NOT VERT. GUIDED	NOT VERT. GUIDED	NOT VERT. GUIDED
RUNWAY DEPARTURE SURFACE	N/A	N/A	N/A	N/A	N/A	N/A
RUNWAY OBJECT FREE AREA (ROFA) WIDTH	250'	250'	250'	250'	500'	500'
LENGTH BEYOND RWY END/PRIOR TO THRESHOLD	240'	240'	240'	240'	300'	300'
OBSTACLE FREE ZONE (OFZ) WIDTH/LENGTH	250' / 200'	250' / 200'	250' / 200'	250' / 200'	400' / 200'	400' / 200'
THRESHOLD SITING SURFACE (TSS)	TABLE 3-2 ROW 1 - 2	TABLE 3-2 ROW 1 - 2	TABLE 3-2 ROW 1 - 4	TABLE 3-2 ROW 1 - 4	TABLE 3-2 ROW 1 - 4	TABLE 3-2 ROW 1 - 4
VISUAL / INSTRUMENT NAVAIDS	PAPI, REILS	PAPI, REILS	PAPI, REILS	PAPI, REILS	PAPI, REILS	PAPI, REILS
TOUCHDOWN ZONE ELEVATION (TDZ)	705.3	700.9	705.3	700.9	709.0	700.9

* FIRST 1,000 LF OF RWY 8

NOTE:
1. AIP ELIGIBILITY FOR A PROJECT THAT EXCEED STANDARDS WILL BE DETERMINED PRIOR TO IMPLEMENTATION.

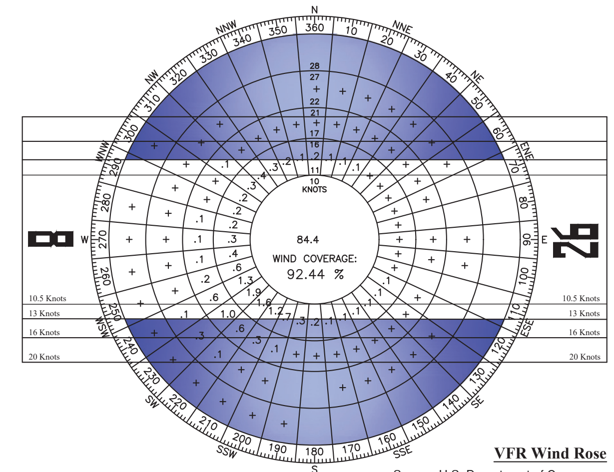
DATUM
VERTICAL DATUM: NAVD88
HORIZONTAL DATUM: NAD83



IFR Wind Rose

Source: U.S. Department of Commerce
National Climatic Data Center
Station: Tri-Cites Airport (PSC), WA
Period: 2005-2015
Number of Observations: 84,391

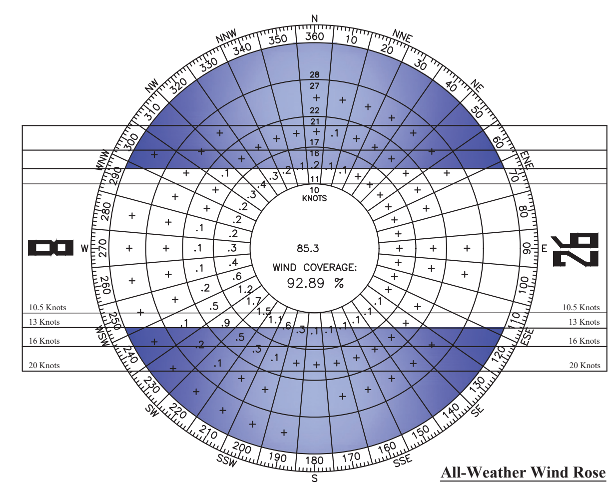
IFR WIND COVERAGE				
RUNWAY	10.5KT	13KT	16KT	20KT
8/26	98.02%	98.88%	99.5%	99.81%



VFR Wind Rose

Source: U.S. Department of Commerce
National Climatic Data Center
Station: Tri-Cites Airport (PSC), WA
Period: 2005-2015
Number of Observations: 7,556

VFR WIND COVERAGE				
RUNWAY	10.5KT	13KT	16KT	20KT
8/26	92.44%	96.24%	98.91%	99.81%



All-Weather Wind Rose

Source: U.S. Department of Commerce
National Climatic Data Center
Station: Tri-Cites Airport (PSC), WA
Period: 2005-2015
Number of Observations: 91,833

ALL-WEATHER WIND COVERAGE				
RUNWAY	10.5KT	13KT	16KT	20KT
8/26	92.89%	96.45%	98.96%	99.81%

TAXIWAY AND TAXILANE INFO			
ITEM	EXISTING	FUTURE	ULTIMATE
	ALPHA (ADG-I,TDG-1A)	ALPHA (ADG-I,TDG-1A)	ALPHA (ADG-II,TDG-1B)
TAXIWAY WIDTH	25'	25'	25'
TAXILANE WIDTH	25'	25'	25'
TAXIWAY SAFETY AREAS (TSA)	49'	49'	79'
TAXIWAY OBJECT FREE AREA (TOFA)	89'	89'	131'
TAXILANE OBJECT FREE AREA (TOFA)	79'	79'	115'
TAXIWAY CENTERLINE TO OBJECT (OBJECTS)	44.5'	44.5'	65.5'
TAXILANE CENTERLINE TO OBJECT (OBJECTS)	39.5'	39.5'	57.5'
TAXIWAY LIGHTING	MITL (PARTIAL)	MITL (PARTIAL)	MITL
TAXILANE LIGHTING	NONE	NONE	NONE

MODIFICATIONS TO STANDARDS	
RUNWAY 8	RUNWAY 26
NONE REQUIRED	

DECLARED DISTANCES TABLE						
	RUNWAY 8 EXISTING	RUNWAY 26 EXISTING	RUNWAY 8 FUTURE	RUNWAY 26 FUTURE	RUNWAY 8 ULTIMATE	RUNWAY 26 ULTIMATE
TAKEOFF RUNWAY AVAILABLE (TORA)	3,451'	3,451'	3,451'	3,451'	4,000'	4,000'
TAKEOFF DISTANCE AVAILABLE (TODA)	3,451'	3,451'	3,451'	3,451'	4,000'	4,000'
ACCELERATE STOP DISTANCE AVAILABLE (ASDA)	3,451'	3,451'	3,451'	3,451'	4,000'	4,000'
LANDING DISTANCE AVAILABLE (LDA)	3,451'	3,451'	3,451'	3,451'	4,000'	4,000'

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Plot Date:5/2/2019 4:20 PM Plotted By: Shawn Dulin
Date Created:4/19/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-2.DWG

REVISION				
NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

PORT OF BENTON

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FILE : 30-15-020-C-AF-2
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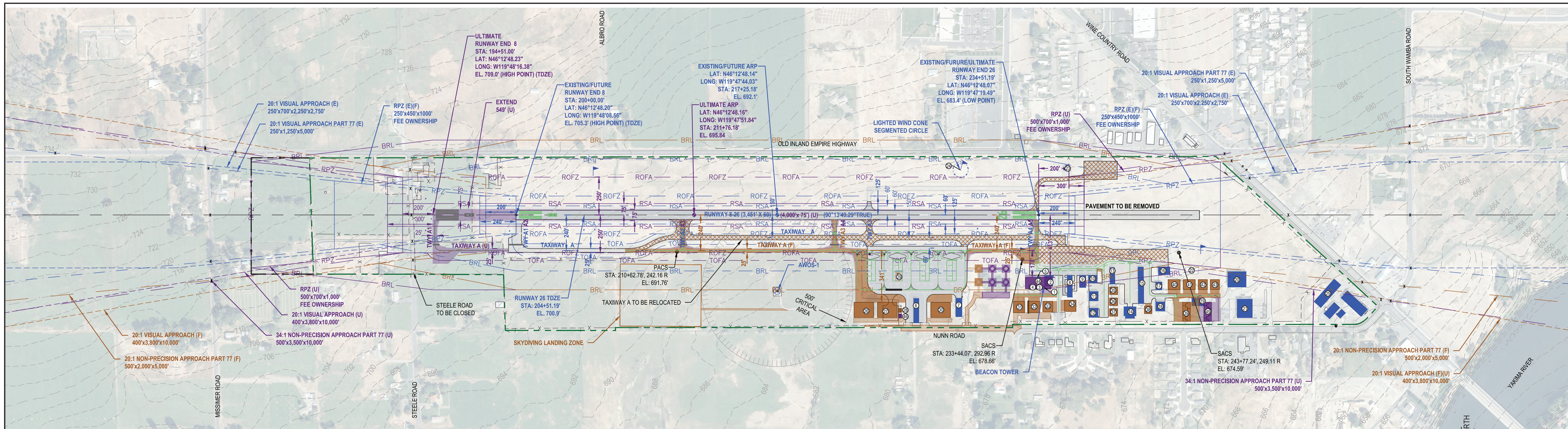
PORT OF BENTON
PROSSER AIRPORT

AIRPORT DATA SHEET

LAST UPDATED: 4/30/2019

SHEET NUMBER:
AF-2

Chapter 1 Introduction
Chapter 2 Existing Conditions
Chapter 3 Aviation Activity Forecasts
Chapter 4 Facility Requirements
Chapter 5 Alternatives Analysis
Chapter 6 Phased Development and Cost Estimates
Chapter 7 Airport Layout Plan and Drawings



CLEARANCE TABLE WITHIN RUNWAY 8 PART 77 APPROACH SURFACES

LOCATION "X"	GROUND ELEVATION	TRAVERSE WAY ADJUSMENT	EXISTING APPROACH CLEARANCE	FUTURE APPROACH CLEARANCE	ULTIMATE APPROACH CLEARANCE
NORTH EDGE OF FUTURE APPROACH AT STEELE ROAD	716.3	+15'	N/A	-0.8'	N/A
NORTH EDGE OF EXISTING APPROACH AT STEELE ROAD	713.9	+15'	1.2'	1.2'	N/A
APPROACH CENTERLINE AT STEELE ROAD	709.4	+15'	5.5'	5.5'	N/A
SOUTH EDGE OF EXISTING APPROACH AT STEELE ROAD	706.5	+15'	8.2'	8.2'	N/A
SOUTH EDGE OF FUTURE APPROACH AT STEELE ROAD	704.8	+15'	N/A	9.7'	N/A
NORTH EDGE OF ULTIMATE APPROACH AT MISSIMER ROAD	725.6	+15'	N/A	N/A	6.4'
NORTH EDGE OF FUTURE APPROACH AT MISSIMER ROAD	725.6	+15'	N/A	57.0'	6.4'
NORTH EDGE OF EXISTING APPROACH AT MISSIMER ROAD	724.4	+15'	57.1'	57.1'	7.0'
APPROACH CENTERLINE AT MISSIMER ROAD	722.7	+15'	59.0'	59.0'	8.9'
SOUTH EDGE OF EXISTING APPROACH AT MISSIMER ROAD	717.3	+15'	63.7'	63.7'	13.9'
SOUTH EDGE OF FUTURE APPROACH AT MISSIMER ROAD	714.4	+15'	N/A	66.3'	16.5'
SOUTH EDGE OF ULTIMATE APPROACH AT MISSIMER ROAD	714.4	+15'	N/A	N/A	16.7'
NORTH EDGE OF ULTIMATE APPROACH AT OLD INLAND EMPIRE HIGHWAY	724.2	+15'	N/A	N/A	2.2'
NORTH EDGE OF FUTURE APPROACH AT OLD INLAND EMPIRE HIGHWAY	724.2	+15'	N/A	48.6'	2.2'
NORTH EDGE OF EXISTING APPROACH AT OLD INLAND EMPIRE HIGHWAY	733.6	+15'	96.9'	96.9'	26.6'

CLEARANCE TABLE WITHIN RUNWAY 26 PART 77 APPROACH SURFACES

LOCATION "X"	GROUND ELEVATION	TRAVERSE WAY ADJUSMENT	EXISTING APPROACH CLEARANCE	FUTURE APPROACH CLEARANCE	ULTIMATE APPROACH CLEARANCE
NORTH EDGE OF ULTIMATE APPROACH AT WINE COUNTRY ROAD	684.0	N/A	N/A	14.5'	35.8'
NORTH EDGE OF FUTURE APPROACH AT WINE COUNTRY ROAD	683.2	N/A	39.0'	16.7'	38.9'
NORTH EDGE OF EXISTING APPROACH AT WINE COUNTRY ROAD	681.0	47.4'	47.4'	22.8'	47.1'
APPROACH CENTERLINE AT WINE COUNTRY ROAD	676.5	64.9'	64.9'	34.9'	64.4'
SOUTH EDGE OF EXISTING APPROACH AT WINE COUNTRY ROAD	672.3	76.6'	76.6'	85.4'	85.4'
SOUTH EDGE OF FUTURE APPROACH AT WINE COUNTRY ROAD	670.1	N/A	97.1'	57.3'	95.2'
SOUTH EDGE OF ULTIMATE APPROACH AT WINE COUNTRY ROAD	664.6	N/A	N/A	64.5'	106.9'
NORTH EDGE OF ULTIMATE APPROACH AT SOUTH WAMBA ROAD	674.7	N/A	N/A	58.7'	106.2'
NORTH EDGE OF FUTURE APPROACH AT SOUTH WAMBAROAD	672.8	N/A	107.9'	61.6'	108.1'
NORTH EDGE OF EXISTING APPROACH AT SOUTH WAMBA ROAD	671.7	108.9'	108.9'	62.6'	109.2'
APPROACH CENTERLINE AT SOUTH WAMBA ROAD	668.9	111.4'	111.4'	65.3'	112.2'
SOUTH EDGE OF EXISTING APPROACH AT SOUTH WAMBA ROAD	665.7	115.6'	115.5'	69.0'	115.6'
SOUTH EDGE OF FUTURE APPROACH AT SOUTH WAMBA ROAD	664.2	N/A	114.5'	68.9'	113.5'
SOUTH EDGE OF ULTIMATE APPROACH AT SOUTH WAMBA ROAD	664.2	N/A	N/A	66.7'	110.5'

EXISTING BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	CONDITION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
1	ROTATING BEACON AND TOWER	GOOD	N/A	54	729
2	FBO / PILOT LOUNGE	GOOD	3,800	21	698
3	RESTROOMS	GOOD	800	12	687
4	EAA BUILDING	GOOD	900	12	687
5	FUEL TANK	GOOD	N/A	11	691
6	T-HANGARS	GOOD	5,670	17	695
7	HANGAR	GOOD	4,800	17	693
8	T-HANGARS	POOR	4,600	17	693
9	HANGAR	GOOD	3,400	17	693
10	HANGAR	GOOD	3,000	17	693
11	HANGAR	GOOD	3,600	23	698
12	HANGAR	GOOD	3,600	23	698
13	T-HANGARS	FAIR	4,600	17	694
14	HANGAR	NEW	5,800	23	697
15	T-HANGARS	FAIR	8,600	17	694
16	HANGAR	GOOD	3,750	23	697
17	HANGAR	GOOD	3,000	23	695
18	HANGAR	GOOD	3,600	20	693
19	MAINTENANCE HANGAR	GOOD	4,000	18	690
20	INDUSTRIAL PARK BUILING	GOOD	12,000	27	700
21	INDUSTRIAL PARK BUILDING	GOOD	12,000	23	696
22	HANGAR (ABANDONED CONCRETE)	N/A	925	0	675
23	T-HANGAR (TO BE REMOVED)	POOR	925	17	704
24	LIGHTED WIND SOCK AND SEGMENTED CIRCLE	GOOD	N/A	23	709
25	CHUKAR CHERRIES (4 BLDGS)	GOOD	N/A	23	692

FUTURE BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
26	HANGAR	100X130	13,000	35	715
27	HANGAR	100X130	13,000	35	715
28	FUEL TANKS	N/A	500	10	688
29	FUEL ISLAND	25X55	1,375	6	686
30	FUTURE GA FBO TERMINAL	100X130	13,000	35	712
31	HANGAR	75X75	5,625	35	709
32	HANGAR	75X75	5,625	35	709
33	HANGAR	65X70	4,550	35	709
34	HANGAR	75X75	5,625	35	708
35	HANGAR	50X50	2,500	35	708
36	HANGAR	50X50	2,500	35	708
37	HANGAR	50X50	2,500	35	708
38	HANGAR	50X50	2,500	35	708
39	T-HANGARS (QTY 5)	50X126	6,300	35	707
40	HANGAR	65X80	5,200	35	708
41	HANGAR	65X80	5,200	35	708
42	HANGAR	65X60	3,900	35	708
43	HANGAR	65X60	3,900	35	708

ULTIMATE BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
44	HANGAR (QTY 2)	75X75	5,625	30	706
45	T-HANGARS (QTY 5)	50X126	6,300	35	707
46	FUEL TANKS	N/A	500	10	688

0 300 600
SCALE IN FEET

TRUE NORTH
N

MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
APRIL 24, 2018
RATE OF CHANGE
0° 8' W PER YEAR

NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
3. ALL EXISTING TAXIWAY WIDTHS ARE 25'.
4. EXISTING AND FUTURE BUILDINGS ARE LABELED ON THE TERMINAL AREA PLAN.
5. RUNWAY 8 PAPI-2 IS LOCATED AT STATION 205+17, 99.2 FT FROM RUNWAY CENTERLINE. RUNWAY 26 PAPI-2 IS LOCATED AT STATION 230+49, 91.4 FT FROM RUNWAY CENTERLINE.
6. RUNWAY 8 REILS ARE LOCATED AT STATION 199+59, 105 FT FROM RUNWAY CENTERLINE. RUNWAY 26 REILS ARE LOCATED AT STATION 234+19, 105 FT FROM RUNWAY CENTERLINE.
7. TAXIWAY A EDGE SAFETY MARGIN (TESM); TAXIWAY DESIGN GROUP (TDG) 1A (E,F): 5 FT, 1B (U): 5 FT
8. TAXIWAY A SHOULDER WIDTH; TAXIWAY DESIGN GROUP (TDG) 1A (E,F): 10 FT, 1B (U): 10 FT
9. RUNWAY SHOULDER WIDTH; B-I SMALL (E,F): 10 FT, B-II (U): 10 FT
10. TAXIWAY A OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) I: 89 FT
11. TAXILANE OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) I: 79 FT
12. TAXIWAY/TAXILANE SAFETY AREA (TSA); AIRPLANE DESIGN GROUP (ADG) I: 49 FT
13. APRON (E): 35,494 SQUARE YARDS, APRON (F)(U) 19,470 SQUARE YARDS
14. ALL FENCES ARE 6 FEET IN HEIGHT UNLESS OTHERWISE NOTED.
15. THE DEPICTED 35-FOOT BUILDING RESTRICTION LINE IS INTENDED AS A GUIDELINE ONLY. FUTURE HANGARS MUST RECEIVE A NO-HAZARD DETERMINATION VIA FAA FROM 7460 FILING.

LEGEND

EXISTING	FUTURE	ULTIMATE	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT
			ROADWAY
			BUILDING ENVELOPE (LOT)
			AIRPORT PROPERTY LINE
			AIRPORT PROPERTY EASEMENTS
			APPROACH SURFACE
			PART 77 APPROACH SURFACE
BRL	BRL	BRL	BUILDING RESTRICTION LINE
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE
RSA	RSA	RSA	RUNWAY SAFETY AREA
ROFZ	ROFZ	ROFZ	RUNWAY OBJECT FREE ZONE
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
			NAVAID CRITICAL AREA
X	X	X	FENCE
			FENCE TO BE RELOCATED
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			SURVEY MONUMENT
			TREE
			GROUND CONTOURS (2' INTERVAL)
			PAVEMENT TO BE REMOVED

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FAA APPROVAL		SPONSOR APPROVAL	
FEDERAL AVIATION ADMINISTRATION NORTHWEST MOUNTAIN REGION SEATTLE AIRPORTS DISTRICT OFFICE	DATE	PORT OF BENTON	DATE

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

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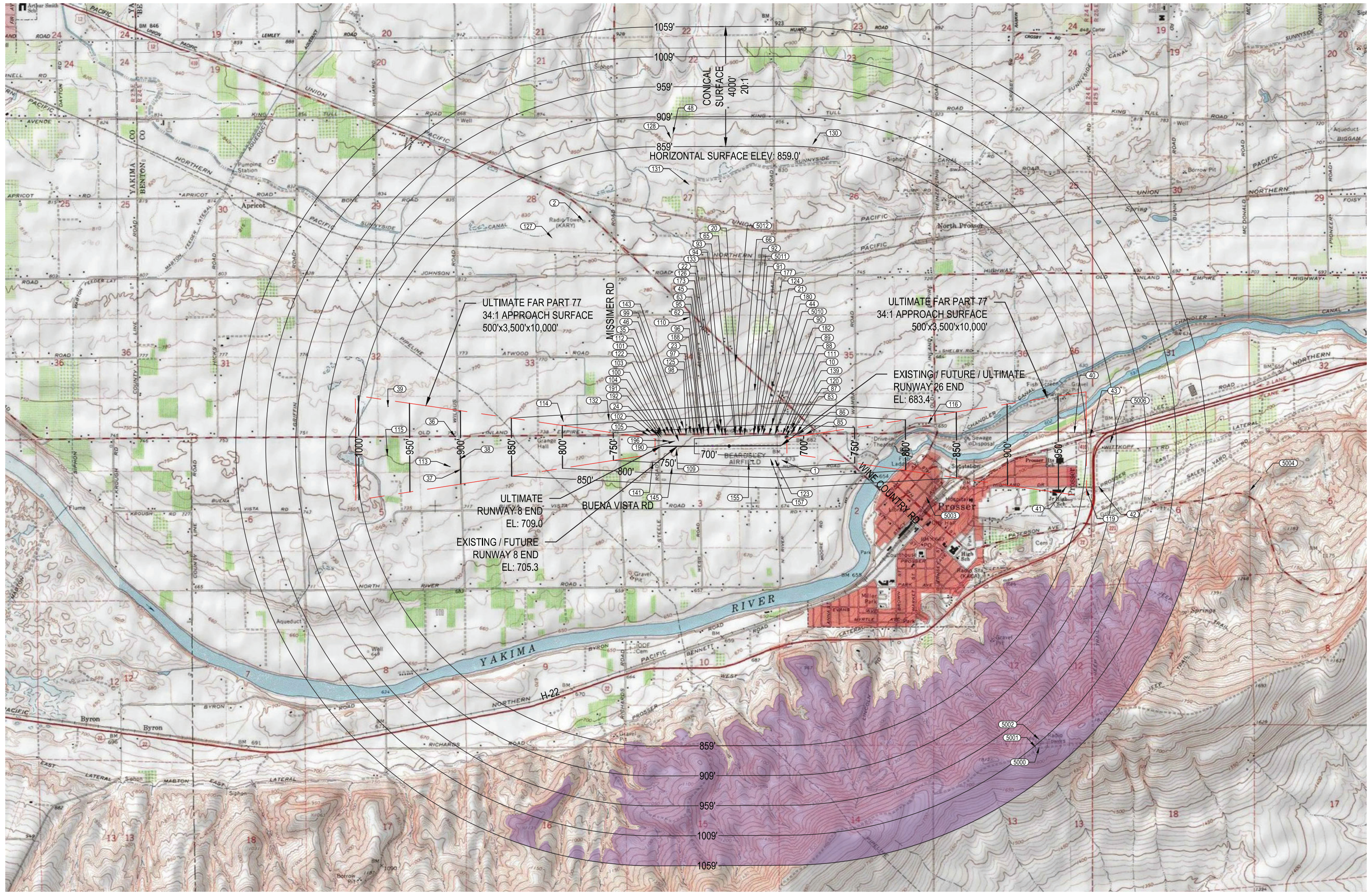
PORT OF BENTON
PROSSER AIRPORT

AIRPORT LAYOUT PLAN

LAST UPDATED: 5/2/2019
SHEET NUMBER:
AF-3



TRUE NORTH

MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
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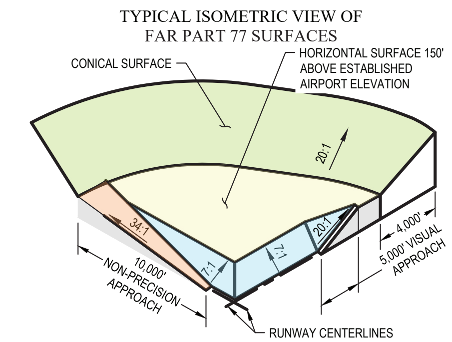
RATE OF CHANGE
0° 8' W PER YEAR

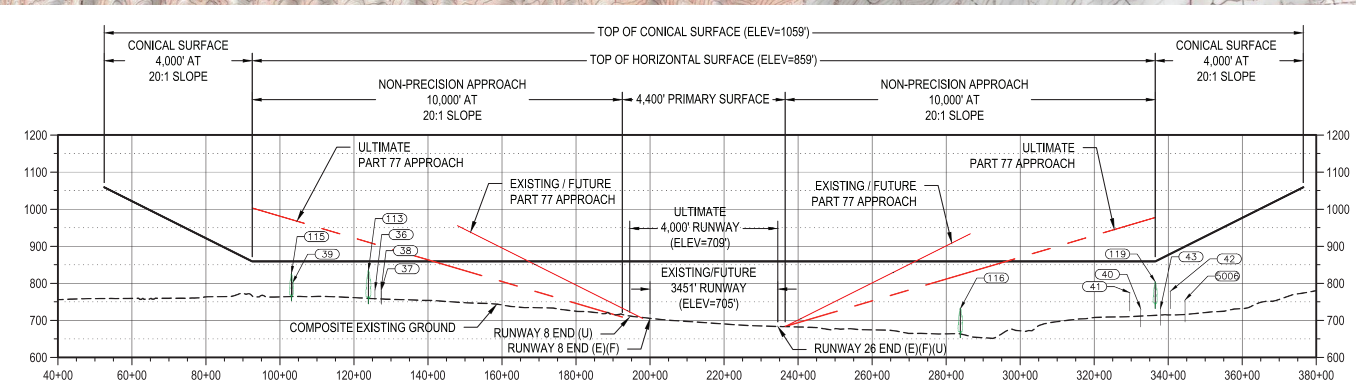
HORZ 0 2000 4000
VERT 0 200 400
SCALE IN FEET



LEGEND

LAND MASS OBSTRUCTION

OBSTRUCTION ITEM CALLOUT



RWY 8-26 PROFILE

HORIZONTAL ACCURACY:
AT A MAP SCALE OF 1"=50' NOT MORE THAN 10% OF ALL WELL-DEFINED PLANIMETRIC FEATURES ARE IN ERROR BY MORE THAN 1.0'
VERTICAL ACCURACY:
CONTOUR INTERVAL 1.0 NOT MORE THAN 10% OF ALL VERTICAL POINTS ARE IN ERROR BY MORE THAN 1/2 THE ABOVE CONTOUR INTERVAL.

NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
3. AGIS AND DOF OBSTRUCTS ACCOUNTED FOR.
4. USGS MAP OBTAINED FROM: HTTP://GOTO.ARCGISONLINE.COM/MAPS/USA_TOPO_MAPS, COPYRIGHT:© 2013 NATIONAL GEOGRAPHIC SOCIETY, I-CUBED
5. PLAN VIEW DEPICTS ULTIMATE AIRSPACE CONFIGURATION.

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PORT OF BENTON
PROSSER AIRPORT

AIRPORT AIRSPACE PLAN

LAST UPDATED: 4/30/2019

SHEET NUMBER:

AF-4

Chapter 1
Introduction
Chapter 2
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OBSTRUCTION TABLE

OBS ITEM	DESCRIPTION	DATE OF SURVEY	GROUND ELEV (FT)	OBJECT TOP ELEV (FT)	PENETRATION (FT)	SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
1	BEACON (DOF OAS#53-021204)	SEPT 2014	676	729	13	TRANSITIONAL	RELOCATE	2024
2	ANTENNA (DOF OAS#53-000115)	SEPT 2014	827	1046	187	INNER HORIZONTAL	LIGHTED	N/A
10	BUILDING	SEPT 2014	687	703	10	TRANSITIONAL	LIGHT	2024
20	CATENARY	SEPT 2014	692	729	20	TRANSITIONAL	LIGHT	2020
21	CATENARY	SEPT 2014	689	727	22	TRANSITIONAL	LIGHT	2020
22	CATENARY	SEPT 2014	698	735	22	TRANSITIONAL	LIGHT	2020
23	CATENARY	SEPT 2014	703	739	20	TRANSITIONAL	LIGHT	2020
24	CATENARY	SEPT 2014	719	750	16	TRANSITIONAL	LIGHT	2020
35	NATURAL HIGH POINT	SEPT 2014	706	706	1	TRANSITIONAL	NONE	NONE
36	POLE	SEPT 2014	756	798	-108	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
37	POLE	SEPT 2014	743	784	-117	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
38	POLE	SEPT 2014	746	780	-121	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
39	POLE	SEPT 2014	769	801	-170	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
40	POLE	SEPT 2014	682	731	-235	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
41	POLE	SEPT 2014	725	775	-183	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
42	POLE	SEPT 2014	731	779	-106	CONICAL	N/A	N/A
43	POLE	SEPT 2014	686	730	-136	CONICAL	N/A	N/A
44	POLE	SEPT 2014	688	728	24	TRANSITIONAL	LIGHT	2020
45	POLE	SEPT 2014	699	739	25	TRANSITIONAL	LIGHT	2020
46	POLE	SEPT 2014	709	748	24	TRANSITIONAL	LIGHT	2020
48	POLE	SEPT 2014	854	884	3	CONICAL	LIGHTED	N/A
62	POLE	SEPT 2014	703	729	4	TRANSITIONAL	LIGHT	2020
63	POLE	SEPT 2014	701	727	3	TRANSITIONAL	LIGHT	2020
65	POLE	SEPT 2014	696	722	4	TRANSITIONAL	LIGHT	2020
66	POLE	SEPT 2014	695	721	3	TRANSITIONAL	LIGHT	2020
83	POLE	SEPT 2014	687	716	2	TRANSITIONAL	LIGHT	2020
85	POLE	SEPT 2014	684	718	10	TRANSITIONAL	LIGHT	2020
86	POLE	SEPT 2014	685	715	9	TRANSITIONAL	LIGHT	2020
87	POLE	SEPT 2014	687	717	13	TRANSITIONAL	LIGHT	2020
88	POLE	SEPT 2014	688	719	16	TRANSITIONAL	LIGHT	2020
89	POLE	SEPT 2014	687	723	19	TRANSITIONAL	LIGHT	2020
90	POLE	SEPT 2014	686	724	20	TRANSITIONAL	LIGHT	2020
91	POLE	SEPT 2014	690	726	20	TRANSITIONAL	LIGHT	2020
92	POLE	SEPT 2014	691	731	23	TRANSITIONAL	LIGHT	2020
93	POLE	SEPT 2014	695	729	19	TRANSITIONAL	LIGHT	2020
94	POLE	SEPT 2014	696	735	23	TRANSITIONAL	LIGHT	2020
95	POLE (D0F OAS#53-022431)	SEPT 2014	701	740	24	TRANSITIONAL	LIGHT	2020
96	POLE (DOF OAS#53-022430)	SEPT 2014	701	742	24	TRANSITIONAL	LIGHT	2020
97	POLE	SEPT 2014	704	739	19	TRANSITIONAL	LIGHT	2020
98	POLE	SEPT 2014	706	742	20	TRANSITIONAL	LIGHT	2020
99	POLE	SEPT 2014	713	745	10	TRANSITIONAL	LIGHT	2020
100	POLE	SEPT 2014	720	744	8	TRANSITIONAL	LIGHT	2020
101	POLE	SEPT 2014	712	751	25	TRANSITIONAL	LIGHT	2020
102	POLE	SEPT 2014	720	742	4	TRANSITIONAL	LIGHT	2020
103	POLE	SEPT 2014	714	754	28	TRANSITIONAL	LIGHT	2020
104	POLE	SEPT 2014	715	755	27	TRANSITIONAL	LIGHT	2020
105	POLE	SEPT 2014	719	758	29	TRANSITIONAL	LIGHT	2020
109	SIGN	SEPT 2014	704	707	1	PRIMARY	N/A	N/A
110	TANK	SEPT 2014	766	895	36	INNER HORIZONTAL	LIGHTED	N/A
111	TREE	SEPT 2014	689	756	42	TRANSITIONAL	LOWER	2020
112	TREE	SEPT 2014	715	772	38	TRANSITIONAL	LOWER	2020
113	TREE	SEPT 2014	745	834	-76	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
114	TREE	SEPT 2014	742	840	21	TRANSITIONAL	LOWER	2020
115	TREE	SEPT 2014	753	826	-146	INNER HORIZONTAL / ULTIMATE APPROACH	N/A	N/A
116	TREE	SEPT 2014	653	731	-92	ULTIMATE APPROACH	N/A	N/A
119	TREE	SEPT 2014	732	804	-61	CONICAL	N/A	N/A
120	TREE	SEPT 2014	688	730	16	TRANSITIONAL	LOWER	2020
122	TREE	SEPT 2014	718	769	33	TRANSITIONAL	LOWER	2020
123	TREE	SEPT 2014	677	738	21	TRANSITIONAL	LOWER	2020
124	TREE	SEPT 2014	691	764	48	TRANSITIONAL	LOWER	2020
125	TREE	SEPT 2014	707	765	35	TRANSITIONAL	LOWER	2020
126	TREE	SEPT 2014	701	788	61	TRANSITIONAL	LOWER	2020
127	TREE	SEPT 2014	828	925	66	INNER HORIZONTAL	LOWER	2020
128	TREE	SEPT 2014	853	879	5	CONICAL	LOWER	2020
130	TREE	SEPT 2014	845	905	41	CONICAL	LOWER	2020
131	TREE	SEPT 2014	821	920	61	INNER HORIZONTAL	LOWER	2020
132	TREE	SEPT 2014	734	822	10	TRANSITIONAL	LOWER	2020
133	TREE	SEPT 2014	704	803	47	TRANSITIONAL	LOWER	2020
139	TREE	SEPT 2014	690	746	15	TRANSITIONAL	LOWER	2020
141	TREE	SEPT 2014	702	752	1	TRANSITIONAL	LOWER	2031
143	TREE	SEPT 2014	715	767	9	TRANSITIONAL	LOWER	2020
145	TREE	SEPT 2014	697	798	25	TRANSITIONAL	LOWER	2031
155	TREE	SEPT 2014	679	740	4	TRANSITIONAL	LOWER	2020
157	TREE	SEPT 2014	678	738	25	TRANSITIONAL	LOWER	2020
173	TREE	SEPT 2014	702	786	52	TRANSITIONAL	LOWER	2020
177	TREE	SEPT 2014	691	761	44	TRANSITIONAL	LOWER	2020
180	TREE	SEPT 2014	691	742	24	TRANSITIONAL	LOWER	2020
182	TREE	SEPT 2014	689	762	47	TRANSITIONAL	LOWER	2020
188	TREE	SEPT 2014	704	794	55	TRANSITIONAL	LOWER	2020
190	VERTICAL STRUCTURE	SEPT 2014	706	713	7	PRIMARY	REMOVE	2032
191	TREE	SEPT 2014	714	771	51	TRANSITIONAL	LOWER	2020
192	TREE	SEPT 2014	715	776	54	TRANSITIONAL	LOWER	2020

OBSTRUCTION TABLE

OBS ITEM	DESCRIPTION	DATE OF SURVEY	GROUND ELEV (FT)	OBJECT TOP ELEV (FT)	PENETRATION (FT)	SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
196	VERTICAL STRUCTURE	SEPT 2014	708	715	7	PRIMARY	REMOVE	2032
5000	TOWER (DOF OAS#53-020221)	OCT 2008	1875	1979	964	CONICAL	N/A	N/A
5001	TOWER (DOF OAS#53-022435)	AUG 2013	1869	2022	1011	CONICAL	N/A	N/A
5002	POLE (DOF OAS#53-020851)	AUG 2010	1868	1909	904	CONICAL	N/A	N/A
5003	TOWER (DOF OAS#53-066325)	JAN 2018	663	825	-34	INNER HORIZONTAL	N/A	N/A
5004	TOWER (DOF OAS#53-021204)	MAY 2011	1000	1191		OUTSIDE AIRSPACE	N/A	N/A
5006	SIGN (DOF OAS#53-066644)	JAN 2018	696	755	-144	CONICAL	N/A	N/A
5010	SOLAR PANELS (DOF OAS#53-066359)	JAN 2018	693.65	700.00	-50.94	TRANSITIONAL	N/A	N/A
5011	BUILDING (DOF OAS#53-081641)	JAN 2018	713	769	-90	INNER HORIZONTAL	N/A	N/A
5012	SIGN (DOF OAS#53-066280)	JAN 2018	733	827	-32	INNER HORIZONTAL	N/A	N/A

NOTES:
1. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

REVISION				
NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

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FILE : 30-15-020-C-AF-4
JUB PROJ. # : 30-15-020
DRAWN BY: SMD
DESIGN BY: ----
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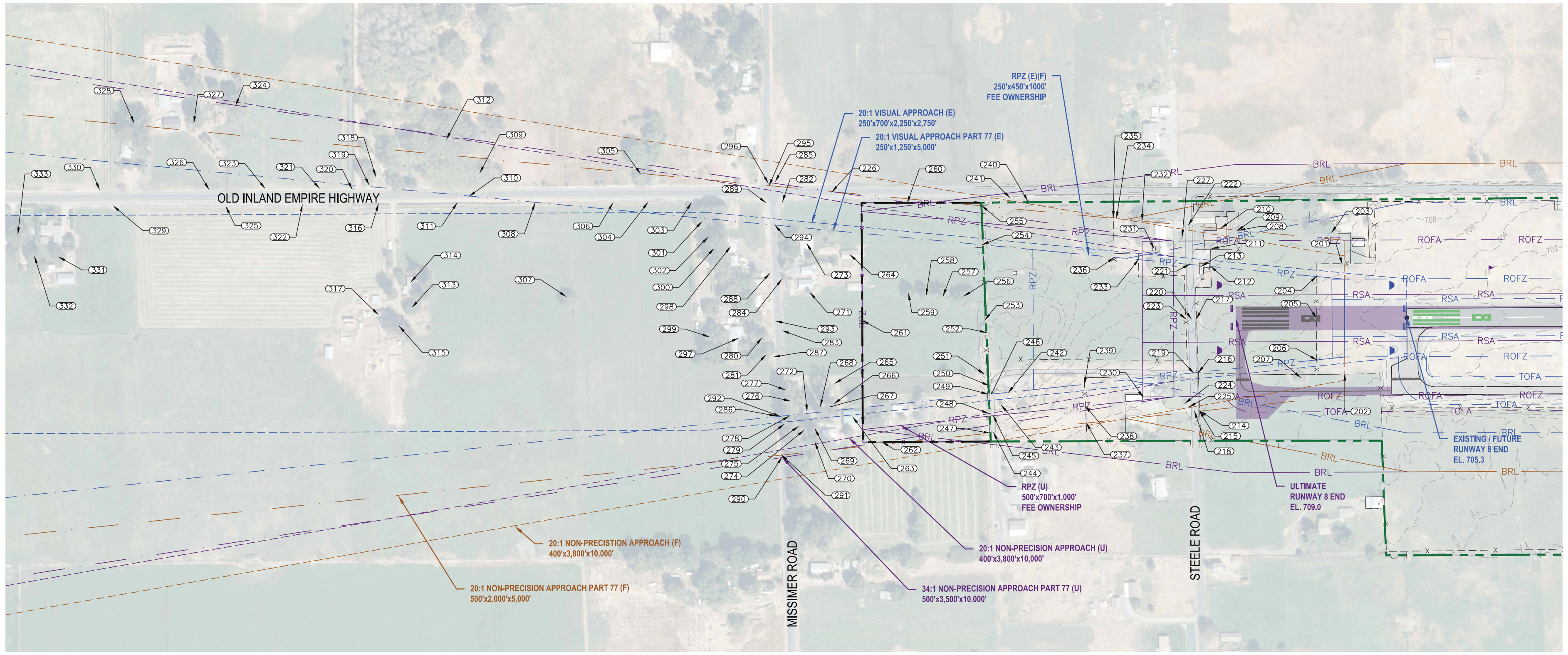
PORT OF BENTON
PROSSER AIRPORT

OBSTRUCTION TABLE

LAST UPDATED: 7/8/2019
SHEET NUMBER:
AF-4A

Plot Date: 7/8/2019 1:53 PM Plotted By: Shawn Dulin
Date Created: 4/19/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-4.DWG

Chapter 1 Introduction
Chapter 2 Existing Conditions
Chapter 3 Aviation Activity Forecasts
Chapter 4 Facility Requirements
Chapter 5 Alternatives Analysis
Chapter 6 Phased Development and Cost Estimates
Chapter 7 Airport Layout Plan and Drawings



RUNWAY END 8 - PLAN

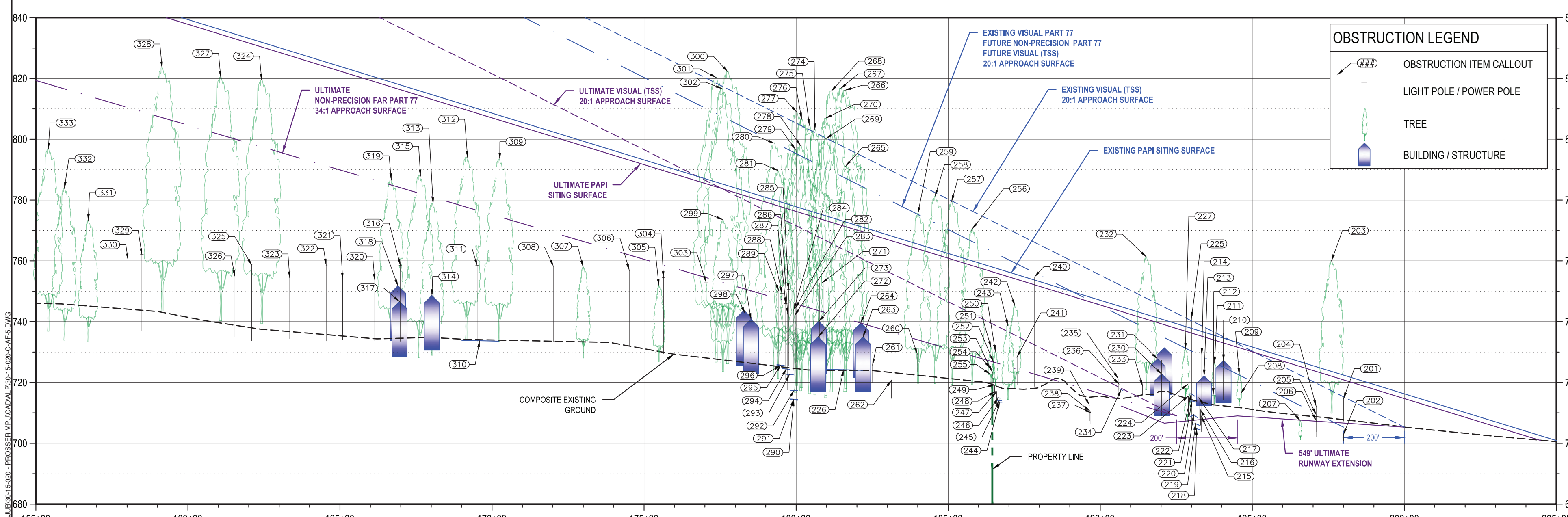
TRUE NORTH

MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
APRIL 24, 2018
RATE OF CHANGE
0° 8' W PER YEAR

HORZ 0 200 400
VERT 0 20 40
SCALE IN FEET

CLEARANCE TABLE WITHIN RUNWAY 8 PART 77 APPROACH SURFACES

OBS ITEM	LOCATION	GROUND ELEVATION	TRAVERSE WAY ADJUSMENT	EXISTING APPROACH CLEARANCE	FUTURE APPROACH CLEARANCE	ULTIMATE APPROACH CLEARANCE
222	NORTH EDGE OF FUTURE APPROACH AT STEELE ROAD	716.3	+15'	N/A	-0.8'	N/A
221	NORTH EDGE OF EXISTING APPROACH AT STEELE ROAD	713.9	+15'	1.2'	1.2'	N/A
220	APPROACH CENTERLINE AT STEELE ROAD	709.4	+15'	5.5'	5.5'	N/A
219	SOUTH EDGE OF EXISTING APPROACH AT STEELE ROAD	706.5	+15'	8.2'	8.2'	N/A
218	SOUTH EDGE OF FUTURE APPROACH AT STEELE ROAD	704.8	+15'	N/A	9.7'	N/A
296	NORTH EDGE OF ULTIMATE APPROACH AT MISSIMER ROAD	725.6	+15'	N/A	N/A	6.4'
295	NORTH EDGE OF FUTURE APPROACH AT MISSIMER ROAD	725.6	+15'	N/A	57.0'	6.4'
294	NORTH EDGE OF EXISTING APPROACH AT MISSIMER ROAD	724.4	+15'	57.1'	57.1'	7.0'
293	APPROACH CENTERLINE AT MISSIMER ROAD	722.7	+15'	59.0'	59.0'	8.9'
292	SOUTH EDGE OF EXISTING APPROACH AT MISSIMER ROAD	717.3	+15'	63.7'	63.7'	13.9'
291	SOUTH EDGE OF FUTURE APPROACH AT MISSIMER ROAD	714.4	+15'	N/A	66.3'	16.5'
290	SOUTH EDGE OF ULTIMATE APPROACH AT MISSIMER ROAD	714.4	+15'	N/A	N/A	16.7'
226	NORTH EDGE OF ULTIMATE APPROACH AT OLD INLAND EMPIRE HIGHWAY	724.2	+15'	N/A	N/A	2.2'
226	NORTH EDGE OF FUTURE APPROACH AT OLD INLAND EMPIRE HIGHWAY	724.2	+15'	N/A	48.6'	2.2'
310	NORTH EDGE OF EXISTING APPROACH AT OLD INLAND EMPIRE HIGHWAY	733.6	+15'	96.9'	96.9'	26.6'



RUNWAY END 8 - PROFILE
VERTICAL SCALE: 20:1, HORIZONTAL SCALE: 200:1

NOTES:
1. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
2. AGIS AND DOF OBSTRUCTS ACCOUNTED FOR.
3. SEE SHEET AF-7 FOR LINE OF SIGHT PROFILE.

HORIZONTAL ACCURACY:
AT A MAP SCALE OF 1"=50' NOT MORE THAN 10% OF ALL WELL-DEFINED PLANIMETRIC FEATURES ARE IN ERROR BY MORE THAN 1.0'
VERTICAL ACCURACY:
CONTOUR INTERVAL 1.0 NOT MORE THAN 10% OF ALL VERTICAL POINTS ARE IN ERROR BY MORE THAN 1/2 THE ABOVE CONTOUR INTERVAL.

LEGEND

EXISTING / FUTURE / ULTIMATE / DESCRIPTION

- AIRPORT PAVEMENT
- AIRPORT PROPERTY LINE
- AIRPORT PROPERTY EASEMENTS
- APPROACH SURFACE
- PART 77 APPROACH SURFACE
- RUNWAY OBJECT FREE AREA (ROFA)
- RUNWAY PROTECTION ZONE
- RUNWAY SAFETY AREA
- RUNWAY OBJECT FREE ZONE
- TAXIWAY OBJECT FREE AREA (TOFA)
- FENCE
- FENCE TO BE RELOCATED
- THRESHOLD LIGHTS
- LANDING AID (PAPI-2)
- LANDING AID (REILS)
- SUPPLEMENTAL WINDCONE
- GROUND CONTOURS (1' INTERVAL)

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Plot Date:5/2/2019 4:39 PM Plotted By: Shawn Dulin
Date Created:4/19/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

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PORT OF BENTON
PROSSER AIRPORT

RUNWAY 8 INNER APPROACH SURFACE

LAST UPDATED: 4/30/2019

SHEET NUMBER:
AF-5

OBSTRUCTIONS WITHIN RUNWAY 8

OBS ITEM	DESCRIPTION	GND ELEV (FT)	OBJ TOP ELEV (FT)	EXISTING SURFACE PENETRATION (FT)	EXISTING SURFACE PENETRATED	FUTURE SURFACE PENETRATION (FT)	FUTURE SURFACE PENETRATED	ULTIMATE SURFACE PENETRATION (FT)	ULTIMATE SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
201	FENCE @ FUT	707	715	2	TRANSITIONAL	9	APPROACH	8	APPROACH	LOWER	2025
202	FENCE @ FUT	701	707	-6	TRANSITIONAL	2	APPROACH	1	APPROACH	LOWER	2025
203	TREE	710	760	32	TRANSITIONAL	50	TRANSITIONAL	50	TRANSITIONAL	REMOVE	2025
204	FENCE @ ULT	707	712	2	APPROACH	2	APPROACH	5	APPROACH	LOWER	2025
205	FENCE @ CL	704	709	0	APPROACH	0	APPROACH	2	APPROACH	LOWER	2025
206	FENCE @ ULT	702	708	-2	APPROACH	-2	APPROACH	1	APPROACH	LOWER	2025
207	TREE	701	707	-13	TRANSITIONAL	-5	APPROACH	-1	APPROACH	N/A	N/A
208	FENCE @ FUT	712	716	-24	TRANSITIONAL	-6	APPROACH	3	APPROACH	REMOVE	2032
209	TREE	712	723	-17	TRANSITIONAL	1	APPROACH	9	APPROACH	REMOVE	2032
210	BUILDING W ANTENAE	713	736	-7	TRANSITIONAL	11	APPROACH	21	APPROACH	REMOVE	2032
211	TREE	713	726	-8	TRANSITIONAL	0	APPROACH	17	APPROACH	REMOVE	2032
212	FENCE	712	716	-11	APPROACH	-11	APPROACH	7	APPROACH	REMOVE	2032
213	BUILDING	712	722	-6	APPROACH	-6	APPROACH	13	APPROACH	REMOVE	2032
214	TELEPHONE POLE	704	729	-17	TRANSITIONAL	1	APPROACH	14	APPROACH	REMOVE	2032
215	FENCE @ FUT	704	709	-38	TRANSITIONAL	-20	APPROACH	-7	APPROACH	N/A	N/A
216	FENCE @ EXT	706	711	-18	APPROACH	-18	APPROACH	2	APPROACH	REMOVE	2032
217	FENCE @ CL	708	715	-14	APPROACH	-14	APPROACH	6	APPROACH	REMOVE	2032
218	STEELE ROAD @ FUT	705	720	-27	TRANSITIONAL	-10	APPROACH	4	APPROACH	REMOVE	2032
219	STEELE ROAD @ EXST	706	721	-8	APPROACH	-8	APPROACH	12	APPROACH	REMOVE	2032
220	STEELE ROAD @ CL	709	724	-5	APPROACH	-5	APPROACH	15	APPROACH	REMOVE	2032
221	STEELE ROAD @ EXST	714	729	-1	APPROACH	-1	APPROACH	20	APPROACH	REMOVE	2032
222	STEELE ROAD @ FUT	716	731	-17	TRANSITIONAL	1	APPROACH	15	APPROACH	REMOVE	2032
223	FENCE @ CL	709	716	-15	APPROACH	-15	APPROACH	7	APPROACH	REMOVE	2032
224	TREE	707	719	-25	TRANSITIONAL	-12	APPROACH	7	APPROACH	REMOVE	2032
225	POWER POLE	704	741	-5	TRANSITIONAL	11	APPROACH	27	APPROACH	REMOVE	2032
226	OLD INLAND EMPIRE HWY	724	739	-67	TRANSITIONAL	-49	APPROACH	-2	APPROACH	N/A	N/A
227	TREE	716	731	-13	TRANSITIONAL	0	APPROACH	20	APPROACH	REMOVE	2032
230	BUILDING	706	720	-26	TRANSITIONAL	-18	APPROACH	8	APPROACH	REMOVE	2032
231	BUILDING	716	728	-14	APPROACH	-8	APPROACH	17	APPROACH	REMOVE	2032
232	TREE	718	761	5	TRANSITIONAL	23	APPROACH	42	APPROACH	REMOVE	2032
233	FENCE @ EXST	716	719	-20	APPROACH	-19	APPROACH	7	APPROACH	REMOVE	2032
234	ACCESS ROAD	718	728	-32	TRANSITIONAL	-14	APPROACH	7	APPROACH	REMOVE	2032
235	FENCE @ FUT	717	721	-40	TRANSITIONAL	-22	APPROACH	-1	APPROACH	N/A	N/A
236	FENCE @ EXST	715	719	-23	APPROACH	-23	APPROACH	5	APPROACH	REMOVE	2032
237	FENCE @ FUT	706	710	-55	TRANSITIONAL	-37	APPROACH	-13	APPROACH	N/A	N/A
238	FENCE @ ULT	707	711	-46	TRANSITIONAL	-36	APPROACH	-7	APPROACH	N/A	N/A
239	FENCE @ EXST	709	713	-34	APPROACH	-34	APPROACH	-5	APPROACH	N/A	N/A
240	POWER POLE	719	755	-24	TRANSITIONAL	-6	TRANSITIONAL	23	TRANSITIONAL	LOWER	2032
241	ROAD SIGN INTX AHEAD	719	728	-53	TRANSITIONAL	-36	TRANSITIONAL	-5	TRANSITIONAL	N/A	N/A
242	TREE	718	745	-14	APPROACH	-14	APPROACH	21	APPROACH	REMOVE	2032
243	TREE	714	739	-27	TRANSITIONAL	-22	APPROACH	13	APPROACH	REMOVE	2032
244	ACCESS ROAD @ FUT	714	724	-56	TRANSITIONAL	-38	APPROACH	-6	APPROACH	N/A	N/A
245	ACCESS ROAD @ ULT	714	724	-48	TRANSITIONAL	-38	APPROACH	-2	APPROACH	N/A	N/A
246	ACCESS ROAD @ EXIST	715	725	-37	APPROACH	-37	APPROACH	-1	APPROACH	N/A	N/A
247	FENCE @ FUT	712	717	-63	TRANSITIONAL	-45	APPROACH	-13	APPROACH	N/A	N/A
248	FENCE @ ULT	715	717	-54	TRANSITIONAL	-45	APPROACH	-9	APPROACH	N/A	N/A
249	FENCE @ EXIST	717	719	-43	APPROACH	-43	APPROACH	-7	APPROACH	N/A	N/A
250	TREE	719	730	-32	APPROACH	-32	APPROACH	4	APPROACH	REMOVE	2032
251	TREE	720	732	-32	APPROACH	-32	APPROACH	5	APPROACH	REMOVE	2032
252	TREE	720	727	-36	APPROACH	-36	APPROACH	1	APPROACH	REMOVE	2032
253	FENCE @ CL	719	723	-40	APPROACH	-40	APPROACH	-3	APPROACH	N/A	N/A
254	FENCE @ EXIST	718	725	-39	APPROACH	-39	APPROACH	-2	APPROACH	N/A	N/A
255	FENCE @ FUT	719	723	-58	TRANSITIONAL	-41	APPROACH	-8	APPROACH	N/A	N/A
256	TREE	719	770	4	APPROACH	4	APPROACH	42	APPROACH	REMOVE	2019
257	TREE	719	780	10	APPROACH	10	APPROACH	49	APPROACH	REMOVE	2019
258	TREE	720	781	9	APPROACH	9	APPROACH	49	APPROACH	REMOVE	2019
259	TREE	720	776	0	APPROACH	0	APPROACH	42	APPROACH	REMOVE	2019
260	ULT FENCE	723	729	-62	TRANSITIONAL	-46	APPROACH	-5	APPROACH	N/A	N/A
261	ULT FENCE @ CL	720	726	-57	APPROACH	-57	APPROACH	-13	APPROACH	N/A	N/A
262	ULT FENCE	715	721	-76	TRANSITIONAL	-59	APPROACH	-16	APPROACH	N/A	N/A
263	BUILDING	717	735	-53	TRANSITIONAL	-49	APPROACH	-4	APPROACH	N/A	N/A
264	BUILDING	722	740	-45	APPROACH	-45	APPROACH	1	APPROACH	LOWER	2019
265	TREE	718	791	4	APPROACH	4	APPROACH	50	APPROACH	REMOVE	2019
266	TREE	717	816	29	APPROACH	29	APPROACH	75	APPROACH	REMOVE	2019
267	TREE	717	817	29	APPROACH	29	APPROACH	75	APPROACH	REMOVE	2019
268	TREE	717	816	26	APPROACH	26	APPROACH	73	APPROACH	REMOVE	2019
269	TREE	716	800	2	TRANSITIONAL	10	APPROACH	57	APPROACH	REMOVE	2019
270	TREE	715	807	3	TRANSITIONAL	17	APPROACH	64	APPROACH	REMOVE	2019
271	SILO	723	753	-38	APPROACH	-38	APPROACH	9	APPROACH	LOWER	2019
272	BUILDING	717	735	-57	APPROACH	-57	APPROACH	-9	APPROACH	N/A	N/A
273	BUILDING	723	741	-51	APPROACH	-51	APPROACH	-3	APPROACH	N/A	N/A
274	TREE	716	803	3	TRANSITIONAL	11	APPROACH	59	APPROACH	REMOVE	2019
275	TREE	716	805	6	TRANSITIONAL	12	APPROACH	60	APPROACH	REMOVE	2019
276	TREE	718	807	12	APPROACH	12	APPROACH	61	APPROACH	REMOVE	2019
277	TREE	719	809	14	APPROACH	14	APPROACH	63	APPROACH	REMOVE	2019
278	TREE	717	798	3	APPROACH	3	APPROACH	53	APPROACH	REMOVE	2019
279	TREE	717	797	-3	TRANSITIONAL	1	APPROACH	51	APPROACH	REMOVE	2019
280	TREE	722	799	0	APPROACH	0	APPROACH	51	APPROACH	REMOVE	2019
281	TREE	721	790	-9	APPROACH	-9	APPROACH	42	APPROACH	REMOVE	2019
282	TELEPHONE POLE	724	744	-62	TRANSITIONAL	-51	APPROACH	-1	APPROACH	N/A	N/A
283	TELEPHONE POLE	722	742	-53	APPROACH	-53	APPROACH	-4	APPROACH	N/A	N/A

OBSTRUCTIONS WITHIN RUNWAY 8

OBS ITEM	DESCRIPTION	GND ELEV (FT)	OBJ TOP ELEV (FT)	EXISTING SURFACE PENETRATION (FT)	EXISTING SURFACE PENETRATED	FUTURE SURFACE PENETRATION (FT)	FUTURE SURFACE PENETRATED	ULTIMATE SURFACE PENETRATION (FT)	ULTIMATE SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
284	TELEPHONE POLE	724	744	-52	APPROACH	-52	APPROACH	-2	APPROACH	N/A	N/A
285	POWER POLE	726	751	-66	TRANSITIONAL	-48	TRANSITIONAL	3	TRANSITIONAL	LOWER	2032
286	POWER POLE	717	743	-54	APPROACH	-54	APPROACH	-4	APPROACH	N/A	N/A
287	POWER POLE	721	746	-51	APPROACH	-51	APPROACH	-1	APPROACH	N/A	N/A
288	POWER POLE	724	749	-48	APPROACH	-48	APPROACH	2	APPROACH	LOWER	2032
289	POWER POLE	725	750	-58	TRANSITIONAL	-48	APPROACH	3	APPROACH	LOWER	2032
290	MISSIMER ROAD @ ULT	714	729	-85	TRANSITIONAL	-68	TRANSITIONAL	-17	TRANSITIONAL	N/A	N/A
291	MISSIMER ROAD @ FUT	715	730	-84	TRANSITIONAL	-66	APPROACH	-17	APPROACH	N/A	N/A
292	MISSIMER ROAD @ EXIST	717	732	-64	APPROACH	-64	APPROACH	-14	APPROACH	N/A	N/A
293	MISSIMER ROAD @ CL	723	738	-59	APPROACH	-59	APPROACH	-9	APPROACH	N/A	N/A
294	MISSIMER ROAD @ EXIT	725	740	-57	APPROACH	-57	APPROACH	-7	APPROACH	N/A	N/A
295	MISSIMER ROAD @ FUT	726	741	-75	TRANSITIONAL	-57	APPROACH	-6	APPROACH	N/A	N/A
296	MISSIMER ROAD @ ULT	726	741	-76	TRANSITIONAL	-58	TRANSITIONAL	-6	TRANSITIONAL	N/A	N/A
297	BUILDING	723	741	-62	APPROACH	-62	APPROACH	-9	APPROACH	N/A	N/A
298	BUILDING	726	744	-60	APPROACH	-60	APPROACH	-7	APPROACH	N/A	N/A
299	TREE	724	774	-34	APPROACH	-34	APPROACH	21	APPROACH	REMOVE	2032
300	TREE	726	822	16	APPROACH	16	APPROACH	70	APPROACH	REMOVE	2019
301	TREE	727	820	12	APPROACH	12	APPROACH	67	APPROACH	REMOVE	2019
302	TREE	726	817	9	APPROACH	9	APPROACH	64	APPROACH	REMOVE	2019
303	POWER POLE	728	753	-64	TRANSITIONAL	-57	APPROACH	-2	APPROACH	N/A	N/A
304	POWER POLE	730	755	-67	TRANSITIONAL	-63	APPROACH	-4	APPROACH	N/A	N/A
305	TREE	727	752	-84	TRANSITIONAL	-66	APPROACH	-7	APPROACH	N/A	N/A
306	POWER POLE	732	757	-69	TRANSITIONAL	-66	APPROACH	-5	APPROACH	N/A	N/A
307	TREE	728	758	-72	APPROACH	-72	APPROACH	-8	APPROACH	N/A	N/A
308	POWER POLE	733	758	-77	APPROACH	-77	APPROACH	-11	APPROACH	N/A	N/A
309	TREE	733	793	-62	TRANSITIONAL	-51	APPROACH	19	APPROACH	REMOVE	2032
310	OLD INLAND EMPIRE HWY	734	749	-97	APPROACH	-97	APPROACH	-27	APPROACH	N/A	N/A
311	POWER POLE	734	759	-89	APPROACH	-89	APPROACH	-18	APPROACH	N/A	N/A
312	TREE	734	794	-61	HORIZONTAL	-61	HORIZONTAL	16	HORIZONTAL	REMOVE	2032
313	TREE	729	779	-76	APPROACH	-76	APPROACH	-2	APPROACH	N/A	N/A
314	BUILDING	730	749	-107	APPROACH	-107	APPROACH	-32	APPROACH	N/A	N/A
315	TREE	728	788	-69	APPROACH	-69	APPROACH	6	APPROACH	REMOVE	2032
316	POWER POLE	734	759	-102	APPROACH	-102	APPROACH	-26	APPROACH	N/A	N/A
317	BUILDING	729	747	-114	APPROACH	-114	APPROACH	-38	APPROACH	N/A	N/A
318	BUILDING	734	752	-104	APPROACH	-109	APPROACH	-33	APPROACH	N/A	N/A
319	TREE	734	787	-69	APPROACH	-75	APPROACH	2	APPROACH	REMOVE	2032
320	TELEPHONE POLE	734	754	-111	APPROACH	-111	APPROACH	-33	APPROACH	N/A	N/A
321	TELEPHONE POLE	734	754	-116	APPROACH	-116	APPROACH	-36	APPROACH	N/A	N/A
322	POWER POLE	734	759	-114	APPROACH	-114	APPROACH	-33	APPROACH	N/A	N/A
323	TELEPHONE POLE	734	754	-124	APPROACH	-124	APPROACH	-40	APPROACH	N/A	N/A
324	TREE	739	819	-36	HORIZONTAL	-36	HORIZONTAL	22	HORIZONTAL	REMOVE	2032
325	POWER POLE	734	759	-126	APPROACH	-126	APPROACH	-40	APPROACH	N/A	N/A
326	TELEPHONE POLE	735	755	-133	APPROACH	-133	APPROACH	-45	APPROACH	N/A	N/A
327	TREE	740	820	-35	HORIZONTAL	-35	HORIZONTAL	19	HORIZONTAL	REMOVE	2032
328	TREE	743	823	-32	HORIZONTAL	-32	HORIZONTAL	16	HORIZONTAL	REMOVE	2032
329	POWER POLE	737	762	-141	APPROACH	-141	APPROACH	-47	APPROACH	N/A	N/A
330	TELEPHONE POLE	740	760	-145	APPROACH	-145	APPROACH	-50	APPROACH	N/A	N/A
331	TREE	733	773	-138	APPROACH	-138	APPROACH	-41	APPROACH	N/A	N/A
332	TREE	734	784	-132	APPROACH	-132	APPROACH	-33	APPROACH	N/A	N/A
333	TREE	737	797	-121	APPROACH	-121	APPROACH	-21	APPROACH	N/A	N/A

NOTES:
1. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
2. NO KNOWN PENETRATIONS TO THE OFZ.

Plot Date:5/2/2019 4:39 PM Plotted By: Shawn Dulin
Date Created:4/19/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MP\CAD\ALP\30-15-020-C-AF-5.DWG

REVISION				
NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

PORT OF BENTON

J-U-B ENGINEERS, INC.
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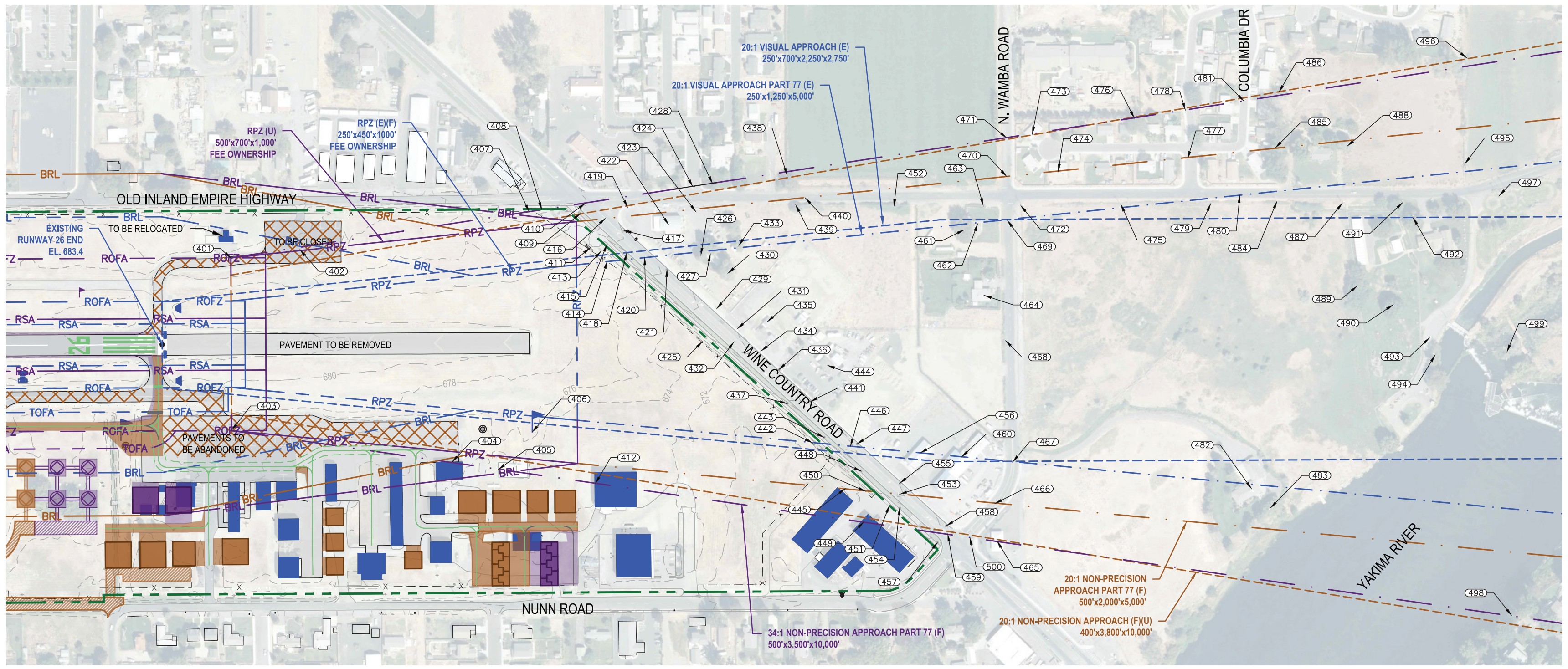
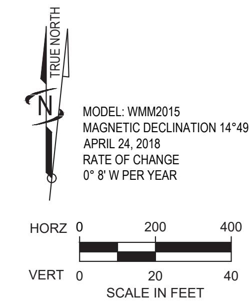
PORT OF BENTON
PROSSER AIRPORT

RUNWAY 8 INNER APPROACH SURFACE OBSTRUCTION TABLES

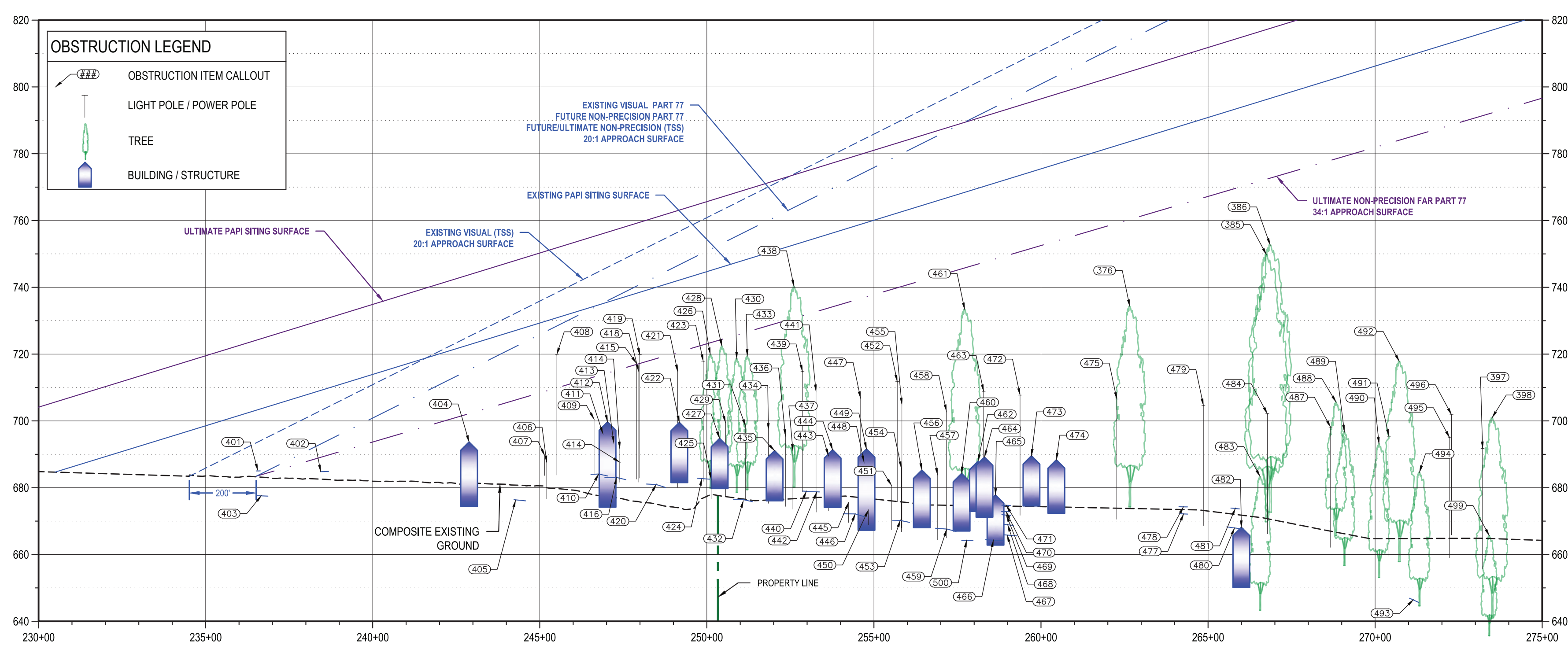
LAST UPDATED: 4/30/2019
SHEET NUMBER:
AF-5A



RUNWAY END 26 - PLAN



CLEARANCE TABLE WITHIN RUNWAY 26 PART 77 APPROACH SURFACES						
OBS ITEM	LOCATION	GROUND ELEVATION	TRAVERSE WAY ADJUSMENT	EXISTING APPROACH CLEARANCE	FUTURE APPROACH CLEARANCE	ULTIMATE APPROACH CLEARANCE
410	NORTH EDGE OF ULTIMATE APPROACH AT WINE COUNTRY ROAD	684.0	+15'	N/A	N/A	14.5'
416	NORTH EDGE OF FUTURE APPROACH AT WINE COUNTRY ROAD	683.2	+15'	N/A	39.0'	16.7'
420	NORTH EDGE OF EXISTING APPROACH AT WINE COUNTRY ROAD	681.0	+15'	47.4'	47.4'	22.8'
432	APPROACH CENTERLINE AT WINE COUNTRY ROAD	676.5	+15'	64.9'	64.9'	34.9'
446	SOUTH EDGE OF EXISTING APPROACH AT WINE COUNTRY ROAD	672.3	+15'	76.6'	76.6'	85.4'
453	SOUTH EDGE OF FUTURE APPROACH AT WINE COUNTRY ROAD	670.1	+15'	N/A	97.1'	57.3'
459	SOUTH EDGE OF ULTIMATE APPROACH AT WINE COUNTRY ROAD	664.6	+15'	N/A	N/A	64.5'
471	NORTH EDGE OF ULTIMATE APPROACH AT SOUTH WAMBA ROAD	674.7	+15'	N/A	N/A	58.7'
470	NORTH EDGE OF FUTURE APPROACH AT SOUTH WAMBAROAD	672.8	+15'	N/A	107.9'	61.6'
469	NORTH EDGE OF EXISTING APPROACH AT SOUTH WAMBA ROAD	671.7	+15'	108.9'	108.9'	62.6'
468	APPROACH CENTERLINE AT SOUTH WAMBA ROAD	668.9	+15'	111.4'	111.4'	65.3'
467	SOUTH EDGE OF EXISTING APPROACH AT SOUTH WAMBA ROAD	665.7	+15'	115.6'	115.5'	69.0'
466	SOUTH EDGE OF FUTURE APPROACH AT SOUTH WAMBA ROAD	664.2	+15'	N/A	114.5'	68.9'
500	SOUTH EDGE OF ULTIMATE APPROACH AT SOUTH WAMBA ROAD	664.2	+15'	N/A	N/A	66.7'



RUNWAY END 26 - PROFILE

VERTICAL SCALE: 20:1, HORIZONTAL SCALE: 200:1

NOTES:
1. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
2. AGIS AND DOF OBSTRUCTS ACCOUNTED FOR.
3. SEE SHEET AF-7 FOR LINE OF SIGHT PROFILE.

HORIZONTAL ACCURACY:
AT A MAP SCALE OF 1"=50' NOT MORE THAN 10% OF ALL WELL-DEFINED PLANIMETRIC FEATURES ARE IN ERROR BY MORE THAN 1.0'
VERTICAL ACCURACY:
CONTOUR INTERVAL 1.0 NOT MORE THAN 10% OF ALL VERTICAL POINTS ARE IN ERROR BY MORE THAN 1/2 THE ABOVE CONTOUR INTERVAL.

LEGEND

EXISTING	FUTURE	ULTIMATE	DESCRIPTION
			AIRPORT PAVEMENT
			AIRPORT PROPERTY LINE
			AIRPORT PROPERTY EASEMENTS
			APPROACH SURFACE
			PART 77 APPROACH SURFACE
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE
RSA	RSA	RSA	RUNWAY SAFETY AREA
ROFZ	ROFZ	ROFZ	RUNWAY OBJECT FREE ZONE
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
X	X	X	FENCE
			FENCE TO BE RELOCATED
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			GROUND CONTOURS (1' INTERVAL)

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PORT OF BENTON
PROSSER AIRPORT

RUNWAY 26 INNER APPROACH SURFACE

LAST UPDATED: 7/9/2019

SHEET NUMBER:

AF-6

OBSTRUCTIONS WITHIN RUNWAY 26

OBS ITEM	DESCRIPTION	GND ELEV (FT)	OBJ TOP ELEV (FT)	EXISTING SURFACE PENETRATION (FT)	EXISTING SURFACE PENETRATED	FUTURE SURFACE PENETRATION (FT)	FUTURE SURFACE PENETRATED	ULTIMATE SURFACE PENETRATION (FT)	ULTIMATE SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
401	TAXILANE	685	705	4	TRANSITIONAL	22	TRANSITIONAL	22	APPROACH	CLOSE	2027
402	APRON	685	705	-7	TRANSITIONAL	11	TRANSITIONAL	15	APPROACH	CLOSE	2027
403	APRON	678	698	-3	TRANSITIONAL	14	APPROACH	14	APPROACH	CLOSE	2027
404	HANGAR	675	694	-44	TRANSITIONAL	-26	TRANSITIONAL	-8	APPROACH	N/A	N/A
405	APRON	676	696	-49	TRANSITIONAL	-31	TRANSITIONAL	-10	APPROACH	N/A	N/A
406	WIND SOCK	677	688	-46	TRANSITIONAL	-39	APPROACH	-21	APPROACH	N/A	N/A
407	6 FT FENCE	684	690	-61	TRANSITIONAL	-43	TRANSITIONAL	-61	APPROACH	N/A	N/A
408	POWER POLE	684	720	-33	TRANSITIONAL	-15	TRANSITIONAL	-33	APPROACH	N/A	N/A
409	STREET LIGHT	684	701	-54	TRANSITIONAL	-37	TRANSITIONAL	-13	APPROACH	N/A	N/A
410	WINE COUNTRY ROAD @ ULT	684	699	-61	TRANSITIONAL	-43	TRANSITIONAL	-14	APPROACH	N/A	N/A
411	COVERED CITY MAP	682	696	-46	TRANSITIONAL	-39	APPROACH	-18	APPROACH	N/A	N/A
412	MAINTENACE HANGAR	674	700	-62	TRANSITIONAL	-44	TRANSITIONAL	-15	APPROACH	N/A	N/A
413	INFORMATION SIGN	682	693	-48	TRANSITIONAL	-44	APPROACH	-22	APPROACH	N/A	N/A
414	6 FT FENCE	682	688	-50	APPROACH	-50	APPROACH	-28	APPROACH	N/A	N/A
415	PATHWAY SIGN	682	692	-53	TRANSITIONAL	-46	APPROACH	-24	APPROACH	N/A	N/A
416	WINE COUNTRY ROAD @ FUT	684	699	-57	TRANSITIONAL	-39	APPROACH	-17	APPROACH	N/A	N/A
417	STREET LIGHT	683	717	-35	TRANSITIONAL	-23	APPROACH	0	APPROACH	NONE	N/A
418	SPEED LIMIT SIGN	682	715	-28	TRANSITIONAL	-26	APPROACH	-2	APPROACH	N/A	N/A
419	POWER POLE (DOF OAS#53-022424)	683	720	-43	TRANSITIONAL	-25	TRANSITIONAL	3	APPROACH	NONE	--
420	WINE COUNTRY ROAD @ EXIST	681	696	-47	APPROACH	-47	APPROACH	-23	APPROACH	N/A	N/A
421	STREET LIGHT	680	715	-32	APPROACH	-32	APPROACH	-6	APPROACH	N/A	N/A
422	BUILDING	682	700	-60	TRANSITIONAL	-47	APPROACH	-21	APPROACH	N/A	N/A
423	POWER POLE	682	718	-50	TRANSITIONAL	-33	APPROACH	-5	APPROACH	N/A	N/A
424	ROAD @ ULT	683	698	-80	TRANSITIONAL	-62	TRANSITIONAL	-25	APPROACH	N/A	N/A
425	6 FT FENCE @ CL	677	683	-69	APPROACH	-69	APPROACH	-41	APPROACH	N/A	N/A
426	TREE	680	720	-32	APPROACH	-32	APPROACH	-4	APPROACH	N/A	N/A
427	BUILDING	680	695	-58	APPROACH	-58	APPROACH	-29	APPROACH	N/A	N/A
428	TREE	682	722	-59	TRANSITIONAL	-41	TRANSITIONAL	-2	APPROACH	N/A	N/A
429	STREET LIGHT	677	699	-54	APPROACH	-54	APPROACH	-25	APPROACH	N/A	N/A
430	TREE	679	719	-37	APPROACH	-37	APPROACH	-7	APPROACH	N/A	N/A
431	STREET LIGHT	676	698	-58	APPROACH	-58	APPROACH	-28	APPROACH	N/A	N/A
432	WINE COUNTRY ROAD @ CL	676	691	-65	APPROACH	-65	APPROACH	-35	APPROACH	N/A	N/A
433	TREE	679	719	-38	TRANSITIONAL	-38	APPROACH	-7	APPROACH	N/A	N/A
434	STREET LIGHT	675	697	-63	APPROACH	-63	APPROACH	-31	APPROACH	N/A	N/A
435	BUILDING	676	691	-70	APPROACH	-70	APPROACH	-38	APPROACH	N/A	N/A
436	STREET LIGHT	674	695	-67	APPROACH	-67	APPROACH	-35	APPROACH	N/A	N/A
437	STREET LIGHT	674	691	-73	APPROACH	-73	APPROACH	-40	APPROACH	N/A	N/A
438	TREE	680	740	-52	TRANSITIONAL	-34	TRANSITIONAL	9	APPROACH	REMOVE	2025
439	POWER POLE	679	715	-66	TRANSITIONAL	-50	APPROACH	-17	APPROACH	N/A	N/A
440	OLD INLAND EMPIRE HWY @ FUT	679	694	-90	TRANSITIONAL	-73	APPROACH	-38	APPROACH	N/A	N/A
441	STREET LIGHT	674	709	-58	APPROACH	-58	APPROACH	-24	APPROACH	N/A	N/A
442	6 FT FENCE @ EXIST	673	679	-89	APPROACH	-89	APPROACH	-54	APPROACH	N/A	N/A
443	STREET LIGHT	673	690	-79	APPROACH	-79	APPROACH	-44	APPROACH	N/A	N/A
444	BUILDING	673	691	-78	APPROACH	-78	APPROACH	-43	APPROACH	N/A	N/A
445	6 FT FENCE @ FUT	670	676	-114	TRANSITIONAL	-96	TRANSITIONAL	-60	APPROACH	N/A	N/A
446	WINE COUNTRY ROAD @ EXST	681	696	-77	APPROACH	-77	APPROACH	-40	APPROACH	N/A	N/A
447	STREET LIGHT	672	707	-67	APPROACH	-67	APPROACH	-30	APPROACH	N/A	N/A
448	STREET LIGHT	670	688	-97	TRANSITIONAL	-87	APPROACH	-49	APPROACH	N/A	N/A
449	BUILDING	667	692	-114	TRANSITIONAL	-96	TRANSITIONAL	-46	APPROACH	N/A	N/A
450	4.5 FT FENCE @ FUT	669	673	-120	TRANSITIONAL	-102	APPROACH	-64	APPROACH	N/A	N/A
451	STREET LIGHT	667	681	-121	TRANSITIONAL	-103	TRANSITIONAL	-59	APPROACH	N/A	N/A
452	POWER POLE	676	712	-78	TRANSITIONAL	-68	APPROACH	-28	APPROACH	N/A	N/A
453	WINE COUNTRY ROAD @ FUT	668	683	-115	TRANSITIONAL	-97	APPROACH	-57	APPROACH	N/A	N/A
454	STREET LIGHT	667	686	-118	TRANSITIONAL	-100	TRANSITIONAL	-54	APPROACH	N/A	N/A
455	STREET LIGHT	668	705	-88	TRANSITIONAL	-75	APPROACH	-35	APPROACH	N/A	N/A
456	BUILDING	667	685	-98	APPROACH	-98	APPROACH	-57	APPROACH	N/A	N/A
457	STREET LIGHT	664	684	-138	TRANSITIONAL	-120	TRANSITIONAL	-138	APPROACH	N/A	N/A
458	STREET LIGHT	665	703	-113	TRANSITIONAL	-95	TRANSITIONAL	-41	APPROACH	N/A	N/A
459	WINE COUNTRY ROAD @ ULT	665	680	-140	TRANSITIONAL	-122	TRANSITIONAL	-64	APPROACH	N/A	N/A
460	BUILDING	667	684	-105	APPROACH	-105	APPROACH	-61	APPROACH	N/A	N/A
461	TREE	673	733	-56	APPROACH	-56	APPROACH	-12	APPROACH	N/A	N/A
462	BUILDING	673	688	-104	APPROACH	-104	APPROACH	-59	APPROACH	N/A	N/A
463	POWER POLE	673	709	-90	TRANSITIONAL	-83	APPROACH	-39	APPROACH	N/A	N/A
464	BUILDING	671	689	-103	APPROACH	-103	APPROACH	-58	APPROACH	N/A	N/A
465	BUILDING	663	678	-150	TRANSITIONAL	-132	TRANSITIONAL	-71	APPROACH	N/A	N/A
466	N. WAMBA RD	664	679	-132	TRANSITIONAL	-115	APPROACH	-69	APPROACH	N/A	N/A
467	N. WAMBA RD	666	681	-116	APPROACH	-116	APPROACH	-69	APPROACH	N/A	N/A
468	N. WAMBA RD	669	684	-111	APPROACH	-111	APPROACH	-65	APPROACH	N/A	N/A
469	N. WAMBA RD	672	687	-109	APPROACH	-109	APPROACH	-63	APPROACH	N/A	N/A
470	N. WAMBA RD	673	688	-126	TRANSITIONAL	-108	APPROACH	-62	APPROACH	N/A	N/A
471	N. WAMBA RD	676	691	-139	TRANSITIONAL	-121	TRANSITIONAL	-59	APPROACH	N/A	N/A
472	POWER POLE	672	708	-95	TRANSITIONAL	-90	APPROACH	-43	APPROACH	N/A	N/A
473	BUILDING	675	690	-144	TRANSITIONAL	-126	TRANSITIONAL	-62	APPROACH	N/A	N/A
474	BUILDING	672	688	-133	TRANSITIONAL	-115	APPROACH	-66	APPROACH	N/A	N/A
475	POWER POLE	671	707	-107	APPROACH	-106	APPROACH	-53	APPROACH	N/A	N/A
476	TREE	674	734	-117	TRANSITIONAL	-99	TRANSITIONAL	-26	APPROACH	N/A	N/A
477	NEW GATE DRIVE @ FUT	672	687	-152	TRANSITIONAL	-135	APPROACH	-78	APPROACH	N/A	N/A
478	NEW GATE DRIVE @ ULT	674	689	-166	HORIZONTAL	-153	TRANSITIONAL	-75	APPROACH	N/A	N/A

OBSTRUCTIONS WITHIN RUNWAY 26

OBS ITEM	DESCRIPTION	GND ELEV (FT)	OBJ TOP ELEV (FT)	EXISTING SURFACE PENETRATION (FT)	EXISTING SURFACE PENETRATED	FUTURE SURFACE PENETRATION (FT)	FUTURE SURFACE PENETRATED	ULTIMATE SURFACE PENETRATION (FT)	ULTIMATE SURFACE PENETRATED	PROPOSED ACTION	PROPOSED ACTION DATE
479	POWER POLE	669	705	-121	APPROACH	-121	APPROACH	-62	APPROACH	N/A	N/A
480	OLD INLAND EMPIRE HWY @ EXST	668	683	-146	APPROACH	-146	APPROACH	-86	APPROACH	N/A	N/A
481	COLUMBIA ROAD @ ULT	674	689	-166	HORIZONTAL	-163	TRANSITIONAL	-81	APPROACH	N/A	N/A
482	BUILDING	650	668	-164	TRANSITIONAL	-163	APPROACH	-102	APPROACH	N/A	N/A
483	TREE	643	683	-159	TRANSITIONAL	-150	APPROACH	-88	APPROACH	N/A	N/A
484	POWER POLE	666	702	-133	APPROACH	-133	APPROACH	-70	APPROACH	N/A	N/A
485	TREE	670	750	-103	TRANSITIONAL	-85	APPROACH	-23	APPROACH	N/A	N/A
486	TREE	673	723	-133	HORIZONTAL	-133	HORIZONTAL	-51	TRANSITIONAL	N/A	N/A
487	POWER POLE	662	698	-146	APPROACH	-146	APPROACH	-80	APPROACH	N/A	N/A
488	TREE	666	706	-150	HORIZONTAL	-139	APPROACH	-73	APPROACH	N/A	N/A
489	TREE	657	697	-150	APPROACH	-150	APPROACH	-82	APPROACH	N/A	N/A
490	TREE	653	693	-158	APPROACH	-158	APPROACH	-89	APPROACH	N/A	N/A
491	POWER POLE	659	695	-158	APPROACH	-158	APPROACH	-88	APPROACH	N/A	N/A
492	TREE	658	718	-137	APPROACH	-137	APPROACH	-66	APPROACH	N/A	N/A
493	ACCESS ROAD	647	657	-200	APPROACH	-200	APPROACH	-128	APPROACH	N/A	N/A
494	TREE	645	685	-173	APPROACH	-173	APPROACH	-101	APPROACH	N/A	N/A
495	POWER POLE	659	695	-160	HORIZONTAL	-167	APPROACH	-93	APPROACH	N/A	N/A
496	POWER POLE	666	702	-153	HORIZONTAL	-153	HORIZONATAL	-90	TRANSITIONAL	N/A	N/A
497	POWER POLE	656	692	-175	APPROACH	-175	APPROACH	-100	APPROACH	N/A	N/A
498	TREE	641	701	-154	HORIZONTAL	-154	HORIZONTAL	-91	APPROACH	N/A	N/A
499	TREE	626	666	-202	APPROACH	-202	APPROACH	-126	APPROACH	N/A	N/A
500	N. WAMBA RD	664	679	-144	TRANSITIONAL	-126	TRANSITIONAL	-67	APPROACH	N/A	N/A

NOTES:
1. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
2. NO KNOWN PENETRATIONS TO THE OFZ.

Plot Date:5/2/2019 4:37 PM Plotted By: Shawn Dulin
Date Created:4/19/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-5.DWG

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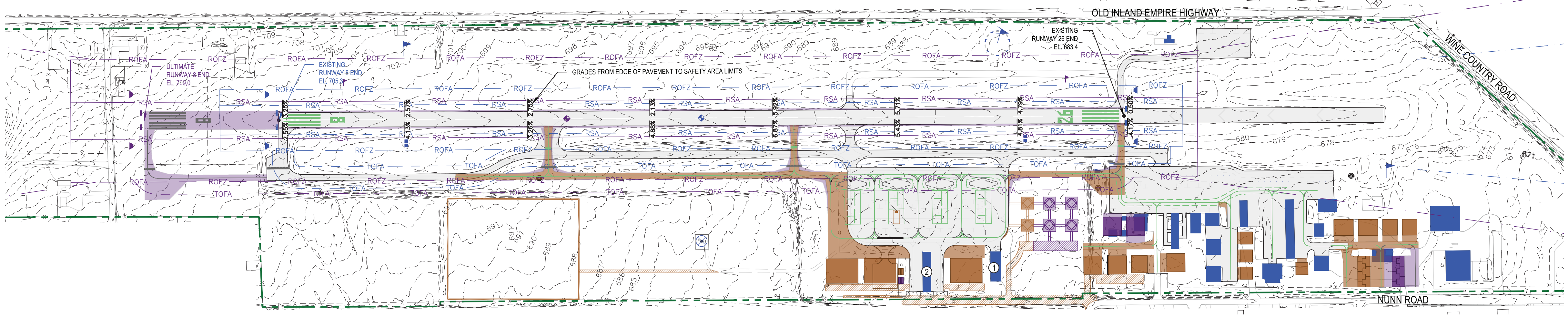
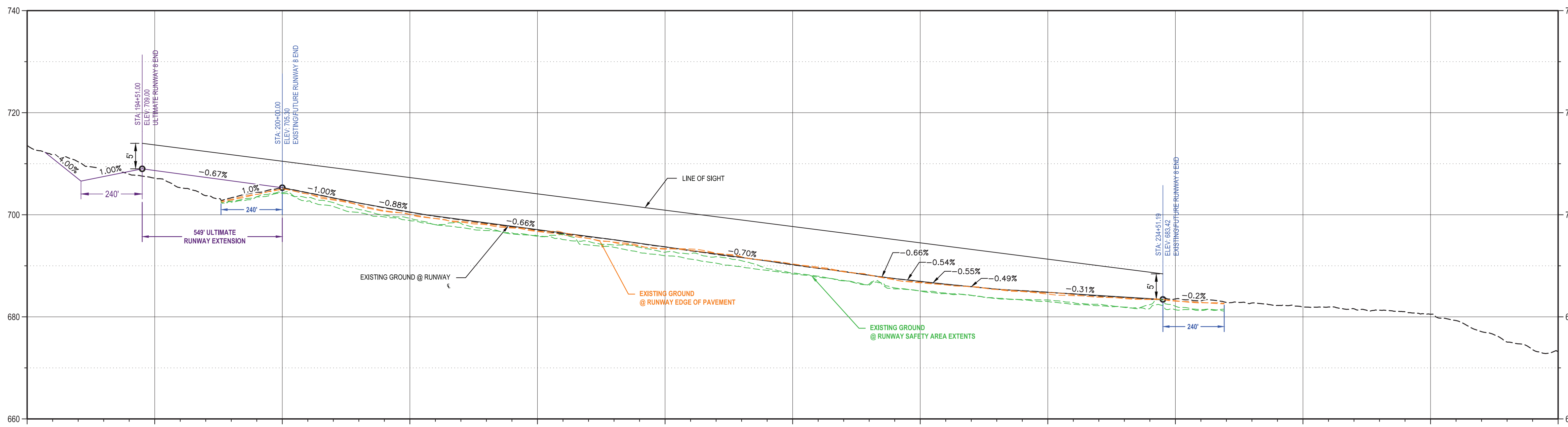
PROSSER AIRPORT

RUNWAY 26 INNER APPROACH SURFACE OBSTRUCTION TABLES

LAST UPDATED: 4/30/2019
SHEET NUMBER:
AF-6A



RUNWAY 8-26 PLAN



RUNWAY END 8 - PROFILE

VERTICAL SCALE: 10:1, HORIZONTAL SCALE: 200:1

LEGEND

EXISTING	FUTURE	ULTIMATE	DESCRIPTION
			AIRPORT PAVEMENT
			AIRPORT PROPERTY LINE
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RSA	RSA	RSA	RUNWAY SAFETY AREA
ROFZ	ROFZ	ROFZ	RUNWAY OBJECT FREE ZONE
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
X	X	X	FENCE
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			GROUND CONTOURS (2' INTERVAL)

TRUE NORTH
N

MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
APRIL 24, 2018
RATE OF CHANGE
0° 8' W PER YEAR

0 200 400
SCALE IN FEET

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

Plot Date:5/3/2019 6:54 AM Plotted By: Shawn Dulin
Date Created:5/2/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-7.DWG

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

PORT OF BENTON

J-U-B ENGINEERS, INC.
J-U-B ENGINEERS, INC.
2810 W. Clearwater Ave.
Suite 201
Kennewick, WA 99336
Phone: 509.783.2144
Fax: 509.736.0790
www.jub.com

FILE : 30-15-020-C-AF-7
JUB PROJ. # : 30-15-020
DRAWN BY: SMD
DESIGN BY: ----
CHECKED BY: ----

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

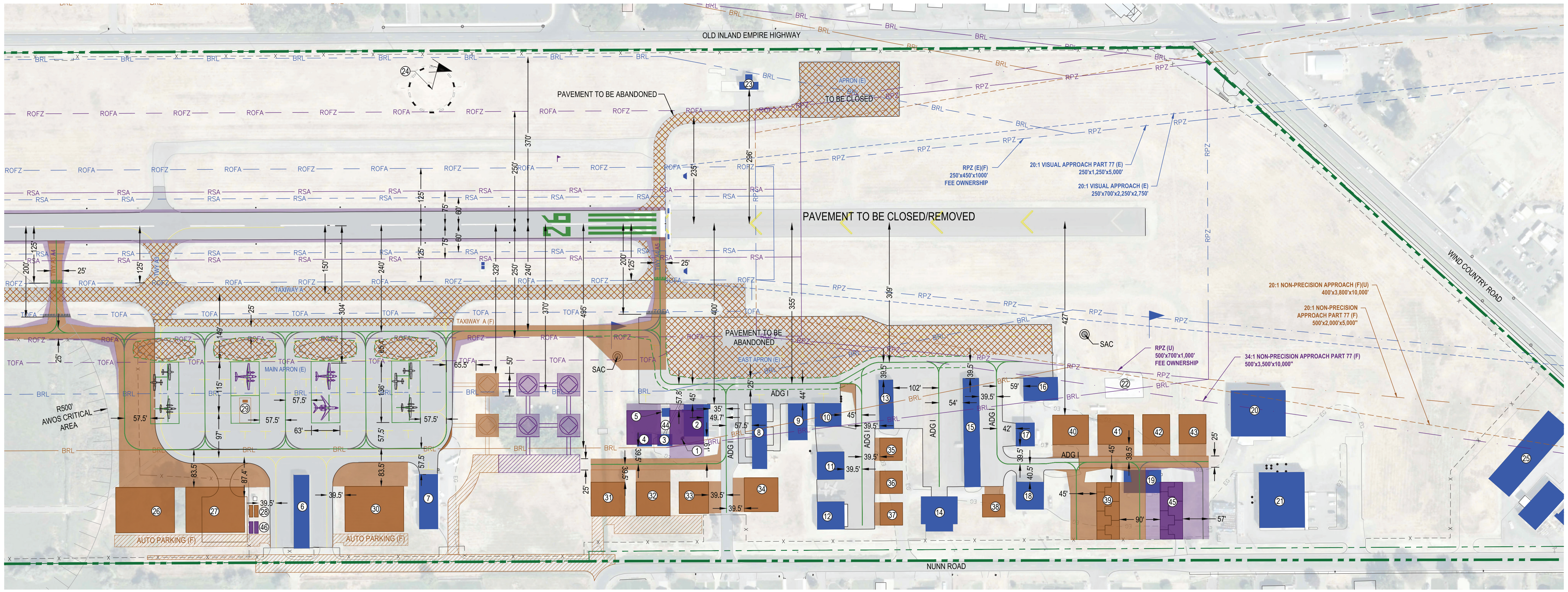
PORT OF BENTON
PROSSER AIRPORT

RUNWAY CENTERLINE PLAN AND PROFILE

LAST UPDATED: 5/2/2019

SHEET NUMBER:

AF-7



LEGEND

EXISTING	FUTURE	ULTIMATE	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT
			ROADWAY
			BUILDING ENVELOPE (LOT)
			AIRPORT PROPERTY LINE
			APPROACH SURFACE
			PART 77 APPROACH SURFACE
BRL	BRL	BRL	BUILDING RESTRICTION LINE
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE
RSA	RSA	RSA	RUNWAY SAFETY AREA
ROFZ	ROFZ	ROFZ	RUNWAY OBJECT FREE ZONE
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
			NAVAID CRITICAL AREA
X	X	X	FENCE
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			PAVEMENT TO BE CLOSED/REMOVED/ABANDONED

EXISTING BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	CONDITION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
1	ROTATING BEACON AND TOWER	GOOD	N/A	54	729
2	FBO / PILOT LOUNGE	GOOD	3,800	21	698
3	RESTROOMS	GOOD	800	12	687
4	EAA BUILDING	GOOD	900	12	687
5	FUEL TANK	GOOD	N/A	11	691
6	T-HANGARS	GOOD	5,670	17	695
7	HANGAR	GOOD	4,800	17	693
8	T-HANGARS	POOR	4,600	17	693
9	HANGAR	GOOD	3,400	17	693
10	HANGAR	GOOD	3,000	17	693
11	HANGAR	GOOD	3,600	23	698
12	HANGAR	GOOD	3,600	23	698
13	T-HANGARS	FAIR	4,600	17	694
14	HANGAR	NEW	5,800	23	697
15	T-HANGARS	FAIR	8,600	17	694
16	HANGAR	GOOD	3,750	23	697
17	HANGAR	GOOD	3,000	23	695
18	HANGAR	GOOD	3,600	20	693
19	MAINTENANCE HANGAR	GOOD	4,000	18	690
20	INDUSTRIAL PARK BUILING	GOOD	12,000	27	700
21	INDUSTRIAL PARK BUILDING	GOOD	12,000	23	696
22	HANGAR (ABANDONED CONCRETE)	N/A	925	0	675
23	T-HANGAR (TO BE REMOVED)	POOR	925	17	704
24	LIGHTED WIND SOCK AND SEGMENTED CIRCLE	GOOD	N/A	23	709
25	CHUKAR CHERRIES (4 BLDGS)	GOOD	N/A	23	692

FUTURE BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
26	HANGAR	100X130	13,000	35	715
27	HANGAR	100X130	13,000	35	715
28	FUEL TANKS	N/A	500	10	688
29	FUEL ISLAND	25X55	1,375	6	686
30	FUTURE GA FBO TERMINAL	100X130	13,000	35	712
31	HANGAR	75X75	5,625	35	709
32	HANGAR	75X75	5,625	35	709
33	HANGAR	65X70	4,550	35	709
34	HANGAR	75X75	5,625	35	708
35	HANGAR	50X50	2,500	35	708
36	HANGAR	50X50	2,500	35	708
37	HANGAR	50X50	2,500	35	708
38	HANGAR	50X50	2,500	35	708
39	T-HANGARS (QTY 5)	50X126	6,300	35	707
40	HANGAR	65X80	5,200	35	708
41	HANGAR	65X80	5,200	35	708
42	HANGAR	65X60	3,900	35	708
43	HANGAR	65X60	3,900	35	708

ULTIMATE BUILDING AND FACILITIES LIST

NO.	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	TOP ELEV.
44	HANGAR (QTY 2)	75X75	5,625	30	706
45	T-HANGARS (QTY 5)	50X126	6,300	35	707
46	FUEL TANKS	N/A	500	10	688

NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. DATE OF OBSTRUCTION FLIGHT WAS 9/13/14.
3. ALL EXISTING TAXIWAY WIDTHS ARE 25'.
4. EXISTING AND FUTURE BUILDINGS ARE LABELED ON THE TERMINAL AREA PLAN.
5. RUNWAY 8 PAPI-2 IS LOCATED AT STATION 205+17, 99.2 FT FROM RUNWAY CENTERLINE. RUNWAY 26 PAPI-2 IS LOCATED AT STATION 230+49, 91.4 FT FROM RUNWAY CENTERLINE.
6. RUNWAY 8 REILS ARE LOCATED AT STATION 199+59, 105 FT FROM RUNWAY CENTERLINE. RUNWAY 26 REILS ARE LOCATED AT STATION 234+19, 105 FT FROM RUNWAY CENTERLINE.
7. TAXIWAY A EDGE SAFETY MARGIN (TESM); TAXIWAY DESIGN GROUP (TDG) 1A (E,F): 5 FT, 1B (U): 5 FT
8. TAXIWAY A SHOULDER WIDTH; TAXIWAY DESIGN GROUP (TDG) 1A (E,F): 10 FT, 1B (U): 10 FT
9. RUNWAY SHOULDER WIDTH; B-I SMALL (E,F): 10 FT, B-II (U): 10 FT
10. TAXIWAY A OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) I: 89 FT
11. TAXILANE OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) I: 79 FT
12. TAXIWAY/TAXILANE SAFETY AREA (TSA); AIRPLANE DESIGN GROUP (ADG) I: 49 FT
13. APRON (E): 35,494 SQUARE YARDS, APRON (F)(U) 19,470 SQUARE YARDS
14. ALL FENCES ARE 6 FEET IN HEIGHT UNLESS OTHERWISE NOTED.
15. THE DEPICTED 35-FOOT BUILDING RESTRICTION LINE IS INTENDED AS A GUIDELINE ONLY. FUTURE HANGARS MUST RECEIVE A NO-HAZARD DETERMINATION VIA FAA FROM 7460 FILING.

TRUE NORTH
N
MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
APRIL 24, 2018
RATE OF CHANGE
0° 8' W PER YEAR

0 100 200
SCALE IN FEET

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Plot Date:5/2/2019 4:19 PM Plotted By: Shawn Dulin
Date Created:4/30/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-8.DWG

REVISION

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PORT OF BENTON
PROSSER AIRPORT

TERMINAL AREA PLAN

LAST UPDATED: 5/2/2019
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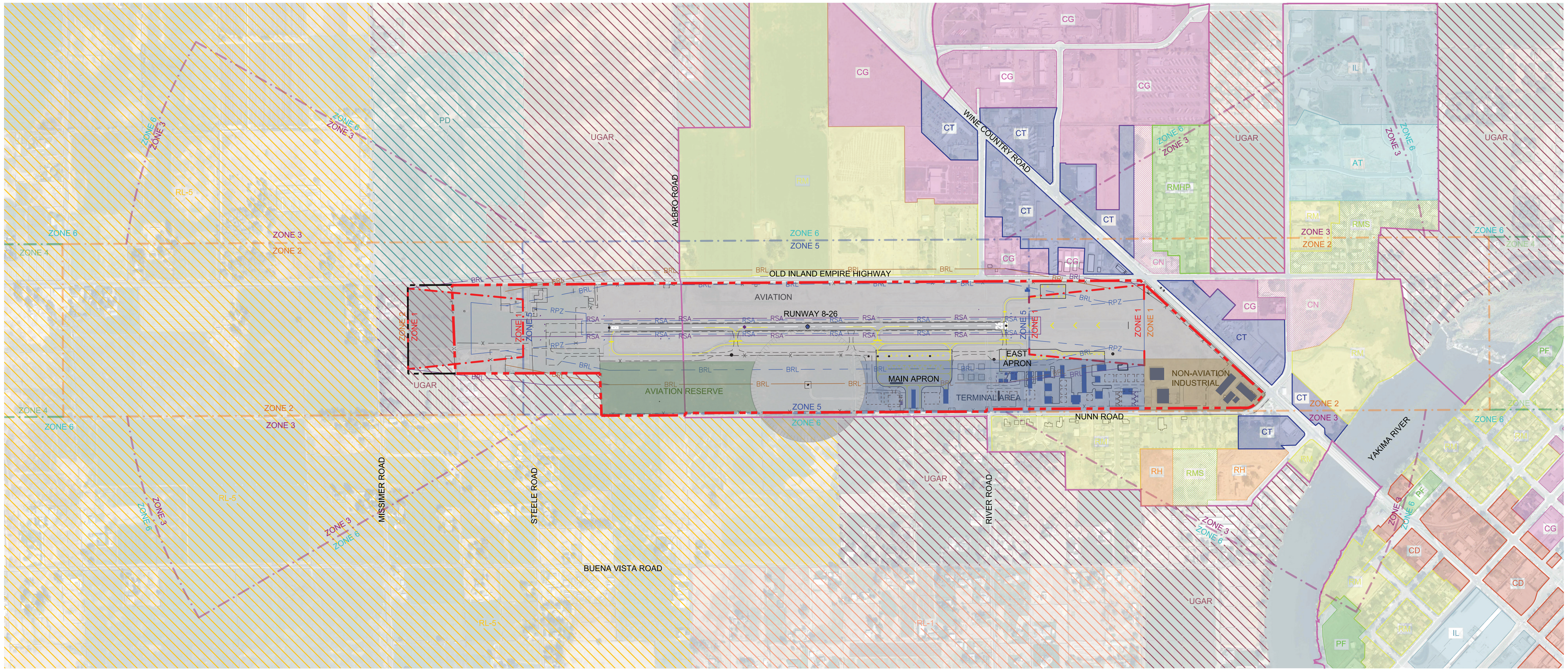

CITY OF PROSSER LAND USE

- AT - AGRICULTURAL - TOURISM
- CT - COMMERCIAL THOROUGHFARE
- CN - COMMERCIAL NEIGHBORHOOD
- CG - COMMERCIAL GENERAL
- CD - COMMERCIAL DOWNTOWN
- RH- RESIDENTIAL HIGH DENSITY
- RM - RESIDENTIAL MEDIUM DENSITY
- RMHP - RESIDENTIAL MANUFACTURED HOME PARK
- RMS - RESIDENTIAL MANUFACTURED HOME SUBDIVISION
- PF - PUBLIC FACILITY
- IL - INDUSTRIAL LIGHT

BENTON COUNTY LAND USE

- GC - GENERAL COMMERCIAL
- IL - LIGHT INDUSTRIAL
- UGAR
- RL-1
- RL-5
- PD - PARK DISTRICT

AIRPORT LAND USE

- AVIATION
- AVIATION RESERVE
- TERMINAL AREA
- NON-AVIATION INDUSTRIAL

AIRPORT SAFETY COMPATIBILITY ZONES

- ZONE 1 - RUNWAY PROTECTION ZONE
- ZONE 2 - RUNWAY APPROACH ZONE
- ZONE 3 - TURNING ZONE
- ZONE 4 - EXTENDED RUNWAY ZONE
- ZONE 5 - RUNWAY SAFETY AREA
- ZONE 6 - TRAFFIC PATTERN ZONE

COMPATABILITY ZONE LAND USE GUIDELINES:

ZONE 1: AVOID LAND USES WHICH CONCENTRATE PEOPLE INDOORS OR OUTDOORS.
PROHIBIT ALL RESIDENTIAL LAND USES. ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE POPULATION DENSITY AND SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES.

ZONE 2: AVOID LAND USES WHICH CONCENTRATE PEOPLE INDOORS OR OUTDOORS.
PROHIBIT ALL RESIDENTIAL LAND USES. ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE POPULATION DENSITY AND SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES.

ZONE 3: AVOID LAND USES WHICH CONCENTRATE PEOPLE INDOORS OR OUTDOORS.
RUNWAY <4,000 FEET - PROHIBIT ALL RESIDENTIAL LAND USES.
ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES.

ZONE 4: LIMIT POPULATION CONCENTRATIONS.
RUNWAY <4,000 FEET - PROHIBIT ALL RESIDENTIAL LAND USES.
ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES

ZONE 5: AVOID LAND USES WHICH CONCENTRATE PEOPLE INDOORS OR OUTDOORS.
PROHIBIT ALL RESIDENTIAL LAND USES. ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE POPULATION DENSITY AND SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES.

ZONE 6: LIMIT LARGE CONCENTRATIONS OF PEOPLE.
RUNWAY <4,000 FEET - MAXIMUM 1DU/5 ACRE IN RURAL AREAS OR 1 DU/5 ACRE IN URBAN AREA
ALL NON-RESIDENTIAL LAND USES PERMITTED OUTRIGHT SUBJECT TO THE SPECIAL FUNCTION LAND USE GUIDELINES.
PROHIBIT ALL SPECIAL FUNCTION LAND USES

NOTES:

GOAL LU-9: PROVIDE THE PROSSER AIRPORT WITH REASONABLE PROTECTION FROM AIRSPACE OBSTRUCTIONS, INCOMPATIBLE LAND USES, AND NUISANCE COMPLAINTS THAT COULD RESTRICT OPERATIONS.

POLICY LU-9.1: KEEP RESIDENTIAL LAND UNDERLYING THE AIR APPROACH EAST AND WEST OF THE RUNWAY TO A LOW DENSITY AND INTENSITY. COMMERCIAL USES, THAT ATTRACT SIGNIFICANT NUMBERS OF PEOPLE, SHOULD BE DISCOURAGED.

POLICY LU-9.2: PLAN LAND USE AROUND THE AIRPORT WITH POTENTIAL NOISE PROBLEMS IN MIND. OPEN SPACE USES ARE MOST DESIRABLE, SUCH AS, PARKS, CEMETERIES, GOLF COURSES, ETC. COMMERCIAL USES CONSISTENT WITH THE LAND USE MAP ARE APPROPRIATE PROVIDED APPROPRIATE NOISE INSTALLATION MEASURES ARE INCORPORATED INTO THE CONSTRUCTION OF NEW BUILDINGS. INDUSTRIAL USES ARE APPROPRIATE IF LOCATED IN A PLANNED PARK. LOW-DENSITY RESIDENTIAL USE WITH SOUND-REDUCTION WOULD BE APPROPRIATE.

POLICY LU-9.3: PLAN INDUSTRIAL SITE DEVELOPMENT IN THE AIRPORT AREA KEEPING IN MIND THE NEEDS AND OPERATIONS OF THE AIRPORT.

LEGEND

EXISTING	FUTURE	ULTIMATE	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT
			ROADWAY
			AIRPORT PROPERTY LINE
			PARCEL LINES
			PROSSER CITY LIMITS
BRL	BRL	BRL	BUILDING RESTRICTION LINE
RSA	RSA	RSA	RUNWAY SAFETY AREA
			NAVAID CRITICAL AREA
X	X	X	FENCE

TRUE NORTH
N
MODEL: WMM2015
MAGNETIC DECLINATION 14°49'E
APRIL 24, 2018
RATE OF CHANGE
0° 8' W PER YEAR

0 400 800
SCALE IN FEET

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Plot Date:5/2/2019 4:36 PM Plotted By: Shawn Dulin
Date Created:4/30/2019 \\BOISEFILES\PUBLIC\PROJECTS\JUB\30-15-020 - PROSSER MPU\CAD\ALP\30-15-020-C-AF-9.DWG

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DESIGN BY: ----
CHECKED BY: ----

ONE INCH
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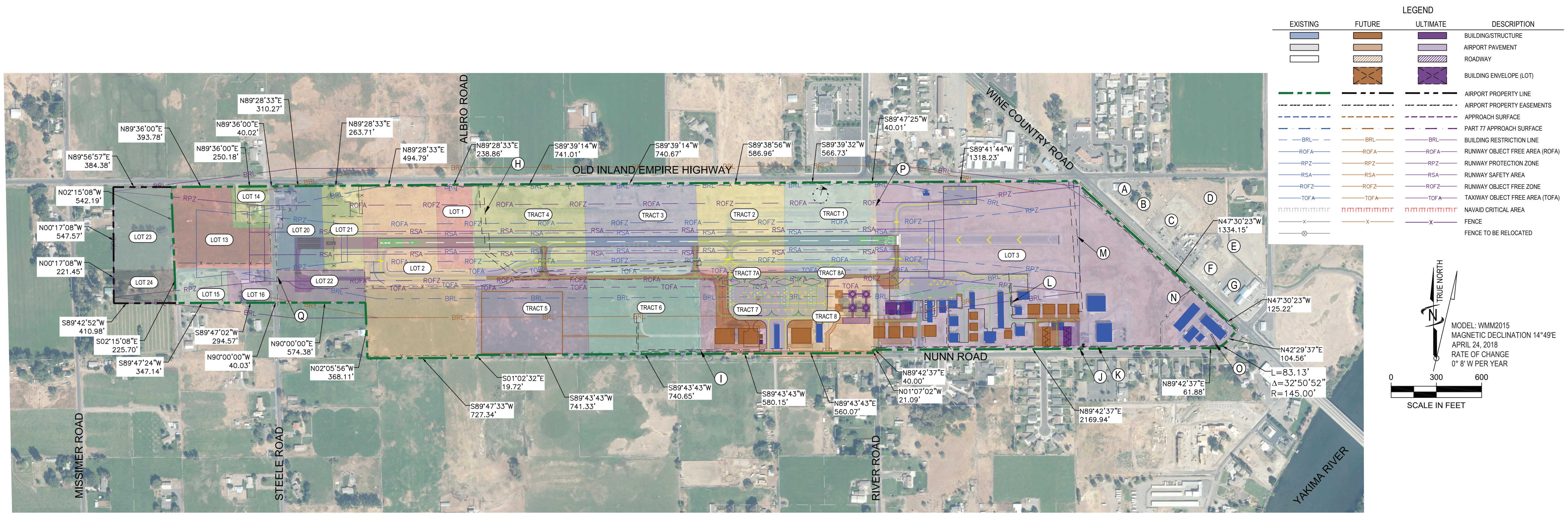
PORT OF BENTON
PROSSER AIRPORT

LAND USE

LAST UPDATED: 4/30/2019
SHEET NUMBER:
AF-9



AIRPORT PROPERTY PARCEL INFORMATION

PARCEL	GRANTOR	TYPE OF INTEREST	ACREAGE (APPROX.)	INSTRUMENT	AUDITORS FILE NUMBER	BOOK AND PAGE	DATE OF ACQUISITION	FAA GRANT/YEAR	ACQUISITION PURPOSE	KNOWN EMCUMBRANCES	EASEMENTS & REMARKS
LOT 1	PROPST	FEE	16.06	WARRANTY DEED	1996-8130		7/5/1995		AIRPORT		
LOT 2	PROPST & STONE	FEE	3.15	WARRANTY DEED	1989-17800		11/9/1989	3-53-0050-02/1991	AIRPORT		
LOT 3	CITY OF PROSSER	FEE	50.92	QUIT CLAIM DEED	1946-3943		6/19/1961		AIRPORT		
LOT 13	SMITH	FEE	8.02	WARRANTY DEED	2007-033272		10/5/2007	3-53-0050-10/2008	AIRPORT	NONE	
LOT 14	WHITED	FEE	1.18	WARRANTY DEED	2009-003302		1/15/2010	3-53-0050-11/2009	AIRPORT		1) WA. IRR. CO. ROW FOR MAINT. 2) ROW BENTON PUD POWER EASEMENT W 10-FT OF E 25-FT OF PROPERTY. 3) ROW BENTON PUD POWER EASEMENT S 10-FT OF N 277 FT OF E 425 FT OIE HWY AND STEELE RD
LOT 15	DELEON	FEE	1.57	WARRANTY DEED	2009-008364		2/13/2009	3-53-0050-11/2009	AIRPORT	Sunnyside Irrigation Dist. 93-20056, Road & Irrigation Maint. Agreements btw Smith and Robledo 93-24982	1) WA. IRR. CO. ROW FOR MAINT. 2) SUNNYSIDE VALLEY IRR PROJECT & ROW FOR WATER IN FAVOR OF KATHLEEN WILKINSON-SMITH. 3) BENTON PUD IRRIGATION 10-FT ALONG SOUTH AND WEST SIDES. 4) ROW EASEMENT BENTON PUD 93-25410
LOT 16	MARTIN	FEE	1.72	WARRANTY DEED	2009-03044		7/13/2009	3-53-0050-11/2009	AIRPORT		1) SUNNYSIDE VALLEY IRR PROJECT. 2) WA. IRR. CO. ROW FOR MAINT. 3) ROW EASEMENT BENTON PUD ELECTRIC POWER LINE & ROAD
LOT 20	SYBOUTS	FEE	4	WARRANTY DEED	2009-00330		1/8/2009	3-53-0050-13/2010	AIRPORT		1) WA. IRR. CO. ROW FOR MAINT. 2) SUNNYSIDE VALLEY IRR PROJECT. 3) CITY OF PROSSER ROW FOR OIE HWY
LOT 21	KILLIAN	FEE	4	WARRANTY DEED	2009-003296		12/23/2008	3-53-0050-13/2010	AIRPORT		1) WA. IRR. CO. ROW FOR MAINT. 2) SUNNYSIDE VALLEY IRR PROJECT. 3) CITY OF PROSSER ROW FOR OIE HWY, 4) Avigation Easement 5/6/1948, Vol 96/Pg 367 covers Killian, McGrew and Sybouts Properties
LOT 22	MCGREW	FEE	2.92	WARRANTY DEED	2010-002165		2/26/2009	3-53-0050-13/2010	AIRPORT		1) WA. IRR. CO. ROW FOR MAINT. 2) SUNNYSIDE VALLEY IRR PROJECT. 3) CITY OF PROSSER
TRACT 1	CITY OF PROSSER	FEE	7.27	QUIT CLAIM DEED	1945-7938	VOL. 2, PG. 37	6/19/1961		AIRPORT		ALLGAIER'S HOME TRACT 1
TRACT 2	CITY OF PROSSER	FEE	7.52	QUIT CLAIM DEED	1945-7938	VOL. 2, PG. 37	6/19/1961		AIRPORT		ALLGAIER'S HOME TRACT 2
TRACT 3	CITY OF PROSSER	FEE	9.49	QUIT CLAIM DEED	1945-7938	VOL. 2, PG. 37	6/19/1961		AIRPORT		ALLGAIER'S HOME TRACT 3
TRACT 4	CITY OF PROSSER	FEE	9.49	QUIT CLAIM DEED	1945-7938	VOL. 2, PG. 37	6/19/1961		AIRPORT		ALLGAIER'S HOME TRACT 4
TRACT 5	PROPST	FEE	9.66	WARRANTY DEED	1996-8130	VOL. 2, PG. 37	7/5/1995		AIRPORT		ALLGAIER'S HOME TRACT 5
TRACT 6	PROPST	FEE	9.66	WARRANTY DEED	1996-8130	VOL. 2, PG. 37	7/5/1995		AIRPORT		ALLGAIER'S HOME TRACT 6
TRACT 7	B&K, INC.	FEE	6.61	HISTORICAL DEED	1998-01538	VOL. 2, PG. 37	4/8/1998	3-53-00050-04/1999	AIRPORT		ALLGAIER'S HOME TRACT 7 (PORTION)
TRACT 7A	B&K, INC.	FEE	1	WARRANTY DEED	1980-5429		10/18/1979	5-53-0050-01/1977	AIRPORT		ALLGAIER'S HOME TRACT 7 (PORTION)
TRACT 8	B&K, INC.	FEE	6.38	HISTORICAL DEED	1998-01538	VOL. 2, PG. 37	4/8/1998	3-53-00050-04/1999	AIRPORT		ALLGAIER'S HOME TRACT 8 (PORTION)
TRACT 8A	B&K, INC.	FEE	0.97	WARRANTY DEED	1980-5429		10/18/1979	5-53-0050-01/1977	AIRPORT		ALLGAIER'S HOME TRACT 8 (PORTION)

*This information should be used for planning purposes only. An official land survey should be completed to attained accurate information. No Surplus Property Transfer, Government Land Transfer or statutory federal agreements or conditions were part of the listed properties. No known properties were released from federal obligations or property disposal.

PROPERTY ENCUMBRANCES

#	GRANTOR	TYPE OF INTEREST	ACREAGE (APPROX.) OR WIDTH	INSTRUMENT	AUDITOR'S FILE NUMBER	DATE	GRANT/YEAR	DESCRIPTION
A (OLD)	JEFFERY AND LORRAINE GOOLDY	AVIG. EASEMENT	0.64			1/11/1978	5-53-0050-01/1977	
B (OLD)	JEFFERY AND LORRAINE GOOLDY	AVIG. EASEMENT	0.92			12/12/1977	5-53-0050-01/1977	
C (OLD)	LAWRENCE AND CLAUDIA BRUNELLE	AVIG. EASEMENT	0.92			10/11/1977	5-53-0050-01/1977	
D (OLD)	MANUEL AND ELIBERTA SANTOY	AVIG. EASEMENT	3.39			10/7/1977	5-53-0050-01/1977	
E (OLD)	THE WOODSHOP INC.	AVIG. EASEMENT	3.25			12/12/1977	5-53-0050-01/1977	
F (OLD)	KANG YOUNG SON	AVIG. EASEMENT	0.92			11/7/1977	5-53-0050-01/1977	
G (OLD)	MAXINE MARIE BROWN	AVIG. EASEMENT	1.38			10/11/1977	5-53-0050-01/1977	
H	PORT OF BENTON	EASEMENT	30'		2009-028526			SVID IRRIGATION EASEMENT
I	PORT OF BENTON	EASEMENT	1'					BPUD EASEMENT
J	PORT OF BENTON	EASEMENT	15'		87-17158			SANITARY SEWER EASEMENT
K	PORT OF BENTON	EASEMENT	10'		88-4169			PUD EASEMENT
L	PORT OF BENTON	EASEMENT	10'		2010-018499			PUD EASEMENT
M	PORT OF BENTON	EASEMENT	30'		2009-028526			SVID IRRIGATION EASEMENT
N	PORT OF BENTON	EASEMENT	10'		88-4169			PUD EASEMENT
O	PORT OF BENTON	EASEMENT	10'					PUD EASEMENT
P	PORT OF BENTON	RW	40'					ROAD RIGHT OF WAY (40' EXISTING)
Q	PORT OF BENTON	RW	40'					ROAD RIGHT OF WAY (40' EXISTING, 60' FUTURE)

FUTURE PROPERTY ACQUISITION INFORMATION

PARCEL	OWNER	TYPE OF INTEREST	ACREAGE (APPROX)	DATE OF ACQUISITON	REMARKS
LOT 23	SHANAFELT, MATTHEW				
LOT 24	GAGNER, JAMES & JOAN				

SPONSOR APPROVAL

PORT OF BENTON DATE

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

Plot Date:5/2/2019 4:33 PM Plotted By: Shawn Dulin
Date Created:4/30/2019

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

PORT OF BENTON

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JUB PROJ. # : 30-15-020
DRAWN BY: SMD
DESIGN BY: ----
CHECKED BY: ----

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

PORT OF BENTON
PROSSER AIRPORT

AIRPORT PROPERTY INVENTORY - EXHIBIT A

LAST UPDATED: 4/30/2019
SHEET NUMBER:
AF-10

PROSSER AIRPORT - S40

APPENDIX 1 - AIRPORT RECYCLING PLAN

FACILITY DESCRIPTION AND BACKGROUND

Prosser Airport (S40) is currently a general aviation airport owned and operated by the Port of Benton (Port) under the jurisdiction of the Washington State Department of Transportation (WSDOT), South Central Region which includes Kittitas, Yakima, Benton, Walla Walla, Columbia, Garfield, and Asotin counties. It is also under the jurisdiction of the Federal Aviation Administration's (FAA) Northwest Mountain Airport Region Seattle Airports District Office. S40 is managed by the Port of Benton's Director of Airports and Operations in conjunction with the Port of Benton Commissioners. The Commission is comprised of a three-member board and each member is elected to a six-year term. While the Director of Airports and Operations is the point of contact for airport matters, the Director must receive approval from the Commissioners to execute contracts or agreements. Each commissioner represents a separate district within the Port boundaries. The commissioners are:

- Roy D. Keck - President
- Jane F. Hagarty - Vice President
- Robert Larson - Secretary

The Port provides for multi-modal transportation including two airports (Prosser and Richland), short line rail, barge, and trucking amenities. S40 is located in Benton County one mile northwest of the Prosser central business district. It occupies 120 acres of land of which approximately 100 acres are used for aeronautical uses.

WSDOT staff inspects Prosser Airport on a semi-regular basis to assess facilities and activity. The latest Airport Facilities and Services Report on the WSDOT Aviation website indicates that S40 accommodates 6,000 total annual aircraft operations, including 3,000 itinerant (50%) and 3,000 local general (50%) aviation operations with no commercial or military operations. The inspection notes 45 based single-engine and one (1) multi-engine based aircraft.

FAA maintains and administers its own internal historical activity record and forecasting effort, the Terminal Area Forecast (TAF). With respect to Prosser, the TAF notes:

- 7,700 annual itinerant general aviation operations and 5,500 annual local general aviation operations, totaling 13,200 annual operations during the 2007 through 2016.
- 7,700 annual itinerant general aviation operations, 5,500 local general aviation operations, totaling 13,200 annual operations from 2007 to current, and the same to the TAF's final 2040 forecast year. This is the current, official FAA record for purposes of this planning.
- And:
  - 45 based aircraft from 1999 through 2006
  - 51 based aircraft in 2007
  - 53 based aircraft from 2008 through 2011
  - 51 based aircraft from 2012 through the TAF's final 2040 forecast year.

FAA also maintains a database of based aircraft for official record keeping purposes. The database currently indicates 71 based, validated aircraft at Prosser. However, only 54 of those aircraft have been confirmed at S40, according to the FAA based aircraft database.

A general rule-of-thumb for estimating aircraft operations at uncontrolled airports like S40 is contained in FAA guidance, recommending: 250 operations per based aircraft for rural general aviation airports, 350 for more urban, busier general aviation airports and 450 for reliever airports in metropolitan areas. Applying this rule-of-thumb to S40, a rural general aviation airport, the operation per based aircraft estimate results in 13,500 local operations at S40. Cargo or passenger service is not available at Prosser.

SCOPE OF EXISTING RECYCLING PROGRAM

a. Facilities over which the Airport has direct control of waste management – Currently, there are no recycling facilities at the Prosser Airport. Materials for recycling can be delivered to a Basin Disposal Recycling Drop Box facilities located throughout Benton County. In Prosser City, a facility is located at the Transfer Station at Sherman and Wine County Road that can recycle newspaper, aluminum and steel, mixed paper, and cardboard.

b. Areas over which the Airport has no direct control, but may have influence – The Port of Benton encourages hangar occupants, Airport users, and the FBO at Prosser Airport and those individuals wishing to dispose of deplaned waste to recycle as much as possible at the Basin Disposal Recycling Drop Boxes in Prosser.

c. Areas over which the airport has not direct control or influence – The Port of Benton encourages individuals with material for recycling to deliver it to Basin Disposal Recycling Drop Box facilities which offers complete recycling services.

PROSSER AIRPORT'S CURRENT WASTE MANAGEMENT PROGRAM

Prosser Airport's municipal solid waste (MSW) is removed weekly by Basin Disposal, Inc. which provides two 96 gallon containers. The solid waste is then transported to the BDI transfer facility where it is consolidated and ultimately disposed at the Finley Buttes Landfill located approximately 12 miles south of Boardman, Oregon at exit 168 on I-84. Finely Buttes Landfill is a municipal solid waste disposal facility permitted by the Oregon Department of Environmental Quality and is in full compliance with all rules and regulations. Most of the solid waste at Prosser Airport is generated by airport users such as the members of Chapter 1466 of the Prosser Wing-Nuts Experimental Aircraft Association who meet monthly at a facility located on Prosser Airport property, pilots who generate deplaned waste, and individuals/organizations who lease hangars or the airport grounds for activities.

REVIEW OF RECYCLING FEASIBILITY

Prosser Airport users generate minimal amounts of recyclable material which may be a barrier to a recycling program on the Airport property. Currently, any recyclable material can be delivered to any of the Basin Disposal Recycling Drop Box facilities located throughout Benton County. In the City of Prosser, a facility is located at the Transfer Station at Sherman and Wine County. Material that can be recycled includes newspaper, aluminum and steel, mixed paper, and cardboard.

Prosser Airport works to maintain compliance with applicable federal, state, and local waste regulations. However, the most important policy that impacts recycling at the Prosser Airport is the FAA Modernization and Reform Act of 2012 (FMRA), which amended Title 49, United States Code (U.S.C.), included a number of changes to the Airport Improvement Program. Once those changes contained in Section 132 (b) of the FMRA expanded the definition of airport planning to include "developing a plan for recycling and minimizing the generation of airport solid waste, consistent with applicable State and local recycling laws, including the cost of a waste audit" then, recycling and reduction of waste became a consideration for the current Airport Master Plan update for Prosser Airport. Additionally, since Section 133 of the FMRA added a provision requiring airports that have or plan to prepare a master plan, and that receive AIP funding for an eligible project, by including this section in the Master Plan Update, it will ensure that the Airport will address issues relating to solid waste recycling.

Incentives for implementing a recycling, reuse, and waste reduction program at Prosser Airport may include:

- The Port of Benton implementing policies and guidelines that would encourage Airport users and tenants to take their recyclables to the local Basin Disposal Recycling Drop Box facilities to minimize contributions to the landfill.
- Encourage Airport users and tenants to reduce solid waste generation and reuse materials whenever possible.
- Designate a place for the collection of materials for recycling and make arrangements for pick up by Port of Benton staff who would then transport recyclables to the local Basin Disposal Recycling Drop Box facility.

Logistical constraints to a Prosser Airport recycling program may include the minimal volume of material that is generated that is appropriate for recycling. The lack of properly marked containers discourages Airport users and tenants to easily use recycling facilities. Additionally, there is no regularly scheduled pick up of recyclable materials at the Airport.

OPERATION AND MAINTENANCE REQUIREMENTS

The Port of Benton receives solid waste collection services from Basin Disposal, Inc. which provides two 96 gallon containers for disposal of all waste at the Airport. Solid waste is then transported to the BDI transfer facility where it is processed and ultimately disposed of at a permanent disposal site, the Finley Buttes Landfill in Boardman, Oregon. Solid waste and recyclable material are mixed together in the containers. The Port of Benton is the responsible party for designing and implementing any recycling program at the Prosser Airport.

Currently, there are no identifiable Operation and Maintenance costs or requirements associated with the Airport's recycling efforts since there are no recycling efforts in place. Other than an occasional trip to the Basin Disposal Recycling Drop Box facilities by Airport users and tenants when recyclables are present in sufficient volumes to warrant such an effort, there are currently no other resources dedicated to recycling for recyclables, organic materials, and/or C&D debris.

The existing services provided by Basin Disposal, Inc. may impede the purchase/use of environmental-preferred products since they only pick up the solid waste disposed of in the container, recyclable or not. No effort is made to separate solid waste from recyclables when it is loaded into containers at the BDI transfer facility before being disposed of at the Finley Buttes Landfill. Basin Disposal, Inc. does not possess any recycling containers that could be used at Prosser Airport to collect recyclable material.

REVIEW OF WASTE MANAGEMENT CONTRACTS

Currently Prosser Airport receives weekly solid waste collection service from Basin Disposal, Inc. by the City of Prosser. The service provides for two 96 gallon containers for disposal of all solid waste at the Airport. Basin Disposal, Inc. does not provide recycling containers or services at the current time. Currently, solid waste collection services are paid for from the general revenue account of Prosser Airport. Recycling is not offered so there is no expense or revenue budget line item associated.

The existing disposal services does not encourage reuse or recycling efforts. Without containers that provide for the collection and sorting of recycling material, the existing service provided by Basin Disposal, Inc. impedes the purchase/use of environmentally-preferred produces. The nature of the service provided by Basin Disposal, Inc. is for the removal of mixed solid waste from the Airport and the transfer to Finley Buttes Landfill for permanent disposal only. No recycle services are available.

POTENTIAL FOR COST SAVINGS OR REVENUE GENERATION

It is likely that no real cost savings or potential for revenue generation exists with the current volumes and types of solid waste and potential recyclables that exist today at the Prosser Airport. However, a recycling program could be put into place for the following considerations:

- While recyclable volumes are currently very small, they will likely grow as the Airport and its tenant base grows in future years.
- Community recycling is a responsible approach to the waste management process and any and all contributions lessen the landfill burden.
- Participating in recycling and responsible waste management programs is an appropriate role for a major community facility like the Airport, and shows dedication toward being good stewards of the land.

Even though such recycling and waste management programs may not be especially financially viable today, being involved in these processes now will better prepare the Airport for the future.

PLAN TO MINIMIZE SOLID WASTE GENERATION

Because recycling containers and services are not available for a fee on the Prosser Airport property, the Port of Benton does not recycle paper (newspaper and magazines), plastic bottles and aluminum cans, and plastic cups.

Prosser Airport's comprehensive approach to reduce the amount of waste being disposed of in landfills includes the following opportunities:

Objective	Target
Purchase and locate a suitable sized container(s) for the collection and sorting of recyclable materials in the proximate area of the existing solid waste containers. On a regular basis, Port of Benton maintenance staff will transport the recyclables to the local Columbia Basin Recycling Drop Box facilities.	April 2020
Implement policies and educational programs that encourage Airport users and tenants to minimize the amount of waste that is being disposed of in the landfill and reuse materials whenever possible by participating in a reuse and recycling effort. For example, purchase items made from recycled products.	Review Port of Benton policies on reuse, recycling, and waste reduction and update as necessary.
Review and update arrangements/contracts/leases between the Airport users and tenants to encourage purchasing policies/requirements that focus on purchasing products made from post-consumer recycled materials	Review agreements by April 2021 and incorporate necessary changes.
Review and revise current boiler plate construction contracts and agreements to reflect the Airport's recycling goals for Construction and Demolition (C&D) Debris	Review agreements by April 2021 and incorporate necessary changes.
Review and revise procurement and contract documents to provide for recycling or reuse of materials in new development projects	Review agreements by April 2021 and incorporate necessary changes.

After implementation of the measures shown above, the Airport may track the performance of these efforts. Contractors should provide the Airport with an accounting of material volumes and types of materials submitted for recycling on each project. The Airport could also give consideration to the level of recycling that is intended as part of the contractor selection process. The Airport may also consider providing information about Benton County's recycling programs by advertising their support and encouraging participation in the County's recycling efforts.

J-U-B ENGINEERS, INC.

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