

## 4 Affected Environment

The FAA Order 1050.1E Chg 1, *Environmental Impacts: Policies and Procedures*, requires the evaluation of the following resource categories:

- Air Quality
- Biotic Resources
- Compatible Land Use
- Construction \*
- Department of Transportation Act, Section 4(f) Resources
- Federally listed Endangered and Threatened Species
- Energy Supplies, Natural Resources, and Sustainable Design
- Environmental Justice
- Farmlands
- Hazardous Materials
- Historical, Architectural, and Cultural Resources, including Native American and Tribal Resources
- Induced / Secondary Socioeconomic
- Light Emissions and Visual Effects
- Noise
- Social Impacts
- Solid Waste
- Water Quality
- Wetlands
- Cumulative Impacts \*

For the purpose of this EA, three elements are not applicable: Coastal Resources, Floodplains, and Wild and Scenic Rivers.

- Coastal Resources laws pertain to marine coastal areas on the Atlantic, Pacific and Gulf coasts of the United States. The project site is outside of any areas regulated under shoreline or coastline laws.
- Floodplains *Executive Order 11988* directs Federal agencies to "take action to reduce the risk of flood loss, to minimize the impact of floods on human safety, health and welfare, and to restore and preserve the natural and beneficial values served by floodplains..." A review of on-line Flood Insurance Rate Maps, prepared by the Federal Emergency Management Administration, shows that the Airport is outside of any known area subject to flooding.
- The Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) was developed to protect certain free flowing rivers with outstanding scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values. Based on a review of the National Park Service website (<http://www.rivers.gov/wildriverslist.html>), there are no rivers in the project

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\* Construction and Cumulative Impacts are the result of selecting a build alternative and the impacts to these categories will be discussed in Chapter 6, *Environmental Consequences and Mitigation*.

vicinity designated as Wild and Scenic, or on the Candidate Rivers for Wild and Scenic listing. Although not a Wild and Scenic River, the Columbia River Gorge National Scenic Area is located four miles south of the Airport and will not be impacted by the proposed action.

No further discussion or analysis of these elements will be included in the EA.

#### **4.1 Airport Location and Study Area**

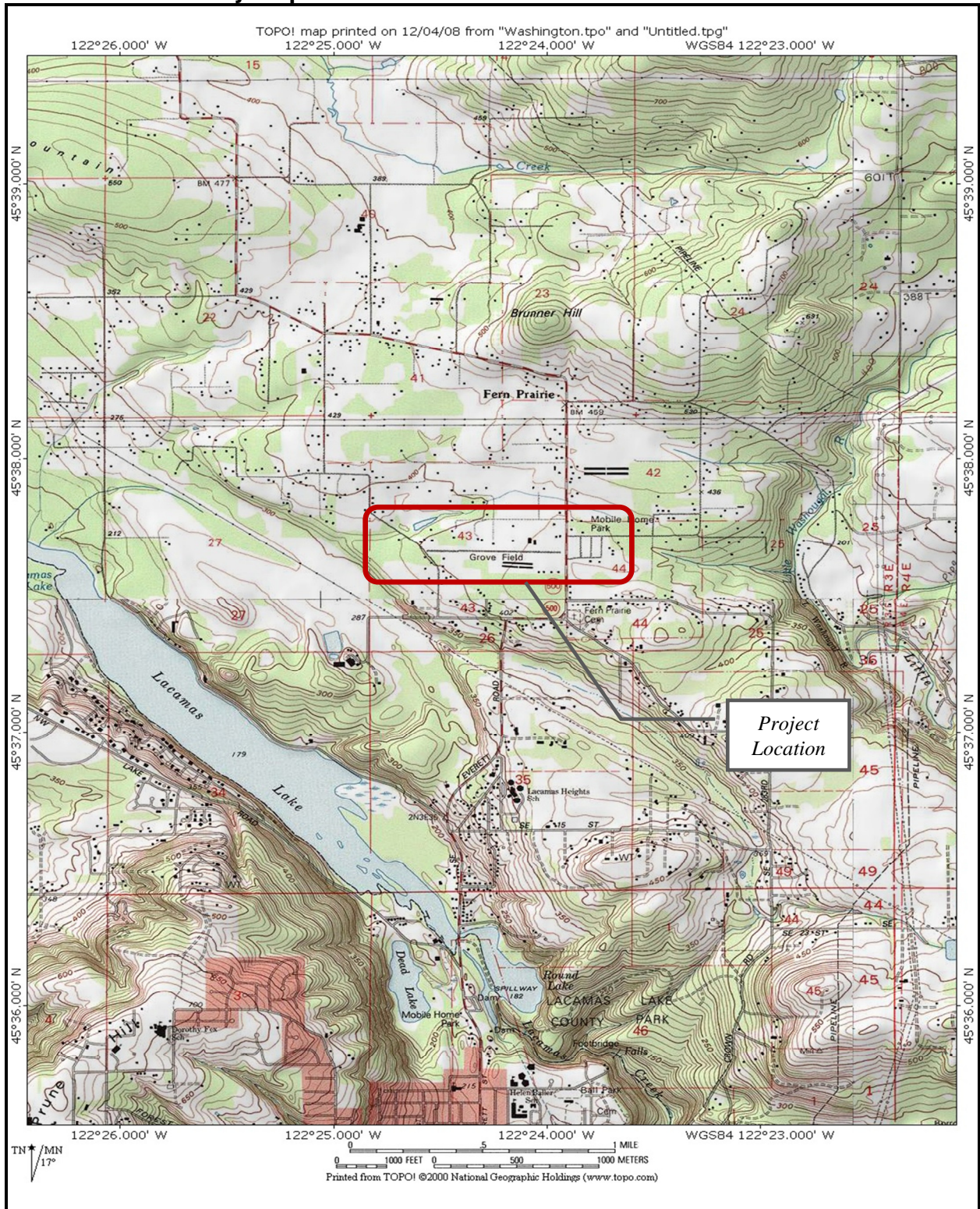
As stated previously, the Airport is located in Clark County, Washington approximately three miles north of downtown Camas along State Highway 500. Clark County is in southwestern Washington, bordered by the Columbia River and the State of Oregon on the south and the Cascade foothills on the north and east. The City of Camas is situated in eastern Clark County and is served by State Highways 14 and 500.

Existing land uses within a mile of the Airport are rural residential and agricultural areas. Many of the homes on the north side of the property line are through-the-fence operations. To the east of the property line, across the highway is a mobile home park. The south and west sides of the property are bordered by homes and agricultural areas.

The Airport is controlled by Clark County's zoning ordinance. The Airport resides in the County's "Airport" district. All lots within this district must have a minimum 100-foot depth. The County's ordinance does not specify a minimum requirement for lot area or lot width. The County describes this district as an area "... intended to recognize and protect those areas devoted to public use aviation, and which are designated on the comprehensive plan. It is also intended to provide areas for those activities supporting or dependent upon aircraft or air transportation, when such activities benefit from a location within or immediately adjacent to primary flight operations and passenger or cargo service facilities." Some of the County's permitted uses include aerial mapping and surveying, aviation-related storage facilities, agricultural activities, and hazardous waste treatment and storage facilities. The Clark County zoning ordinance includes an Airport Environs Overlay District, which is based on FAR Part 77 regulations to further mitigate the adverse impacts of new development on airport operations.

**Exhibit 4A**, Vicinity Map, illustrates the Airport and the surrounding area. For most environmental elements, the study area includes areas that may be affected by ground disturbance. In general, this included the airport property plus the potential rights of way for the relocated Delp Road. Environmental Justice and Social Impacts expanded the study area to ½ mile from the airport property. Section 4(f) analysis used a one-mile radius.

# Exhibit 4A. Vicinity Map



**Grove Field Airport**  
Port of Camas-Washougal, Clark County, Washington

**Exhibit 4A**

## 4.2 ***Air Quality***

In accordance with the Clean Air Act Amendments of 1990, the Federal government cannot approve an action that is not supportive of the attainment and maintenance of National Ambient Air Quality Standards (NAAQS) conformity. Conformity is intended to ensure that the Federal government does not take, approve or support actions that are in any way inconsistent with a state's plan to attain and maintain the NAAQS for criteria pollutants. Conformity applies to areas designated as "maintenance" or "non-attainment" for any of the criteria pollutants. Six pollutants are typically monitored and regulated. These include carbon monoxide (CO), particulate matter (PM), ozone, sulfur dioxide, lead and nitrogen oxide. Particulate matter is further monitored as to the size of particles. PM<sub>10</sub> is the most critical, as it represents particles smaller than 10 microns, which are easily inhaled and can remain in the lungs.

Geographic areas are classified as "non-attainment" if standards for one of the monitored pollutants are violated. Areas classified as "attainment" are typically monitored for these standards, but no violations have occurred. Areas are "non-classified" if air quality is generally not a concern. The Airport is within the Clark County "Maintenance" area. Maintenance areas are those geographic areas that had a history of non-attainment, but are now consistently meeting the NAAQS. Maintenance areas have been re-designated by the Environmental Protection Agency from "non-attainment" to "attainment with a maintenance plan," or designated by the Environmental Quality Commission.

## 4.3 ***Biotic Resources (including Threatened and Endangered Species)***

Biotic resources include plant and animal communities in the project study area (PSA). Included in this discussion are threatened and endangered species. Section 7(C) of the Endangered Species Act (ESA) requires that federal agencies contact the U.S. Fish and Wildlife Service (USFWS) and/or the National Marine Fisheries Service (NMFS) prior to any construction activity to determine if any proposed or listed Threatened and Endangered (T&E) species may be in a construction project area. If the USFWS or NMFS determines that T&E species under their respective jurisdictions may be affected, a Biological Assessment (BA) must be prepared. If species are not present or a Biological Evaluation shows no effect, no BA is needed.

A detailed *Biological Resources Technical Report* was prepared by Mason, Bruce and Girard, and is included in **Appendix E**. The majority of the PSA is situated approximately 400 feet above mean sea level (msl) on a relatively flat plateau. The northwestern extent of the PSA gently slopes downhill towards an unnamed perennial stream. The stream varies between 3 and 5 feet wide, as measured at the ordinary high water mark (OHWM), and contains minimal flow approximately 6 inches deep. The stream possesses steep yet stable banks containing a small riparian forest community that is described below. The stream bed substrate primarily consists of cobbles and small boulders.

The majority of the PSA and adjacent lands have experienced heavy human disturbance resulting from the original construction of the airport, as well as subsequent construction and frequent maintenance activities. The following sections provide a summary description of the principal vegetation communities and wildlife resources observed within the PSA. Please refer to the Biological Resources Technical Report for recent photographs of the resources found within the PSA.

#### 4.3.1 *Vegetation Communities*

Based upon the results of the field survey, four vegetation community types were identified within the PSA: upland grassland, maintained (mowed) upland grassland, riparian forest, and mixed conifer and deciduous forest. These four vegetation communities, their location within the PSA, and their general characteristics are described below.

##### 4.3.1.1 Upland Grassland

The upland grassland community is located at the western-most extent of the PSA, just west of NE Delp Road. At this location, the topography gradually slopes to the northwest towards the small, riparian, forested fringe that bounds the unnamed perennial stream. Review of available aerial photos suggests this field is mowed periodically. The field possesses a large proportion of weedy and invasive species.

A small portion of the western-most section of this upland grassland community is suffering from a Canada thistle infestation of approximately 200 to 500 individuals. Canada thistle is a “B List” species on the Clark County Noxious Weed List. A complete inventory of plant species including other noxious weeds that were identified within this portion of the PSA is included in Appendix B of the *Biological Resources Technical Report*.

##### 4.3.1.2 Upland Grassland (mowed)

The dominant community throughout the extent of the PSA is a frequently mowed and maintained upland grassland. This community dominates all of the areas adjacent to the runways and taxiways, all areas between and adjacent to the airplane hangars, and all areas surrounding a small remnant orchard, garden, and small grassy vacant lot that encompasses the northern-most extent of the PSA. These segments of the PSA are frequently mowed and maintained for runway safety, fire-suppression and overall airport aesthetics. Port maintenance crews were observed mowing during the site reconnaissance and dominant species in these vegetation communities were difficult to identify. However, based on remnant identifiable samples, these upland grassland communities are primarily comprised of oxeye daisy (*Leucanthemum vulgare*), Queen Anne’s lace, dock (*Rumex* sp.), narrowleaf plantain (*Plantago lanceolata*), red clover and a variety of unidentified grass and herbaceous species.

#### 4.3.1.3 Riparian Forest

A small, forested, riparian community is associated with the perennial stream in the northwest corner of the PSA. The community is comprised of an overstory that is dominated by western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*) and bigleaf maple (*Acer macrophyllum*). The heavily shaded understory is dominated by a variety of woody shrubs and herbaceous species including western swordfern (*Polystichum munitum*), false-lily-of-the-valley (*Maianthemum stellatum*), salmonberry (*Rubus spectabilis*), skunk cabbage (*Lysichiton americanus*), vine maple (*Acer circinatum*), and Indian plum (*Oemleria cerasiformis*).

#### 4.3.1.4 Mixed Conifer and Deciduous Forest

The southeast quadrant of the PSA is comprised of a mixed conifer and deciduous forest community that occupies over 20 acres within the PSA (see Figure 2 of Appendix E). This habitat type is present near the center of and easternmost portions of the PSA. All forested portions of the PSA are situated on relatively flat topography and are comprised of Douglas-fir, western hemlock, beaked hazelnut (*Corylus cornuta*), bigleaf maple, western brackenfern (*Pteridium aquilinum*), cascara buckthorn (*Frangula purshiana*), Himalayan blackberry, tansy ragwort (*Senecio jacobae*), English ivy (*Hedera helix*), oceanspray (*Holodiscus discolor*), and a variety of additional shrub and herbaceous species. The proximity to residences and the airport has led to the influx and establishment of numerous opportunistic and invasive species that include Himalayan blackberry (*Rubus armeniacus*), cutleaf blackberry (*Rubus laciniatus*), English ivy, common St. Johnswort (*Hypericum perforatum*), and Tansy ragwort.

### 4.3.2 Wildlife Resources

Within the PSA, each vegetation community provides suitable habitat for a variety of wildlife species. Airport Maintenance Supervisor, Gary Pachl, described regularly observing a variety of wildlife species within the confines of the airport including opossum (*Didelphis virginiana*), raccoon (*Procyon lotor*), black-tailed deer (*Odocoileus hemionus*), fox squirrel (*Sciurus niger*), and coyote (*Canis latrans*) (Gary Pachl, Maintenance Supervisor, pers. comm., August 11, 2008). During site reconnaissance, biologists observed some of these species, along with a variety of other small mammals and birds. A general description of wildlife habitats, their potential to support ESA-listed species, and species-specific observations are included below. A complete listing of all wildlife species observed on-site is included in Appendix E.

#### 4.3.2.1 Upland Grassland

Within the PSA, the upland grassland plant community provides nesting and foraging habitat for numerous species of songbirds and small mammals. During the site reconnaissance, biologists observed violet green swallow (*Tachycineta thalassin*), killdeer (*Charadrius vociferous*), flycatcher species (*Empidonax* sp.), and American

robin (*Turdus migratorius*). This vegetation community also likely provides foraging and burrowing opportunities for numerous species of common, small mammals (i.e., mice and moles).

Based on the USFWS sensitive species list for Clark County, this vegetation community could potentially provide habitat for Mazama pocket gopher (*Thomomys mazama*), a state listed Threatened and federal-candidate species (USFWS, 2008). Tall grass and blackberries obscured much of the ground from plain view during the site reconnaissance. Although no gopher holes or burrows were observed in this field, biologist could not definitively state that none were present. This species requires very specific habitat elements, including fine soils with very minimal rock, and limited soil compaction (WDFW, 2008)

Following the site reconnaissance, WDFW biologist Eric Holman was contacted to discuss the potential for Mazama Pocket Gopher to occur within the PSA. Mr. Holman indicated that the largest known population of Mazama Pocket Gopher in Washington occurs in Thurston County, over 75 miles north of the Airport. However, Mr. Holman indicated that this population occurs within and around an airport with similar conditions to that of the Grove Field Airport. The routine mowing appears to keep grasses and small forbs soft and small enough to provide a preferred food source for the gophers (Eric Holman, WDFW Biologist, pers. comm., September 23, 2008).

A second site investigation was conducted on February 4, 2009 to further investigate the potential for Mazama Pocket Gopher to occur at Grove Field Airport. Prior to this site investigation, biologists conducted a reference site visit at the Port of Olympia Regional Airport in Olympia, Washington. The Port of Olympia Regional Airport currently has a documented Mazama Pocket Gopher population that inhabits the infields and runway margins of the airport. The purpose of the reference site visit and second site investigation at Grove Field Airport was to compare the burrows, tunnel systems, and observed habitat preference of Mazama Pocket Gophers with that of the habitat conditions and unknown small mammal mounds that were observed at the Airport. The comparison shows that Mazama Pocket Gophers are not present at Grove Field.

A third site investigation was conducted on March 31, 2009 to investigate parts of the PSA that were added subsequent to the first two site investigations. These portions of the PSA were investigated to determine the presence or absence of tall bugbane (*Actaea elata*) habitat. Tall bugbane prefers margins of moist conifer forests or mixed conifer deciduous forests with a sparsely vegetated understory, usually on northerly aspects, in filtered light. The subject areas are overgrown with English ivy and Himalayan blackberry, and are not suitable for tall bugbane.

#### 4.3.2.2 Upland Grassland (mowed)

As previously described, the majority of the PSA is dominated by upland grassland that is frequently mowed and maintained by airport maintenance staff. While on site,

biologists observed violet green swallow foraging for insects that were kicked up by maintenance staff mowers. No other wildlife was observed within this habitat type.

This vegetation community could also potentially provide habitat for Mazama pocket gophers. Numerous rodent holes were observed throughout this vegetation community. As discussed above, it is not likely that these were created by the pocket gopher.

#### 4.3.2.3 Mixed Conifer and Deciduous and Riparian Forest

Fragmented portions within the PSA are best described as mixed conifer and deciduous or riparian forest vegetation communities. These habitat types provide opportunities for a wide range of species that include birds, large and small mammals, reptiles and amphibians. During site reconnaissance, biologists observed one fox squirrel and a variety of birds, including spotted towhee (*Pipilo maculatus*), mourning dove (*Zenaida macroura*), Steller's jay (*Cyanocitta stelleri*), American robin, scrub jay (*Aphelocoma californica*), black capped chickadee (*Poecile atricapilla*), and chestnut backed chickadee (*Poecile rufescens*). Numerous other bird species were observed within these forested portions of the PSA and a complete listing of all wildlife species observed on-site is included in Appendix E. Based on the USFWS sensitive species list for Clark County, these vegetation communities do not provide suitable habitat for state or federally listed wildlife species.

#### 4.3.3 Fisheries Resources

There is one perennial stream and one stormwater drainage ditch within the PSA. Based upon an inspection of the PSA, a WDNR database search, discussions with local agency biologists, examination of U.S. Geological Survey (USGS) 15-minute quadrangle maps (Camas 1954), and a StreamNet database search, biologists have determined that the small perennial stream possesses a highly unlikely potential to contain federal or state-listed fish species. Furthermore, the stormwater drainage ditch does not appear to possess direct surface connectivity to this stream or other aquatic resources within or outside the PSA. Based on these conditions, the biologists have determined there are no listed fisheries resources located within the PSA.

### 4.4 Compatible Land Use

The compatibility of existing and planned land uses near an airport is usually associated with the extent of the airport's noise impacts. Airport development actions to accommodate fleet mix changes or the number of aircraft operations, air traffic changes or new approaches made possible by new navigational aids are examples of activities that can alter aviation-related noise impacts and affect land uses subjected to those impacts.

Existing land uses within a mile of the Airport consist of rural residential and agricultural areas. Many of the homes on the north side of the airport property line have through-the-fence operations. To the east of the property line, across the highway is the Oak

Meadows Mobile Home Park. The south and west sides of the property are bordered by homes and agricultural areas. Noise contours for the existing condition/No Action alternative were produced, which showed the 65 dBA DNL contour line extends outside the airport to the east and includes several of the manufactured homes east of the airport off NE 267<sup>th</sup> Avenue. At least six of the residences in the manufactured home park are predicted to be inside the 65dBA DNL contour. To the north of the airport, there are five residences inside the 65 dBA DNL contour. All but all one of the five residences have aircraft hangars and have the direct access to the airport runway. To the south of the airport there is one additional residence within the 65 dBA DNL contour (see contours in **Appendix F**).

#### **4.5 Department of Transportation Act, Section 4(f) Resources**

The Federal statute that governs impacts in this category is commonly known as the Department of Transportation (DOT) Act, Section 4(f) provisions. Section 4(f) of the DOT Act, which is codified and renumbered as section 303(c) of 49 U.S.C., provides that the Secretary of Transportation will not approve any program or project that requires the use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance or land from an historic site of national, State, or local significance as determined by the officials having jurisdiction thereof – unless there is no feasible and prudent alternative to the use of such land and such program, and the project includes all possible planning to minimize harm resulting from the use.

A review of maps of Clark County and Camas show two potential resources within the airport vicinity, Lacamas Lake Park and Camp Currie, (a historic private camp on the northeast shore of Lacamas Lake).

#### **4.6 Federally Listed Endangered and Threatened Species**

*(See section 4.3 above)*

#### **4.7 Energy Supplies, Natural Resources, and Sustainable Design**

Executive Order 13123, *Greening the Government through Efficient Energy Management*, encourages each Federal agency to expand the use of renewable energy within its facilities and in its activities. The Order also requires each Federal agency to reduce petroleum use, total energy use and associated air emissions and water consumption in its facilities. FAA Order 1050.1E, Appendix A also states: “It is also the policy of FAA to encourage the development of facilities that exemplify the highest standards of design, including principles of sustainability. All elements of the transportation system should be designed with a view to their aesthetic impact, conservation of resources such as energy, pollution prevention, harmonization with the community environment, and sensitivity to the concerns of the travelling public.”

Currently, electrical energy is used to power navigation aids, airport lighting and airport buildings. Petroleum fuels are used to power aircraft, maintenance vehicles, and other

equipment, such as generators and maintenance equipment powered by these fuels. Rock resources, in the form of sand and aggregate, will be used in creating the fill and paving the taxiway.

Other natural resources affected by the airport are described in the sections above discussing water quality, wetlands, biotic communities and threatened and endangered species.

#### **4.8 Environmental Justice**

In recent years, concern about environmental impacts on particular populations has been growing; this type of impact is referred to as environmental justice. Low income and minority communities, for example, may bear a disproportionately high risk to human health and the environment from pollution and other effects of specific types of development or facilities. Children are also more sensitive to certain types of impacts that may alter physical development or impact schools or other concentrations of children. Executive Order 12898 (*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*) and Executive Order 13045 (*Protection of Children from Environmental Health and Safety Risks*) provide the basis for this analysis.

The airport has been in the community for over 64 years. Over time, the land uses around the airport have remained low density, rural residential, with the exception of the Oak Meadows Mobile Home Park directly east of the Airport. Within the project area, including the DNL 65 contour described below in section 4.13, there are no concentrations of minority or low-income populations or places where children congregate (e.g. schools, recreation centers or day care centers).

#### **4.9 Farmlands**

Certain types of soils are considered prime farmland because of their drainage, mineral, and other characteristics. These soils, when in urbanized or developed areas, are not considered prime due to the compaction and other activities that degrade the potential for farm use. The proposed areas for development are currently in airport use or do not meet the definition of prime or unique farm soil based on a review of the Natural Resources Conservation Service on-line soil database map (<http://websoilsurvey.nrcs.usda.gov>). Soils on the airport include Hesson Clay Loam, Lauren Gravelly Loam and Cove Silty Clay Loam. The entire airport property consists of areas rated as either not prime farmland or as “prime farmland if irrigated” under the Farmland Protection Policy Act, and there is no indication of present or historic irrigation within or adjacent to the airport property.

#### **4.10 Hazardous Materials**

Four primary laws have been passed governing the handling and disposal of hazardous materials, chemicals, substances and wastes. The two statutes of most importance to the

FAA for the NEPA analysis are the Resource Conservation and Recovery Act (RCRA) and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended. RCRA governs the generation, treatment, storage and disposal of hazardous wastes. CERCLA provides for consultation with natural resources trustees and cleanup of any release of hazardous substances, excluding petroleum, into the environment.

The Airport currently generates solid waste associated with aircraft use and the operation of a fixed base operator.

Based on discussion with WSDOT-Aviation and the Port, there is no history of spills or dumping on the site. There is no reason to believe the ground is contaminated by hazardous material. If odor or visual clues are identified during construction, work will be halted and an assessment of the contamination and remediation requirements will be prepared.

#### **4.11 Historical, Architectural, and Cultural Resources, including Native American and Tribal Resources**

A cultural resource inventory (**Appendix G**) that included a records review, pedestrian survey and subsurface probing for the proposed improvements was completed. This study resulted in the identification of two archaeological sites and five historic-period aboveground structures. The archaeological sites are unlikely to yield additional, significant information relevant to furthering our knowledge of prehistory in and around project area. As such, both archaeological sites are not eligible for listing in the National Registry of Historic Places (NRHP). Washington historic properties inventory forms were completed for each of the historic period aboveground structures, and all five are also recommended to be not eligible for listing in the NRHP.

#### **4.12 Induced / Secondary Socioeconomic**

Major development proposals often involve the potential for induced or secondary impacts on surrounding communities. Examples include shifts in patterns of population movement and growth; public service demands; and changes in business and economic activity to the extent influenced by the airport development. For the purpose of the analysis of alternatives for Grove Field, these will focus on community impacts associated with the road relocation alternatives. Elements such as out-of-direction travel, proximity of road alignment to homes (and associated noise), access changes such as relocated driveways, and other impacts to homeowners will be discussed.

On the road segments that include Delp Road, between NE 242<sup>nd</sup> Avenue, northwest of the airport, and NE 3<sup>rd</sup> Street, south of the airport, there are 38 properties fronting on the road. Twenty-eight of these are north of the airport, and 10 are south of the airport. Within a half mile of the west end of the airport, there are about 85 properties; 60 of which are to the north and 25 to the south. There are six residences with direct access to Delp Road in the area of potential realignment (see **Exhibit 4B**).

#### **4.13 Light Emissions and Visual Effects**

Airport improvements may create impacts due to light emissions or visual impacts. These include increased visibility of airport lighting from off-site viewpoints and the potential to impact people or properties. The EA must consider the extent to which any lighting associated with the proposed action will create an annoyance among people in the airport vicinity or interfere with their normal activities.

Visual or aesthetic impacts are more subjective. Analysis of these impacts may include the extent that the proposed action contrasts with the existing environment and whether another agency considers the contrast objectionable.

The FAA regulates lighting that is used on an airport for navigation and directional information. There are also recommendations for minimization of light and glare that could affect a pilot's ability to see or understand airport lighting.

The Airport currently has pilot-activated medium-intensity runway lighting. The Airport is also equipped with a rotating beacon, a lighted windsock and two-light precision approach path indicators on the left side of both runway ends. The lighting may be visible at night from adjacent home sites. Beyond the properties adjacent to the airport, on-airport lighting is mostly contained on-site and does not spillover into the surrounding community. The beacon may be visible within a mile of the Airport.

#### **4.14 Noise**

For aviation noise analysis, the FAA has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of yearly day/night average sound level (DNL) as FAA's primary metric.

Currently, the 65 dBA DNL contour line extends outside the airport to the east and includes several of the manufactured homes east of the airport off NE 267<sup>th</sup> Avenue. At least six of the residences in the manufactured home park are predicted to be inside the 65dBA DNL contour. To the north of the airport, there are five residences inside the 65 dBA DNL contour. All but all one of the five residences have aircraft hangars and have the direct access to the airport runway. To the south of the airport there is one additional residence within the 65 dBA DNL contour (see contours in Appendix F).

#### **4.15 Social Impacts**

FAA must evaluate proposed airport development actions to determine if they would cause social impacts. This evaluation should include effects on health and safety risks to children, and socioeconomic impacts. Socioeconomic impacts include moving homes and businesses; dividing or disrupting established communities; changing surface transportation patterns; disrupting orderly, planned development; or creating a notable change in employment.

Executive Order 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, defines the risks to children's safety that are attributable to products or substances that the child is likely to touch or ingest. Examples include the air we breathe, the food we eat, the water we drink or for recreation, and the soil we use to grow food. Environmental documents should assess project-related impacts with the potential to have a disproportionate effect on children's environmental health or safety.

The principal impacts to consider are associated with relocating or disrupting a residential or business community, transportation capability, planned development or employment. Environmental documents should provide information on the individuals and families (e.g., numbers and characteristics) an action would displace and the effects of that displacement on the neighborhood; information on the capability of the neighborhood to provide adequate relocation housing for the families the action would displace; the businesses an action would displace and the effects of moving the businesses to other areas; and information on areas' abilities to provide replacement or new buildings or other features associated with the affected businesses.

Thresholds of significance include

- Extensive relocation, but sufficient replacement housing is unavailable.
- Extensive relocation of community businesses that would cause severe economic hardship for affected communities.
- Disruption of local traffic patterns that substantially reduce the Levels of Service of roads serving the airport and its surrounding communities.
- A substantial loss in community tax base.
- For Children's Health & Safety Risks: An action causing disproportionate health and safety risks to children may indicate a significant impact.

The residential community surrounding the Airport is primarily large-lot rural residential. On the road segments that include Delp Road, between NE 242<sup>nd</sup> Avenue, northwest of the airport, and NE 3<sup>rd</sup> Street, south of the airport, there are 38 properties fronting on the road. Twenty-eight of these are north of the airport, and 10 are south of the airport. Within a half mile of the west end of the airport, there are about 85 properties; 60 of which are to the north and 25 to the south. Residents know their neighbors, but also respect the quiet environment that the rural area provides. Houses are set back from existing roads to reduce noise and increase privacy. Residents are concerned about changes to their area that could attract vandalism and other potentially illegal activity.

#### **4.16 Solid Waste**

Construction, renovation or demolition of most airside projects produces debris (e.g., dirt, concrete, asphalt) that must be properly disposed of or recycled. In addition, new or renovated terminal, hangar or maintenance facilities may involve construction, renovation or demolition that produces other types of solid waste (bricks, steel, wood, gypsum, glass). Finally, projects that increase capacity at an airport may increase the production of waste materials from additional aircraft maintenance and food waste from additional pilots and passengers using the airport

There is no threshold of significance for solid waste. The impacts of a project would be considered significant if the solid waste generated by the project would exceed available landfill or incineration capacities or require extraordinary effort to meet applicable solid waste permit conditions or regulations, or if Local, State, or Federal agencies determine that substantial unresolved solid waste issues are associated with the project.

Currently, the Airport generates solid waste from the existing FBO and from aircraft using the Airport. The quantity generated is minimal, and is picked up as part of a regular garbage collection cycle.

#### **4.17 Water Quality**

Water quality is generally governed under the provisions of the federal Water Pollution Control Act, as amended by the Clean Water Act and other amendments. As a part of complying with the federal law, Washington State Department of Ecology (DOE) maintains a listing of water bodies and impediments to meeting water quality standards for each body. These standards are typically thresholds for presence of a particular element (such as dissolved oxygen or bacteria), or general conditions such as temperature or artificial stream banks.

For airports, the primary water quality effect is caused by the amount of new runoff generated by creation of impervious surfaces. There is also some potential for impacts to water temperature, oil or fuel spillage, and de-icing chemicals to affect water quality. Grove Field rarely, if ever, uses de-icing chemicals. Oil and fuel are used in airport maintenance and operations, as well as aircraft operations. The Port maintains a spill containment pad at its fueling station. The Port also maintains a set of procedures to be followed in the event of a spill, to prevent contaminants from entering the local waters. Incidental fuel or oil that collects on hard surfaces is removed from runoff as it is conveyed through drainage swales.

Stormwater currently infiltrates or drains into unnamed streams and ultimately into Lacamas Lake. The new stormwater will be treated in additional swales and either infiltrate or be transported by a modified outfall system.

The Airport collects, treats and maintains all of its stormwater on-site; therefore, the Port is not required to operate under the requirements of an NPDES 1200-Z permit Schedule A, Storm Water Pollution Control Plan. However, for construction the Port would need a 1200-C permit.

#### **4.18 Wetlands**

A delineation of wetlands and other waters at the project area was prepared after site visits on August 19 and 27, 2009 (see **Appendix H**). The field investigation identified five areas that met wetland criteria in the study area, plus a reach of the perennial stream, stormwater detention basin, a stormwater drainage ditch and roadside ditches, totaling approximately 45,594 square feet (1.05 acres).

A total of 1.05 acres of wetlands and waters in the study area in eight areas were identified. This total consists of:

- Detention basin (non-wetland water): 30,962 square feet (0.71 acre)
- Isolated wetland swales: 2,413 square feet (0.06 acre)
- Stormwater ditches (non-wetland): 4,382 square feet (0.1 acre)
- Perennial stream: 5,585 square feet (0.13 acre), and
- Riparian wetlands: 2,282 square feet (0.05 acre)

The detention basin may not be under Corps of Engineers jurisdiction, but this needs to be verified. The Washington Department of Ecology does not regulate this feature. The stream and riparian wetlands are under both Corps and state jurisdiction. The isolated wetland swales may be exempt from Corps jurisdiction. The Department of Ecology does regulate these isolated wetlands. The stormwater ditches appear to be exempt from Corps jurisdiction. They are also exempt from Department of Ecology regulation.

Please refer to Appendix H for the full delineation report.