

Appendix I

Special-Status Wildlife Supplement

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CHAPTER 1 INTRODUCTION

Information on special status wildlife from the U.S. Fish and Wildlife Service (USFWS 2012) web site on June 26, 2013 was used with additional information from the Washington Department of Fish and Wildlife (WDFW) on-line database for Priority Habitat and Species (PHS; WDFW 2013), and the 2008 PHS list (WDFW 2008) to prepare life history and potential occurrence within and near the proposed Facility site by the Applicant (BergerABAM 2014). Updates to listing status consistent with USFWS (2015), and WDFW (2015) were made where applicable.

Special-status wildlife were defined as those species identified for protection under federal or state laws including: (1) species listed as endangered or threatened, species proposed for listing, or candidates for listing under the federal Endangered Species Act of 1973 (ESA); or listed by USFWS as a species of concern (SC); or (2) state-listed endangered, threatened, or candidate species, state-listed sensitive species, or state-listed species of greatest conservation need (SGCN).

CHAPTER 2 SPECIAL-STATUS WILDLIFE DESCRIPTIONS

No special status wildlife have been documented at the proposed Facility site according to PHS data. The developed and industrial nature of the proposed Facility site provides only low to moderate habitat suitability for special-status wildlife. Several special-status wildlife have been documented or have the potential to occur in the vicinity of the proposed Facility, and may make use of the area. Special-status wildlife that are known or with potential to occur in the vicinity of the proposed Facility are described in the following sections.

AMPHIBIANS

Oregon Spotted Frog (*Rana pretiosa*)

The Oregon spotted frog is listed as threatened under the ESA (USFWS 2015). It is also a state endangered species, a WDFW priority species, and a SGCN (WDFW 2008).

The Oregon spotted frog is endemic to the Pacific Northwest. Historically, its range extended from northeast California, through the Puget Trough/Willamette Valley regions of Oregon and Washington, to the lower Fraser River Valley in British Columbia (Nordstrom and Milner 1997a).

In Washington, this frog once occurred throughout the Puget Trough lowlands from the Canadian border as far as Vancouver (Washington), and east into the southern Washington Cascades. Currently, there are only three locations in Washington where these frogs are known to still exist: Dempsey Creek in Thurston County and Trout and Conboy lakes in Klickitat County. Other lowland western Washington populations are believed to have been extirpated (Nordstrom and Milner 1997a).

Oregon spotted frogs are highly aquatic, inhabiting marshes and marshy edges of ponds, streams, and lakes. Spotted frogs usually occur in shallow, slow moving waters with abundant emergent vegetation and a thick layer of dead and decaying vegetation on the bottom. Oregon spotted frogs are active in lowland habitats from February through October, and hibernate in muddy bottoms near their breeding sites in winter. Courtship and breeding occurs between February and March at lower elevations in western Washington and takes place in warm, shallow margins of ponds or rivers or in temporary pools formed by rain or snowmelt. Adult spotted frogs are opportunistic feeders, feeding primarily on invertebrates, generally within one-half meter of shore on dry days (Nordstrom and Milner 1997a).

The proposed Facility site does not contain any suitable habitat for Oregon spotted frogs. There is no marsh habitat within the site that would provide suitable conditions. Within the Vancouver Lake Lowlands, emergent wetlands and seasonally ponded sites – particularly those associated with the southern end of Vancouver Lake and the CRWMB – could provide potentially suitable habitat for Oregon spotted frogs. These habitats are seasonally ponded wetland complexes, with abundant access to adjacent upland foraging habitats. While there have been no recent records for Oregon spotted frogs in Clark County, the proposed Project vicinity provides potentially suitable habitat for Oregon spotted frog.

Western Toad (*Bufo boreas*)

The western toad is a federal SC (USFWS 2012), a state candidate species, a WDFW priority species, and a SGCN (WDFW 2008).

The western toad occurs from southeast Alaska eastward through British Columbia, western Alberta, and western Montana, south to Baja California and east to northern Colorado. It is found throughout western Washington and in the mountainous portions of eastern Washington (Dvornich et al. 1997). Western toads occur in forested and brushy areas from sea level to high mountains (ODFW 1996). Moist areas with dense cover are considered optimal (ODFW 1996). During dry weather, toads will spend the day under damp, woody debris or in burrows of other animals; they will also bury themselves in loose soil (Leonard et al. 1996). Western toads breed in springs, ponds, shallow areas in lakes and slow-moving streams, and also use stock ponds and reservoirs in arid areas (ODFW 1996). Tadpoles form huge aggregations, generally in the warmest portion of a particular water body; western toad tadpoles are found in a wider variety of water bodies than the tadpoles of Pacific Northwest frogs (Blaustein et al. 1995). They can be locally abundant, and can live in a relatively wide variety of habitat types (Blaustein et al. 1995).

The proposed Facility site does not contain any suitable forested or brushy aquatic habitat for the western toad. The Vancouver Lake Lowlands provide forested and scrub-shrub wetland habitats that may provide potentially suitable habitat for the western toad; although this area is unlikely to provide preferred habitats because there are no significant forested wetlands. The slow-moving backwater habitats at the south end of Vancouver Lake may provide potentially suitable habitat for western toad breeding. Western toads have not been documented near the proposed Facility site; although they could be present in downstream habitats next to the Columbia River.

REPTILES

Pacific Pond Turtle (*Actinemys marmorata*)

The Pacific pond turtle is a federal SC under the ESA (USFWS 2013). It is also a state endangered species, a WDFW priority species, and a SGCN (WDFW 2008).

The range of the western pond turtle follows the Pacific coast of North America, from the Puget Sound region in Washington to northwestern Baja California. Most populations are found west of the Cascades (Nordstrom and Milner 1997b). Populations in Washington are confirmed only in Klickitat and Skamania counties. Individual turtle sightings were recently confirmed in Pierce and King Counties, which are part of the turtle's historic range. Historic records also exist for Clark and Thurston counties (McAllister 1995).

Pacific pond turtles have been found in marshes, ponds, sloughs, and small lakes in Washington from sea level to approximately 2,500 feet in elevation. Pond turtles have also been found in altered habitats such as gravel pits, reservoirs, stock ponds, and sewage treatment plants. They use both permanent and

intermittent bodies of water, and have been found using a variety of substrates, including rock, gravel, sand, mud, decaying vegetation and various combinations of these (Nordstrom and Milner 1997b).

Pacific pond turtles use open, upland habitats, primarily for nesting, but also for dispersal and overwintering. Female turtles leave the water to nest sometime between late May and July. Females usually dig nests and deposit their eggs in compact, dry soil on upland sites. Terrestrial overwintering sites usually have a thick layer of duff into which the turtle will burrow, and have been found up to 1,640 feet away from watercourses. In aquatic habitats, these turtles will winter under banks or in mud. Movement to overwintering sites occurs between September and November, and emergence from these locations occurs between March and June (Nordstrom and Milner 1997b).

The proposed Facility site does not provide any suitable aquatic or terrestrial habitat for Pacific pond turtles. Aquatic (and adjacent terrestrial) habitats throughout the Vancouver Lake Lowlands do provide potentially suitable habitats. The mosaic of wetlands at the south end of Vancouver Lake, with its connectivity to a variety of hydrologic regimes and vegetation communities, provides particularly well-suited habitat. However, Pacific pond turtles have not been documented in the vicinity. Pacific pond turtles could potentially be present in downstream habitats next to the Columbia River, but they are not known to be strongly associated with the mainstem Columbia River.

BIRDS

Aleutian Canada Goose (*Branta hutchinsii [canadensis] ssp. leucopareia*)

The Aleutian Canada goose was removed from the federal endangered species list in 2001 (66 FR 15643) and from the Washington list in 2005. It is currently listed as a federal SC (USFWS 2012), but is not considered a special status species in Washington (WDFW 2008).

Although Washington is potentially part of the species' historical wintering range, today the area is considered to be primarily migration habitat (Hays 1997). The Willapa National Wildlife Refuge (NWR) and surrounding fields and farms in Willapa Bay provide the principal stopover habitat in Washington. Occasionally, individuals and small flocks stop briefly in other parts of the state, including the area in the vicinity of the Ridgefield National Wildlife Refuge (Kraege 2005), and as such, they may use aquatic and agricultural habitats throughout the Vancouver Lake Lowlands.

The proposed Facility site does not provide suitable habitat for Aleutian Canada geese. Aquatic and seasonally inundated habitats throughout the Vancouver Lake Lowlands may provide suitable habitat for migrating and wintering geese, and agricultural lands on Parcel 3 also likely provide suitable foraging habitat. Aleutian Canada geese are more common in the Lower Columbia River watershed, and may also occasionally be present in adjacent marine waters.

Bald Eagle (*Haliaeetus leucocephalus*)

The bald eagle was removed from the federal endangered species list in 2007 (72 FR 37346); but is afforded federal protection under the Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668-668c). Bald eagles are considered a state sensitive species, a priority species, and a SGCN by WDFW (WDFW 2008).

Bald eagles are closely associated with lakes and large rivers in open areas, forests, and mountains. Breeding bald eagles need large trees near open water with a relatively low level of human activity. In Washington, nearly all bald eagle nests (99%) are within 1 mile of a lake, river, or marine shoreline (Stinson et al. 2007). Perches from which nesting bald eagles forage are distributed throughout their

nesting territories along shorelines and prominent viewpoints. Nesting bald eagles are opportunistic foragers but feed most consistently on fish and waterfowl which are usually associated with large, open expanses of water (Stalmaster 1987).

Riparian habitat at the proposed Facility site may provide foraging habitat for bald eagles, although there are few suitable perches nearby, and very little habitat for fish or waterfowl prey. Bald eagles are relatively common near the proposed Facility site, and they use habitats throughout the Vancouver Lake Lowlands. The WDFW PHS database identifies the area around Vancouver Lake as winter roosting habitat, and two nest sites have been documented in the riparian forest on Parcel 3 (WDFW 2013). The nearest eagle nest site documented in the PHS database is approximately 1 mile west of the westernmost portion of the proposed Facility site. Bald eagles are common throughout the Lower Columbia River and adjacent marine shorelines.

Common Loon (*Gavia immer*)

The common loon is not protected under the ESA, and is not considered a federal SC. Common loons are considered a state sensitive species, a priority species, and a SGCN by WDFW (WDFW 2008). In its PHS listing, WDFW considers breeding sites, migratory stopover locations, and documented areas of regular concentration as priority habitat areas (WDFW 2008).

Common loons breed in North America from the coasts of the Aleutian Islands and Bering Sea, east throughout Canada and south to the northern tier of the lower 48 states. In western North America, common loons winter along the Pacific coast from southern Alaska to Baja California. Migrant loons arrive from the north to winter along Washington's coast, the Columbia and Snake rivers, and on lakes in northeastern Washington (Larsen et. al 2004).

Common loons breed on large lakes in forested areas, typically those greater than approximately 30 acres in size. They typically nest on or near shorelines. Nesting also may occur within approximately 5 feet of shore on masses of emergent vegetation (Larsen et. al 2004). Their primary diet is fish, and they require a healthy fish population on which to forage.

Riparian habitat at the proposed Facility site does not provide suitable habitat for common loons. The Vancouver Lake does not likely provide any suitable nesting habitat for common loons, but it does provide suitable migration and wintering habitat. WDFW PHS data indicate that common loons have been observed in the vicinity of Vancouver Lake, but that no breeding loons or regular concentrations have been documented. Common loon may occasionally be present in the lower Columbia River watershed, but their presence is considered uncommon.

Lewis' Woodpecker (*Melanerpes lewis*)

The Lewis' woodpecker is not protected under the ESA, and is not considered a federal SC. Lewis' woodpeckers are listed as a Washington state candidate species, a priority species, and a SGCN by WDFW (WDFW 2008). WDFW considers Lewis' woodpecker breeding areas as priority habitat (WDFW 2008).

Lewis' woodpeckers have recently declined in Western states (Larsen et al. 2004). In Washington, Lewis' woodpecker is only locally abundant as a breeding bird, and its range has contracted within the last half of the 20th century to include only habitats east of the Cascade crest. The Lewis' woodpecker prefers a forested habitat with an open canopy and a shrubby understory, with snags available for nest sites and hawking perches (Bock 1970). The critical features of Lewis' woodpecker habitat are thought to be forest openness, understory composition, and availability of insect prey (Bock 1970).

The proposed Facility site does not provide any forested habitat suitable for nesting for Lewis' woodpecker, nor does it provide suitable foraging habitat. Snags and forested habitat around Vancouver Lake may provide suitable nesting habitat for Lewis' woodpecker, and foraging habitat is also likely suitable throughout the Vancouver Lake lowlands. Lewis' woodpeckers are rare in Southwest Washington and have not been documented near the proposed Facility site.

Marbled Murrelet (*Brachyramphus marmoratus*)

The marbled murrelet is listed as a threatened species under the ESA (USFWS 2012). Marbled murrelets are considered a threatened species, a priority species, and a SGCN by WDFW (WDFW 2008).

The marbled murrelet is a small sea bird that feeds primarily on fish and invertebrates in nearshore marine waters. Marbled murrelets nest in mature stands of coastal forest, typically closely associated with the marine environment, although murrelets have been documented in forested stands at distances of up to 50 miles inland in Washington (Hamer and Cummins 1991). They require mature forests with large trees (greater than 30 inches diameter at breast height) for nesting characterized by multi-storied stands and moderate canopy closure. Murrelets tend to nest in the largest trees in the stand and forage in nearshore marine habitats on a variety of small fish and invertebrates, generally in waters less than 260 feet deep, on (76 FR 61599, 61 FR 26257).

The proposed Facility site does not provide any forested habitat suitable for nesting for marbled murrelets, and there are no habitat units near the proposed Facility site.

Olive-sided Flycatcher (*Contopus cooperi*)

The olive-sided flycatcher is a federal SC (USFWS 2012). It is not currently considered a sensitive species by the WDFW (WDFW 2008).

The olive-sided flycatcher breeds across boreal forests of Canada and the northern United States, extending south along riparian, montane, and subalpine forests of the Rockies, the Sierra Nevada, and in isolated areas in southern California and northern Baja (Altman and Sallabanks 2000). The olive-sided flycatcher occurs in virtually all forested areas of Washington (Smith et al. 1997).

The olive-sided flycatcher inhabits primarily mature forest, old-growth forest, and wet conifer forest, especially those forests with an abundance of snags (Ehrlich et al. 1988; Sharp 1992). This species may also use mixed woodlands near edges and clearings. Nests are often located high in conifer trees, usually on a horizontal branch far from the trunk. Their primary forage is insects.

The proposed Facility site does not provide any forested habitat suitable for nesting or foraging for olive-sided flycatchers. Olive sided flycatchers have not been documented to occur within or near the proposed Facility location.

Peregrine Falcon (*Falco peregrinus*)

Peregrine falcon is not protected under the ESA, but is a federal SC. It is considered a sensitive species, a priority species, a SGCN by WDFW (WDFW 2008). The peregrine falcon was revised from a state endangered species to a state sensitive species in 2002.

In Washington, peregrine falcons nest in all but the driest parts of the state. Breeding occurrences are primarily located along the outer coast, in the San Juan Islands, and in the Columbia River Gorge (Hays and Milner 2004a). Nesting usually occurs on cliffs, typically 150 feet or more in height. Peregrine falcons will also nest on offshore islands, ledges on vegetated slopes, and on man-made structures in

urban areas. Eggs are laid and young are reared in small caves or on ledges. Nest sites are generally near the water. Peregrines feed on smaller birds that are usually captured on-the-wing (Hays and Milner 2004a). In winter and fall, peregrines spend much of their time foraging in areas with large shorebird or waterfowl concentrations, especially in coastal areas (Dekkar 1995).

The proposed Facility site does not provide suitable nesting habitat for peregrine falcons, but it may provide open areas that may be suitable for foraging. There are no large cliffs or ledges, apart from man-made structures, that provide suitable nesting platforms within or near the proposed Facility. Peregrine falcons nested on the I-5 Bridge in 2009, and they have nested on the Fremont Bridge in Portland, and the area surrounding the proposed Facility has been documented as potentially suitable for nesting and foraging.

Pileated Woodpecker (*Dryocopus pileatus*)

The pileated woodpecker is not protected under the ESA, and is not considered a federal SC. Pileated woodpeckers are listed as a candidate species, a state priority species, and a SGCN by WDFW (WDFW 2008).

The pileated woodpecker occurs from northern British Columbia south through the Pacific states to central California, in the northern Rockies through Idaho and western Montana, across southern Canada to Nova Scotia, and south to the Gulf Coast and Florida. The pileated woodpecker is found throughout the forested areas of Washington, primarily at low to moderate elevations (Smith et al. 1997).

Pileated woodpecker habitat typically consists of mature and old-growth forests and second-growth forests with substantial numbers of large snags and fallen trees. They excavate large nest holes in snags or living trees with dead wood, generally excavating through hard outer wood into rotten heartwood. Tree cavities are also used for roosting. Pileated woodpeckers forage mainly by excavating wood and chipping bark from large-diameter dead and down logs, stumps, snags, and live trees. They feed primarily on ants, beetle larvae, and other insects (Bull and Holthausen 1993).

The proposed Facility site does not provide any forested habitat suitable for nesting for pileated woodpeckers, nor does it provide suitable foraging habitat. Pileated woodpeckers may potentially forage in forested habitats, such as riparian cottonwood forests near Vancouver Lake or along the Columbia River.

Purple Martin (*Progne subis*)

The purple martin is not protected under the ESA, and is not considered a federal SC. Purple martins are listed as a candidate species, a state priority species, and a SGCN by the WDFW (WDFW 2008).

Purple martins are insectivorous, colonial nesting swallows that nest in cavities (Brown 1997), typically in or near freshwater wetlands or ponds, or saltwater (Hays and Milner 2004b). In Washington, purple martins typically breed near the waters around the Puget Sound, along the Strait of Juan de Fuca, the southern Pacific coastline, and near the Columbia River (Hays and Milner 2004b). They feed in flight on insects (Brown 1997), with preferred foraging habitat consisting of open areas, often located near moist to wet sites, where flying insects are abundant (Hays and Milner 2004b).

The proposed Facility site does not provide suitable nesting habitat for purple martins. Forested wetland habitats associated with Vancouver Lake and other waterbodies within the Vancouver Lake Lowlands may provide suitable nesting habitat, and these areas, as well as adjacent aquatic habitats, likely provide suitable foraging opportunities. Purple martins may forage along the river near the proposed Facility.

WDFW PHS data indicate that a purple martin nest colony was established near Vancouver Lake, and regular concentrations of purple martins have been documented (WDFW 2013).

Sandhill Crane (*Grus canadensis*)

The sandhill crane is not protected under the ESA, and is not considered a federal SC. Sandhill cranes are considered an endangered species, a priority species, and a SGCN by the WDFW (WDFW 2008). Three subspecies of sandhill crane occur within the Pacific Northwest: the greater sandhill crane, the Canadian sandhill crane, and the lesser sandhill crane. The greater sandhill crane is known to breed in the Washington within Yakima and Klickitat counties. Canadian sandhill cranes breed primarily in coastal British Columbia and winter in Washington or stop during migration to wintering areas in California (Littlefield and Ivey 2002). Lesser sandhill cranes stop in Washington during migration to northern breeding grounds in Alaska or wintering areas in California (Littlefield and Ivey 2002).

The fall migration of sandhill cranes through the Vancouver Lake Lowlands typically occurs in late September and early to mid-October (Engler et al. 2003). Spring migration through the Vancouver Lake lowlands generally occurs from mid-March to mid-April. Sandhill cranes use the Vancouver Lowlands as stopover habitat during migration and for over-winter foraging and roosting. The Vancouver Lake Lowlands area is the sole example of a sandhill crane staging area in the U.S. that is adjacent to a major metropolitan area (Littlefield and Ivey 2002).

Sandhill cranes use both large and small tracts of open habitat where visibility is good. Wet meadows, marshes, shallow ponds, hayfields, and grainfields are all favored for nesting, feeding, and roosting (Bettinger and Milner 2004). Sandhill cranes migrating and staging within the Lower Columbia region typically use shallow lakes with abundant mudflats and bars for roosting and loafing. The diet of sandhill cranes varies seasonally and includes grains (corn, barley, oats, rice, and wheat), roots, insects, amphibians, reptiles, earthworms, snails, and small rodents (Littlefield and Ivey 2002). In the spring, cranes eat primarily high protein foods such as insects and other macroinvertebrates; while grains are typical fall and winter foods.

The proposed Facility site does not provide suitable habitat for sandhill crane roosting, foraging, or over-wintering. The Vancouver Lake Lowlands provide winter foraging habitat for sandhill cranes, and sandhill cranes are frequently observed there. Agricultural lands, including Port Parcel 3, provide winter foraging habitat for sandhill cranes. Sandhill cranes are known to roost and feed in Parcel 3, about 1 mile from the proposed Facility site; although cranes more commonly use Parcels 4 and 5 further from the proposed Facility site. Sandhill cranes use habitats next to Vancouver Lake, including the wetland and upland complexes south of the lake and within the CRWMB and the Parcel 2 wetland mitigation site.

Short-tailed Albatross (*Phoebastria albatrus*)

The short-tailed albatross is listed as an endangered species under the ESA (USFWS 2012). They are considered a candidate species, a priority species, and a SGCN by WDFW (WDFW 2008).

Short-tailed albatrosses are oceanic birds that occur throughout most of the North Pacific Ocean and are often found close to the Pacific Coast (USFWS 2006). Short-tailed albatrosses nest on small oceanic islands (NatureServe 2013). There are no breeding populations of short-tailed albatross in the United States, but attempted nesting has been regularly observed on Midway Atoll in the northwestern Hawaiian Islands (USFWS 2006). Short-tailed albatrosses forage at sea – typically at the water surface – on squid, fish, shrimp and other crustaceans, and the eggs of flying fish (USFWS 2006); they are known to follow ships and forage on scraps and other refuse (NatureServe 2013).

The proposed Facility site does not provide suitable habitat for short-tailed albatross.

Slender-Billed White-Breasted Nuthatch (*Sitta carolinensis aculeata*)

The slender-billed white-breasted nuthatch is not protected under the ESA, but is a federal SC (USFWS 2012). They are considered a state candidate species, a priority species, and a SGCN by WDFW (WDFW 2008).

The slender-billed white-breasted nuthatch is a cavity user and year-round resident in western Washington (Anderson 1970, Anderson 1972). In Washington and Oregon, this species is associated with Oregon white oak west of the Cascade Range and conifer forest, primarily Ponderosa pine, east of the Cascades (Chappell 2005, Hagar 2006). Large decadent oak trees with a sparse understory are of primary habitat importance for both foraging and nesting (Anderson 1976).

The proposed Facility site does not provide suitable habitat for slender-billed white-breasted nuthatches. There are no oak trees present at the proposed Facility site. There are sporadic white oak trees throughout the Vancouver Lake Lowlands, including along the south end of Vancouver Lake, on the CRWMB, and on Parcel 3. Slender-billed white-breasted nuthatches have been documented near Vancouver Lake, and they may potentially occur near the proposed Facility site.

Streaked Horned Lark (*Eremophila alpestris strigata*)

The streaked horned lark is listed as a threatened species under the ESA (78 FR 61451). Critical habitat has been designated for the species in Washington (78 FR 61505). They are considered a state endangered species, a priority species, and a SGCN by the WDFW (WDFW 2008).

Along the Willamette and Columbia rivers, nesting habitat for the streaked horned lark was previously found on sandy beaches and spits. Today, the streaked horned lark nests in a broad range of habitats, including native prairies, coastal dunes, fallow and active agricultural fields, wetland mudflats, sparsely vegetated edges of grass fields, recently planted Christmas tree farms with extensive bare ground, moderately to heavily grazed pastures, gravel roads or gravel shoulders of lightly traveled roads, airports, and dredge deposition sites, particularly islands in the Lower Columbia River (78 FR 61505). Wintering streaked horned larks use habitats that are very similar to breeding habitats. On the Columbia River, these habitats are typically adjacent to and in view of open water, which provides the open landscapes required by this species.

Streaked horned larks need expansive areas of flat, open ground to establish breeding territories. Horned larks forage on the ground in low vegetation or on bare ground (78 FR 61505); adults feed mainly on grass and weed seeds but feed insects to their young. Introduced weedy grasses and forb seeds comprise the winter diet. Horned larks form pairs in spring and create nests in shallow depressions on the ground. The nesting season begins in mid-April and ends in the early August, although streaked horned larks may re-nest in late June or early July. Most streaked horned larks winter in the Willamette Valley (72 percent) and on islands in the Lower Columbia River (20 percent), with the rest wintering on the Washington coast. Birds that breed on the islands of the Lower Columbia River tend to remain on the islands (78 FR 61505).

The proposed Facility site does not provide suitable habitat for nesting or wintering streaked horned larks. Dredge material sites and other sparsely vegetated lands within and next to the river may provide potentially suitable habitat. Streaked horned larks have been documented on dredge material piles within Parcel 3 which may provide some habitat for streaked horned larks. These dredge material piles may be disturbed too frequently to provide sufficient vegetation cover for either nesting or winter foraging habitat.

Vaux's Swift (*Chaetura vauxi*)

The Vaux's swift is not protected under the ESA, and is not considered a federal SC. Vaux's swifts are considered a candidate species, a priority species, and a SGCN by WDFW (WDFW 2008).

Vaux's swifts nest in late-successional coniferous forests (Manuwal and Huff 1987; Bull and Collins 1993). They require large, hollow snags or cavities in the broken tops of live trees for nesting and night roosting and feeds on flying insects, foraging primarily over the forest canopy or open water (Bull and Collins, 1993). In fall, Vaux's swifts congregate in large flocks, and hundreds of swifts may use a single large hollow tree for night roosting.

The proposed Facility site does not provide suitable habitat for nesting for Vaux's swifts. Forested habitats within the Vancouver Lake Lowlands may provide potentially suitable foraging habitats for Vaux's swifts, but there are few large snags of the size or type that are typically be used by Vaux's swifts for nesting and this species has not been documented in the region.

Western Snowy Plover (*Charadrius nivosus nivosus*)

The western snowy plover is listed as a threatened species under the ESA (USFWS 2013); and critical habitat has also been designated in Washington (77 FR 36728). Western snowy plovers are considered an endangered species, a priority species, and a SGCN by WDFW (WDFW 2008).

The Pacific Coast population (Distinct Population Segment) of western snowy plovers ranges from southern Washington to southern Baja California (Page et al. 1995). They nest beside or near tidal waters on barren to sparsely vegetated sand beaches, dry salt flats in lagoons, dredge spoils deposited on beach or dune habitat, levees and flats at salt-evaporation ponds, and river bars (USFWS 2007). Plovers lay their eggs in shallow depressions in sandy or salty areas with sparse vegetation between early March and late September (USFWS 2007). Western snowy plovers forage primarily on invertebrates in the wet sand and among surf-cast kelp within the intertidal zone; in dry, sandy areas above high tide; on salt pans; on spoil sites; and along the edges of salt marshes, salt ponds, and lagoons (USFWS 2007).

The proposed Facility site does not provide suitable habitat for western snowy plovers, western snowy plovers occur along the Pacific coast north of the Columbia River, and they have not been documented to occur in the vicinity of the proposed Facility.

MAMMALS

Columbian White-Tailed Deer (*Odocoileus virginianus leucurus*)

The Columbian white-tailed deer is listed as an endangered species under the ESA (USFWS 2012). Columbian white-tailed deer are considered an endangered species, a priority species, and a SGCN by WDFW (WDFW 2008). Columbian white-tailed deer in Washington belong to the westernmost subspecies of the white-tailed deer. Two Columbian white-tailed deer DPSs are recognized; one delisted DPS in Douglas County, Oregon, and one endangered DPS along the Lower Columbia River in Washington and Oregon (68 FR 43647).

Most white-tailed deer within the Columbia River DPS are from one of four subpopulations (Washington mainland, Tenasillahe Island, Puget Island, and the Oregon lowlands). Each subpopulation is geographically separated by major channels of the Columbia River (Brookshier 2004). Both the Washington mainland and Tenasillahe Island subpopulations occur within the Julia Butler Hansen National Wildlife Refuge, which was established in 1972 as the Columbian White-tailed Deer National

Wildlife Refuge, to protect over 5,600 acres of shoreline and island habitat for the preservation of the Columbian white-tailed deer (Brookshier 2004). In early 2013, the USFWS implemented a program to translocate up to 50 Columbian white-tailed deer from the Julia Butler Hansen NWR to the Ridgefield National Wildlife Refuge in Clark County. As of June 2013, approximately 37 Columbian white-tailed deer had been successfully translocated.

The proposed Facility site does not provide suitable habitat for Columbian white-tailed deer. There is a potential for the deer translocated to the Ridgefield National Wildlife Refuge located about 9 miles north of the proposed Facility site, to expand their range into the Vancouver Lake Lowlands near the proposed Facility site.

Gray-tailed Vole (*Microtus canicaudus*)

The gray-tailed vole is not protected under the ESA, and is not considered a federal SC. Gray-tailed vole is considered a candidate species, a priority species, and a SGCN by WDFW (WDFW 2008).

The gray-tailed vole is a regionally endemic species, known to occur in lower elevations of the Willamette Valley in Oregon and at least two localities north of the Columbia River in Clark County, Washington. It is associated almost exclusively with agricultural lands, especially with grasses grown for seed, small grains, and permanent pastures of legumes and grasses. It can also be present along grass-dominated highway and railroad rights-of-way. Nests, runways, and burrows are built either underground or aboveground under boards, bales, or other debris (Verts and Carraway 1987).

The proposed Facility site is at the northern end of the gray-tailed vole's range. A few occurrences have been documented in Clark County, none of which were at or near the proposed Facility site. The proposed Facility site does not provide suitable habitat for gray-tailed voles because most of the site is paved, or covered with gravel. The agricultural habitats and grass-dominated fields in the project vicinity could provide suitable habitat for gray-tailed voles, although none have been documented in the area.

Long-eared Myotis (*Myotis evotis*) and Long-legged Myotis (*Myotis volans*)

Long-eared myotis and long-legged myotis are not protected under the ESA, and both are considered federal SC (USFWS 2012). These bats are not provided any special status by the state; although WDFW identifies regular breeding areas and other communal roosting concentrations of myotis bats as vulnerable aggregations (WDFW 2008).

Western long-eared myotis are most commonly associated with conifer forests ranging from drier ponderosa pine to humid coastal and montane forests (Hayes and Wiles 2013). Day roosts are located beneath loose bark on trees, snags, stumps, and downed logs, as well as in buildings, crevices in ground-level rocks and cliffs, tree cavities, caves, and mines (Hayes and Wiles 2013). Large-diameter conifer snags are typically used as maternity roosts.

Long-legged myotis primarily occur in coniferous forests, but also inhabit riparian forests and dry rangeland. They roost in snags and live trees with loose bark, long vertical cracks, or hollows; cracks and crevices in rocks, stream banks, and the ground; buildings; bridges; caves; and mines. In the Pacific Northwest, maternity sites have been mainly found in snags, but live trees, rock crevices, mines, and buildings are also used (Hayes and Wiles 2013).

The proposed Facility site does not provide suitable habitat for either long-eared or long-legged myotis. Because both of these bats are primarily associated with coniferous forest habitat, they are unlikely to be present in the vicinity of the project and neither have been detected near the proposed Facility site. Within the Vancouver Lake Lowlands, wetlands and aquatic habitats may provide suitable foraging habitat and

adjacent forest habitats could provide roosting or maternity sites. Riparian forest habitat within Parcel 3 could potentially provide suitable roosting and foraging habitats.

Pacific Townsend's Big-Eared Bat (*Corynorhinus townsendii townsendii*)

The Pacific Townsend's big-eared bat is not protected under the ESA, but is considered a federal SC (USFWS 2013). Pacific Townsend's big-eared bats are considered a candidate species, a priority species, and a SGCN by WDFW (WDFW 2008).

Townsend's big-eared bats have been documented in nearly every county in Washington (Woodruff and Ferguson 2005). Within its range, distribution is often linked to the presence of suitable maternity roosts and hibernacula located near suitable foraging habitat (Gruver and Keinath 2006). Townsend's big eared bats occupy a broad range of moist and arid habitats. In Washington, they occur in westside lowland conifer-hardwood forest, montane conifer forest, Ponderosa pine forest and woodland, shrub-steppe, riparian habitats, and open fields (Johnson and Cassidy 1997). Caves, lava tubes, mines, old buildings, concrete bunkers, and bridges are commonly used as day roosts in Washington (Woodruff and Ferguson 2005). Temperatures, roost dimensions, sizes of roost openings, light quality, and extent of airflow are important factors in the selection of roosts (Hayes and Wiles 2013). Hibernacula occur mainly in caves, mines, lava tubes, and occasionally in buildings (Hayes and Wiles 2013).

The proposed Facility site does not provide suitable habitat for Townsend's big-eared bats, and no Townsends big-eared bats have been detected near the proposed Facility site. There are no natural caves, mines, or lava tubes in the Project region, and most buildings and structures are in regular use. Bridges in the vicinity could potentially provide roosting habitat, but Townsend's big-eared bats have not been documented in the area. There may be suitable foraging habitat for Townsend's big-eared bat in the Vancouver Lake Lowlands, but there are likely limited opportunities for roosting or hibernacula.

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