AURORA STATE AIRPORT
OBSTRUCTION REMOVAL
DRAFT ENVIRONMENTAL ASSESSMENT

Prepared for:

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October 2024

DRAFT ENVIRONMENTAL ASSESSMENT
FOR
AURORA STATE AIRPORT
AURORA, OREGON

This environmental assessment becomes a Federal document when evaluated, signed, and dated by the responsible FAA official.

_____ _____

Responsible FAA Official **Date**

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Chapter 1 – Background and Proposed Action

1.1 Introduction

The Aurora State Airport (Airport) is located in the heart of the Willamette Valley in Marion County, Oregon. The city of Aurora is located approximately one-quarter mile southeast of the Airport. The Oregon Department of Aviation (ODAV or Sponsor), currently owns and operates the Airport.

Obstructions, in the form of trees, have been identified as penetrating multiple airspace surfaces at the Airport. The Proposed Action is endorsed by the Airport Sponsor to remove these obstructions in order to comply with FAA orders and guidance, to comply with grant assurances, and to improve safety at the airport.

This Environmental Assessment (EA) was prepared to identify the potential environmental impacts associated with the Proposed Action, as well as how any identified impacts can be avoided, minimized, or mitigated. The EA was prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) and the President's Council on Environmental Quality (CEQ) Regulations Title 40 CFR §§ 1500-1508, the implementing regulations for NEPA and in accordance with FAA Order 1050.1F *Environmental Impacts: Policies and Procedures* (FAA 2015) and FAA Order 5050.4B *National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions* (FAA 2006).

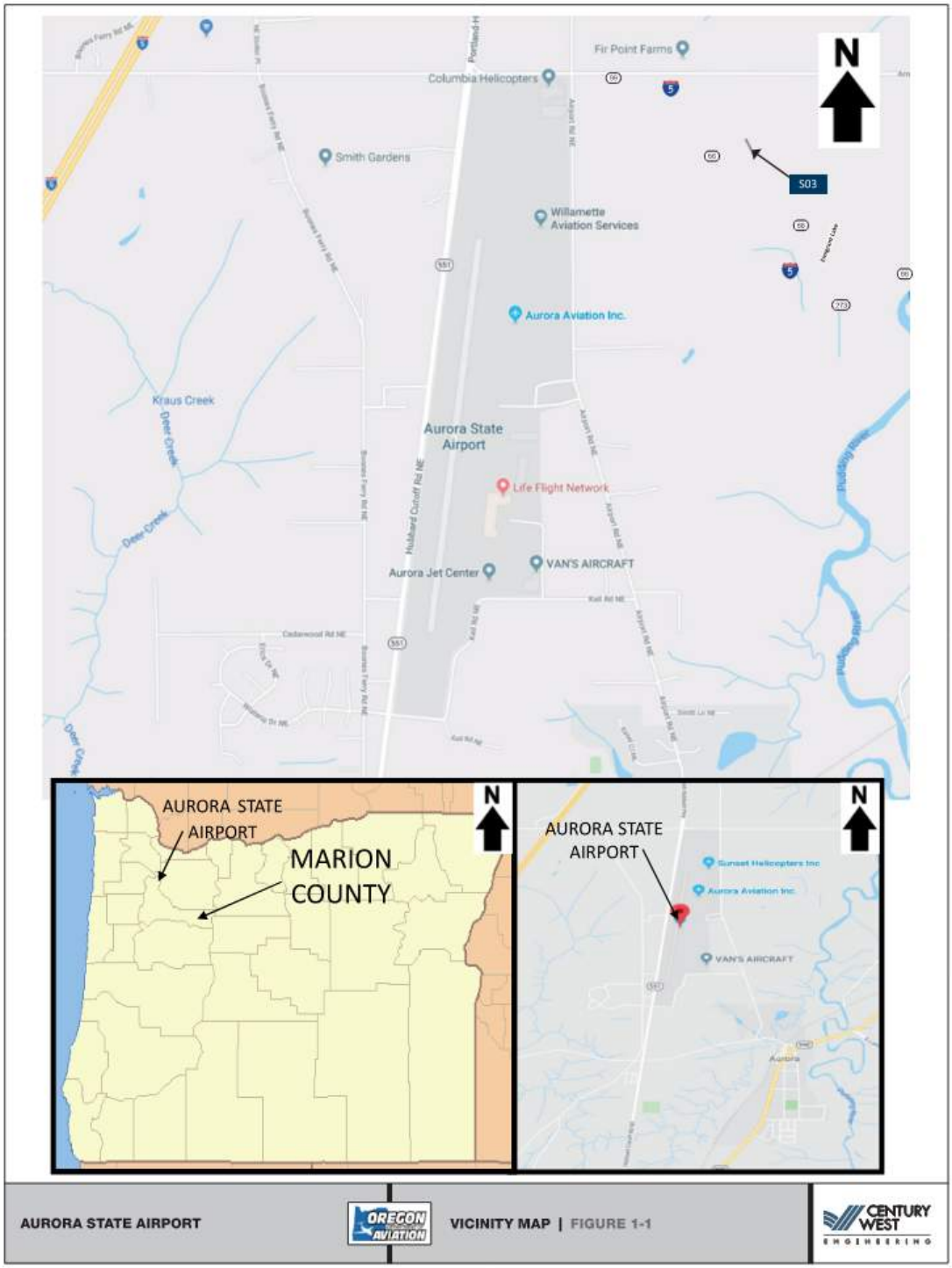
1.2 Background

The Aurora State Airport is identified as a public use General Aviation Airport in the National Plan of Integrated Airport System (NPIAS) defined by the Federal Aviation Administration (FAA) and a Category II – Urban General Aviation Airport in the Oregon Aviation Plan (OAP) (Jviation v6.0).

The Airport is located east of Interstate 5 and west of Aurora's city limits, in Marion County, Oregon. The north end of the Airport abuts property located within Clackamas County. The Airport is located 23 miles north of the McNary Field Airport in Salem, about mid-way between Portland and Salem. The Airport was established in 1943 and was managed by the United States Bureau of Public Roads until 1953. The State of Oregon has operated the Airport since 1953, although ownership of the land was not transferred from the Highways Division to the Aeronautics Division (ODAV's predecessor) until 1973. A vicinity map is provided in **Figure 1-1**.

The airport is located on approximately 144 acres of land in the heart of the Willamette Valley in Marion County. The majority of the County is rural and has abundant agricultural lands, making it the largest producer of agricultural products in the state of Oregon. The Airport is surrounded primarily by agriculture and rural residential land uses. The Airport has an elevation of 199.8 feet above mean sea level (MSL).

Aurora State Airport has 407 based aircraft and has an estimated 76,794 total annual operations, as reported on the 2021 FAA Terminal Area Forecast (FAA 2021). (https://taf.faa.gov/)



1.3 Existing Facilities

Airport Overview

As a General Aviation Airport, the Aurora State Airport supports all general aviation aircraft and accommodates corporate aviation activity, including business jets and helicopters, and other general aviation activity, but does not support commercial (airline) operations. It is one of fifty-seven airports in Oregon that are part of the NPIAS program. The Aurora State Airport is the fourth busiest airport in Oregon behind Portland (PDX), Hillsboro (HIO), and Bend (OTH). It has several businesses at the field including fixed-base operators (FBO), charter flight providers, helicopter operators, aircraft manufacturing, aviation schools, and aviation kit companies to name a few.

The Airport is categorized as FAA Airport Reference Code (ARC) C-II with non-precision instrument approach capabilities. The critical design aircraft according to the 2012 Airport Master Plan Update (WHPacific 2012) is the IAI Astra 112, shown in Figure 1-2.

Figure 1-2: IAI Astra 1125

Airside Facilities

The Airport has a single runway (Runway 17-35), which is 5,004 feet long and 100 feet wide. The runway is of asphalt construction with a published weight capacity of 45,000 pounds for aircraft equipped with dual wheel landing gear configuration. A 150-foot blast pad is located at the Runway 35 end. Runway 17-35 is equipped with medium intensity runway edge lights (MIRL) with precision approach markings currently in place.

Runway 17-35 is served by a full-length parallel taxiway (Taxiway A) on its east side with five connector taxiways (A1, A2, A3, A4, A5), which connects Taxiway A to Runway 17-35. Taxiway A is 35 feet wide and has a separation distance between taxiway centerline and runway centerline of 300 feet and complies to standards for C-II instrument runways with visibility minimums not lower than ¾ mile. From Taxiway

A, ten taxilanes lead to aircraft parking, hangars, and airport businesses. Medium Intensity Taxiway Edge Lighting (MITL) is located along Taxiway A and the five connector taxiways while the apron and hangar taxilanes are lined with edge reflectors.

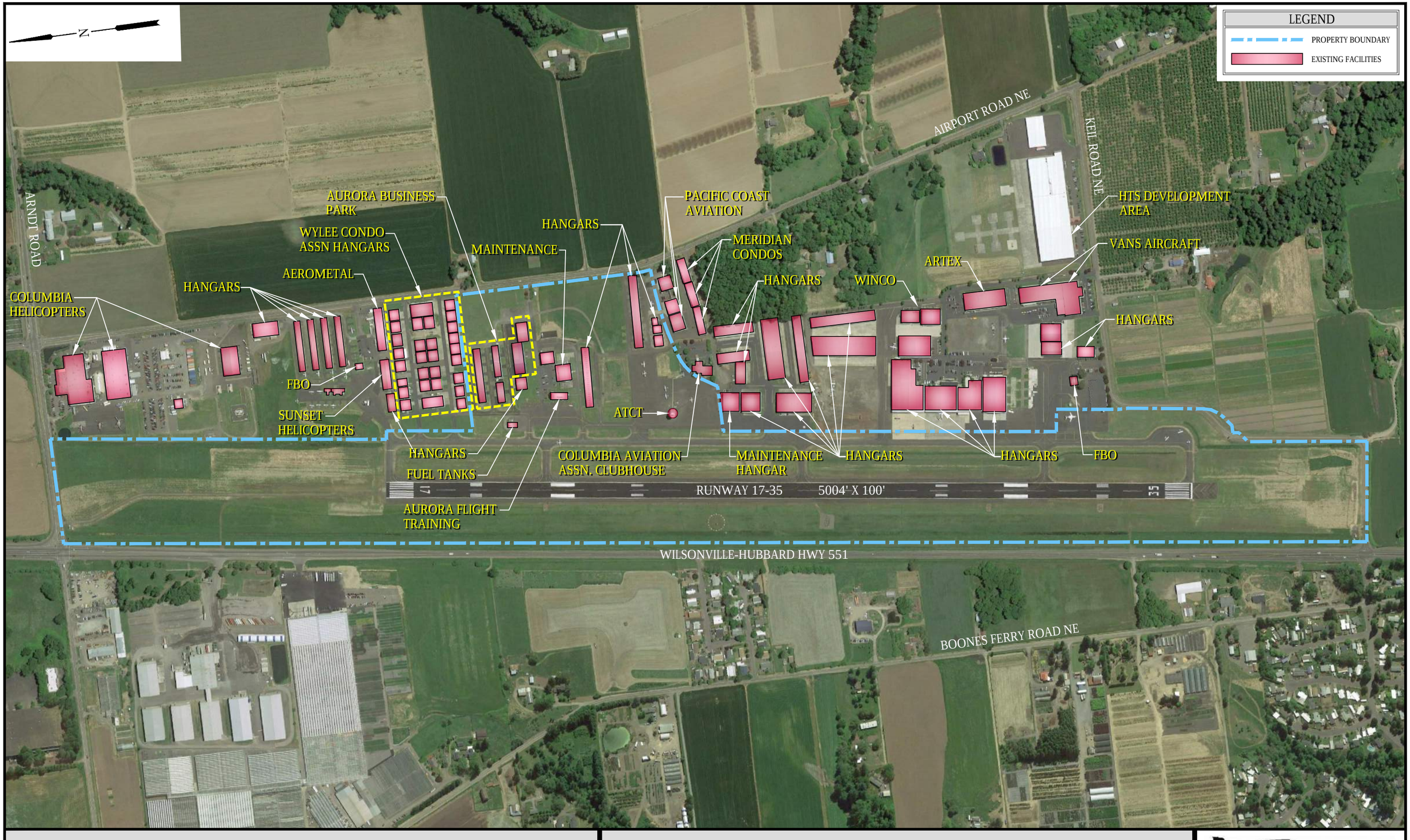
The Airport has apron areas on both ODAV owned and privately owned property, which has through-the-fence agreements to access the Airport, that support a variety of uses including aircraft parking, fueling, and FBO operations.

The Airport has three forms of visual approach aids. A two-box Visual Approach Slope Indicator (VASI) is located at each runway end. VASIs give glide slope information to pilots on final approach by displaying sequences of different colored lights to maintain a safe glide slope for landing. Runway 17 has both an Omnidirectional Approach Lighting System (ODAL) and Runway End Identification Lights (REILs). The ODAL lighting system which consists of a series of strobe lights that extends outward from the runway end and allows pilots to visually identify the runway environment. ODAL lighting systems are typically associated with runways with instrument approach procedures. REILs are located at the Runway 17 threshold to provide rapid and positive identification of the runway end. Additionally, there is a lighted wind cone and segmented circle located west of the runway at the midfield point. A rotating beacon is located east of the runway between buildings 40 and 41. An Automated Surface Observing System (ASOS) is located on the airport which provides real-time weather information.

Both Runway 17 and 35 have instrument approach procedures, which can be used when the visibility and cloud ceiling are below safety minimums for Visual Flight Rules (VFR) conditions. Additionally, the HELNS FOUR Standard Terminal Arrival (STAR) is available for pilots arriving at the Airport. A STAR is a published procedure followed by aircraft on an Instrument Flight Rules (IFR) flight plan just before reaching the Airport. Special departure procedures apply for aircraft departing the Airport during instrument conditions, as well.

There are three (3) approach procedures to the Airport with two (2) approaches for Runway 17 and one (1) approach for Runway 35. Runway 17 has an RNAV approach with visibility minimums to 7/8 of a mile and an LOC approach with visibility minimums to ¾ mile. Runway 35 has visibility minimums to 7/8 of a mile.

Figure 1-3 depicts the existing airfield conditions at the Aurora State Airport.



EXISTING CONDITIONS
FIGURE 1-3

AURORA STATE AIRPORT

OREGON DEPARTMENT OF AVIATION

1.4 Airspace

An Airport Geographic Information System (AGIS) survey was performed in 2016 at the Airport, and using the resultant data, an obstruction analysis identified airspace penetrations in the Airspace around the Aurora State Airport. The obstruction analysis utilized 14 Code of Federal Regulations (CFR) Part 77.19 Civil Airport Imaginary Surfaces (14 CFR Part 77) (FAA 2010) and the United States Standard for Terminal Instrument Procedures (TERPS) to identify obstructions.

1.4.1 14 CFR Part 77 Airspace

14 CFR Part 77 establishes a complex structure of imaginary surfaces in relation to runways at public use airports. Imaginary surfaces either slope out and up from all sides and ends of runways or are a horizontal plane or a sloping plane above the airport. "The size of each imaginary surface is based on the category of each runway according to the type of approach surface available or planned for that runway. The slope and the dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end." (Title 14, Chapter 1, Subchapter E, Part 77.19)

Imaginary surfaces exist primarily to prevent existing or proposed manmade objects, objects of natural growth, or terrain from extending upward into navigable airspace. According to the provisions in 14 CFR Part 77, an object is an Obstruction to Air Navigation if it is of greater height than any imaginary surface established under the regulation. There are five imaginary surfaces applied to public use airports for determining obstructions to air navigation—the primary surface, the horizontal surface, the conical surface, the transitional surface, and the approach surface.

Each imaginary surface dimension is based on the category and approach of the runway. The runways are categorized as utility runways and other than utility. The approaches can be categorized as visual, non-precision instrument, and precision instrument approach. These categorizations are not dependent on the size and type of aircraft that uses the Airport, however, there is a correlation between the larger aircraft and the increase in imaginary surface size and runway approach minimums, as larger aircraft are unlikely to operate on Airports that are designated as utility runways.

A graphic representation of the Part 77 surfaces is shown below in **Figure 1-4**. Also, a description of each surface specific to the Aurora State Airport is provided below, and a summary of 14 CFR Part 77 airspace surfaces relevant to this project surrounding the Airport is shown in **Table 1-1**.

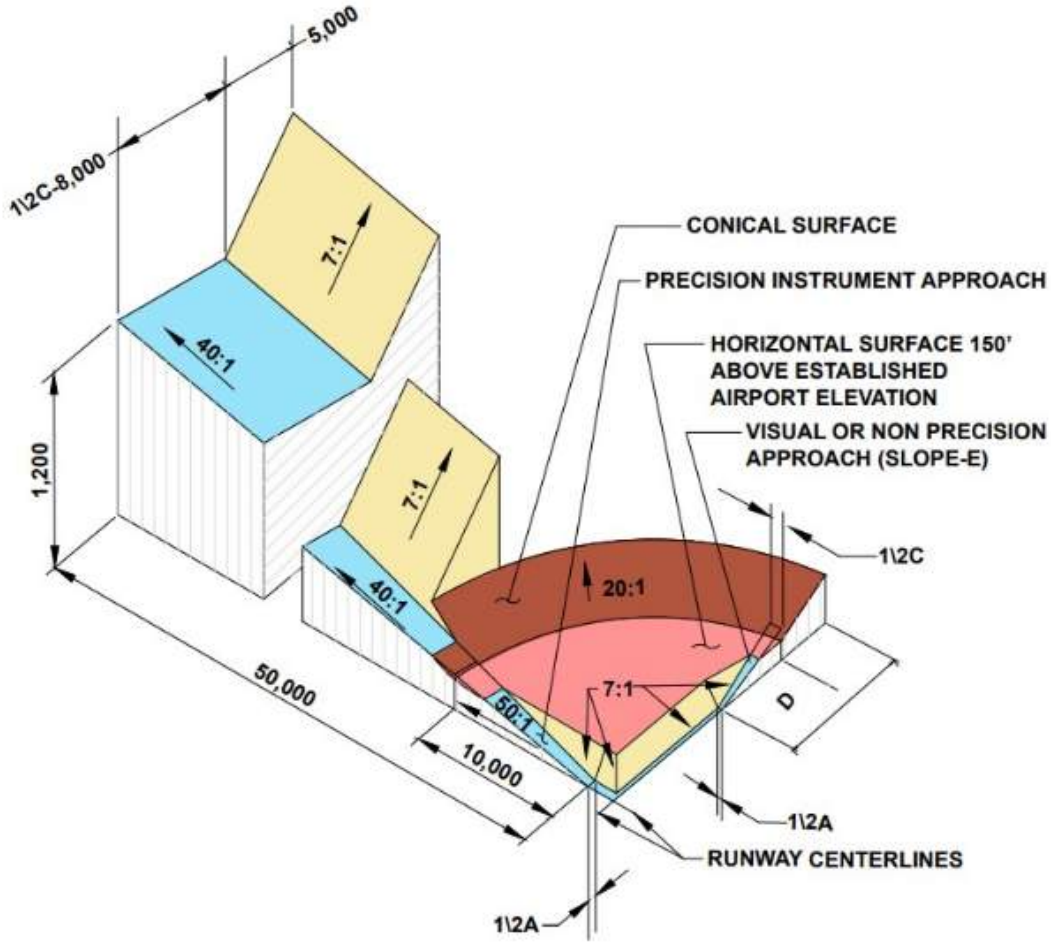


Figure 1-4 – Part 77 Imaginary Surfaces

Primary Surface

The primary surface is a rectangular, flat plane of airspace longitudinally centered on the runway, with the same elevation as the nearest point on the runway centerline. The primary surface extends 200 feet beyond each runway end, where it connects to the inner portion of the runway approach surfaces. The primary surface should be free of any penetrations, except items with locations fixed by function, in which case they shall be mounted on frangible couplings. The primary surface of Runway 17-35 currently meets the requirements of 14 CFR Part 77.

Transitional Surface

The transitional surface is located at the outer edge of the primary surface and is represented by a plane rising perpendicularly at a slope of 7 to 1 to an elevation 150 feet above the airport elevation. The transitional surface connects to the sides of the runway approach surfaces at common elevations. For

Runway 17-35, the transitional surface begins 250 feet from the runway centerline, in both directions. The transitional surface of Runway 17-35 currently meets the requirements of 14 CFR Part 77.

Approach Surface

The approach surface extends longitudinally along the extended runway centerline, beginning at the end of the primary surface. The existing approach surfaces of both Runway 17 and Runway 35 are instrument approach runways with visibility minimums greater than ¾ miles. The approach surface rises at a slope of 34 to 1 and is 500 feet wide where it begins at the end of the primary surface and flares out to a width of 3,500 feet at a distance of 10,000 feet from the end of the primary surface. As identified in the 2016 AGIS survey, the approach surfaces of Runway 17-35 are obstructed by trees.

Table 1-1. 14 CFR PART 77 Airspace Surfaces

Airspace Item	Runway 17-35 Greater Than ¾ Mile Visibility	Obstruction
Width/Length of Primary Surface	500 feet*/200 feet beyond both ends of runway ** Width based on approach visibility minimums of Greater than ¾ Miles.*	No
Transitional Surface	7:1 Slope to 150 feet above runway	No
Approach Surface Length	Existing - 10,000 feet (Rwy 35 & Rwy 17 – Greater than ¾ Mile)	Yes, trees
Approach Surface Slope	Existing - 34:1 (Rwy 35 & Rwy 17 – Greater than ¾ Mile)	Yes, trees
Approach Surface Width at End of Surface Length	Existing – 3,500 feet (Rwy 35 & Rwy 17 – Greater than ¾ Mile)	Yes, trees

1.4.2 United States Standard for Terminal Instrument Procedures (TERPS)

FAA Order 8260.3D – United States Standard for Terminal Instrument Procedures (TERPS) (FAA 2018) sets standardized methods for designing, reviewing, evaluating, and approving instrument flight procedures. TERPS criteria specify the obstacle clearance surfaces required to provide a satisfactory level of vertical protection from obstructions and aircraft when operating under normal operations.

The TERPS departure obstacle clearance surface (TERPS departure OCS) coincides with the 40:1 departure surface as referenced in FAA Advisory Circular 5300-13A, *Airport Design* (FAA 2014a), for the Airport. It rises at a slope of 40 to 1 and is 1,000 feet wide where it begins at the end of the runway and flares to a width of 7,512.36 feet at a distance of 12,152.23 feet from the end of the runway. As identified in the 2016 AGIS survey, the departure surfaces of Runway 17-35 are obstructed by trees.

1.4.3 Visual Glide Slope Indicators –VASI Obstruction Clearance Surfaces (OCS)

The runway at Aurora has a VASI-4 system at each end and provides visual approach slope information by providing a definite white and red-light projection along the desired descent path to the touchdown point. The VASI lighting system is a visual approach aid and not considered a precision approach aid.

According to FAA Order JO 6850.2C, Visual Guidance Lighting Systems (FAA 2022), the standard glideslope angle for a VASI system, is 3.00 degrees. However, the FAA allows airports with utility runways to increase the glideslope angle to no more than 4.00 degrees to clear obstructions in the runway approach.

The Runway 17 VASI has been aimed to project a visual glide angle of 3.50 degrees to avoid trees that have been identified as obstructions in the runway approach. The Runway 35 VASI has been aimed to project a visual glide angle of 3.25 degrees to avoid trees in the runway approach.

For any VASI not set at 3.00 degrees, a Notice to Air Mission (NOTAM) must be issued, and the non-standard angle must be published in the Airport/Facilities Directory. The runway approach procedures are attached as **Figures 1-5A and 1-5B** with the standard glideslope and the notation of the non-standard glideslope highlighted.

Figure 1-6A and 1-6B depict the relationship between 14 CFR Part 77 Airspace surfaces, TERPS surfaces, and VASI OCS; and identified obstructions to these surfaces.

1.5 Proposed Action

Oregon Department of Aviation is proposing the following actions to remove obstructions at the Aurora State Airport, which will satisfy the Purpose and Need described in Chapter 2. The Proposed Action includes:

The removal of obstructions penetrating the Runway 17-35 approach surfaces, TERPs departure OCS, and VASI OCS

- Avigation easements will be negotiated and obtained over non-airport owned properties where there are current obstructions to the surfaces listed in this chapter, prior to obstruction removal.
- These obstructions are anticipated to be trees and will include the removal of all trees that penetrate or are 10 feet below the Airport's CFR Part 77 approach surface, TERPS departure OCS, and VASI OCS. Approximately 550 trees may be removed.
- Once the obstructions have been removed, FAA may re-evaluate the VASIs OCS to a 3.0 degree angle to match the published glideslope, and remove the notes that highlight the discrepancy between the aimed VASI approach angle and the published approach glideslope angle.

The areas of tree removal are identified as the individual tree numbers or the shaded areas on **Figures 1-7A and 7B**.

RNAV (GPS) RWY 17

AURORA STATE (UAO)

WAAS	APP CRS	Rwy Idg	5003
CH 70308	172°	TDZE	200
W17A		Apt Elev	200

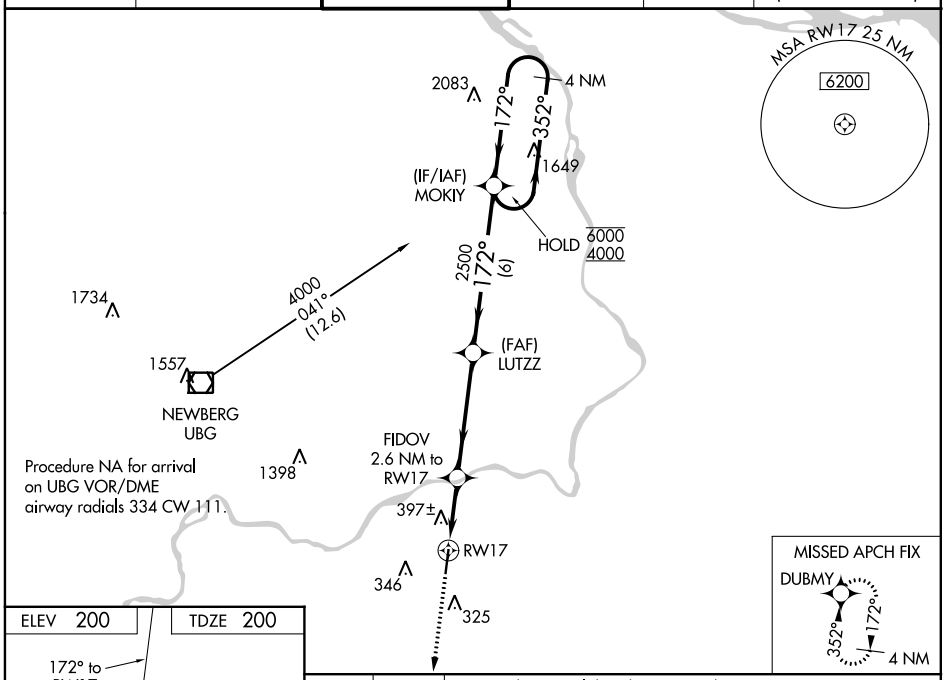
RNP APCH.

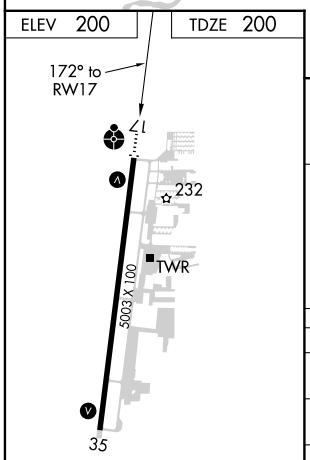
T A Rwy 17 helicopter visibility reduction below ¾ SM NA. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -6°C or above 54°C. For inop ALS, increase LNAV/VNAV Cat A/B and LNAV Cat C/D visibility to 1⅜ SM. Inop table does not apply to LPV and LNAV Cat A/B.

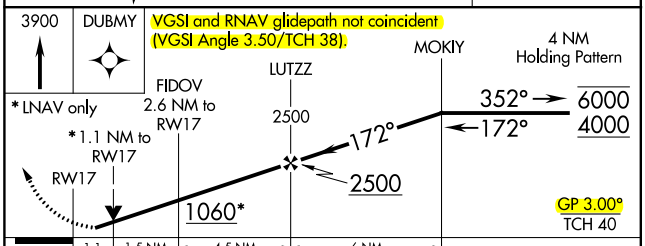
ODALS

MISSED APPROACH: Climb to 3900 direct DUBMY and hold, continue climb-in-hold to 3900.

ATIS ★	PORTLAND APP CON	AURORA TOWER ★	GND CON	CLNC DEL	PORTLAND CLNC DEL
118.525	126.0 269.175	120.35 (CTAF) L	119.15	119.15	119.95 (When tower closed)







CATEGORY	A	B	C	D
LPV DA	511-⅞ 311 (400-⅞)			
LNAV/VNAV DA	661-1¼ 461 (500-1¼)			
LNAV MDA	660-1 460 (500-1)		660-1⅛ 460 (500-1⅛)	
C CIRCLING	700-1 500 (500-1)		700-1½ 500 (500-1½)	940-2¼ 740 (800-2¼)

MIRL Rwy 17-35 L

FIGURE 1-5A RW 17 APPROACH

NW-1, 19 MAY 2022 to 16 JUN 2022

RNAV (GPS) RWY 35
AURORA STATE (UAO)

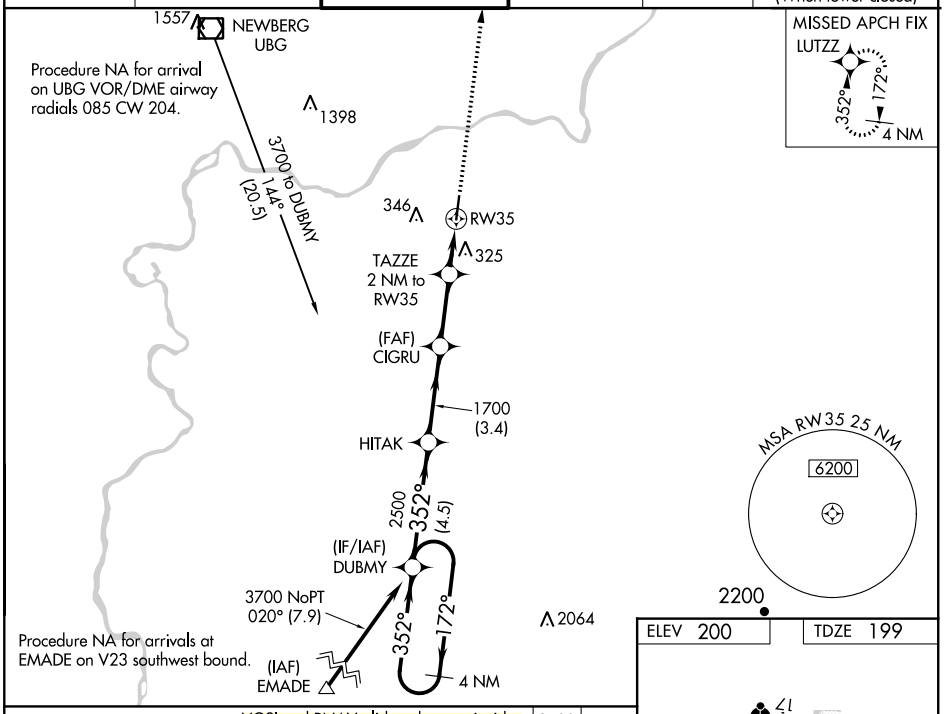
WAAS	APP CRS	Rwy Idg	5003
CH 77508	352°	TDZE	199
W35A		Apt Elev	200

RNP APCH.

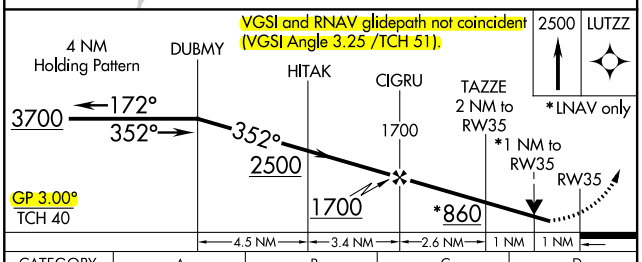
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -6°C or above 54°C. Rwy 35 helicopter visibility reduction below ¾ SM NA.

MISSED APPROACH: Climb to 2500 direct LUTZZ and hold.

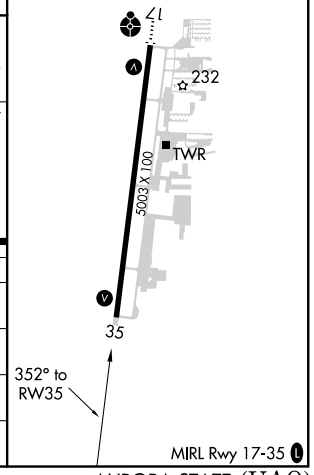
ATIS ★	PORTLAND APP CON	AURORA TOWER ★	GND CON	CLNC DEL	PORTLAND CLNC DEL
118.525	126.0 269.175	120.35 (CTAF) L	119.15	119.15	119.95 (When tower closed)



ELEV 200 TDZ 199



CATEGORY	A	B	C	D
LPV DA	453-⅞ 254 (300-⅞)			
LNAV/VNAV DA	515-1 316 (400-1)			
LNAV MDA	620-1 421 (500-1)		620-1¼ 421 (500-1¼)	
C CIRCLING	700-1 500 (500-1)		700-1½ 500 (500-1½)	940-2¼ 740 (800-2¼)



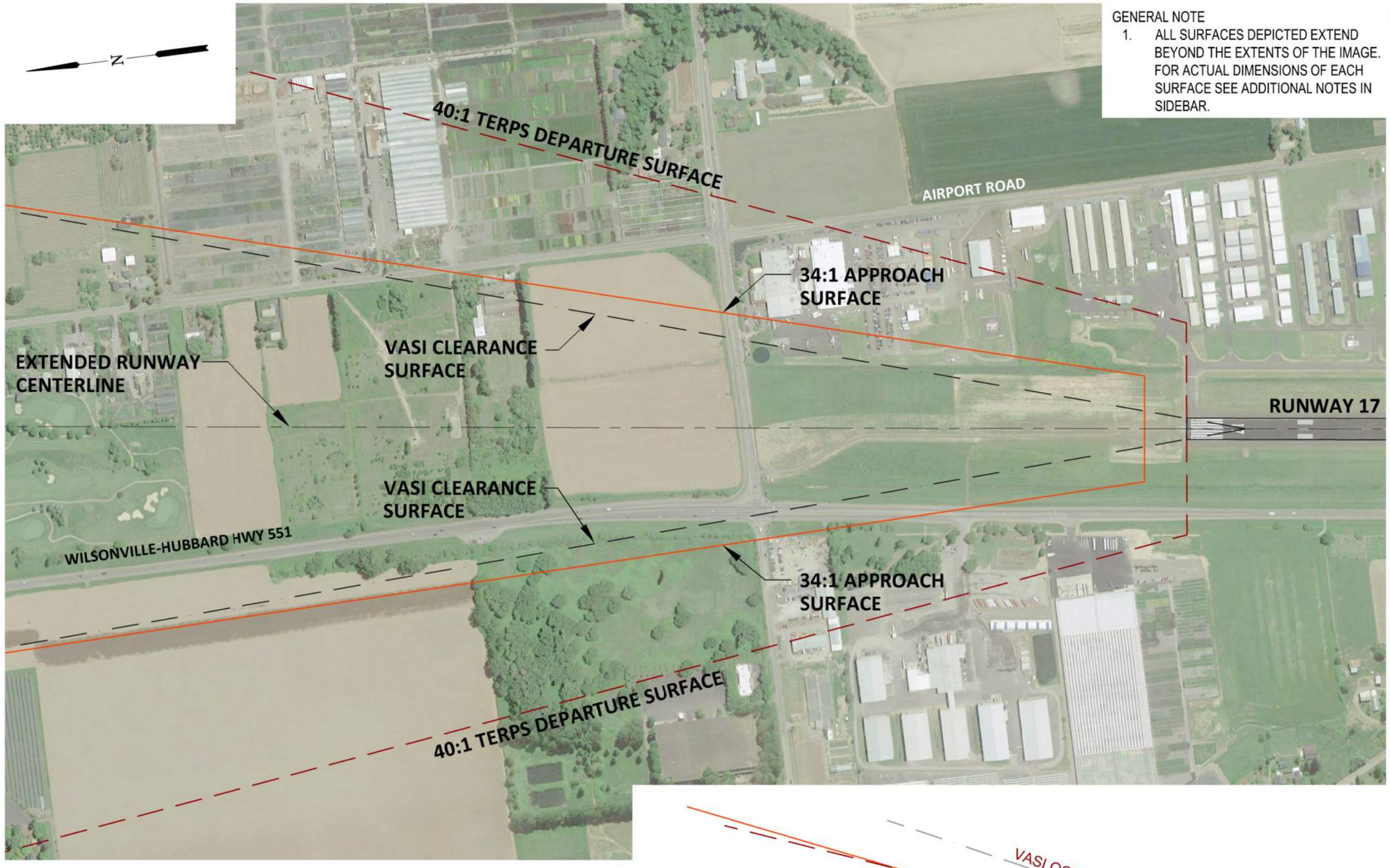
AURORA, OREGON
Amdt 1A 11OCT18

45°15'N-122°46'W

AURORA STATE (UAO)
RNAV (GPS) RWY 35

FIGURE 1-5B RW 35 APPROACH

NW-1, 19 MAY 2022 to 16 JUN 2022



GENERAL NOTE

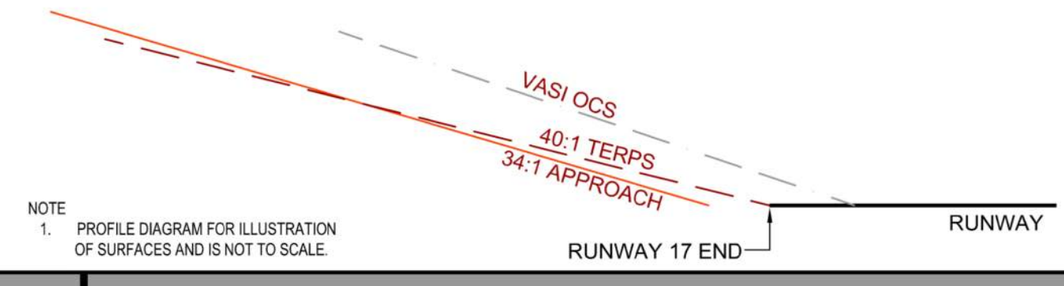
1. ALL SURFACES DEPICTED EXTEND BEYOND THE EXTENTS OF THE IMAGE. FOR ACTUAL DIMENSIONS OF EACH SURFACE SEE ADDITIONAL NOTES IN SIDEBAR.

NOTES

1. VASI CLEARANCE SURFACE: 2 LINES EXTENDING OUT 4 NAUTICAL MILES AT AN ANGLE OF 1 DEGREE (2.5-1.0=1.5 DEGREES) BELOW THE AIMING ANGLE OF THE VASI UNIT WHERE THE CLEARANCE PLANE BEGINS, AND EACH LINE DIVERGING FROM CENTERLINE BY 10 DEGREES.

2. 34:1 APPROACH: SURFACE BEGINS 200' AWAY FROM THE THRESHOLD, ON THE APPROACH SIDE, AT THE SAME ELEVATION AS THE RUNWAY END. THE SURFACE IS A TRAPEZOID WITH THE SIDE CLOSEST TO THE THRESHOLD BEING 500 FEET WIDE AND AN OUTER WIDTH OF 3,500 FEET, SEPARATED BY 10,000 FEET. THE SURFACE IS ANGLED AT A 34:1 SLOPE.

3. TERPS DEPARTURE SURFACE: SURFACE BEGINS AT THE THRESHOLD AT THE SAME ELEVATION AS THE RUNWAY END. THE SURFACE IS A TRAPEZOID WIT H THE SIDE AT THE THRESHOLD BEING 1,000 FEET WIDE AND AN OUTER WIDTH OF 7,512.36 FEET, SEPARATED BY 12,152.23 FEET. THE SURFACE IS ANGLED AT A 40:1 SLOPE.



NOTE

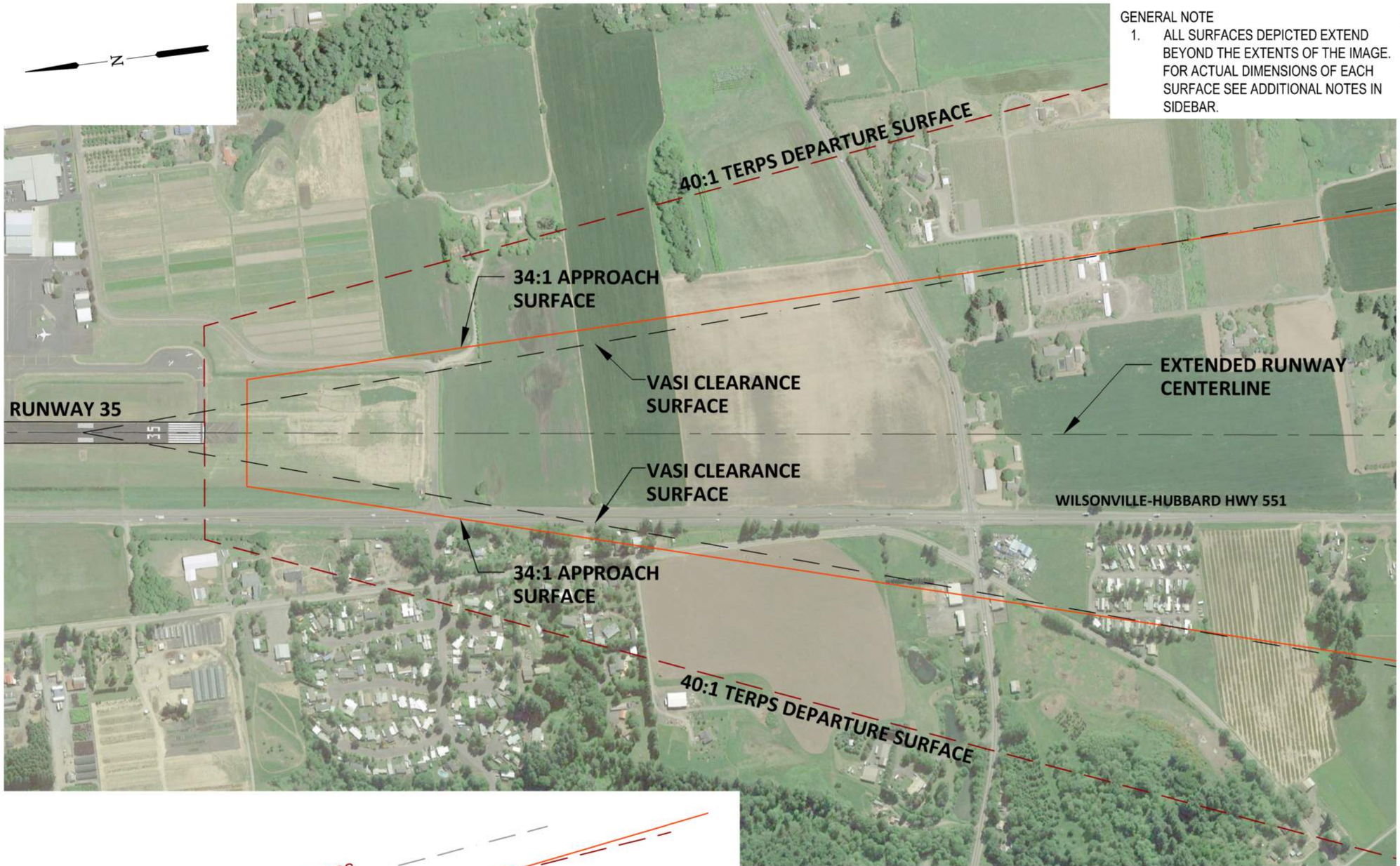
1. PROFILE DIAGRAM FOR ILLUSTRATION OF SURFACES AND IS NOT TO SCALE.

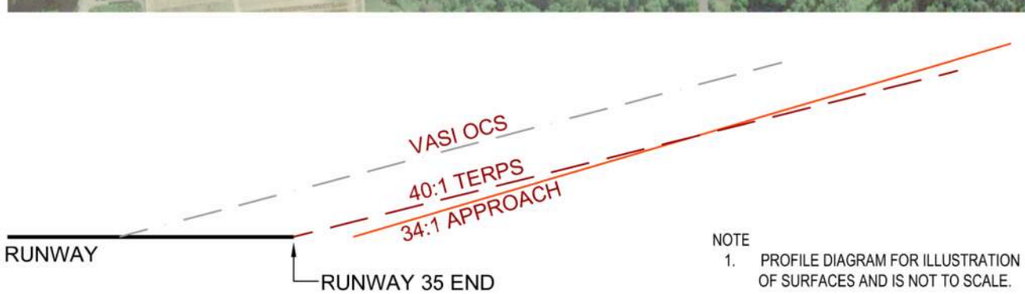
CENTURY WEST ENGINEERING

ENVIRONMENTAL ASSESSMENT
FIGURE 1-6A

AURORA STATE AIRPORT
RUNWAY 17 IMAGINARY SURFACES

OREGON DEPARTMENT OF AVIATION





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CENTURY WEST ENGINEERING

ENVIRONMENTAL ASSESSMENT
FIGURE 1-6B

AURORA STATE AIRPORT
RUNWAY 35 IMAGINARY SURFACES

OREGON DEPARTMENT OF AVIATION

NOTES

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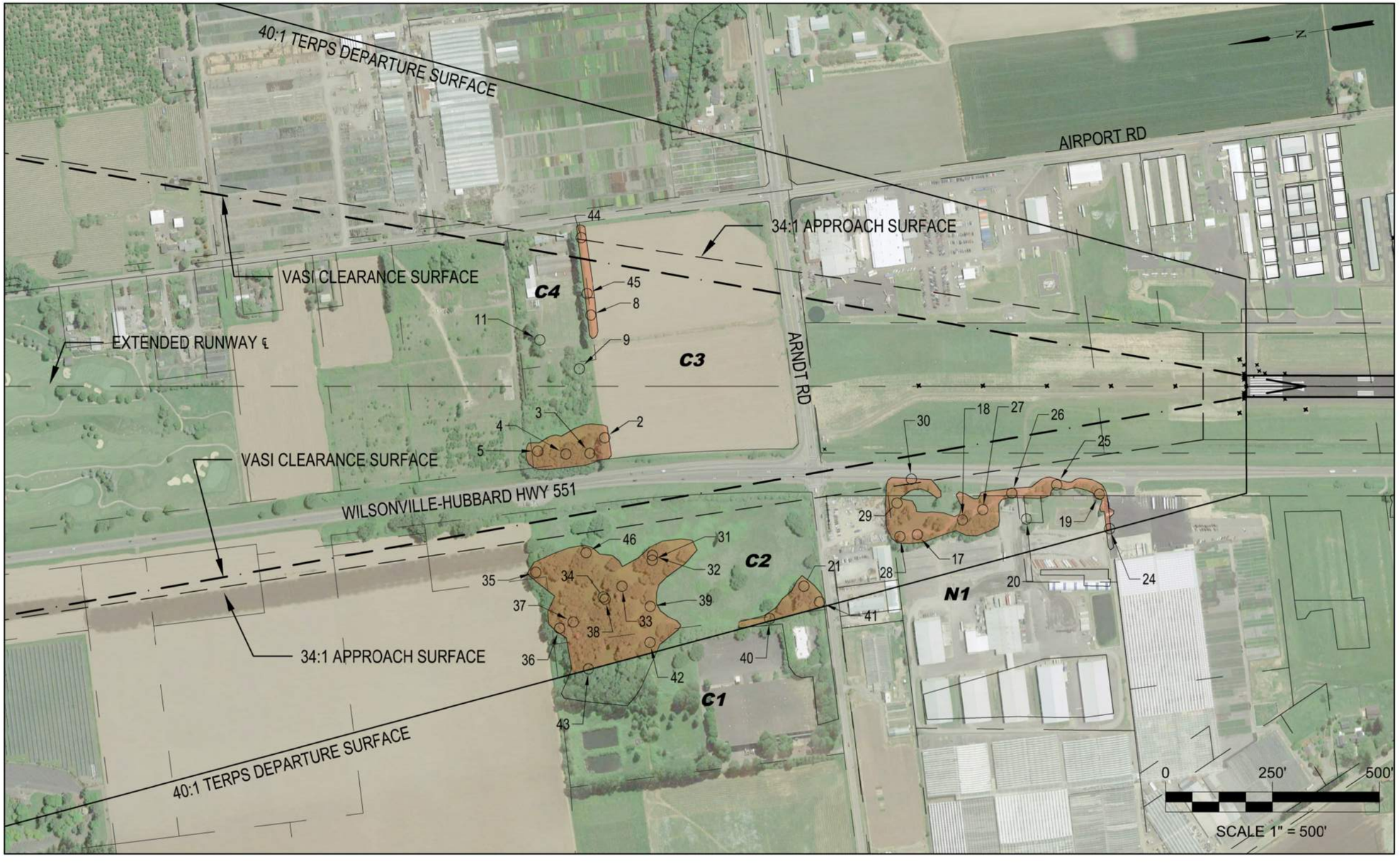
4. OBSTRUCTION AREAS MAY CONTAIN MORE OBSTRUCTIONS THAN THE POINTS SHOWN. FURTHER SURVEY WILL BE REQUIRED TO DETERMINE THE EXTENT OF THE REMOVAL IN THESE AREAS.

5. OBSTRUCTIONS DATA WAS EXTRACTED FROM 2016 AGIS SURVEY.



OBSTRUCTION AREA

CENTURY WEST ENGINEERING

ENVIRONMENTAL ASSESSMENT
FIGURE 1-7A

AURORA STATE AIRPORT
RUNWAY 17 OBSTRUCTION ANALYSIS

OREGON DEPARTMENT OF AVIATION

OBSTRUCTION AREA

NOTES

1. VASI CLEARANCE SURFACE: 2 LINES EXTENDING OUT 4 NAUTICAL MILES AT AN ANGLE OF 1 DEGREE (2.5-1.0=1.5 DEGREES) BELOW THE AIMING ANGLE OF THE VASI UNIT WHERE THE CLEARANCE PLANE BEGINS, AND EACH LINE DIVERGING FROM CENTERLINE BY 10 DEGREES.

2. 34:1 APPROACH: SURFACE BEGINS 200' AWAY FROM THE THRESHOLD, ON THE APPROACH SIDE, AT THE SAME ELEVATION AS THE RUNWAY END. THE SURFACE IS A TRAPEZOID WITH THE SIDE CLOSEST TO THE THRESHOLD BEING 500 FEET WIDE AND AN OUTER WIDTH OF 3,500 FEET, SEPARATED BY 10,000 FEET. THE SURFACE IS ANGLED AT A 34:1 SLOPE.

3. TERPS DEPARTURE SURFACE: SURFACE BEGINS AT THE THRESHOLD AT THE SAME ELEVATION AS THE RUNWAY END. THE SURFACE IS A TRAPEZOID WIT H THE SIDE AT THE THRESHOLD BEING 1,000 FEET WIDE AND AN OUTER WIDTH OF 7,512.36 FEET, SEPARATED BY 12,152.23 FEET. THE SURFACE IS ANGLED AT A 40:1 SLOPE.

4. OBSTRUCTION AREAS MAY CONTAIN MORE OBSTRUCTIONS THAN THE POINTS SHOWN. FURTHER SURVEY WILL BE REQUIRED TO DETERMINE THE EXTENT OF THE REMOVAL IN THESE AREAS.

5. OBSTRUCTIONS DATA WAS EXTRACTED FROM 2016 AGIS SURVEY.

CENTURY WEST ENGINEERING

ENVIRONMENTAL ASSESSMENT
FIGURE 1-7B

AURORA STATE AIRPORT
RUNWAY 35 OBSTRUCTION ANALYSIS

OREGON DEPARTMENT OF AVIATION

Chapter 2 – Purpose and Need

This chapter describes the purpose and need for improvements at the Aurora State Airport. It presents the problem(s) to be solved (need) and describes what ODAV and the FAA are trying to achieve by implementing the Proposed Action (purpose). Consistent with FAA Order 5050.4B, paragraph 706b (FAA 2006), the statement of purpose and need describes the FAA's statutory objectives related to the approval of the Sponsor's proposed development and summarizes the potential benefits of the agency's decision.

2.1 Purpose of the Proposed Action

The purpose of the project is to improve safety by removing obstacles from the 14 CFR Part 77 approach surfaces, the TERPS surfaces, and the VASI OCS surfaces around the Aurora State Airport to bring the Airport into compliance with FAA standards. Safety at the Airport will be significantly improved after obstacles are removed, as the surface penetrations to airspace surfaces create line-of-sight and safety issues for approaching aircraft.

Airports developed or improved with federal funds are obligated, by accepting the developments funds, to prevent the growth or the establishment of obstructions in the approaches to the airport and take reasonable actions to remove existing obstructions. This requirement is listed in the Airport Improvement Program Grant Assurances for Sponsors, grant assurance No. 20, Hazard Removal and Mitigation (FAA 2014b), per Federal Statute 49 United States Code (U.S.C.), Section 47101, that states:

> *'It (the Airport Sponsor) will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.*'

2.2 Need for the Proposed Action

The Proposed Action is needed because an obstruction analysis produced from the 2016 AGIS survey identified multiple airspace penetrations in the 14 Code of Federal Regulations (CFR) Part 77.19 Civil Airport Imaginary Surfaces (14 CFR Part 77) approach surfaces and the United States Standard for Terminal Instrument Procedures (TERPS) departure surface at the Aurora State Airport.

Also, in November 2013, the FAA photo-analyzed the runway approaches with the VASI slopes superimposed over the photos. These photos showed the minimum slopes required to clear the obstructions. According to the analysis, the minimum clearance slope for the Runway 35 approach corresponds to a 3.25-degree VASI glideslope, however the FAA recommended the current VASI glideslope of 3.50 degrees to account for tree growth. The minimum clearance slope for the Runway 17 approach corresponds to a 3.14-degree VASI glideslope, however the FAA recommended the current VASI glideslope of 3.25 degrees to account for tree growth. These trees have not been topped or removed since the 2013 survey.

The 2013 photo analysis exhibits are included as Figures 2-1 and 2-2.

The CFR Part 77 approach surfaces, TERPS departure surfaces, and VASI OCS are imaginary surfaces that exist primarily to prevent obstructions from extending upward into navigable airspace, thereby reducing

the likelihood of accidents to aircraft. The FAA has identified that a natural growth penetration to the CFR Part 77 approach surface is an obstruction. The Airport Sponsor is required to clear, remove, lower, relocate, mark, or light the hazard, per FAA Order 5190.6 *Airport Compliance Manual*, Section 7.13 Hazards and Mitigation, and FAA Grant Assurance #20, Hazard Removal and Mitigation (FAA 2009).

Tree removal includes all existing trees that penetrate or are 10 feet below the protected surfaces, as they will eventually grow and penetrate the surfaces. Complete removal is needed to prevent re-growth of the trees and for mowing and ease of maintenance. Trimming or topping the trees would remove the obstructions only temporarily, and then would require continuous maintenance to remain obstruction free. Avigation easements will be obtained over every non-airport property where obstructions are to be removed. The FAA will only reimburse obstruction removal one time and future obstruction remediation responsibility would fall onto ODAV.

Under the Proposed Action, avigation easements will be obtained over the non-airport properties where obstructions are located and approximately 550 trees will be removed from the CFR Part 77 approach surfaces, TERPS departure surface, and VASI OCS. Approximately 450 trees are found on private property and 100 trees are found on county or on Oregon Department of Transportation right of ways.

2.3 Requested Federal Actions

The FAA actions being requested by the Sponsor include:

- Unconditional approval of the Airport Layout Plan (ALP) to depict those portions of the Proposed Action subject to FAA review and approval pursuant to 49 USC 47107(a)(16)(B).
- Determination that Environmental Analysis Prerequisites associated with any future Airport Improvement Program (AIP) funding application for the Proposed Action have been fulfilled pursuant to 49 United States Code § 47101.
- Once the obstructions have been removed, FAA would re-evaluate the approach and departure procedures for the Airport. The re-evaluation of the surfaces and approach procedures may remove the approach notes related to those obstructions, and the VASIs will be re-aimed, by the FAA, to a 3.0-degree angle, which corresponds with the published approach procedure.

2.4 Proposed Timeline

If approved, the Sponsor would initiate actions to begin the project immediately after completion of the environmental review process. Avigation easements acquisition and obstruction removal is planned to begin in 2025.

Chapter 3 - Alternatives

This chapter of the EA discusses the alternatives considered for the removal of obstructions at the Airport. There is no requirement for a specific number of alternatives or a specific range of alternatives to be included in an EA, and an EA may limit the range of alternatives to the proposed action and no action.

In the case of obstructions, obstacles are identified based upon imaginary surfaces in relation to runways, approach and departure surfaces associated with the runways, or navigational instruments in place to aid pilots using the runways. Unless it is reasonable to move the runways or relocate the Airport (which are not reasonable alternatives for the Aurora State Airport), or to permanently mark or light the trees, the only reasonable alternative that is considered for obstruction removal and still maintain existing procedures and facilities at the Airport include leaving the obstructions in place (No Action) or removal or topping of the obstructions (Proposed Action).

Therefore, the alternatives discussed below for the Aurora State Airport are limited to the No Action Alternative and Proposed Action.

3.1 Alternative 1 – No Action Alternative

The No Action Alternative maintains the existing facilities, without removing obstructions. The existing airfield conditions would remain unchanged from the present conditions and the Airport would continue to operate and maintained as it is today.

The primary result of the No Action Alternative would be the sustained existence of 14 CRF Part 77 approach surfaces, TERPS surfaces, and VASI OCS surface obstructions. This is primarily a safety issue to the flying public and the property owners surrounding the airport. The pilots expect these surfaces to be free and clear of obstructions. If these surfaces are not free and clear, then the pilots will have to adjust their take-offs or landings to avoid obstructions that should not be there. Additionally, the existing obstructions have already resulted in the upward adjustment of the VASI glideslope angle above the published RNAV approach for each runway end (See Figures 1-5A and 1-5B). The obstructions will continue to grow, penetrate the surfaces more and more, to the point where the glide slope obstacle clearance angles will exceed the maximum aiming angle of the VASIs, which will result in the shutdown of the VASIs. If the VASIs are placed in an inoperable status, it is likely the existing approach minimums would be impacted, which could result in future increases in approach decision minimums and impacts to nighttime operations. These impacts may cause flights to be diverted or cancelled due to safety concerns.

This alternative does not meet the Purpose and Need. Although this alternative does not meet the Purpose and Need, CEQ and NEPA regulations require consideration of a No Action Alternative. When compared to the Proposed Action, the No Action Alternative serves as a reference point to evaluate impacts of the Proposed Action.

Alternative 1 is depicted in Figure 1-2 (Existing Conditions)

3.2 Proposed Action

The Proposed Action consists of the removal of the obstructions (trees) that penetrate, or that are within 10 feet of penetrating, the Airport's CFR Part 77 Approach Surface, TERPS departure surface, and VASI OCS as described in **Section 1.5** and shown on **Figures 1-6A and 1-6B**.

Once obstructions have been removed, FAA would amend the approach and departure procedure for the Airport and remove the takeoff notes related to obstructions; and the VASIs will be re-aimed to a 3.0 degree angle, which corresponds with the published approach procedure.

Marking and lighting of the obstructions were not considered since there is not an adequate way to conspicuously paint or mark the trees, nor a viable way to install permanent obstruction lighting in a tree. There is also no FAA guidance in AC 70/7420-1M *Obstruction Marking and Lighting* (FAA 2020) on marking or lighting trees.

Chapter 4 – Affected Environment and Environmental Consequences

This chapter evaluates potential impacts related to the Proposed Action on each of the Environmental Impact Categories defined by FAA Order 1050.1F. The evaluation of each Environmental Impact Category includes: the Affected Environment, which describes the existing natural, ecological, cultural, social, and economic conditions that could be impacted by the Proposed Action; the Environmental Consequences, which evaluates the human and environmental consequences of the No Action Alternative and Proposed Action for each environmental resource; and Mitigation Measures related to anticipated Proposed Action impacts.

Baseline data used to determine the affected environment were collected by reviewing existing documentation and databases, consulting with various individuals and agencies, and conducting field investigations.

For comparison purposes, the No Action Alternative is evaluated alongside the Proposed Action. Although the No Action Alternative does not address any of the existing issues or meet the Purpose and Need as explained in **Chapter 2**, Council on Environmental Quality (CEQ) and National Environmental Policy Act (NEPA) regulations require evaluation of a No Action Alternative. When compared with the Proposed Action, the No Action Alternative serves as a reference point.

The supporting documentation covers additional work items that are no longer relevant to this Environmental Assessment. Originally this EA covered the obstruction removal as well as a proposed run-up apron. The run-up apron has been removed from consideration within this EA. All referrals in the supporting documentation shall be disregarded.

4.1 Resources Not Affected

The No Action Alternative and Proposed Action would not affect the resources listed below:

Coastal Resources – According to the Department of Land Conservation and Development, the Oregon coastal zone includes the state's coastal watersheds and extends seaward three nautical miles and inland to the crest of the coast range. The Airport is located approximately 30 miles from the crest of the coast range and is not considered within the Coastal Zone. As such, coastal zone management and coast barriers are not applicable to the No Action and Proposed Actions and were not analyzed.

Light Emissions – No new or change in light emissions are proposed as part of the Proposed Action.

4.2 Air Quality

4.2.1 Regulatory Setting

Regulations addressing air quality are summarized below.

Clean Air Act

The Federal Clean Air Act of 1970 (CAA), 42 U.S.C. § 7401, et seq., as amended, requires that states identify those areas where the National Ambient Air Quality Standards (NAAQS) are not being met for specific air pollutants. The U.SW. Environmental Protection Agency (EPA) designates such areas as nonattainment areas. The EPA, under mandates of the CAA Amendments of 1990, has established primary and secondary NAAQS for seven air contaminants or criteria pollutants. These contaminants are carbon monoxide (CO), nitrogen dioxide (NO2), ozone (O3), lead (Pb), sulfur dioxide (SO2), particulate matter (PM10), and fine particulates (PM2.5).

General Conformity Rule

Federal projects must conform to applicable State Implementation Plans (SIPs) and not hinder efforts to achieve attainment of the NAAQS. This rule applies to federal projects located in areas that have been designated non-attainment for any of the federal ambient air quality standards.

EPA "Endangerment" and "Cause or Contribute" Findings

The U.S. Supreme Court has held that the EPA must consider regulation of motor vehicle greenhouse gas (GHG) emissions.

State of Oregon Clean Air Implementation Plan

Air quality regulations in non-attainment areas are set forth in the state's strategy for achieving federal air quality standards by a specific timeline. These steps are consolidated within a SIP that is mandated by the federal Clean Air Act.

4.2.2 Affected Environment

In Oregon, ambient air quality standards are set by the Oregon Department of Environmental Quality (DEQ). Based on data collected by DEQ, the Airport, which is in Aurora, Oregon, is within an attainment area and therefore all EPA and Oregon air quality standards and NAAQS for all pollutants are being met.

4.2.3 Environmental Consequences

4.2.3.1 Significance Threshold and Conclusions

Exhibit 4-1 of FAA Order 1050.1F identifies the significance threshold for air quality:

> *The action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.*

Alternative 1 - No Action Alternative

Under the No Action Alternative, no tree removal would occur, therefore, there would be no impacts on no effect on air quality.

Alternative 2 - Proposed Action Alternative

Construction of this alternative would result in short-terms effects on air quality. Construction emissions would occur from the use of tree processing equipment (chainsaws, chippers, masticators, tree processors, etc.), and vehicles that transport the felled trees to their final destination. Construction activities can also result in dust from tree cutting and wood chipping operations.

The construction activities associated with this alternative are within an attainment area for air quality and the Conformity Rule does not apply. The construction activities are presumed to conform and will not generate emissions that exceed *de minimis* levels.

The Proposed Action would not result in a number of aircraft operations or a change in the type of aircraft operating compared to the No Action Alternative.

For the reasons stated above, the Proposed Action would not significantly impact air quality.

4.2.4 Mitigation

Mitigation of air quality impacts is not required and further analysis is not necessary. However, best management practices (BMP) will be required during construction to limit air quality impacts.

4.3 Biological Resources

4.3.1 Regulatory Setting

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. Section 1531, et. seq.) requires federal agencies to examine projects for adverse impacts on federally listed endangered or threatened species. The Migratory Bird Treaty Act (MBTA) of 1918 prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests except as authorized under a valid permit (50 CFR 21.11). The Bald and Golden Eagle Protection Act (16 U.S.C 668-668c), prohibits anyone, from taking bald or golden eagles, including their parts, nests, or eggs. Essential Fish Habitat (EFH) is designated under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, which regulates marine fisheries in the U.S. and its territorial seas. The Magnuson-Stevens Act mandates that the National Marine Fisheries Service (NMFS) must identify EFH for federally managed marine fish.

4.3.2 Affected Environment

Information on Biological Resources is from the technical memorandum, *Environmental Inventory and No Effect Letter: Aurora State Airport* (ESA 2019a), dated April 23, 2019 a prepared by ESA. These documents can be found in **Appendix A**. The results of the memo were reassessed and verified in January 2024. The following change has occurred since the memo was written in 2019: Bradshaw's Desert-parsley and Nelson's Checker-mallow has been federally delisted since the time the memorandum was written.

Table 4.3.2-1 below shows species listed under the Endangered Species Act (ESA) that do occur, or may occur, within the area surrounding the project site according to a records review of Oregon Biodiversity Information Center (ORBIC), U.S. Fish and Wildlife Service (USFWS), and NOAA Fisheries.

Table 4.3.2-1: ESA- and State-Listed Species with the Potential to Occur in Project Vicinity

Species Common Name *(Scientific Name)*	**Federal /State Status**	**Critical Habitat Present in Vicinity?**
Upper Willamette River (UWR) Chinook (Oncorhynchus tshawytscha*)*	FT/CH	Yes – Mill Creek-Pudding River
UWR Steelhead (Oncorhynchus mykiss*)*	FT/CH	Yes – Mill Creek-Pudding River
Northern Spotted Owl *(Strix occidentalis caurina)*	FT/CH	No
Streaked horned lark (Eremophila alpestris strigata*)*	FT/CH	No
Fender's Blue Butterfly *(Icaricia icarioides fender)*	FE/CH	No
Bradshaw's Desert-parsley *(Lomatium bradshawii)*	SE	N/A
Golden Paintbrush (*Castilleja levisecta)*	FT/SE	N/A
Kincaid's Lupine *(Lupinus oreganus)*	FT/CH ST	No
Nelson's Checker-mallow *(Sidalcea nelsoniana)*	ST	N/A
Peacock larkspur *(Delphinium pavonaceum)*	SE	N/A
Water howellia *(Howellia aquatilis)*	FT/ST	No
White rock larkspur *(Delphinium leucophaeum)*	SE	N/A
White-topped aster (Sericocarpus rigidus)	ST	N/A
Willamette Daisy (Erigeron decumbens)	FE/CH SE	No

FE – Federal Endangered, FT- Federal Threatened, SE – State Endangered, ST – State Threatened, CH – Critical Habitat

The areas where obstructions will be removed under the Proposed Action are a mix of rural residential lots, agricultural areas, commercial areas, and rights-of-way. The south obstruction removal areas consist of grass seed fields, orchards, and residential lots with large street trees. The north obstruction removal areas

consist of patches of remnant forest and residential property with large ornamental trees, and light industrial and commercial properties. There are no old growth forests in the obstruction removal areas.

Four of the 20 obstruction removal areas have the potential to provide habitat for listed plant species due to the presence of associated species and/or presence of native groundcover: Areas #4, 5, 19, and 23. Two of the 20 areas contain potential wetlands (areas #23, 30), although these potential wetlands do not have a surface connection to streams that contain listed fish species.

Table 4.3.2-2: Habitat Summary

Area #	Habitat Notes	Potential Suitable Habitat for State or Federally Listed Plant species
4	Not wetland, oaks present	Yes: peacock larkspur, white rock larkspur, white-topped aster
5	Not wetland, oaks present	Yes: peacock larkspur, white rock larkspur, white-topped aster
19	Not wetland, Douglas fir with some oaks, Himalayan blackberry	Yes: Nelson's checkermallow, peacock larkspur, white-topped aster
23	Potential wetlands - ponded water in depression among oaks	Yes: Nelson's checkermallow, Bradshaw's desert parsley, peacock larkspur, white rock larkspur, white-topped aster

4.3.3 Environmental Consequences

Under the No Action Alternative, the existing environment and operational conditions within the study would remain unchanged. Any impacts to biological resources would be related to normal operation and maintenance of the existing airport configuration.

Under the Proposed Action, the obstruction removal would remove approximately 450 existing mature trees on private property, approximately 100 mature trees located in public right of ways and would include some ground disturbances associated with the obstruction removal work.

4.3.3.1 UWR Chinook salmon and Steelhead

Chinook salmon and steelhead, both federally threatened species, are present within 1 mile of the project areas in Mill Creek and the Pudding River. No streams occur within the Proposed Action. The two obstruction removal areas (Areas #23 and #30) of the Proposed Action with the potential for wetlands do not have a surface water connection to fish-bearing streams. Because of the localized impacts from proposed tree removal and the absence of work in streams, the Proposed Action would have no effect on listed fish species.

4.3.3.2 Northern Spotted Owl

Northern spotted owls occur in the North Cascades bioregion but require extensive mature or old-growth forests for nesting, roosting, foraging, and dispersal. The Proposed Action areas do not contain suitable habitat as the mature trees to be removed are not considered extensive nor old-growth. There are no recent

or historic sightings of northern spotted owls within Proposed Action area. The Proposed Action would have no effect on the northern spotted owl.

4.3.3.3 Streaked Horned Lark

Streaked horned larks (SHL) prefer open landscapes with few to no shrubs and trees and are known to breed at several Willamette Valley airports. Aurora Airport is considered a possible habitat for the SHL. No SHL were detected at the Airport during the 2018 surveys (ESA 2018a), and the obstruction removal areas do not provide habitat for SHL because of the presence of trees and shrubs. The Proposed Action would have no effect on SHL.

4.3.3.4 Fender's Blue Butterfly

This species occurs in native prairie habitats and is known to occupy areas where three specific lupine species occur, one of which is Kincaid's lupine (below). No records of Fender's blue butterfly are known in the project vicinity. During the field reconnaissance, no direct observations were made of native upland prairie habitats. The Proposed Action would have no effect on Fender's blue butterfly due to the lack of suitable habitat in the impact areas.

4.3.3.5 Bradshaw's Desert Parsley

This species is commonly found on seasonally saturated or flooded prairies, adjacent to creeks and small rivers in the southern Willamette Valley (USFWS 2018a). The Oregon Flora Project (OFPOPP 2018) mapped an observation of this species within 15 miles of the project area. There is potential for Bradshaw's desert parsley to occur in obstruction removal area; therefore, a site-specific survey during the growing season (April-June) is recommended to confirm absence of this species to conclude that obstruction removal would have no impact on Bradshaw's desert parsley. This survey will occur during the design phase of the project. If the Bradshaw's desert parsley is found, a mitigation plan will be developed. Access to private property was not granted during the environmental inventory. As Bradshaw's Desert Parsley is no longer a federally listed species, consultation with USFWS is not required if the species is present.

4.3.3.6 Golden Paintbrush

The Oregon Flora Project (OFPOPP 2018) recorded an observation of this species within 25 miles of the project area. However, this species is assumed to be completely destroyed or removed from the Willamette Valley. Golden paintbrush occurs in upland prairies, on generally flat grasslands, including some that are characterized by mounded topography. Low deciduous shrubs are commonly present as small to large thickets. During the field reconnaissance, no observations were made of native upland prairie habitats. The Proposed Action would have no effect on golden paintbrush due to the lack of suitable habitat in the impact areas and the fact that this species is likely extirpated from the Willamette Valley.

4.3.3.7 Kincaid's Lupine

The distribution of this species has a close association with native upland prairie sites that are characterized by heavier soils and mesic (moderately moist) to slightly xeric (dry) soil moisture levels. During the field reconnaissance, no observations were made of native upland prairie habitats. The Proposed Action would have no effect on Kincaid's lupine due to the lack of suitable habitat in the impact areas.

4.3.3.8 Nelson's Checkermallow

The Oregon Flora Project (OFPOPP 2018) recorded an observation of this species within 20 miles of the project area, which indicates the potential for other specimens in the vicinity. The species grows in remnant prairie grasslands, and some populations occur along roadsides where non-native plants, such as reed canarygrass (Phalaris arundinacea), are also present. Nelson's checkermallow primarily occurs in open areas with little or no shade and will not tolerate encroachment of woody species. There is potential for Nelson's checkermallow to occur in two (2) of obstruction removal areas; therefore, a site-specific survey during the growing season (May – September) is recommended. This survey will occur during the design phase of the project. If the Nelson's Checkermallow is found, a mitigation plan will be developed. Access to private property was not granted during the environmental inventory. As Nelson's Checkermallow is no longer a federally listed species, consultation with USFWS is not required if the species is present.

4.3.3.9 Peacock Larkspur

The Oregon Department of Agriculture Native Plant Conservation Program indicates the potential for peacock larkspur to occur in the project vicinity (Oregon Department of Agriculture 2018a). The Oregon Flora Project (OFPOPP 2018) recorded an observation of peacock larkspur within 18 miles of the project area. Peacock larkspur inhabits low, nearly flat areas in moist, silty soils of the Willamette River floodplain at elevations ranging from 150–400 feet. It occurs in native wet prairies, on the edges of ash and oak woodlands, and along roadsides and fence rows. There is potential for peacock larkspur to occur in four (4) obstruction removal areas; therefore, a site-specific survey during the growing season (April-June) is recommended. This survey will occur during the design phase of the project. If the Peacock Larkspur is found, a mitigation plan will be developed. Access to private property was not granted during the environmental inventory.

4.3.3.10 Water Howelia

The Oregon Flora Project (OFPOPP 2018) recorded an observation of water howelia in the floodplain of the Willamette River within 4 miles of the project area. This species tends to occur in small, freshwater wetlands or former river oxbows that have an annual cycle of filling with water in the fall through spring followed by drying during the summer months. These specific habitat conditions do not occur in the obstruction removal areas. The Proposed Action is anticipated to have no effect on water howelia due to the lack of suitable habitat in the project areas.

4.3.3.11 White Rock Larkspur

The Oregon Department of Agriculture Native Plant Conservation Program indicates the potential for white rock larkspur to occur in the project vicinity. The Oregon Flora Project (OFPOPP 2018) has mapped an observation of white rock larkspur within 10 miles of the project area. White rock larkspur is found on the edges of oak woodlands, in dry roadside ditches, on basalt cliffs, along riverbanks and bluffs, on moist rocky slopes, and in moist lowland meadows. It inhabits loose, shallow soils typically 5–7 cm deep with a high organic matter content and high level of sand relative to the soils in which other Pacific Northwest delphiniums occur. It grows on slopes ranging from horizontal plateaus to vertical cliffs in open exposed areas to fairly deeply shaded spots at 125–500 feet in elevation. There is potential for white rock larkspur

to occur in four (4) obstruction removal areas, and a site-specific survey during the growing season (May-June) is recommended. This survey will occur during the design phase of the project. If the White Rock Larkspur is found, a mitigation plan will be developed and submitted to the FAA for approval prior to the start of construction.

4.3.3.12 White-topped Aster

The Oregon Department of Agriculture Native Plant Conservation Program indicates the potential for white-topped aster to occur in the project vicinity. The southernmost populations of this species occur in Oregon and occupy deep, poorly drained clayey soils. The species occurs in open, grassy, seasonally moist prairie and savannah habitats, at elevations ranging from about 90–1,250 feet. The species is occasionally found in partially shaded areas under Oregon white oak (Quercus garryana) and Pacific madrone (Arbutus menziesii) canopies (Oregon Department of Agriculture 2018b). There is potential for white-topped aster to occur in four (4) obstruction removal areas and a site-specific survey during the growing season is recommended. This survey will occur during the design phase of the project. If the White-topped Astor is found, a mitigation plan will be developed and submitted to the FAA for approval prior to the start of construction. Access to private property was not granted during the environmental inventory.

4.3.3.13 Willamette Daisy

There are no known occurrences within the immediate vicinity of the project area (ORBIC 2018), and the majority of this species occurs in the alluvial soils of bottomlands adjacent to rivers and creeks (USFWS 2018b). This species is known to occur in three distinct Natural Resources Conservation Service mapped soil series, none of which occurs in the impact areas. The Proposed Action is anticipated to have no effect on Willamette daisy due to the lack of suitable habitat in the impact areas.

4.3.3.14 Migratory Birds

The USFWS IPaC tool (i.e., Information for Planning and Consultation; USFWS 2022) identified the following list of Birds of Conservation Concern protected under the Migratory Bird Treaty Act that potentially occur in the vicinity of the Proposed Action:

California Gull	Evening Grosbeak
Lesser Yellowlegs	Olive-sided Flycatcher
Rufous Hummingbird	Short-billed Dowither

There is no suitable habitat where trees will be removed for the lesser yellowlegs and short-billed dowitcher, as these are all shorebirds.

California Gull breed in the interior at lakes and marshes. Their nesting sites are on the ground near lakes and marshes. They are associated with seacoasts, lakes, farms and urban centers. According to IPaC, their probability of presence in the project area is January and November. They breed from March through July.

Evening grosbeak breed in coniferous and mixed forests and are often associated with spruce and fir.

According to IPaC, their probability of presence in the project area is February – May, mid-July, mid-September, October. They breed from May through August.

Olive-sided flycatchers are generally associated with open forests, often near water and with tall, prominent trees or snags. They may use open, mature coniferous forest, forested riparian areas, forest openings (e.g., burns, harvested forest), and forest edges. They prefer hemlocks or true firs for nesting and require abundant insects for prey. According to IPaC, their probability of presence in the project area is April through mid-July. They breed from May through August.

Rufous hummingbird breeds in open or shrubby areas. According to IPaC, their probability of presence where project area will be removed is February through August. They breed from April to mid-July.

4.3.3.15 Bald and Golden Eagles

According to IPaC, the probability of presence in the project area for the Bald Eagle is nearly year-round with a breeding season from January through September. The probability of presence in the project area for the Golden Eagle is the end of January and the first week of March and has a breeding season from January through August.

No eagle nests were identified in the project area during the Environmental Inventory survey.

4.3.4 Significance Threshold and Conclusions

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for biological resources, which includes fish, wildlife, and plants. A significant impact on biological resources would occur when, "The USFWS or the NMFS determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species or would result in the destruction or adverse modification of federally-designated critical habitat."

The FAA has not established a significance threshold for non-listed species.

In addition to the above threshold, FAA Order 1050.1F outlines additional factors to consider in evaluating the context and intensity of potential environmental impacts for biological resources, including situations in which a proposed action would have potential for:

- A long-term permanent loss of unlisted plant or wildlife species, i.e., completely remove a species from a large project area (e.g., a new commercial service airport).
- Adverse impacts on special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats.
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations.
- Adverse impacts on species' reproductive success rates, natural mortality rates, non-natural mortality, or ability to sustain the minimum population levels required for population maintenance.

No significance threshold has been developed for non-listed species. However, the additional factors to consider include the long-term or permanent loss of unlisted plants or wildlife species; adverse impacts to special status species or their habitats; a substantial loss, reduction, degradation, disturbance, or fragmentation of the population of a native species or its habitat; adverse impacts on the reproductive

success rate, natural or non-natural mortality rates (e.g., road kills) of a species, or their ability to sustain the minimum population levels required for population maintenance.

Alternative 1 - No Action Alternative

Under the No Action Alternative, no tree removal would occur, therefore, there would be no impacts on no effect on biological resources.

Alternative 2 - Proposed Action Alternative

Under the Proposed Action, the obstruction removal project is anticipated to have **no effect** on the following federally listed species due to lack of suitable habitat and the limited footprint of disturbance: Upper Willamette River Chinook salmon and steelhead; northern spotted owl; streaked horned lark; Fender's blue butterfly; golden paintbrush; Kincaid's lupine; water howelia; and Willamette daisy.

The Proposed Action will have work in areas (Areas # 4, 5, 19, 23) that may provide suitable habitat for the following state-listed (but not federally listed) species: peacock larkspur, white rock larkspur, white-topped aster, Nelson's checkermallow, and Bradshaw's desert parsley. Site-specific surveys at these locations will be conducted prior to obstruction removal. If the species are present, a mitigation plan will be developed and submitted to the FAA for approval prior to the start of construction. The obstructions shall be removed in a manner that will be approved by the FAA. Species shall be protected from vehicles and falling trees. Hand tools to remove trees and directional felling may be required to avoid listed species.

For the reasons stated above, the Proposed Action would not significantly impact biological resources.

4.3.5 Mitigation

The Proposed Action will incorporate additional minimalization measures that would reduce impacts to fish, wildlife, and the associated habitats. These include:

- Any disturbed natural ground associated with the Proposed Action will be seeded and mulched or a planting plan which would consist of native shrubs and shorter statured trees, at the property owners' request.
- Construction BMPs will be utilized to restrict the movement of sediment beyond the project site.
- Tree removal would occur outside of the nesting season of March 1 to September 15.
- Construction access and staging areas will be located on existing paved or disturbed land in upland areas.
- Emergency spill response and clean-up equipment will be available on-site during all construction activities.

4.4 Climate

4.4.1 Regulatory Setting

FAA Order 1050.1F Desk Reference on Climate states that a qualitative or quantitative assessment of GHG emissions should be performed where the proposed action or alternative(s) would result in an increase in GHG emissions. Additionally, the 2023 CEQ guidance requires that expected GHG emissions be put in

the context of local considerations and existing emission reduction goals. Exhibit 4.4.1-1 lists the primary regulations related to climate.

Exhibit 4.4.1-1. Statutes, Regulations, and Executive Orders Related to Climate

Statute, Regulations, or Executive Order	Summary
Clean Air Act	Regulates GHG emissions from on-road surface transportation vehicles and stationary power generation sources.
Executive Order 13514 Federal Leadership in Environmental Energy and Economic Performance	Makes it the policy of the United States that Federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. Provides for development of the Technical Support Document that establishes reporting criteria for GHGs.
Executive Order 13653, Preparing the United States for the Impacts of Climate Change	Builds on a previously released (and since revoked) EO I3514 Federal Leadership in Environmental Energy, and Economics Performance to establish direction for federal agencies on how to improve on climate preparedness and reliance strategies
Executive Order 13693, Planning for Federal Sustainability	Reaffirms the policy of the United States that Federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. Sets sustainability goals for all agencies to promote energy conservation, efficiency, and management while by reducing energy consumption and GHG emissions. Builds on the adaptation and resiliency goals in EO 13693 to ensure agency operations and facilities prepare for impacts of climate change. Revokes EO 13514.
Executive Order 13990, Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis	Directs federal agencies to review and, if necessary, revise or suspend regulations and policies that may hinder environmental protection or public health. Establishes a review process to identify actions that may disproportionately affect disadvantaged communities. Directs federal agencies to ensure that their actions are based on the best available science and data.
CEQ Interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change	Provides federal agencies a common approach for assessing the effects of GHG emissions and climate change resulting from proposed actions.

4.4.2 Affected Environment

Research has shown there is a direct correlation between fuel combustion and greenhouse gas (GHG) emissions. GHGs are gases that trap heat in the atmosphere and are primarily a result of burning fossil fuels, such as carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs). Climate change due to GHG emissions is a global phenomenon, so the affected environment is the global climate.

The Marion County Comprehensive Plan (Marion County 2024) guides the promulgation of local land use laws that apply to the airport and vicinity. The current plan does not include requirements or goals related to GHG or climate change. Neither the County or Oregon DEQ monitor for GHG emissions currently.

Oregon DEQ reports on GHG emissions on a biennial basis and has set goals for emission reductions (Oregon Climate Action Commission 2024).

4.4.3 Environmental Consequences

4.4.3.1 Significance Threshold and Conclusions

FAA 1050.1F does not provide a significance threshold for aviation-related greenhouse gas emissions.

Alternate 1 – No Action

The No Action Alternative will result in no additional GHG emissions beyond normal projected growth. Therefore, the No Action Alternative will have no effect on climate.

Alternate 2 – Proposed Action

The main source of emissions related to the Proposed Action would be CO2 from combustion connected with construction equipment and vehicles. No significant or sustained increase in construction or vehicular traffic is anticipated because of the Proposed Action, and the associated construction and vehicular emissions therefore are expected to be negligible. Emissions resulting from the Proposed Action would be temporary and not result in the significant or sustained increase in GHG emissions.

4.4.4 Mitigation

No mitigation is required or proposed.

4.5 Department of Transportation Act Section 4(f) Resources

4.5.1 Regulatory Setting

Section 4(f) of the U.S. DOT Act of 1966 (49 U.S.C. § 303) protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historical sites. Section 4(f) provides that the Secretary of Transportation may approve a transportation program of project that affects those protected areas, only if there is no feasible and prudent alternative to the using that land and the program or project includes all possible planning to minimize harm resulting from the use.

4.5.2 Affected Environment

Section 4(f) properties include:

- Parks and recreational areas of national, state. Or local significance that are both publicly owned and open to the public.
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public
- Historic sites of national, state, or local significance that are publicly or privately owned regardless of whether they are open to the public.

Below is a summary of the closest Section 4(f) properties to the Airport.

Public Parks: Aurora City Park, 1.7 miles southeast of the Airport

Wildlife Refuge: Graham Oaks Nature Park, 3.7 miles northwest of the Airport.

Properties Listed on the National Register of Historical Places (NRHP): There are no listed historical places within the Proposed Action area.

4.5.3 Environmental Consequences

4.5.3.1 Significant Threshold and Conclusions

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for Section 4(f) resources: The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a "constructive use" based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from an historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.

Alternative 1 – No Action

The No Action Alternative will have no effect on Section 4(f) resources, as it is a non-development alternative.

Alternative 2 – Proposed Action

There are no Section 4(f) resources located in the Proposed Action areas. The Proposed Action would not result in any impairments to any Section 4(f) resources. increase in aircraft operations, a change in fleet mix, changes in runway use, geometrical configurations, or a change in flight tracks that could result in a change in airport operations-related noise. Therefore, a change in the size or location of the existing DNL noise contours is not associated with the Proposed Action. No significant impacts would result.

4.5.4 Mitigation

No mitigation is required or proposed.

4.6 Farmlands

4.6.1 Regulatory Setting

Exhibit 4.6.1-1 lists statutes, regulations, and other guidance regarding farmlands.

Exhibit 4.6.1 -1. Statutes, Regulations, and Executive Orders Related to Farmlands

Statute or Guidance	Summary
Farmland Protection Policy Act	Administered by NRCS, the Farmland Protection Policy Act regulates federal actions with the potential to convert important farmland to non-agricultural uses.
CEQ Memorandum on the Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act	Urges federal agencies to include analysis of the effects of a proposed federal agency action on prime or unique agricultural lands as an integral part of the NEPA process.
State and local regulations	State and local agencies adopt and implement planning and land use regulations, such as land use plans and zoning. Under NRCS regulations, federal agencies are to ensure that their programs, to the extent practicable, are compatible with state and local programs and policies to protect farmland (see 7 CFR § 658.1).

4.6.2 Affected Environment

The Farmland Protection Policy Act (FPPA) was passed under the Agriculture and Food Act of 1981 to minimize the impact that federal programs have on the unnecessary and irreversible conversion of farmland to nonagricultural uses. According to the FPPA, farmland is classified as either "prime farmland, unique farmland, or farmland of statewide or local importance."

The study area involves privately-owned lands beneath the Runway approach surfaces, VASI obstacle clearance surface, and the departure surfaces of the Airport for the obstruction clearance. According to the NRCS Web Soil Survey (NCRS 2018), the soil that the Airport is located on is Amity Silt loam, which has a Farmland classification of Prime Farmland, if drained. Most of the obstruction removal areas are also within the Amity Silt loam boundaries and therefore, classified as Prime Farmland, if drained. The other minor soil map units that are within the obstruction areas are Woodburn silt loam and Willamette silt loam which are considered prime farmland. The areas where the obstructions are to be removed are not currently being used as farmlands.

4.6.3 Environmental Consequences

4.6.3.1 Significance Threshold and Conclusions

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for farmlands. A significant impact would occur when: The total combined score on Form AD-1006, "Farmland Conversion Impact Rating," ranges between 200 and 260 points. In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider in evaluating the context and intensity of potential environmental impacts for farmlands. These factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to farmlands include, but are not limited to, situations 1050.1F Desk Reference (v3) June 2023 Farmlands (last updated 6/2023) 6-5 in which the proposed action or alternative(s) would have the potential to:

- Convert important farmlands to non-agricultural uses. Important farmlands include pastureland, cropland, and forest considered to be prime, unique, or of state or local importance.

Alternative 1 – No Action

Under the No Action Alternative, there would be no changes to the soils within the area.

Alternative 2 – Preferred Action

The Proposed Action would not permanently affect land use in the areas of tree removal. Tree removal will not occur in areas currently being used as farms. There are no anticipated direct or indirect impacts to any farmlands. Therefore, no significant impact would occur.

4.6.4 Mitigation

The Proposed Action will not alter or effect the existing farmlands; therefore, no mitigation is necessary.

4.7 Hazardous Materials, Solid Waste, and Pollution Prevention

4.7.1 Regulatory Setting

Exhibit 4.7.1-1 lists statutes, regulations, and other guidance regarding hazardous waste, solid waste, and pollution prevention.

Exhibit 4.7.1 -1. Statutes, Regulations, and Executive Orders Related to Hazardous Waste, Solid Waste, and Pollution Prevention

Statute or Guidance	Summary
Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (as amended by the Superfund Amendments Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992)	Establishes joint and several liability for those parties responsible for hazardous substance releases to pay cleanup costs and establishes a trust fund to finance cleanup costs in situations in which no responsible party could be identified. Enables the creation of the NPL, a list of sites with known releases or threatened releases of hazardous substances in the United States and its territories used to guide the EPA in determining which sites warrant further investigation. As conditions of a sale, release, or transfer of federal lands or facilities used to store hazardous materials or where a release or disposal of hazardous materials has occurred, federal agencies must: • identify those lands or facilities; and • complete waste or contaminate cleanup of these lands or facilities.
Resource Conservation and Recovery Act (RCRA)	Establishes guidelines for hazardous waste and non-hazardous solid waste management activities in the United States. Regulates the generation, storage, treatment, and disposal of waste.
Toxic Substances Control Act	Provides the EPA with the authority to regulate the production, importation, use, and disposal of chemicals defined as toxic, including lead, radon, asbestos, and PCBs, that have the potential to cause unreasonable risk of injury to public health or the environment.

4.7.2 Affected Environment

According to the EPA's Superfund Enterprise Management System (SEMS) database, there are eleven sites listed in the database located in Marion County. The closest to the Project Area is the Bingo Truck Stop (EPA ID ORN001002921), located in Brooks, Oregon, approximately 16 miles south of the Airport. None of the Marion County sites listed in the database, including the Bingo Truck Stop site, are listed on the Superfund National Priorities List (NPL). The SEMS database lists nine sites located in Clackamas County. The closest to the Project Area is the Oregon City Mercury site (EPA ID ORN001002921), located in Oregon City, Oregon, approximately 11 miles east of the Airport. None of the Clackamas County sites listed in the database, including the Oregon City Mercury site, are listed on the NPL.

A search of the EPA's RCRAInfo database identified seven hazardous waste-generating sites within the City of Aurora. Two sites are located within 1 mile of the Project Area and are located on the eastern property line of the Airport. The two sites are located on Columbia Helicopters properties. One of the Handler Ids (ORD987185154) for Columbia Helicopters is classified as a "Very Small Quantity Generator". The other Columbia Helicopters Handler Id (ORD009673609) is classified as a Large Quantity Generator and in 2021 generated 54.4 tons of waste. Columbia Helicopters is not within the Areas will work will be done.

The DEQ's Environmental Cleanup Site Information Database identifies three hazardous materials sites located in the City of Aurora. One of the sites, Columbia Helicopters, located immediately adjacent to the eastside Airport property, was the subject of a leaking underground storage tank, LUST# 24-92-4135. The tank was decommissioned in 1992 and the site status is considered closed. A second site, Tri-metal Plating, located 1.6 miles SE of the Airport. There is a Facility Registry Service (FRS) number, ORD980833909, but the link returns that there are no ID matches for that number. Tri-metal also has a Superfund link number, 1001622. The Tri-metal site is not listed on NPL. Further investigation found that a Preliminary Assessment was conducted by the EPA in 1992 to document a 3-gallon spill of chromium from 1986. The area was cleaned up and in 1994 the Oregon Department of Environmental Quality issued a letter that no further action was required. The third site, UNOCAL 6308, now called Portland Travel Center is located 2 miles SW of the Airport, and is the subject of a leaking storage tank, LUST # 24-91-4053 and 24-97-4001. The site is considered active and is ongoing groundwater monitoring.

4.7.3 Environmental Consequences

4.7.3.1 Significance Threshold and Conclusions

According to Exhibit 4-1 of FAA Order 1050.1F, the FAA does not provide a significance threshold or specific independent factors to consider for hazardous materials, solid waste, and pollution prevention. However, it does state that in determining if significant impacts exist, the action would need to have the potential to:

- Violate applicable Federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management;
- Involve a contaminated site (including but not limited to a site listed on the National Priorities List). Contaminated sites may encompass relatively large areas. However, not all of the grounds

within the boundaries of a contaminated site are contaminated, which leaves space for siting a facility on non-contaminated land within the boundaries of a contaminated site. An EIS is not necessarily required. Paragraph 6- 2.3.a of this Order allows for mitigating impacts below significant levels (e.g., modifying an action to site it on non-contaminated grounds within a contaminated site). Therefore, if appropriately mitigated, actions within the boundaries of a contaminated site would not have significant impacts;

- Produce an appreciably different quantity or type of hazardous waste;
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity; or
- Adversely affect human health and the environment.

Alternative 1 – No Action

The No Action Alternative will have no effect on hazardous materials, solid waste, and pollution prevention, as it is a non-development alternative.

Alternative 2 – Proposed Action

In the short term, construction activities associated with the Proposed Action could potentially result in adverse hazardous materials impacts related to spill of fuels of fluids from construction vehicles and equipment. The areas of the Preferred Action would not impact any of the known hazardous material sites, because the hazardous material sites are not within any of the removal areas. The Proposed Action would also not increase the amount of hazardous materials created. The Proposed Action would not increase impervious surfaces and therefore would not contribute additional hazardous material to storm water runoff. The Proposed Action would not be expected to have any long-term impacts related to hazardous materials, solid waste, and pollution prevention. Therefore, no significant impacts would occur.

4.7.4 Mitigation

A construction phase Spill Prevention and Pollution Control Plan (SPPCP) would be developed and implemented to mitigate short-term impacts related to spills of fuels and fluids from construction vehicles and equipment. The construction vehicles would stock spill remediation kits. Depending on the acreage disturbed, the proposed action may be required to obtain a 1200-C Construction Stormwater General Permit, which regulates potential pollution sources and harmful erosion.

No other mitigation measures are anticipated for the Proposed Action due to the low likelihood of any permanent impacts.

4.8 Historical and Archaeological Resources

4.8.1 Regulatory Setting

Regulations addressing Historic and Archaeological Resources are summarized in Exhibit 4.8.1-1.

Exhibit 4.8.1-1. Regulatory Policies and Plans Related to Historical, Architectural, and Cultural Resources

Regulation	Summary
Section 106 of the National Historical Preservation Act (NHPA)	Requires federal agencies to consider the effects of this undertaking upon eligible resources (36 CFR800.4(d)(1)). The FAA is the Lead Federal Agency under Section 106. Section 106 requires that the FAA consider the effects of this undertaking upon Historic Properties within the Project's Area of Potential Effects (APE). Federal code implementing Section 106, found at 36 CFR 800, includes a requirement that an effort be made to identify Historic Properties.
Archaeological Objects and Sites (Oregon Revised Statutes (ORS) 358.905-358.955)	Provides definitions of archaeological sites, 75 years of age or older, significance, cultural patrimony; prohibits the sale and exchange of cultural items; or damage to archaeological sites on public and private lands. Items of cultural patrimony or associated with human remains are protected everywhere, unless the activity is authorized by an archaeological excavation permit.
Protection of Publicly Owned Historical Properties (ORS 358.653)	Requires that state agencies or political subdivisions that are responsible for real property of historic significance consult with the Oregon SHPO to conserve property and assure that property shall not be inadvertently transferred, sold, demolished, substantially altered, or allowed to deteriorate.
Indian Graves and Protected Objects (ORS 97.740-97.760)	Protects all Native American cairns and graves and associated cultural items.

4.8.2 Affected Environment

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consider the effects of this Proposed Action upon eligible resources (36 CFR800.4(d)(1)). The Areas of Potential Effect (APE) was developed which included all areas of potential obstruction removal.

Information on the original historical and archaeological resources is from the *Cultural Resource Survey for the Aurora State Airport Environmental Assessment, Marion County, Oregon* provided by Archaeological Investigations Northwest, Inc. (AINW 2018), dated January 10, 2018 and revised May 13, 2019. The cultural resources survey was also conducted in accordance with state laws addressing significant archaeological sites (ORS 358.910) and significant buildings and structures that are publicly owned (ORS 358.653). The document can be found in **Appendix B**.

The APE includes the obstruction areas and individual trees that are shown to penetrate the runway approach surfaces, TERPS departure surfaces, and the VASI obstruction clearance surface as shown in Exhibits 1-7A and 1-7B.

AINW completed cultural resource study of the project's APEs. Background file review and an onsite survey was conducted for the approximate 35 acres of obstruction removal area. The on-site surveys were conducted in December 2017 and April 2019. A windshield survey was conducted where access to private property was not permitted. The file review included a records search of archaeological and historical resources within a 2-mile radius of the APE to identify recorded resources and likely high-probability areas. Private properties that were not surveyed should be surveyed during the design process.

There are 17 historic resources located within the APE.

- 13 of the 17 historic resources were identified within the clearing areas outside of the airport property.
    - Just one resource was considered eligible. A 1951 ranch house at 14094 Ehlen Road NE is recommended eligible for listing in the National Register of Historic Places (NRHP) under Criterion C.
    - Most all other individual historic resources of the APE have diminished historical integrity due to modifications that have occurred since they were originally constructed. For instance, the previously recorded house at 21830 Boones Ferry Road NE is the oldest building in the APE (circa 1890s); however, it has been moved from its original location, and its siding and windows have recently been replaced with those of modern materials and appearance. The house retains its historic-period saltbox roofline, but otherwise has a modern appearance. This diminished historical integrity detracts from potential associations that this house may have to significant events or people of the past, and the house is no longer a good example of a type, period, or method of construction.
- Four historic resources were identified within the property of the Aurora State Airport. It is the opinion of the archaeologist that these four historic resources are not eligible for listing in the NRHP. There are no obstructions that will be removed on Airport property.

Consultation Process

On January 8, 2018, the FAA initiated Section 106 consultation with the Oregon State Historic Preservation Office (SHPO) and the following Tribes: The Confederated Tribes of Grande Ronde (CTGRCO), The Confederated Tribes of Siletz Indians (CTSI), and The Confederated Tribes of Warm Springs (CTWSRO) by providing them a project description, survey methodology, and a map of the APE. FAA received concurrence on the APE from SHPO on January 24, 2018.

On May 13, 2019, the FAA submitted to SHPO the Cultural Resources Assessment along with its finding of *No Historic Properties Affected.* In a letter dated August 15, 2019, SHPO stated that the project will likely have no effect on any significant archaeological objects or sites. This response did not pertain to above-ground historical resources. SHPO responded regarding the above-ground historical resources to the FAA with comments on August 20, 2019. FAA submitted a response to SHPO's comments on September 12, 2019. SHPO responded on October 15, 2019 and concurred that the project would result in no adverse effect to historic properties.

On July 25, 2019, the FAA submitted the Cultural Resources Assessment along with its finding of *No Historic Properties Affected* to the Tribes listed above. CTWSRO concurred with the findings via email on July 30, 2019. CTGRCO sent an email on September 4, 2019, indicating that the Tribe had no comments. CTSI did not respond.

Therefore, under 36 CFR 800.3(c)(4) and 36 CFR 800.4(d)(1)(i), the FAA's responsibilities under Section 106 have been fulfilled.

4.8.3 Environmental Consequences

4.8.3.1 Significance Threshold and Conclusions

The FAA has not established a significance threshold for historical, architectural, archeological, and cultural resources. However, it does provide factors to consider in evaluating the context and intensity of the potential impact an action would have on these resources. These factors include the determination for the action through the Section 106 process (no historic properties affected, no adverse effect, or adverse effect) and if the action involves more than a minimal use of a Section 4(f) resource.

Alternative 1 – No Action

The No Action Alternative will have no effect on historical and archaeological resources.

Alternative 2 – Proposed Action

The Ranch house at 14094 Ehlen Road NE is the only resource that may be eligible for listing in the NRHP. The recommendation for eligibility includes only the boundary of the footprint of the house. The setting of the house, and its surroundings, does not contribute to its eligibility for listing in the NRHP. Thus, tree removal, which is a change in the setting of the house, will not meet the definition of an effect as outlined in 36 CFR 800.16(i). Therefore, the Preferred Action will have no adverse effect on Historical and Archaeological Resources; no significant impacts would occur. SHPO and the Tribes concur with the finding.

4.8.4 Mitigation

The No Action Alternative would not have any impact on historical or archaeological resources.

The Proposed Action will not alter or effect the any existing Historical and Archaeological Resources; therefore, no mitigation is necessary. However, an Inadvertent Discovery Plan will be created prior to construction, in case historic properties are discovered during the Proposed Action.

4.9 Land Use

4.9.1 Regulatory Setting

The Project Areas are in unincorporated Marion County and unincorporated Clackamas County. The Project Areas located within Marion County are regulated by the Marion County Code and the properties within Clackamas County are regulated by the Clackamas County Zoning and Development Ordinance (ZDO).

4.9.2 Affected Environment

The Airport property is zoned Public (P) and the airport lies under a Marion County Airport Overlay Zone. Within the P zone, airport and airport-related commercial and industrial uses is a Conditional Use under the Marion County Code, Title 17. The zoning code also includes an Airport Overlay Zone which provides height restrictions in the 20:1 Approach Surface as described in Chapter 17.177.020 of the Marion County Code. This serves to restrict the intrusion of buildings, rooftop appurtenances, and trees within the approach

surfaces and other navigable airspace. The Clackamas County ZDO includes similar restrictions found in Section 713 – Public Use Airport and Safety Overlay Zones.

County zoning designations surrounding the Airport include exclusive farm use (EFU), Industrial (I), Acreage Residential (AR), and Commercial (C). Most of the property surrounding the airport is zoned EFU.

4.9.3 Environmental Consequences

The Proposed Action will not impact any land use zones since there is no prohibitions on tree removal within the surrounding land use zones.

4.9.3.1 Significance Threshold and Conclusions

The FAA does not provide a significance threshold or specific independent factors to consider for land use impacts. However, it does state that determining if significant impacts exist is normally dependent on related categories. For example, the disruption or relocation of communities or induced socioeconomic impacts.

Alternative 1 – No Action

The No Action Alternative will have no effect on Land Use, as it is a non-development alternative.

Alternative 2 – Proposed Action

The Proposed Action will have no effect on Land Use. Tree removal is permitted in the EFU, Industrial, Acreage Residential, and the Commercial zoning areas.

4.9.4 Mitigation

No mitigation is anticipated for the Proposed Action because all proposed improvements meet existing zoning and airport overlay requirements.

4.10 Natural Resources and Energy Supply

4.10.1 Regulatory Setting

NEPA Sections 1502.16(e) and (f) of the CEQ Regulations require that Federal agencies consider energy requirements, natural depletable resource requirements, and the conservation potential of alternatives and mitigation measures in the Environmental Consequences section of the NEPA documents.

4.10.2 Affected Environment

The Proposed Action areas consist of residential areas that require consumable materials. The residential areas are served with electrical power, potable water, and sewage drain fields. In addition, various fuels, which may include gasoline, diesel, and heating oils are used in the Proposed Action area.

4.10.3 Environmental Consequences

4.10.3.1 Significance Threshold and Conclusions

The FAA has not established a significance threshold for natural resources and energy supply. Factors to consider would be if the action would have the potential to cause demand to exceed available or future supplies of these resources.

Alternative 1 – No Action

Under the No Action Alternative there would be no obstruction removal. There would be no increase in the need for water or electricity and there would be no requirement for additional natural resources under the No Action Alternative.

Alternative 2– Proposed Action

The Proposed Action Alternative would temporarily increase the demand for fuel for construction equipment and vehicles. These fuels would include diesel fuel for trucking, gasoline and 2-stroke oil for chainsaw equipment, and bar oil for chain lubrication. These increases would be considered minimal and temporary and would not exceed existing and future fuel supplies.

There is the possibility of an increase in electric power for the surrounding residential buildings due the removal of trees in the Proposed Action Alternative. The increase in need for electrical power would be caused by the removal of the tree canopy adjacent to the buildings and therefore exposing the buildings to sunlight. The increase in electrical power would be from additional air conditioning or fans inside the house.

The Proposed Action Alternative does not have the potential to cause energy demand to exceed available or future supplies; therefore, no significant impact would occur.

4.10.4 Mitigation Measures

To mitigate the possibility of increased sun exposure to the buildings, the Proposed Action will include a planting plan that will consist of native shrubs and/or shorter statured trees, at the property owner's request.

4.11 Noise and Noise Compatible Land Use

4.11.1 Regulatory Setting

FAA Order 1050.1F, FAA Order 5050.4B, and 14 CFR Part 150 specify the methods required for evaluation of the airport noise environment. The FAA requires an analysis of noise exposure when development actions may change the cumulative noise exposure of individuals to aircraft noise in areas surrounding the airport. Common development actions that may change the cumulative noise environment include runway reconfiguration, changes in aircraft operations or movements, or changes in aircraft traffic patterns.

4.11.2 Affected Environment

The FAA defines Day-Night Average Sound Level2 (DNL) 65 decibels (dB) as the threshold of noise compatibility for residential and other noise-sensitive land uses, such as schools, libraries, and religious facilities. A noise analysis was prepared for the 2012 Master Plan Update (WH Pacific 2012) and noise

contours were developed showing that the areas of 65+ dB DNL extend beyond airport property (WHPacific 2012). Portions of multiple residential properties (noise-sensitive uses) are within the 65-70 dB DNL zone.

Within the 65-70 dB contours, there are residences found to the south and the west of the airport. One residence is located approximately 3,800 feet south of RW 35 at the southeast corner of the intersection of Ehlon Rd. NE and Hubbard Cutoff Rd. NE. To the west of the airport there are 49 residential properties located between the west side of Boones Ferry Rd. NE to the west side of Hubbard Cutoff Rd. NE that are within the 65-70 dB contours.

The closest school (North Marion Middle School) and the closest library (Canby Public Library) are located more than 3 miles from the Airport and well beyond the 65+ dB DNL zone. The closest religious facility (Calvary Chapel) is located 0.3 miles south of RW 35 and is located within the 60-65+ dB DNL zone.

4.11.3 Environmental Consequences

4.11.3.1 Significance Threshold and Conclusions

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for Noise and Noise-Compatible Land Use as:

> *The action would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 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, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB.*

Alternative 1 – No Action

The No Action Alternative will have no effect on noise levels or noise compatible land use, as it is a non-development alternative. Current noise levels and land uses would remain as they presently exist.

Alternative 2 – Proposed Action

The Proposed Action would not result in an increase in aircraft operations, a change in fleet mix, changes in runway use, geometrical configurations, or a change in flight tracks that could result in a change in airport operations-related noise. Therefore, a change in the size or location of the existing DNL noise contours is not associated with the Proposed Action.

Trees and vegetation can absorb and reduce sound as it travels as long as the vegetation is dense and located between the noise source and the receiver. Trees can provide a buffer to noise from aircraft taxiing on the ground, or performing run-up activities, as well as providing a buffer to vehicular traffic on the local roads. Once the aircraft leaves the ground, the trees and vegetation provide little buffer, since the aircraft is above the vegetation. The removal of the trees will likely lead to an increase in noise and vibrations to the surrounding residential properties from aircraft and local vehicular traffic. The shrubs and short-statured trees that will be planted after the trees are removed will provide some sound adsorption properties once the vegetation is established.

The removal of the trees will contribute to temporary noise increases from tree removal equipment. The residents along the Hubbard Cutoff Rd. NE and Boones Ferry Rd NE will experience noise impact during construction. The noise impacts will be short-term as construction would last 2 to 10 weeks.

Ambient noise levels are anticipated to return to pre-existing conditions after post construction vegetation is established and no significant noise impacts would result from the Proposed Action.

4.11.4 Mitigation Measures

No specific mitigation is required, however the Proposed Action incorporates actions that will minimize the noise impacts. These actions are:

- Adjacent to residential properties, tree removal will be limited to Monday through Friday from the hours of 8:00AM to 6:00PM.
- The Proposed Action will include the plantings of shrubs and short-statured trees along the residential properties to provide sound adsorption.

4.12 Socioeconomics, Environmental Justice, and Children's Health and Safety Risks

4.12.1 Regulatory Setting

Title VI of the US Civil Rights Act of 1964, as amended, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, and Order DOT 5610.2, *Environmental Justice* require that no minority or low-income person shall be disproportionately adversely impacted by any project receiving federal funds. For transportation projects, this means that no particular minority or low-income person may be disproportionately isolated, displaced, or otherwise subjected to adverse effects. Potential impacts are assessed in terms of property acquisitions or relocations, changes in access to employment areas, and other changes in low-income and minority communities/neighborhoods. To determine whether an environmental justice population is present, Federal agencies must refer to U.S. Census data to establish the demographic and socio-economic baseline.

DOT Order 5610.2 defines minorities as Black, Hispanic, Asian-American, American Indian and Alaska Native, and Native Hawaiians and Other Pacific Islander individuals. The order also identifies low income individuals as a person having a median household income at or below the Department of Health and Human Services' (HHS) poverty guidelines. The Census Bureau's annual statistical poverty thresholds on income and poverty and typically used to define low income. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, requires federal agencies to identify disproportionately high impacts and adverse impacts to children. Environmental health risks and safety risks include any product or substance that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to. According to the FAA's 1050.1F Environmental Desk Reference Chapter 12, impacts to children's health and safety should be considered as they related to the affected environment of other impact categories, such as air quality, water quality, noise, and hazardous materials.

The FAA has not established significance thresholds for socioeconomics, environmental justice, or children's environmental health and safety risks.

4.12.2 Affected Environment

4.12.2.1 *Socioeconomics*

Economic Activity and Income

The project area is located within zip code 97002 within Marion County. The population within Marion County have a 2022 median household income of $70,926. 13.6% of people within Marion County live under the poverty level. In 2021, there were 195 registered businesses within the 97002 area code, with an annual payroll of $137,476,000. Most of the businesses are establishments with less than 5 employees (109 establishments). (U.S. Census Bureau 2023)

Employment

The 97002 zip code area has a civilian labor unemployment rate of 4.9% and 46.7% of the population is employed. The project area has a higher unemployment rate and a lower rate of employment than the State of Oregon, which has an unemployment rate of 4.3% and an employment percentage of 59.7%.

Population and Housing

Table 4.12.2.1-1 below shows the population of Marion County and the 97002 zip code that contains the City of Aurora and the Project Area (U.S. Census Bureau 2023). Based on this data, Marion County has experienced growth, and the 97002 zip code has not exceeded the 2000 population number over the last two decades. The population of Marion County experienced growth of nearly 21.4% and the 97002 zip code area experienced growth of nearly -0.7% during the 2000 to 2020 period.

Table 4-11.2.1-1: Historical Population Trends

Year	Marion County	% Change	97002	% Change
2020	345,920	+9.7	5,874	+4.4
2010	315,335	+10.7	5,623	-4.9
2000	284,834		5,917	

Source: U.S. Census Bureau 2023

Housing data from the US Census Bureau was analyzed to determine number of home owners and the number of renters. In 2020, the 97002 zip code area had an estimated 2,318 total housing units. 76.0% were one-unit structures and 24.0% were mobile homes or other types of units. Approximately 83.6% of housing units were owner-occupied, and 16.4% of housing units were rented. (U.S. Census Bureau 2023)

4.12.2.2 Environmental Justice

The Environmental Justice analysis is intended to consider the potential for Federal actions to have a disproportionate and adverse impact on low-income and minority populations and is required to comply with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations*

and Low-Income Populations (59 FR7629, February 11, 1994). The analysis requires that low-income and minority populations be identified to assess whether adverse human health or environmental impacts would result from the Preferred Alternative Proposed Action and are disproportionately borne by these groups. This analysis complies with Executive Order 12898 previously listed and the Department of Transportation (DOT) Order 5610.2, *Order to Address Environmental Justice in Minority Populations and Low-Income Populations*.

Order 5610.2(a) defines that a disproportionately high and adverse effect on minority and low-income populations occur when the adverse effect is predominately borne by a minority population and/or low-income population or is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population. It requires Federal agencies to avoid any disproportionate impacts to achieve environmental justice to the greatest extent practicable.

An evaluation of the population and ethnic distributions in the project area and community was conducted. 2010 US Census data were analyzed to identify minority populations in the vicinity of the proposed project area. The data were broken down into two categories: Marion County and the City of Aurora. The Airport is not within the City of Aurora city limits.

The Department of Transportation Order 5610.2(a) defines minority as any individual who is:

- Black
- Hispanic or Latino
- Asian American
- American Indian and Alaskan Native (AIAN)
- Native Hawaiian and other Pacific Islander (NHPI)

Table 4.12.2.2-1 below shows the percentage of each race by geographic area.

Table 4.12.2.2-1: 2020 Minority Population Data

Geographic Area	Race					
	African American	Asian	AIAN	NHPI	2 or More	Hispanic or Latino (of any race)
Marion County	1.7%	2.7%	2.8%	2.2%	3.9%	28.7%
97002 Area Code	0.4%	1.0%	0.6%	0.1%	4.5%	16.1%

Source: U.S. Census Bureau 2023

4.12.2.3 Children's Environmental Health and Safety Risks

There are two schools within the 97002 zip code. Both schools are over two miles away from the Project Area. In 2020, there are 1,308 persons under the age of 18 years old or 22.4% of the population of 97002 zip code. (U.S. Census Bureau 2023)

4.12.3 Environmental Consequences

4.12.3.1 Socioeconomics

Significance Threshold

The FAA has not established a significance threshold for socioeconomics. Factors to consider that may be applicable to socioeconomic resources, if they are interrelated with natural or physical environmental impacts, include, but are not limited to, situations in which the proposed action would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base

Alternative 1 – No Action

Economic Activity and Income

Under the No Action Alternative, construction would not occur and would not increase economic activity and income in the Project Area.

Employment

Under the No Action Alternative, construction would not occur and there any opportunity for temporary employment during construction would not exist.

Population and Housing

Under the No Action Alternative, construction would not occur and therefore there would be no impacts to the population or housing.

Alternative 2 – Proposed Action

Economic Activity and Income

Under the Proposed Action Alternative, the obstructions to be removed are located on several different properties. This alternative will not substantially impact any businesses in the project either positively or negatively. This alternative will not cause any community businesses in the project area to be relocated and not cause severe hardship for the local community. The project also will not cause a permanent disruption or reduce the level of service of the roads in the community. Any impacts to the local roads would be temporary during construction and will not permanently impact the roads.

Employment

Under the Proposed Action Alternative, the construction of the project will be short term and employ a relatively small number, about 10-15 workers. These workers most likely will not live in the Project Area and their employment in the Project Area will be temporary. The employment of these workers will neither have a positive nor negative impact on the community tax base.

Population and Housing

Under the Proposed Action Alternative, the construction of the project would not result in changes in population patterns or growth. The project would not disrupt the existing community or neighborhoods. The project would not displace any residences or businesses. The project would not cause a disproportional adverse impacts to the minority and low-income populations.

4.12.3.2 Environmental Justice

Significance Threshold

The FAA has not established a significance threshold for environmental justice.

The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to:

- Significant impacts in other environmental impact categories; or
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

Alternative 1 – No Action

Under the No Action Alternative, the Proposed Action will not be constructed, therefore there would be no potential for disproportionately high and adverse impacts to a low-income or minority population since there will be no impacts on the physical or natural environment.

Alternative 2 – Proposed Action

Under the Proposed Action Alternative, trees would be removed. Although that would mean an impact to the natural environment in the Project Area, the action would not disproportionally affect minority or low-income populations.

4.12.3.3 Children's Environmental Health and Safety Risks

Significance Threshold

The FAA has not established a significance threshold pertaining to impacts to children's environmental health and safety.

The factor to consider that may be applicable to children's environmental health and safety includes, but is not limited to, situations in which the proposed action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

Alternative 1 – No Action

Under the No Action Alternative, the Proposed Action will not be constructed. Because no action would occur and there are no schools, daycares, or other facilities used by children located in or immediately adjacent to the project area, there would be no impacts to Children's Environmental Health or Safety.

Alternative 2 – Proposed Action

Under the Proposed Action Alternative, the construction of the Proposed Action would not result in the relocation, acquisition, or alteration of schools, daycares, parks, or any other establishments associated with children or childcare. There would be no impacts to locations where children are likely to congregate and therefore no disproportionate effect on children's environmental health and safety risks would occur.

4.12.4 Mitigation Measures

Mitigation is not required and further analysis of socioeconomics, environmental justice, or children's environmental health and safety risks is not necessary because the Proposed Action would not cause a significant impact.

4.13 Visual Effects

4.13.1 Regulatory Setting

Although there are no special purpose laws or requirements specific to light emissions or visual effects, some visual resources are protected under Federal, state, or local regulations. Some of these protected visual resources include but are not limited to scenic roadways, Wild and Scenic Rivers, National Scenic Areas, scenic easements, trails protected under the National Trails System Act, and biological resources (impacts to sensitive wildlife species). Additional laws protecting resources that may be affected by visual effects include Section 106 of the NHPA, Section 4(f) of the DOT Act, and the Coastal Zone Management Act.

Broadly defined, visual effects are the extent to which the Proposed Action or alternative(s) would either: 1) produce light emissions that create annoyance or interfere with activities; or 2) contrast with, or detract from, the visual resources and/or the visual character of the existing environment. Light emission effects

and visual resources/visual character effects are generally assessed separately. Reference will be made to any visual resources and/or visual character discussed in other NEPA chapters (i.e. Section 106 and Section 4(f) resources).

4.13.2 Affected Environment

There are no scenic roadways, Wild and Scenic Rivers, National Scenic Areas, scenic easements, or trails protected under the National Trails System Act in the area of where the trees are proposed to be removed. There are no designated visual resources listed by Marion County or Clackamas County in the vicinity of the Aurora State Airport.

The area north of Runway 17 contains mostly flat farm or farm industrial properties with Highway 551 and Arndt Road traversing through the area. Immediately to the north of the runway there are the runway approach lights. The farmlands are mostly cleared with areas of trees along the edges of the farmed lands.

The area south of Runway 35 are open farmlands with isolated trees. The area to the southwest of the runway and to the west of Highway 551 is a residential development with several stands of trees. Highway 551 and Boones Ferry Road traverse the area in the north- south direction and several roads are located within the residential development. The trees are in a mixture of right of ways, and on private residential and farmland properties.

Lighting on the airfield includes a rotating beacon, medium intensity runway edge and threshold lights, Visual Glide Slope Indicators, and Omni-Directional Approach Lights. Existing buildings have exterior lighting. The surrounding residential areas receive lighting impacts from vehicular traffic. There are no streetlights in the residential areas.

4.13.3 Environmental Consequences

There are no designated visual resources in the Marion or Clackamas County Comprehensive Plans in the vicinity of the Airport, so the Proposed Action would have no effect on designated visual resources.

The Proposed Action would remove obstructions to the runway approaches, the departure surfaces, and the VASI obstruction clearance surface. The obstruction removal north of Runway 17 will be visible to the public as they travel along Highway 551 and Arndt Rd., but once construction has been completed, the area will look like expansion of the farmland. The removed trees will not be replaced on non-residential areas. The stumps will remain, and the slash piles will be chipped and spread in place.

The trees proposed for removal in the residential areas, will be visible to the residents. The view will change from an area with tall mature trees to one of an area with those trees removed and stumps remaining. The removal of the trees may likely impact the residences by allowing increased glare from vehicle headlights.. After the trees are removed and the slash piles chipped and spread over the site, the Sponsor will coordinate with the homeowners to plant and replace the trees with shrubs and short-statured trees with a mature height that stay below the runway surfaces. Over time these trees and or bushes will mature and provide a landscaped appearance but remain below the runway surfaces. Therefore, the vegetation would not need to be removed in the future.

4.13.3.1 Significance Threshold and Conclusions

FAA Order 1050.1F does not provide a significance threshold for visual effects. However, it does provide a number of factors to consider in evaluating the context and intensity of potential environmental impacts. For light emissions, these factors include the degree to which the action would have the potential to:

- Create annoyance or interfere with normal activities from light emissions.
- Affect the visual character of the area due to the light emissions including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Block or obstruct the views of visual resources.

Alternative 1 – No Action

The No Action Alternative, as a non-development alternative will have no effect on light emissions or visual resources at the airport.

Alternative 2 – Proposed Action

The improvements proposed in the Proposed Action will have no effect on light emissions or visual resources on the farmlands. The Proposed Action will have no long-term effects on the residential areas since the trees that are removed will be replaced with shrubs and short-statured trees.

There will be temporary light impacts to the residences during construction. The lights from the vehicular traffic may pose an annoyance to the residences between the time the trees are cut down and the time when the replacement shrubs and short-statured trees mature.

For the reasons listed above, there will be no significant impacts on visual resources.

4.13.4 Mitigation Measures

The Proposed Action incorporates minimalization measures that would reduce visual impacts. These include:

- Slash piles will be chipped or removed.
- In the residential areas, the removal areas will be planted with native shrubs and/or short statured trees.

With the implementation of these measures, there would be no significant direct or indirect impact on visual resources.

4.14 Water Resources

Due to the interrelationship between surface water, groundwater, floodplains, and wetlands, these resource categories and their analysis is conducted under the all-encompassing impact category of "water resources." Impacts to any part of the system can have negative consequences to the functioning of the entire system. Wild and Scenic Rivers are included in this category because impacts to Wild and Scenic Rivers closely resembles impacts to water resources, such as altering free-flowing characteristics and impacts to water quality.

The project area, unless otherwise defined, as it pertains to Water Resources includes all areas to be affected directly (i.e. water resources impacts within the area of obstruction removal) and indirectly (i.e. downstream effects to water resources) by the Proposed Action.

Information regarding water resources is from the technical memorandum prepared by ESA titled *Aurora State Airport Wetland Reconnaissance (Task 3.6)*(ESA 2018c) dated May 22, 2018. The documents are included in **Appendix D**.

4.14.1 Affected Environment

According to the Federal Aviation Administration's (FAA) 1050.1F Desk Reference, Chapter 14, water resources include wetlands, floodplains, surface waters, groundwater, and Wild and Scenic Rivers, which are vital to society and important for providing drinking water and in supporting recreation, transportation and commerce, industry, agriculture, and aquatic ecosystems.

4.14.1.1 Wetlands

Wetlands are regulated by the Oregon Removal-Fill Law and the federal government under Section 404 of the Clean Water Act (Act) of 1977. The Act requires consideration of the impacts of dredge and fill activities on wetlands, as well as on their functions and values. Other impact considerations include habitat fragmentation, drainage, the effects of runoff (erosion, flooding, sedimentation, etc.), hydrologic modifications, and temporary disturbances incurred during construction activities. The Act created a federal regulatory plan to control the discharge of dredged or fill materials into wetlands and other waters of the United States. If the potential development projects affect waterways or wetlands the projects will require permits from the U.S. Army Corps of Engineers (USACE) as well as the Oregon Department of State Lands (DSL), under Section 404 of the Act, with the USACE handling the day-to-day activities.

In addition, Section 401 of the Act requires any applicant for a federal license or permit to conduct any activity that may result in any discharge into the navigable waters to obtain a 401water quality certification from the Oregon Department of Environmental Quality (DEQ) prior to federal permit being issued.

The National Wetland Inventory (NWI 2018) has no mapped wetlands within the study area.

For the obstruction removal area, a desktop analysis involved reviewing existing data sources to determine the presence of potential wetlands, or those areas with a high likelihood of containing the three wetland parameters - hydric soils, hydrophytic plants, and wetland hydrology. The data sources utilized included: geospatial data from the US Fish and Wildlife Service National Wetland Inventory, the U.S. Geological Survey National Hydrography Dataset (NHD), the National Resources Conservation Service Web Soil Survey (NRCS, 2018), aerial imagery (Google Earth 1994-2017) and the Oregon Lidar Consortium provided by the Oregon Department of Geology and Mineral Services.

Through the desktop analysis, potential wetlands were identified if any portion of an impact area included one of the following:

- An NRCS mapped hydric soil unit; or
- An NRCS mapped soil unit that contains 4-6% hydric inclusions and contours that indicate a depression or swale; or

- An NHD mapped headwater stream within 100 feet.

The desktop analysis identified 20 obstruction removal areas that met the criteria for possible wetland habitat. A windshield survey for the 20 obstruction removal areas located off within the obstruction removal area was conducted on March 22, 2018, by a Professional Wetland Scientist and a wetland technician. Each of these impact areas were evaluated to verify results of the desktop analysis using indicators in the field, such as understory vegetation, tree species, physical geography, surface hydrology, and presence of fill or development. 18 of the 20 obstruction removal areas which were identified as potential wetlands in the desktop analysis were ruled out during the windshield survey due to the lack of wetland indicators identified in the desktop analysis. Two areas of obstruction removal have criteria for potential wetlands. No on-site investigations were conducted as access by the private property owners was not granted.

All wetland documentation is included in **Appendix D**.

4.14.1.2 Floodplains

Based on flood insurance rate maps developed by the Federal Emergency Management Agency (FEMA), no 100-year floodplain is mapped within the obstruction removal areas. The flood insurance rate map (FEMA 2000) showing the flood risk of the project area is included in **Appendix E.**

4.14.1.3 Surface Waters

Surface waters and water quality are regulated under the Oregon Removal-Fill Law and Sections 401 and 404 of the Clean Water Act (Act).

From the ESA memorandum entitled *Aurora State Airport Wetland Reconnaissance (Task 3.6)* (ESA 2018b) dated May 22, 2018, mapped depressions or swales in two of the obstruction removal areas were identified in the wetland evaluation above. Private property access to perform the delineation was not granted.

4.14.1.4 Groundwater

Protection of groundwater in Oregon occurs at the federal, state, and local levels through various agencies. Oregon administers many federal programs, including the Clean Water Act, Safe Drinking Water Act, and Resource Conservation and Recovery Act among others. In addition to federal laws, Oregon has its own state laws and regulations relating to groundwater protection, and Marion County regulates groundwater through local ordinances.

A total of two municipal groundwater wells operate in Aurora's water system. The municipal groundwater wells are located 1.7 and 1.6 miles southeast of the Airport.

Review of the USGS National Water Dashboard found no Groundwater Level Stations in the Proposed Action area. In addition, the USGS National Water Information System Mapper shows no active groundwater sites or active springs in the area.

Review of the EPA Sole Source Aquifer (SSA) location map shows no SAA within the Proposed Action Area. The nearest SSA is the Troutdale Aquifer System which is found 25 miles to north, across the Columbia River.

4.14.1.5 Wild and Scenic Rivers

The Wild and Scenic Rivers Act established the National Wild and Scenic River System (National System), which consists of those rivers and river segments deemed by Congress to have one or more "outstandingly remarkable" scenic, recreational, geologic, fish and wildlife, historic, or cultural values. Rivers in the system are classified based on the degree of development present along the river, and whether the river is wild, scenic, or recreational.

According to the National Wild and Scenic Rivers System map (Wild and Scenic Rivers Program, 2024), the closest designated Wild and Scenic River is a portion of the South Fork Clackamas River located approximately 25 miles to the southeast of the Airport. The section of the river was designated Wild by Public Law 11-11, March 30, 2009. The Proposed Action Area is downstream from the designated area.

The Nationwide Rivers Inventory (NRI), which is maintained by the National Park System, lists more than 3,400 rivers or river segments that appear to meet the minimum Wild and Scenic Rivers Act eligibility requirements based on their free-flowing status and resource values. The development of the NRI resulted, in part, from Section 5(d)(1) in the Wild and Scenic Rivers Act, which directed federal agencies to consider potential Wild and Scenic Rivers in their comprehensive land management processes. NRI listed rivers are afforded some protection from adverse impacts of federal projects until detailed studies are conducted.

The Willamette River is listed on the NRI and is approximately 2 miles north of the proposed action area. The Willamette River is classified as "Recreational" (NRI 2024).

4.14.2 Environmental Consequences

4.14.2.1 Wetlands

The Proposed Action would remove trees that may be located within wetlands. The removal of the trees would be done by hand tools and no vehicles and heavy equipment will be permitted within the wetlands. The trees will be cut at ground level. The stumps shall remain and not be removed. There will be no grading or fill operations within the wetland areas.

Area #23, which has a total of 3.1 acres, has potential wetlands due to a depressed area with the possibility of ponded water. Area #30, which is 0.8 acres, has the potential to contain a wetland due to a seasonal water feature. These wetlands appear to be isolated depressions and not connected to other waterways. The condition and extent of the impacts will not be evident until a wetland jurisdiction has been conducted, prior to tree removal. No fill will be placed within the regulated wetland or below the ordinary high-water mark, therefore no wetland or fill permits will be required. Coordination with the US Army Corps of Engineers will be conducted prior to the removal of trees within wetlands. Based upon previous coordination on similar projects, it is expected that the Corps of Engineers will request that any trees cut down within a wetland be left on the ground and not hauled offsite.

The proposed project will not permanently impact any wetlands or waterbodies, but may temporarily impact wetlands during obstruction removal. Any impacts to wetlands must comply with the local, state, and federal permit regulations, implement compensatory mitigation measures, and, ultimately, meet the standard of no net loss of wetlands and waterbodies. Small areas of trees, which are within two obstruction

areas, may be in potential wetland areas. There will be no soil excavations (cuts) or soil import (fills) within the possible wetlands will occur during the removal of the obstructions.

4.14.2.2 Floodplains

There are no floodplain areas designated by FEMA within the area of the Proposed Action.

4.14.2.3 Surface Waters

There are no surface waters within the area of the Proposed Action.

4.14.2.4 Groundwater

The nearest groundwater well is 1.6 miles to the southeast of the Proposed Action. Additionally, the Proposed Action would not involve grading, the addition of impervious surfaces, or other activities that may affect precipitation infiltration and groundwater recharge.

4.14.2.5 Wild and Scenic Rivers

There are no Wild and Scenic Rivers within the study site, the Proposed Action would have no impacts to Wild and Scenic Rivers. The Proposed Action will remove trees and will cause erosion in the areas of removal that may migrate towards the NRI listed Willamette River.

4.14.3 Significance Threshold and Conclusions

4.14.3.1 Wetlands

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance thresholds for wetlands. A significant impact would occur when the action would:

1. *Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers;*
2. *Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected;*
3. *Substantially reduce the affected wetland's ability to retain floodwaters or stormwater runoff, thereby threatening public health, safety or welfare;*
4. *Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands;*
5. *Promote development of secondary activities that would cause the circumstances listed above to occur; or*
6. *Be inconsistent with applicable state wetland strategies.*

Alternative 1 – No Action

Under Alternate 1, the No Action Alternative, no tree removal would occur, therefore, there would be no impacts on wetlands.

Alternative 2– Proposed Action

With Alternate 2, the Proposed Action, a limited amount of tree removal would potentially occur in two wetlands. Tree removal in the potential wetland areas would be done with hand tools and access would be on foot.

Tree removal has the potential to disturb soils and possible siltation into the wetlands. After the tree removal from the wetlands, the areas would receive ground stabilization with an appropriate seed mix and then be planted with native shrubs and/or short-statured trees. These measures will prevent erosion and therefore there will be no significant direct or indirect impacts on wetlands.

Tree removal is an allowed activity in wetlands under the Oregon Removal-Fill Law and Section 404 of the Clean Water Act, as long as no material is added or removed from wetlands.

For the reasons described above, the Proposed Action will have no significant impacts to wetlands.

4.14.3.2 Floodplains

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for floodplains. Floodplain impacts would be significant if: *The action would cause notable adverse impacts on natural and beneficial flood plain values.*

There are no Floodplain areas located in the project area.

4.14.3.3 Surface Waters

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance thresholds for surface waters. A significant impact exists if the action would:

1. *Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate public drinking water supply such that public health may be adversely affected.*

In addition to the above thresholds, FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for surface waters. These factors include situations in which the proposed action or alternative(s) would have the potential to:

- Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values;
- Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

There are no Surface Water areas located in the project area.

4.14.3.4 Groundwater

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for groundwater. A significant impact exists if the action would:

1. *Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate an aquifer used for public water supply such that public health may be adversely affected.*

In addition to the threshold above, Exhibit 4-1 of FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for groundwater. Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to groundwater include, but are not limited to, situations in which the proposed action or alternative(s) would have the potential to:

- Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values;
- Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated; or
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

Alternative 1 – No Action

Under Alternate 1, the No Action Alternative, no tree removal would occur, therefore, there would be no impacts on Groundwater.

Alternative 2– Proposed Action

Under Alternate 2, the Proposed Action, trees would be removed. Tree removal has the potential to disturb soils and possible siltation into the Willamette River, however unlikely given that the river is approximately 2 miles from the proposed action. Before construction begins, proper construction Best Management Procedure and erosion controls will be installed. After the tree removal, the areas would receive ground stabilization with an appropriate seed mix and then be planted with native shrubs and/or short-statured trees. These measures will prevent erosion and therefore there will be no significant direct or indirect impacts on the Willamette River.

4.14.3.5 Wild and Scenic Rivers

The FAA has not established a significance threshold for Wild and Scenic Rivers in FAA Order 1050.1F; however, the FAA has identified factors to consider when evaluating the context and intensity of potential environmental impacts for Wild and Scenic Rivers (see Exhibit 4-1 of FAA Order 1050.1F). Please note that these factors are not intended to be thresholds. If these factors exist, there is not necessarily a

significant impact; rather, the FAA must evaluate these factors in light of context and intensity to determine if there are significant impacts. Factors to consider that may be applicable to Wild and Scenic Rivers include, but are not limited to, situations in which the proposed action and or alternative(s) would have an adverse impact on the values for which a river was designated (or considered for designation) through:

- Destroying or altering a river's free-flowing nature;
- A direct and adverse effect on the values for which a river was designated (or under study for designation);
- Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river's setting;
- Causing the river's water quality to deteriorate;
- Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor (which cannot exceed an average of 320 acres per mile which, if applied uniformly along the entire designated segment, is one-quarter of a mile on each side of the river); or
- Any of the above impacts preventing a river on the NRI or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).

Alternative 1 – No Action

Under Alternate 1, the No Action Alternative, no tree removal would occur, therefore, there would be no impacts on Wild and Scenic Rivers.

Alternative 2– Proposed Action

Under Alternate 2, the Proposed Action, trees would be removed, however, the action would not involve grading, the addition of impervious surfaces, or other activities that may affect precipitation infiltration and groundwater recharge and will not have any of the above listed impacts to any rivers listed on the NRI or in Section 5(d).

4.14.4 Mitigation

4.14.4.1 Wetlands

In the obstruction removal area, trees will be removed in potential wetland areas. Prior to removal, those potential areas must be delineated to confirm the presence of wetlands. If wetlands are present, the trees are to be removed with hand tools and either cut and left fallen in place or cut and dragged out of the wetland area. No vehicular traffic is to be permitted in the delineated wetland areas. Stumps are to remain in place and no further ground disturbance is to take place. Soils are to stabilized with a native seed mix immediately after tree removal and the appropriate native shrubs and short statured tree will be planted the next growing season. Appropriate construction BMPs will be placed to restrict sediment migration during the obstruction removal. This action is anticipated to not require action or permits from DSL or USACE, however, the

agencies will be contacted during design to confirm. The action may require tree removal permits from Marion and/or Clackamas County.

4.14.4.2 Floodplains

No portion of the Preferred Action will impact any floodplains. No mitigation is necessary.

4.14.4.3 Surface Waters and Water Quality

The Proposed Action will not result in a direct impact to surface waters and water quality. No mitigation is necessary.

4.14.4.4 Groundwater

The Proposed Action will not result in a direct impact to groundwater. No mitigation is necessary.

4.14.4.5 Wild and Scenic Rivers

The Proposed Action would not impact any Wild or Scenic River, but may impact the Willamette River, which is listed in the NRI or in Section 5(d). Before construction, BMPs and temporary erosion control measures will be placed to restrict sediment migration during the obstruction removal. After tree removal, soils are to stabilized with a native seed mix immediately after tree removal and the appropriate shrubs and short statured tree will be planted the next growing season.

4.15 Cumulative Impacts

According to the Council on Environmental Quality (CEQ), cumulative impacts are defined as "the impact on the environment which result from incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7).

A cumulative impact analysis provides information on impacts resulting from other actions that have occurred or that will occur within a defined time and geographic area. Cumulative impacts are evaluated on past actions, present actions, and reasonably foreseeable future actions. Airport actions are considered along with actions of tribes, private developers, the FAA, or others. This information is used to decide whether a proposed project's impact to a specific resource would cause a significant impact on that resource when added to past, present, and reasonably foreseeable future actions within a specific geographic area or designated time frame.

To identify the major projects that have occurred at or near (i.e., approximately 1 mile from) the Airport within the last seven years, or are planned in the reasonable foreseeable future, the following information sources were consulted:

- Aurora State Airport Capital Improvement Plans (current and historic)
- Aerial photography (Google Earth: current and historic)
- Marion County construction projects database (Marion County, 2024)
- City of Aurora constructions projects database (City of Aurora, 2024)
- Oregon Department of Transportation (ODOT) projects database (ODOT, 2024)
- Google search of proposed projects by private developers in the vicinity

4.15.1 Past, Present, and Future Project Listing

Table 4.15-1 below lists major projects that have occurred within the last seven years at or near the Airport.

Table 4.15-1: Past Project List

Year	Project Description and Proponent
2015	Rehabilitate Apron and Taxiway (Airport)
2016	Taxilane Reconstruction (Airport)
2016	Runway Surface Seal (Airport)
2019	Smith Gardens greenhouse expansion (private developer)
2022	OR551 at Ehlen Road – Road Improvements (ODOT)
2023	Smith Gardens greenhouse expansion (private developer)

Summary of Concurrent Projects

There are no major projects that are expected to occur concurrent with the Proposed Action.

Summary of Future Projects

Table 4.15-2 below list projects that are planned in the reasonably foreseeable future at or near the Airport.

Table 4.15-2: Future Project List

Year	Project Description
2024	Obstruction Removal – Easement Acquisition (Airport)
2025	Obstruction Removal – Design and Construction (Airport)
2025	Runway 17-35 Rehabilitation – Construction (Airport)

4.15.2 Environmental Impact Category Analysis

Resource category impacts are only analyzed for significant impacts associated with the Preferred Alternative and its cumulative potential impact with past, concurrent, and reasonably foreseeable projects in the vicinity of the Airport. Because the Preferred Alternative has the potential for temporary impacts due to construction, and air quality/green-house gases, the potential for cumulative impacts is summarized below. If the Proposed Action would not cause a direct or indirect impact on a resource, no cumulative impact for that resource would occur. As outlined in this document, Coastal Resources, Department of Transportation Section 4(f) Resources, Farmlands, and Socioeconomics, Environmental Justice, and Children's Health and Safety Risks were determined to have no effect or do not occur in the study area and therefore, they are not considered in these cumulative impacts analysis.

Construction Impacts

The Preferred Alternative, when considered with other past, present, and reasonably foreseeable future projects, may have a cumulative impact if construction activities were to occur concurrently. Potential impacts caused by construction activities include impacts from dust, noise, GHG, air pollution, and water pollution. However, the impacts are assumed to be minor and temporary in nature, and will be mitigated with appropriate construction BMPs. The Preferred Alternative would likely still result in minor impacts if construction BMPs are implemented.

Impacts from construction activities during the project may include, but are not limited to, the following:

- Dust from construction activities and equipment
- Noise from construction equipment
- Greenhouse Gas (GHG) emissions
- Air pollution from construction equipment
- Water pollution from construction equipment

Discussion regarding the environmental consequences of GHG emissions, air pollution, and water pollution caused by construction activities are included in other sections of Chapter 4.

Construction noise has the potential to be temporarily bothersome to residents near the construction site. Table 4.10-3 below indicates the typical noise level of 50 feet from the source of the anticipated construction equipment in terms of decibels (dBA). According to the Federal Highway Administration (FHWA) dBA are A-weighted decibels or the adjustment of sound that the human ear can recognize.

Table 4.15-3 - Construction Equipment Noise Levels

Equipment	Typical Noise Level 50 feet from Source (dBA)
Pickup Truck	55
Water Truck	88
Dump Truck	84
Front End Loader	80
Chainsaw	85

Source: Federal Highway Administration, Construction Noise Handbook

Residential communities (single family use) are located to the west of the Airport along Boones Ferry Rd. The impacts resulting from construction noise would be temporary and would only last for the duration of construction. The construction work would occur within normal Monday through Friday work hours. Although some construction impacts would be unavoidable as a result of the Preferred Alternative, it is not expected to have any significant cumulative impacts due to the temporary nature of the construction activity and the short construction period duration associated with the work. Mitigation to address noise would not be necessary for the Preferred Alternative.

Air Quality

No air quality impacts were identified for past and current projects.

Since the future runway rehabilitation will be constructed over the same runway footprint and will not result in a change to airport operations or fleet mix, no air quality impacts are anticipated for future projects.

The Proposed Action would have no significant impacts on air quality.

Based on the analysis of the past, current, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on air quality.

Biological Resources

The past projects were constructed over existing impervious areas and did not have any impacts on biological resources.

Impacts associated with the obstruction removal are evaluated in the EA.

The future runway rehabilitation will be constructed over the existing runway and should not have any biological resource impacts.

Based on the analysis done for past, present, and reasonable foreseeable future projects, implementation of the Proposed Action is not anticipated to have significant cumulative impacts on biological resources.

Climate

No climate impacts were identified for past and current projects.

Since the future runway rehabilitation will be constructed over the same runway footprint, no quantifiable climate impacts are anticipated for future projects.

The Proposed Action would have a slight loss of carbon sequestration capacity from removal of trees.

Based on the analysis done for past, present, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on the climate.

Hazardous Materials, Solid Waste, Pollution Prevention

Impacts on hazardous materials, solid waste, or pollution prevention from past projects were from short term construction waste and spill prevention from construction equipment.

The future runway rehabilitation may contribute to short term solid waste from construction materials. Construction of the project may require the contractor to engage in pollution prevention measures due to the possibility of spillage from the construction equipment.

The Proposed Action would have no permanent impacts on hazardous materials, solid waste, or pollution prevention.

Based on the analysis of the past, current, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on hazardous material, solid waste, or pollution prevention.

Historic, Architecture, Archaeologic, and Cultural Resources

No impacts on historic or cultural resources were identified for past projects.

Since the future runway rehabilitation will be constructed over the same runway footprint, no quantifiable historic or cultural resource impacts are anticipated for future projects.

The Proposed Action would have no impacts on historic or cultural resources.

Based on the analysis of the past, current, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on historic, architecture, archaeological and cultural resources.

Land Use

No land use impacts were identified for past and current projects.

Since the future runway rehabilitation will be constructed over the same runway footprint, no land use impacts are anticipated for future projects.

The Proposed Action would have no land use impacts.

Based on the analysis of the past, current, and reasonably foreseeable future projects, implementation of the Proposed Action is not expected to have any cumulative land use impacts.

Natural Resources and Energy Supply

Impacts on natural resources and energy supply from past projects were from the construction of the project which required the use of consumable natural resources such as gasoline and diesel fuels. These uses were short term and minor.

The future runway rehabilitation will contribute to short term use of natural resources and energy supply. Construction of the project will require the contractor to use consumable natural resources such as gasoline and diesel fuels.

The Proposed Action would have no permanent impacts on natural resources and energy supply.

Based on the analysis of the past, current, and reasonably foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on natural resources and energy supply.

Noise and Compatible Land Use

No noise or compatible land use impacts were identified for past and current projects.

Since the future runway rehabilitation will be constructed over the same runway footprint, no noise and compatible land use impacts are anticipated for future projects.

The Proposed Action would have no significant impacts on noise and compatible land use.

Based on the analysis of the past, current, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on noise and compatible land uses.

Visual Resources

No visual impacts were identified for past and current projects.

Since the future runway rehabilitation will be constructed over the same runway footprint and the lighting will not change, no visual impacts are anticipated for future projects.

The Proposed Action would have no significant impacts on visual resources.

Based on the analysis of the past, current, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts on visual resources.

Wetlands

Based on the wetland investigations performed as part of this EA, which studied the removal areas, and the reasonably foreseeable future projects, no significant cumulative wetland impacts are expected at the airport in the reasonably foreseeable future. Temporary wetland impacts from construction of the Preferred Alternative would be mitigated by requiring the contractor to access the site using wetland mats and use only low-impact equipment. No additional mitigation measures are anticipated as part of the Proposed Action or projects in the reasonably foreseeable future.

4.15.3 Summary of Impacts

Potential impacts from construction and operation associated with the Proposed Action for each environmental resource category are summarized below. As discussed throughout this chapter, with the implementation of mitigation measures and BMPs, as well as compliance with federal, state, and local standards and permit requirements, implementation of the Proposed Action will result in **no significant impacts** to these environmental resources.

Air Quality

Short term/Construction	The construction activities required for the obstruction removal are presumed to conform because these activities would not generate emissions that exceed *de minimis levels*. Emissions generated by construction equipment are negligible considering the temporary nature of construction activities.
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Biological Resources

Short term/Construction	Wildlife would avoid the areas of active construction activities. Tree removal could disturb the ground and cause siltation.
Direct Impacts	Would remove approximately 550 trees.
Indirect Impacts	Tree removal will modify existing habitats and could cause a change in the wildlife species that use the habitat and how the habitat is used. Disturbed soils provide an opportunity for non-native species to be introduced in the disturbed area and displace native species.
Cumulative Impacts	No Impacts

Climate

Short term/Construction	Temporary increase of GHG emissions from internal combustion engines used in construction vehicles and equipment.
Direct Impacts	Removal of the trees would decrease the current CO2 storage capacity around the Airport
Indirect Impacts	A slight increase in the Airport's contribution of CO2 to the atmosphere.
Cumulative Impacts	No Impacts

Coastal Resources

Short term/Construction	No Impacts
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Department of Transportation Section 4(f) Resources

Short term/Construction	No Impacts
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Farmland

Short term/Construction	No Impacts.
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Hazardous Materials, Solid Waste, Pollution Prevention

Short term/Construction	Construction of the project may contribute to short term solid waste from construction materials. Construction of the project may require the contractor to engage in pollution prevention measures due to the possibility of spillage from the construction equipment.
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Historical, Architectural, Archaeological, and Cultural Resources

Short term/Construction	No Impacts
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Natural Resources and Energy Supply

Short term/Construction	Construction of the project will require use of consumable natural resources such as gasoline and diesel fuels. These uses would be short term and minor.
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Noise and Compatible Land Use

Short term/Construction	Property owners in the areas of the tree removal areas will experience increased noise when the construction is in their localized area.
Direct Impacts	Tree removal will likely lead to an increase in noise and vibrations to these property owners, as the trees will no longer serve as a buffer to the noise from aircraft on the ground.
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts.

Socioeconomics, Environmental Justice, Children's Environmental Health and Safety Risks

Short term/Construction	No Impacts
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Visual Effects

Short term/Construction	Short-term visual impacts from tree removal.
Direct Impacts	The visual character of the properties would be altered by the removal of the tall trees.
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

Water Resources

Short term/Construction	Tree removal could disturb soils and cause siltation.
Direct Impacts	No Impacts
Indirect Impacts	No Impacts
Cumulative Impacts	No Impacts

4.15.4 Avoidance, Minimization and Mitigation Measures

The Proposed Action incorporates several avoidance and minimization measures that would reduce impacts. There are no specific mitigation measures required for project approval. The avoidance and minimization measures include:

After tree removal, the areas of removal would be immediately seeded with an appropriate seed mix. In the residential tree removal areas, the areas would be initially seeded with an appropriate seed mix and then planted with appropriate native shrubs and/or trees that are short in stature during the appropriate planting season.

Tree removal will not occur between March 1 to September 15 to avoid the bird nesting season.

Trees removed from wetland areas, if any are delineated, will be felled by hand equipment and low impact tools. Heavy equipment such as tracked equipment will not be used. The contractor will access these sites on foot.

Wetlands, if any are delineated, will be flagged prior to construction.

Erosion and sedimentation control BMPs will be inspected weekly to prevent soil from migrating out of the work areas.

Emergency spill response and clean-up equipment will be available on-site during all construction activities.

In areas of residential properties, tree removal will be limited to Monday through Friday from the hours of 7:00 AM to 5:00 PM. No work will take place on state and federal holidays.

Construction access and staging areas will be located on existing paved or disturbed surfaces in upland areas.

4.15.5 Permits or Other Approvals Required

The following permits may be required prior to construction of the Proposed Action:

- Marion County Work in Right of Way Permit. This permit is required for any tree removal in the County Right of Way and if the staging areas are within the County Right of Way.
- Clackamas County Tree Removal Permit.

Chapter 5 – Agency Coordination, Tribal Consultation, and Public Outreach

Agency coordination was conducted during the preparation of this EA to obtain information from interested agencies and to meet the consultation requirements of special purpose environmental laws. A public outreach program was also implemented to ensure that information regarding the Proposed Action, alternatives, and potential environmental impacts was made available to the public and that comments from the public were considered during the preparation of the EA. A summary of this coordination on the EA is provided below.

5.1 Agency Coordination

5.1.1 State Historic Preservation Office

On January 8, 2018, the FAA initiated Section 106 consultation with the Oregon State Historic Preservation Office (SHPO) by providing them with a project description, survey methodology, and a map of the Area of Potential Effects (APE). FAA received concurrence on the APE from SHPO on January 24, 2018.

On May 13, 2019, the FAA submitted to SHPO the Cultural Resources Assessment along with its finding of *No Historic Properties Affected.* In a letter dated August 15, 2019, SHPO stated that the project will likely have no effect on any significant archaeological objects or sites. This response did not pertain to above-ground historical resources. SHPO responded regarding the above-ground historical resources to the FAA with comments on August 20, 2019. FAA submitted a response to SHPO's comments on September 12, 2019. SHPO responded on October 15, 2019, and concurred that the project would result in no adverse effect to historic properties.

5.2 Tribal Consultation

On January 8, 2018, the FAA initiated Section 106 consultation with the Oregon State Historic Preservation Office (SHPO) and the following Tribes: The Confederated Tribes of Grande Ronde (CTGR), The Confederated Tribes of Siletz Indians (CTSI), and The Confederated Tribes of Warm Springs (CTWS) by providing them a project description, survey methodology, and a map of the APE. FAA received concurrence on the APE from SHPO on January 24, 2018.

On July 25, 2019, the FAA submitted the Cultural Resources Assessment along with its finding of *No Historic Properties Affected* to the Tribes listed above. CTWS concurred with the findings via email on July 30, 2019. CTGR sent an email on September 4, 2019 indicating that the Tribe had no comments. CTSI did not respond. The correspondence with the tribes is included in Appendix B.

5.3 Public Outreach

The Oregon Department of Aviation (ODAV) solicited written public comments on the Draft Environmental Assessment of Airport Improvements pursuant to FAA Order 1050.1F. The public review period was conducted from October 25, 2024, through November 24, 2024. Notices were published in the Canby Herald, the Wilsonville Spokesman, and the Statesman Journal requesting public comment on the Draft EA and informing the public of the project. The published notices are included in Appendix F of this report.

The Draft EA was available for viewing through multiple outlets. Electronic copies of the Draft EA were available for viewing on the ODAV website at www.oregon.gov/aviation. The Draft EA was also available on the ODAV Facebook Page at https://www.facebook.com/ORAviation. The Draft EA was available for electronic viewing, download, and/or for purchase (at the cost of reproduction and shipping) at the PlanWell Enterprise Public Planroom at https://customer.e-arc.com/arcEOC/PWELL_Main.asp?mem=45.

Chapter 6 – Contributors, Agencies Consulted, and References

Environmental Assessment Contributors

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Susan Cunningham, Senior Biologist. B.S. Biology. Over 30 years of experience in environmental planning, with expertise in biological resources, wetlands, land use and preparation of NEPA documents. Responsible for preparing the Air Quality Technical Memo, overseeing the preparation of environmental reports, and QA/QC.

Sarah Hartung, Wetlands and Wildlife Biologist. M.S. Avian Ecology, Professional Wetland Scientist (PWS). Twenty years of experience in impact assessments and regulatory compliance for projects with water and natural resource issues and extensive experience with environmental and land use permitting. Responsible for preparing the Biological Assessment (Run-up Apron Project); Biological Inventory and the Water Resources Delineation Report.

Luke Johnson, Environmental Scientist. Seven years of experience delineating water resources, conducting fish and wildlife Service, and technical writing. Assisted with field surveys and technical reports.

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Lucie Tisdale, Senior Archaeologist, M.A. Archaeology, Historic Preservation, and Cartography. Twenty years of experience in preparing documents to meet Section 106 of the National Historic Preservation Act. She has prepared archaeological reports, Programmatic Agreements, Memoranda of Agreement, Inadvertent Discovery Plans, Section 4(f) reports, National Register nominations, and technical reports. Lucie Tisdale was responsible for preparing the Cultural Resource Survey and submittal of the plan to the State Historic Preservation Office.

Andrea Blaser, M.S. Senior Architectural Historian/Senior Historian. Andrea Blaser is Secretary of Interior Qualified and ODOT Qualified Architectural Historian and Fifteen years of experience in this field. Assisted with the Architectural historical evaluation of the properties within the APE and in crafting the response letter to the State Historic Preservation Office.

Agencies Consulted

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Parks and Recreation Department, State Historic Preservation Office (SHPO)
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The Confederated Tribes of the Warm Springs Reservation of Oregon
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