

Appendix E

**Model Public Use Airport Safety
and Compatibility Overlay Zone
for Public Use Airports
with Only Visual Approaches**

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**MODEL PUBLIC USE AIRPORT SAFETY AND
COMPATIBILITY OVERLAY ZONE
FOR PUBLIC USE AIRPORTS WITH ONLY VISUAL APPROACHES**

.010 Purpose. The purpose of this overlay zone is to encourage and support the continued operation and vitality of public use airports with instrument approaches by establishing compatibility and safety standards to promote air navigational safety at such public use airports and to reduce potential safety hazards for persons living, working or recreating near such public use airports. [ORS 836.600; ORS 836.619; OAR 660-013-0070; OAR 660-013-0080]

.020 Definitions. [ORS 836.605; ORS 836.623(6); OAR 660-013-0020; OAR 660-013-0070(1)(a), (b); OAR 660-013-0080(1)(a)]

Airport. The strip of land used for taking off and landing aircraft, together with all adjacent land used in connection with the aircraft landing or taking off from the strip of land, including but not limited to land used for existing airport uses.

Airport Direct Impact Area. The area located within 5,000 feet of an airport runway, excluding lands within the runway protection zone and approach surface.

Airport Elevation. The highest point of an airport's usable runway, measured in feet above mean sea level.

Airport Imaginary Surfaces. Imaginary areas in space and on the ground that are established in relation to the airport and its runways. Imaginary areas are defined by the primary surface, runway protection zone, approach surface, horizontal surface, conical surface and transitional surface.

Airport Noise Impact Boundary. Areas located within 1,500 feet of an airport runway or within established noise contour boundaries exceeding 55 Ldn.

Airport Secondary Impact Area. The area located between 5,000 and 10,000 feet from an airport runway.

Airport Sponsor. The owner, manager, or other person or entity designated to represent the interests of an airport.

Approach Surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface.

- (A) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:
 - (1) 1,250 feet for a utility runway; or
 - (2) 1,500 feet for a runway other than a utility runway.
- (B) The approach surface extends for a horizontal distance of 5,000 feet at a slope of 20 feet outward for each foot upward.

- (C) The outer width of an approach surface will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

Conical Surface. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

Department of Aviation. The Oregon Department of Aviation, formerly the Aeronautics Division of the Oregon Department of Transportation.

FAA. The Federal Aviation Administration.

FAA's Technical Representative. As used in this ordinance, the federal agency providing the FAA with expertise on wildlife and bird strike hazards as they relate to airports. This may include, but is not limited to, the USDA-APHIS-Wildlife Services.

Height. The highest point of a structure or tree, plant or other object of natural growth, measured from mean sea level.

Horizontal Surface. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is 5000 feet.

Obstruction. Any structure or tree, plant or other object of natural growth that penetrates an imaginary surface.

Other than Utility Runway. A runway that is constructed for and intended to be used by turbine-driven aircraft or by propeller-driven aircraft exceeding 12,500 pounds gross weight.

Primary Surface. A surface longitudinally centered on a runway. When a runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. When a runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:

- (A) 250 feet for utility runways.
- (B) 500 feet for other than utility runways.

Public Assembly Facility. A permanent or temporary structure or facility, place or activity where concentrations of people gather in reasonably close quarters for purposes such as deliberation, education, worship, shopping, employment, entertainment, recreation, sporting events, or similar activities. Public assembly facilities include, but are not limited to, schools, churches, conference or convention facilities, employment and shopping centers, arenas, athletic fields, stadiums, clubhouses, museums, and similar facilities and places, but do not include parks, golf courses or similar facilities unless used in a manner where people are concentrated in reasonably close quarters. Public assembly facilities also do not include air shows, structures or uses approved by the FAA in an adopted airport

master plan, or places where people congregate for short periods of time such as parking lots or bus stops.

Runway. A defined area on an airport prepared for landing and takeoff of aircraft along its length.

Runway Protection Zone (RPZ). An area off the runway end used to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The inner width of the RPZ is the same as the width of the primary surface. The outer width of the RPZ is a function of the type of aircraft and specified approach visibility minimum associated with the runway end. The RPZ extends from each end of the primary surface for a horizontal distance of: 1,000 feet. [NOTE: the outer width of the RPZ is specified by airport type in OAR 660, Division 13, Exhibit 4]

Significant. As it relates to bird strike hazards, "significant" means a level of increased flight activity by birds across an approach surface or runway that is more than incidental or occasional, considering the existing ambient level of flight activity by birds in the vicinity.

Structure. Any constructed or erected object which requires location on the ground or is attached to something located on the ground. Structures include but are not limited to buildings, decks, fences, signs, towers, cranes, flagpoles, antennas, smokestacks, earth formations and overhead transmission lines. Structures do not include paved areas.

Transitional Surface. Those surfaces that extend upward and outward at 90 degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces to the point of intersection with the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at a 90 degree angle to the extended runway centerline.

Utility Runway. A runway that is constructed for, and intended to be used by, propeller driven aircraft of 12,500 pounds maximum gross weight or less.

Visual Runway. A runway intended solely for the operation of aircraft using visual approach procedures, where no straight-in instrument approach procedures or instrument designations have been approved or planned, or are indicated on an FAA-approved airport layout plan or any other FAA planning document.

Water Impoundment. Includes wastewater treatment settling ponds, surface mining ponds, detention and retention ponds, artificial lakes and ponds, and similar water features. A new water impoundment includes an expansion of an existing water impoundment except where such expansion was previously authorized by land use action approved prior to the effective date of this ordinance.

.030 Imaginary Surface and Noise Impact Boundary Delineation. The airport elevation, the airport noise impact boundary, and the location and dimensions of the runway, primary surface, runway protection zone, approach surface, horizontal surface, conical surface and transitional

surface shall be delineated for each airport subject to this overlay zone and shall be made part of the Official Zoning Map. **[Note: Airports utilizing best management practices should include direct and secondary impact boundaries in this list]** All lands, waters and airspace, or portions thereof, that are located within these boundaries or surfaces shall be subject to the requirements of this overlay zone. [ORS 836.619; OAR 660-013-0040(8); OAR 660-013-0070(1); OAR 660-013-0080(1)]¹

.040 Notice of Land Use and Permit Applications within Overlay Zone

Area. Except as otherwise provided herein, written notice of applications for land use or limited land use decisions, including comprehensive plan or zoning amendments, in an area within this overlay zone, shall be provided to the airport sponsor and the Department of Aviation in the same manner as notice is provided to property owners entitled by law to written notice of land use or limited land use applications. [ORS 836.623(1); OAR 738-100-010; ORS 215.416(6); ORS 227.175(6)]

- A. Notice shall be provided to the airport sponsor and the Department of Aviation when the property, or a portion thereof, that is subject to the land use or limited land use application is located within 5,000 feet of the sides or ends of a runway.
- B. Notice of land use and limited land use applications shall be provided within the following timelines.
 - 1. Notice of land use or limited land use applications involving public hearings shall be provided prior to the public hearing at the same time that written notice of such applications is provided to property owners entitled to such notice.
- C. Notice of land use or limited land use applications not involving public hearings shall be provided at least 20 days prior to entry of the initial decision on the land use or limited land use application.
- D. Notice of the decision on the land use or limited land use application shall also be provided to the airport sponsor within the same timelines that notice is provided to parties to the proceeding.
- E. Notices required under Paragraphs A-C of this section need not be provided to the airport sponsor or the Department of Aviation where the land use or limited land use application meets all of the following criteria:
 - 1. Would only allow structures of less than 35 feet in height;
 - 2. Involves property located entirely outside the approach surface;
 - 3. Does not involve industrial uses, mining or similar uses that emit smoke dust or steam; sanitary landfills or water impoundments; or radio, radiotelephone, television or similar transmission facilities or electrical transmission lines; and
 - 4. Does not involve wetland mitigation, creation, enhancement or restoration.

¹ **NOTE:** For airports served by only piston-powered airports and applying best management practices (see section .090), it is not necessary to map or regulate uses within the airport secondary impact area.

- .050 Height Limitations on Allowed Uses in Underlying Zone.** All uses permitted by the underlying zone shall comply with the height limitations in this Section. When height limitations of the underlying zone are more restrictive than those of this overlay zone, the underlying zone height limitations shall control. [ORS 836.619; OAR 660-013-0070]
- A. Except as provided in subsections B and C of this Section, no structure or tree, plant or other object of natural growth shall penetrate an airport imaginary surface. [ORS 836.619; OAR 660-013-0070(1)]
 - B. For areas within airport imaginary surfaces but outside the approach and transition surfaces, where the terrain is at higher elevations than the airport runway surfaces such that existing structures and permitted development penetrate or would penetrate the airport imaginary surfaces, a local government may authorize structures up to 35 feet in height.
 - C. Other height exceptions or variances may be permitted when supported in writing by the airport sponsor, the Department of Aviation and the FAA. Applications for height variances shall follow the procedures for other variances and shall be subject to such conditions and terms as recommended by the Department of Aviation and the FAA.
- .060 Procedures.** An applicant seeking a land use or limited land use approval in an area within this overlay zone shall provide the following information in addition to any other information required in the permit application: **[NOTE: where uses otherwise allowed outright become "limited" under this ordinance, the local government needs to identify the applicable administrative review process.]**
- A. A map or drawing showing the location of the property in relation to the airport imaginary surfaces. The Planning Department shall provide the applicant with appropriate base maps upon which to locate the property.
 - B. Elevation profiles and a site plan, both drawn to scale, including the location and height of all existing and proposed structures, measured in feet above mean sea level.
 - C. If a height variance is requested, letters of support from the airport sponsor, the Department of Aviation and the FAA.
- .070 Land Use Compatibility Requirements. [Option 1 – Minimum Requirements]** Applications for land use or building permits for properties within the boundaries of this overlay zone shall comply with the requirements of this chapter as provided herein. [ORS 836.619; OAR 660-013-0080]
- A. Noise. Within airport noise impact boundaries, land uses shall be established consistent with the levels identified in OAR 660, Division 13, Exhibit 5. A declaration of anticipated noise levels shall be attached to any subdivision or partition approval or other land use approval or building permit affecting land within airport noise impact boundaries. In areas where the noise level is anticipated to be at or above 55 Ldn, prior to issuance of a building permit for construction of a noise sensitive land use (real property normally used for

- sleeping or as a school, church, hospital, public library or similar use), the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design that will achieve an indoor noise level equal to or less than 55 Ldn. **[NOTE: FAA Order 5100.38A, Chapter 7 provides that interior noise levels should not exceed 45 decibels in all habitable zones.]**
- B. Outdoor Lighting. No new or expanded industrial, commercial or recreational use shall project lighting directly onto an existing runway or taxiway or into existing airport approach surfaces except where necessary for safe and convenient air travel. Lighting for these uses shall incorporate shielding in their designs to reflect light away from airport approach surfaces. No use shall imitate airport lighting or impede the ability of pilots to distinguish between airport lighting and other lighting.
- C. Glare. No glare producing material, including but not limited to unpainted metal or reflective glass, shall be used on the exterior of structures located within an approach surface or on nearby lands where glare could impede a pilot's vision.
- D. Industrial Emissions. No new industrial, mining or similar use, or expansion of an existing industrial, mining or similar use, shall, as part of its regular operations, cause emissions of smoke, dust or steam that could obscure visibility within airport approach surfaces, except upon demonstration, supported by substantial evidence, that mitigation measures imposed as approval conditions will reduce the potential for safety risk or incompatibility with airport operations to an insignificant level. The review authority shall impose such conditions as necessary to ensure that the use does not obscure visibility.
- E. Communications Facilities and Electrical Interference. Proposals for the location of new or expanded radio, radiotelephone, and television transmission facilities and electrical transmission lines within this overlay zone shall be coordinated with the Department of Aviation and the FAA prior to approval. **[NOTE: See the additional safeguards set out in the Best Management Practices alternative below. The Department of Aviation highly recommends those safeguards.]**
- F. Use Prohibitions in RPZ. Notwithstanding the underlying zoning, the following uses are prohibited in the RPZ.
1. New residential development.
 2. Public assembly facilities.
- G. Landfills. No new sanitary landfills, sewage lagoons, sewage sludge disposal facilities or similar facilities shall be permitted within 5,000 feet from any airport runway used by only piston-type aircraft or within 10,000 feet of any airport runway used by turbojet aircraft. Expansions of existing landfill or sewage treatment or disposal facilities within these distances shall be permitted only upon demonstration that the landfills are designed and will operate so as not to increase the likelihood of bird/aircraft collisions. Timely notice of any proposed expansion shall be provided to the airport sponsor, Aviation and the FAA, and any approval shall be accompanied by

such conditions as are necessary to ensure that an increase in bird/aircraft collisions is not likely to result.

OR...

.070 Land Use Compatibility Requirements. [Option 2 – Best Management Practices]

Applications for land use or building permits for properties within the boundaries of this overlay zone shall comply with the requirements of this chapter as provided herein. [ORS 836.619; ORS 836.623(1); OAR 660-013-0080]

- A. Noise. Within airport noise impact boundaries, land uses shall be established consistent with the levels identified in OAR 660, Division 13, Exhibit 5. A declaration of anticipated noise levels shall be attached to any subdivision or partition approval or other land use approval or building permit affecting land within airport noise impact boundaries. In areas where the noise level is anticipated to be at or above 55 Ldn, prior to issuance of a building permit for construction of a noise sensitive land use (real property normally used for sleeping or as a school, church, hospital, public library or similar use), the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design that will achieve an indoor noise level equal to or less than 55 Ldn. **[NOTE: FAA Order 5100.38A, Chapter 7 provides that interior noise levels should not exceed 45 decibels in all habitable zones.]**
- B. Outdoor Lighting. No new or expanded industrial, commercial or recreational use shall project lighting directly onto an existing runway or taxiway or into existing airport approach surfaces except where necessary for safe and convenient air travel. Lighting for these uses shall incorporate shielding in their designs to reflect light away from airport approach surfaces. No use shall imitate airport lighting or impede the ability of pilots to distinguish between airport lighting and other lighting.
- C. Glare. No glare producing material, including but not limited to unpainted metal or reflective glass, shall be used on the exterior of structures located within an approach surface or on nearby lands where glare could impede a pilot's vision.
- D. Industrial Emissions. No new industrial, mining or similar use, or expansion of an existing industrial, mining or similar use, shall, as part of its regular operations, cause emissions of smoke, dust or steam that could obscure visibility within airport approach surfaces, except upon demonstration, supported by substantial evidence, that mitigation measures imposed as approval conditions will reduce the potential for safety risk or incompatibility with airport operations to an insignificant level. The review authority shall impose such conditions as necessary to ensure that the use does not obscure visibility.
- E. Communications Facilities and Electrical Interference. No use shall cause or create electrical interference with navigational signals or radio communications between an airport and aircraft. Proposals for the location of new or expanded radio, radiotelephone, and television transmission facilities and electrical transmission lines within this overlay zone shall be coordinated with the Department of Aviation

and the FAA prior to approval. Approval of cellular and other telephone or radio communication towers on leased property located within airport imaginary surfaces shall be conditioned to require their removal within 90 days following the expiration of the lease agreement. A bond or other security shall be required to ensure this result.

- F. Limitations and Restrictions on Allowed Uses in the RPZ, Approach Surface, and Airport Direct and Secondary Impact Areas. The land uses identified in Table 1, and their accessory uses, are permitted, permitted under limited circumstances, or prohibited in the manner therein described. In the event of conflict with the underlying zone, the more restrictive provisions shall control. As used in this section, a limited use means a use that is allowed subject to special standards specific to that use.

TABLE A-1: LIMITATIONS & RESTRICTIONS ON ALLOWED USES				
KEY: P = Use is Permitted L = Use is Allowed Under Limited Circumstances (see footnotes) N = Use is Not Allowed				
	RPZ ¹	Approach Surface ⁸	Direct Impact Area	Secondary Impact Area
Public Airport	L ²	L ⁹	P	P
Residential	N	L ¹⁰	L ¹⁴	P
Commercial	N	L ⁹	L ¹⁵	P
Industrial	N	L ⁹	P	P
Institutional	N	L ⁹	L ¹⁵	P
Farm Use	P ³	P ³	P ³	P ³
Roads/Parking	L ⁴	P	P	P
Utilities	L ⁵	L ⁵	L ⁵	L ⁵
Parks/Open Space	L ⁶	P	P	P
Golf Courses	L ⁷	L ^{7 9}	L ⁷	L ⁷
Athletic Fields	N	L ⁹	L ¹⁴	P
Sanitary Landfills	N	N	N	N
Water Treatment Plants	N	N	N	N
Mining	N	L ¹¹	L ¹¹	L ¹¹
Water Impoundments	N	N ¹²	N ¹⁶	N ¹⁶
Wetland Mitigation	N	L ¹³	L ¹³	L ¹³

Source: *Model Public Use Airport Safety And Compatibility Overlay Zone (Visual and Instrument Approach Airports)*, ODA

Notes:

- ¹ No Structures shall be allowed within the Runway Protection Zone (RPZ). Exceptions shall be made only for structures accessory to airport operations whose location within the RPZ has been approved by the Federal Aviation Administration.
- ² In the RPZ, public airport uses are restricted to those uses and facilities that require location in the RPZ.
- ³ Farming practices that minimize wildlife attractants are encouraged.
- ⁴ Roads and parking areas are permitted in the RPZ only upon demonstration that there are not practicable alternatives. Lights, guardrails, and related accessory structures are prohibited. Cost may be considered in determining whether practicable alternatives exist.
- ⁵ In the RPZ, utilities, powerlines and pipelines must be underground. In approach surfaces and in airport direct and secondary impact areas, the proposed height of utilities shall be coordinated with the airport sponsor and Department of Aviation (ODA).
- ⁶ Public assembly facilities are prohibited in the RPZ.
- ⁷ Golf courses may be permitted only upon demonstration, supported by substantial evidence, that management techniques will be utilized to reduce existing wildlife attractants and avoid the recreation of new wildlife attractant. Such techniques shall be required as conditions of the approval. Structures are not permitted within the RPZ. For purposes of this document, tee markers, tee signs, pin cups and pins are not considered to be structures.
- ⁸ Within 10,000 feet from the end of the primary surface of a non-precision instrument runway, and within 50,000 feet from the end of the primary surface of a precision instrument runway.
- ⁹ Public assembly facilities may be allowed in an approach surface only if the potential danger to public safety is minimal. In determining whether a proposed use is appropriate, consideration shall be given to: proximity to the RPZ; density of people per acre; frequency of use; level of activity at the airport; and other factors relevant to public safety. In general, high density uses should not be permitted within airport approach surfaces, and on-residential structures should be located outside approach surfaces unless no practicable alternatives exist.
- ¹⁰ Residential densities within approach surfaces should not exceed the following densities: (1) within 500 feet of the outer edge of the RPZ, 1 unit per acre; (2) within 500 to 1,500 feet of the outer edge of the RPZ, 2 units per acre; (3) within 1,500 to 3,000 feet of the outer edge of the RPZ, 4 units per acre.
- ¹¹ Mining operations involving the creation or expansion of water impoundments shall comply with the requirements of this document regarding water impoundments.
- ¹² Water impoundments are prohibited within 5,000 feet from the edge or end of a runway.
- ¹³ Wetland Mitigation required for projects located within an approach surface, the airport direct or secondary impact area shall be authorized only upon demonstration, supported by substantial evidence, that it is impracticable to provide mitigation outside of these areas. Proposals for wetland mitigation shall be coordinated with the airport sponsor, the Department of Aviation, the FAA and the wetland-permitting agencies prior to the issuance of required permits. Wetland mitigation shall be designed and located to avoid creating a wildlife hazard or increasing hazardous movements of birds across runway and approach surfaces. Conditions shall be imposed as are appropriate and necessary to prevent in perpetuity an increase in hazardous bird movements across runway and approach surfaces. See section 0.90 of Appendix D or E for the best management practices for airports located near significant wetlands or wildlife habitat areas.
- ¹⁴ Within the transitional surface, residential uses and athletic fields are not permitted.
- ¹⁵ Within the transitional surface, overnight accommodations, such as hotels, motels, hospitals and dormitories, are not permitted.
- ¹⁶ See section .08 of Appendix D or E prohibiting or regulating water impoundments within 5,000 or 10,000 feet of the end or edge of a runway.

.080 Water Impoundments within Approach Surfaces and Airport Direct and Secondary Impact Boundaries. Any use or activity that would result in the establishment or expansion of a water impoundment shall comply with the requirements of this section. (ORS 836.623(2); OAR 660-013-0080(1)(f))

- A. No new or expanded water impoundments of one-quarter acre in size or larger are permitted:
 - 1. Within an approach surface and within 5,000 feet from the end of a runway; or
 - 2. On land owned by the airport sponsor that is necessary for airport operations.

OR...

[for airports where it can be demonstrated with substantial evidence that new water impoundments would result in a significant increase in hazardous movements of birds across runways or approach surfaces, taking into consideration mitigation measures or conditions that could reduce safety risks and incompatibility] [ORS 836.623(2)(b), (c); ORS 836.623(4), (5)]

- A. No new or expanded water impoundments of one-quarter acre in size or larger are permitted within 5,000 feet from the end or edge of a runway.
- B. The establishment of a new water impoundment one-quarter acre in size or larger within 5,000 to 10,000 feet from the edge or end of a runway may be permitted only upon determination that such water impoundment, with reasonable and practicable mitigation measures, is not likely to result in a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces. **[NOTE: FAA Part 77 discourages water impoundments within 50,000 feet of a runway within an approach surface.]** [ORS 836.623(3)]
 - 1. Process. An application for approval of a new water impoundment shall be considered utilizing the review process applied to applications for conditional use permits. In addition to the parties required by law to be mailed written notice of the public hearing on the application, written notice of the hearing shall be mailed to the airport sponsor, the Department of Aviation, the Seattle Airports District Office of the FAA, and the FAA's technical representative.
 - a. Prior to filing its application, the applicant shall coordinate with the airport sponsor, the Department of Aviation, the FAA (Seattle Airports District Office) and FAA's technical representative regarding the proposed water impoundment, its short and long term potential to significantly increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces, and proposed mitigation.
 - (1) For water impoundments individually or cumulatively exceeding five (5) acres in size on the subject property, the applicant shall prepare a draft bird strike study as provided in subsection .2 of this section. The airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative shall have 45 days to review the study draft. Their comments shall be included and addressed in a final bird strike study.
 - (2) For water impoundments that do not individually or cumulatively exceed five (5) acres in size on the subject property, the bird strike study requirements in subsection 2 of this section may be reduced or waived upon agreement by the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative if the applicant can demonstrate, to the satisfaction of the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative that the proposed water impoundment, with appropriate short and long term mitigation, will not result in a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces. As used herein, "appropriate mitigation" means small-scale

measures of proven reliability that can be applied in perpetuity and that the applicant has the financial resources to support.

- b. An application shall not be deemed complete for land use review purposes until the applicant has filed with the Director the final bird strike study addressing comments from the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative. When no bird strike study is required, the application shall not be deemed complete until the applicant has filed with the Director correspondence or other proof demonstrating agreement among the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative that no bird strike study is required.
2. Bird Strike Study. A bird strike study required under this section shall contain at least the following information:
- a. A description of the proposed project, its location in relation to the airport, and the bird strike study area, which shall include at least the project site, the airport property, all lands within 10,000 feet from the end or edge of the airport runway, and other surrounding habitat areas which form the local bird ecosystem.
 - b. A description of bird feeding, watering and roosting habitats in the bird strike study area, including discussion of feeding behavior and food sources and identification of loafing, watering, roosting and nesting area locations.
 - c. A description of existing and planned airport operations and air traffic patterns and any available history of bird strike incidents.
 - d. Wildlife surveys and documentation of existing bird species, populations, activities and flight patterns in the bird strike study area. The surveys shall address bird species and their composition; bird population estimates and densities per unit area; feeding behavior; food sources; seasonal use patterns; frequency of occurrence; location of loafing, roosting and nesting areas; and analysis of the relation of bird flight movements to airport traffic patterns and navigational safety. The airport sponsor shall provide approach and departure air space information up to five statutory miles from the airport.
 - e. An evaluation of the anticipated effects of the proposal on the population density, behavior patterns, movements and species composition of birds within the bird strike study area and of the impact of these effects on air navigation and safety considering possible mitigation.
 - f. Identification and evaluation of proposed and alternative short and long term mitigation measures that would prevent a significant increase in hazardous movements

- of birds feeding, watering or roosting in areas across runways and approach surfaces that otherwise might result from the proposed use. The evaluation shall discuss the proven reliability of proposed measures, their effectiveness over both the short and long term, their costs, and the applicant's financial ability to assure their perpetual implementation, *i.e.* ongoing implementation for as long as a potential bird strike hazard persists.
- g. Such other information as is recommended by the FAA's technical representative or is required to demonstrate compliance with the requirements of subsection .3 of this section.
3. Required Findings. The determination whether a proposed new water impoundment, with reasonable and practicable mitigation measures, is likely to significantly increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces shall be based upon the proposal's potential, both in the short term and in the long term, to significantly increase bird strike hazards to air navigation, and the appropriateness, effectiveness and affordability of proposed mitigation measures or other conditions needed to reduce bird strike hazards. In determining compliance with this standard, the findings shall address each of the following factors:
- a. The demonstrated overall effectiveness and reliability of proposed measures and conditions, in both the short and long term and under similar circumstances and conditions, to avoid a significant increase in bird strike hazards to air navigation. Experimental measures or measures not based on accepted technology and industry practices shall be considered ineffective, inappropriate and of unproven reliability.
- b. The economic, social and environmental impacts of proposed measures to the neighboring community and the affected natural environment.
- c. The applicant's ability to pay for necessary short and long-term mitigation measures, including fallback measures that may be required if initially proposed mitigation measures prove ineffective, and to assure the perpetual implementation of those measures for as long as a potential bird strike hazard persists. An applicant's failure to demonstrate its financial ability to assure the perpetual implementation of necessary and appropriate measures shall render those measures unreasonable and impracticable for purposes of the application.
- d. The applicant's ability to accurately monitor the effectiveness of mitigation over time.
- e. The potential impacts to navigational safety and air travel if the applicant cannot perform necessary mitigation measures or maintain those measures in

perpetuity, or if those measures prove to be ineffective at avoiding a significant increase in bird strike hazards to air navigation.

- f. The applicant's reclamation plan.
4. Mitigation Measures and Approval Conditions. A decision approving an application shall require, as conditions of approval, all measures and conditions deemed appropriate and necessary to prevent in perpetuity a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways and approach surfaces.
- a. Only customary measures based on accepted technology and industry practice may be considered and imposed as approval conditions.
 - b. Serious consideration shall be given to all measures and conditions recommended by the Department of Aviation and the FAA and FAA's technical representative. Generally, such measures and conditions shall be attached to a decision approving an application unless findings are adopted, supported by substantial evidence, demonstrating why such measures and conditions are not necessary to reduce bird hazard impacts resulting from the water impoundment to an insignificant level.
 - c. A decision to approve shall require from the applicant a performance bond or other form of secure financial support. Such bond or security shall be in an amount sufficient to assure perpetual implementation of appropriate and necessary mitigation measures for as long as a potential bird strike hazard persists.
 - d. A decision to approve shall require appropriate monitoring of the effectiveness of mitigation over time. Upon request, monitoring data and reports shall be made available to the airport sponsor, the Department of Aviation, and the FAA and FAA's technical representative. The decision shall allow for modifications to approval conditions should existing mitigation measures prove ineffective at preventing a significant increase in hazardous movements of birds feeding, watering or roosting in areas across runways and approach surfaces. Modifications to approval conditions shall be considered utilizing the review process applied to applications for conditional use permits.
5. Exemptions. The requirements of this section shall not apply to:
- a. Storm water management basins established by an airport identified under ORS 836.610.
 - b. Seaplane landing areas within airports identified under ORS 836.610.

.090 Wetland Mitigation, Creation, Enhancement and Restoration within Approach Surfaces and Airport Direct and Secondary Impact Boundaries.

- A. Notwithstanding the requirements of Section .080, wetland mitigation, creation, enhancement or restoration projects located within areas regulated under Section .080 shall be allowed upon demonstration of compliance with this requirements of this Section.
- B. Wetland mitigation, creation, enhancement or restoration projects existing or approved on the effective date of this ordinance and located within areas regulated under Section .080 are recognized as lawfully existing uses.
- C. To help avoid increasing safety hazards to air navigation near public use airports, the establishment of wetland mitigation banks in the vicinity of such airports but outside approach surfaces and areas regulated under Section .080 is encouraged.
- D. Applications to expand wetland mitigation projects in existence as of the effective date of this ordinance, and new wetland mitigation projects, that are proposed within areas regulated under Section .080 shall be considered utilizing the review process applied to applications for conditional use permits and shall be permitted upon demonstration that:
 - 1. It is not practicable to provide off-site mitigation; or
 - 2. The affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water discharge, and the area proposed for mitigation is located outside an approach surface.
- E. Wetland mitigation permitted under subsection D. of this Section shall be designed and located to avoid creating a wildlife hazard or increasing hazardous movements of birds across runways or approach surfaces.
- F. Applications to create, enhance or restore wetlands that are proposed to be located within approach surfaces or within areas regulated under Section .080, and that would result in the creation of a new water impoundment or the expansion of an existing water impoundment, shall be considered utilizing the review process applied to applications for conditional use permits and shall be permitted upon demonstration that:
 - 1. The affected wetlands provide unique ecological functions, such as critical habitat for threatened or endangered species or ground water discharge; and
 - 2. The wetland creation, enhancement or restoration is designed and will be maintained in perpetuity in a manner that will not increase hazardous movements of birds feeding, watering or roosting in areas across runways or approach surfaces.
- G. Proposals for new or expanded wetland mitigation, creation, enhancement or restoration projects regulated under this Section shall be coordinated with the airport sponsor, the Department of

Aviation, the FAA and FAA's technical representative, the Oregon Department of Fish & Wildlife (ODFW), the Oregon Division of State Lands (DSL), the US Fish & Wildlife Service (USFWS), and the US Army Corps of Engineers (Corps) as part of the permit application.

- H. A decision approving an application under this Section shall require, as conditions of approval, measures and conditions deemed appropriate and necessary to prevent in perpetuity an increase in hazardous bird movements across runways and approach surfaces.

.100 Nonconforming Uses.

- A. These regulations shall not be construed to require the removal, lowering or alteration of any structure not conforming to these regulations. These regulations shall not require any change in the construction, alteration or intended use of any structure, the construction or alteration of which was begun prior to the effective date of this overlay zone.
- B. Notwithstanding subsection A. of this section, the owner of any existing structure that has an adverse effect on air navigational safety as determined by the Department of Aviation shall install or allow the installation of obstruction markers as deemed necessary by the Department of Aviation, so that the structures become more visible to pilots.
- C. No land use or limited land use approval or other permit shall be granted that would allow a nonconforming use or structure to become a greater hazard to air navigation than it was on the effective date of this overlay zone.

- .110 Avigation Easement.** Within this overlay zone, the owners of properties that are the subjects of applications for land use or limited land use decisions, for building permits for new residential, commercial, industrial, institutional or recreational buildings or structures intended for inhabitation or occupancy by humans or animals, or for expansions of such buildings or structures by the lesser of 50% or 1000 square feet, shall, as a condition of obtaining such approval or permits, dedicate an avigation easement to the airport sponsor. The avigation easement shall be in a form acceptable to the airport sponsor and shall be signed and recorded in the deed records of the County. The avigation easement shall allow unobstructed passage for aircraft and ensure safety and use of the airport for the public. Property owners or their representatives are responsible for providing the recorded instrument prior to issuance of building permits.

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